



COPPERSTRING 2.0

CopperString 2.0

Transport impact assessment

Volume 3 Appendix X

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
AADT	Average Annual Daily Traffic
AUL(s)	Auxiliary left turn lane (short lane)
BAL	Basic left turn treatment
BAR	Basic right turn treatment
BIBO	Bus In Bus Out
BoM	Bureau of Meteorology
CHR(s)	Channelised right turn lane (short lane)
CEV	Controlled Environmental Vault
The Project	CopperString 2.0 Project
CopperString EIS	CopperString Project Environmental Impact Statement
CuString Pty Ltd	CuString
DTMR	Department of Transport and Main Roads
EIS	Environmental Impact Statement
FIFO	Fly In Fly Out
GTIA	Guide to Traffic Impact Assessment
HML	Higher Mass Limit
IAP	Intelligent Access Program
KP	CopperString Kilometre Point
LGR	Local Government Road
NQRSC	North Queensland Rail Supply Chain
NWMP	North West Mineral Province
OPGW	Optical Ground Wire
PEP	Port Expansion Project
POT	Port of Townsville
POTL	Port of Townsville Limited
PR	Private Road (or Track)
QPS	Queensland Police Service

Acronym/Abbreviation	Definition
QTRIP	Queensland Transport and Roads Investment Program
SCR	State Controlled Road
SEIS	Supplementary Environmental Impact Statement
SIDRA	Software package used the design and evaluation of individual intersections and networks
SISD	Safe Intersection Sight Distance
SSD	Stopping Sight Distance
TIA	Transport and/or Traffic Impact Assessment
ToR	Terms of Reference
Type 2 Road Train	Triple road train
4WD	Four wheel drive

1. Introduction

1.1 General

GHD Pty Ltd was commissioned by CuString Pty Ltd (CuString) to develop an Environmental Impact Statement (EIS). To inform the development of the EIS, the following Transport Impact Assessment (TIA) was undertaken.

The CopperString 2.0 Project (the Project) involves the construction and operation of approximately 1,060 km of extra high voltage overhead electricity transmission line that will connect the North West Power System (NWPS), and foundation customers at isolated mine sites along the Project route, to the state electricity grid.

The Project includes the development of the transmission line, substations, laydown areas, construction camps, communication huts, access tracks and some equipment storage locations. The Project involves construction of seven new substations near Woodstock, Hughenden, Dajarra Road (Cloncurry), Mount Isa, Selwyn, Cannington Mine and Phosphate Hill Mine.

The CopperString corridor selection which includes the transmission network is divided into the following eight sections as shown on Figure 1-1:

1. Woodstock Substation
2. Renewable Energy Hub
3. CopperString Core
4. Mount Isa Augmentation
5. Southern Connection
6. Cannington Connection
7. Phosphate Hill Connection
8. Kennedy Connection (option).

An increased amount of traffic is expected to be generated during the construction of the Project extending from Mount Isa, to the Powerlink transmission network, via a new connection point at Woodstock, south of Townsville. The traffic generated will predominantly comprise of construction vehicles to deliver materials and daily workforce movements between camps and construction sites. The traffic generated during the operational phase is anticipated to be minimal, comprising predominantly of service vehicles undertaking maintenance and inspections.

Transmission line construction materials, such as the tower steel, conductors, fixtures and foundation reinforcement will be transported from the Port of Townsville (POT) to a logistics yard outside of Townsville. The materials will then be distributed to each laydown area via heavy vehicles. It is proposed that each construction zone will have a laydown area. Steel will be unloaded and preassembled at each laydown area, before being transported to tower locations via suitable sized vehicles. Materials and plant including cement and fuel will also be transported from Townsville to construction sites. Transmission line footings will comprise of locally sourced concrete and aggregate. In addition to substations, optical ground wires (OPGW) repeater stations will be required at sites along the transmission network, primarily comprising of a Controlled Environmental Vault (CEV) hut.

Substation components, such as transformers, will involve over dimensional movements from the POT to each substation location. Numerous over dimensional loads will be required during the construction of the Project. Larger loads may require heavy vehicle escort and

supplementary approvals from the Department of Transport and Main Roads (DTMR) and Queensland Police Service (QPS).

The workforce will be accommodated in camps within each of the construction zones. The establishment of camps will involve transportation of camp construction materials and demountable units, which will originate in Townsville.

Workforce movements will include deployment of work personnel to each camp via air or bus services and the daily movements between camps and construction sites. The daily movements will be localised within each construction zone to reduce cumulative movements along the major state controlled roads. Daily movements will comprise predominantly of four wheel drives and buses, forming peak hours of traffic in early mornings and late afternoons.

It is anticipated that the total project construction period will last approximately 2-3 years. Therefore, the traffic generated during the Project construction is considered to be temporary.

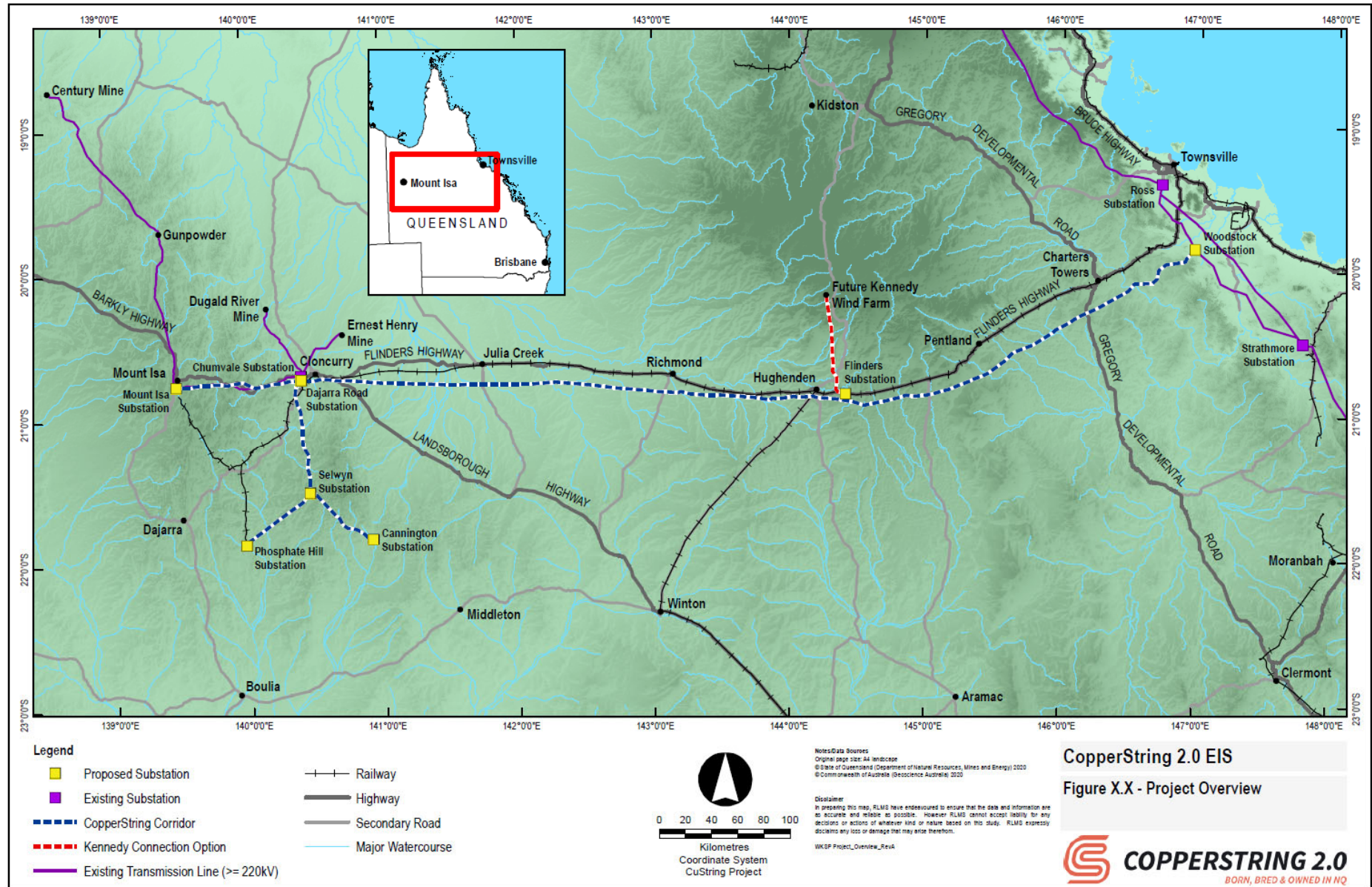


Figure 1-1 Project Overview

1.2 Objectives

The objective of this chapter is to address the transport and infrastructure requirements associated with the construction and operation of the Project. During construction and operation, the Project aims to meet the following key objectives.

- (a) Maintenance of the safety and efficiency of all affected transport modes for the Project workforce and other transport system users
- (b) Avoidance or mitigation of impacts on the condition of transport infrastructure
- (c) Ensure any required works are compatible with existing infrastructure and future transport corridors.

1.3 Methodology

The following traffic impact assessment has been prepared in accordance with DTMR Guide to Traffic Impact Assessment, 2018 (GTIA). It considers the effects of traffic generated by the Project along the Project footprint and proposes mitigation measures where appropriate.

As per the DTMR GTIA, the typical traffic impact assessment process for EIS developments is as follows.

1. Prepare initial advise statement and review terms of reference
2. TMR provides proponent with traffic information for EIS
3. Establish base characteristics
4. Determine development traffic characteristics
5. Impact assessment and mitigation analysis: consideration of measures to avoid, manage and then mitigate impacts
6. Discuss and agree on impact mitigation measures
7. Revise and finalise documentation
8. Submit TIA documentation`
9. EIS/traffic impact assessment submitted
10. TMR review of EIS/traffic impact assessment
11. Preparation of supplementary EIS/updated traffic impact assessment
12. TMR review of supplementary EIS/updated traffic impact assessment and recommends conditions
13. Decision on EIS/conditions
14. Prepare and finalise TIA and road-use management plan/infrastructure agreement if applicable (prior to project commencement)

The development of this Transport Impact Assessment has been undertaken through a combination of the following activities.

- Desktop study of the Project area to identify the road network potentially impacted by the Project.
- Field inspection undertaken by GHD in February and March, 2020. The investigation included an assessment of the existing road condition and intersections that may be used during construction of the Project.

- Identification of any deficiencies or problems that may impact the Project construction (i.e. formation width, seal, sight distance, turning movements)
- Ongoing liaison with key stakeholders including DTMR and local government authorities to determine the appropriateness of selected routes.
- Review of development traffic, previously calculated for the CopperString 1.0 EIS.
- Development of traffic generated for activities associated with the Project.
- Review of existing traffic volumes and accident history, information supplied by DTMR.
- Assessment of likely impacts the Project transport activities may have on the existing road network for each construction stage in accordance with DTMR GTIA.
- Research seasonal weather implications, tourism influences and existing bus routes.
- Impact assessment for transport methods including sea, rail and air transport.

2. Current transport infrastructure and traffic

2.1 Road

2.1.1 General

The major State Controlled Roads (SCRs) servicing the Project include the Flinders and Barkly Highways, both of which are managed by DTMR. Access to the corridor selection will be provided through other SCRs, Local Government Roads (LGR) and Private Roads (PR).

A review of the existing condition of potential access roads was undertaken by GHD in February and March, 2020. The assessment also included major intersections that may service construction laydown areas, resources and/or camps and other intersections that may be used to access the corridor selection, refer Appendix A. A visual drive through in both directions was undertaken to observe and estimate the following:

- Approximate sight distance of intersecting roads
- Horizontal and vertical alignment of the road
- Surface condition and composition
- Width of road carriageway
- Condition of intersection and approaching signage
- Pavement condition
- Presence of roadside vegetation and hazards.

2.1.2 DTMR road formation and surface

Townsville Port Road 841

The Townsville Port Road provides a direct link between the Bruce Highway and Flinders Highway to the POT. The formation comprises of a single, sealed carriageway with 3.5 m lanes and 1 m shoulders. A weigh station and breakdown is located along the Townsville Port Road. The pavement surface shows evidence of rutting, potholing and patch repairs, likely due to recent rainfall. The Type 2 road train route has a maximum speed limit of 100 km/h. There are no designated overtaking lanes, however overtaking opportunities are available along the road segment.

Flinders Highway 14A

Section 14A of Flinders Highway extends from Townsville to Charters Towers. The formation comprises of a single, sealed carriageway with 3.5 m wide traffic lanes and 1 m shoulders. The pavement surface shows evidence of bleeding and rutting defects in the outer wheel paths and some revelling along the centreline. Sufficient signage is provided along the road segment, including a traveller information board west of Townsville. The segment is a Type 2 road train route west of Roseneath, with a posted speed of 110 km/h outside of townships.

There are limited overtaking lanes available in both directions of 14A, however due to the road geometry, adequate overtaking opportunities exist along the road segment. Either side of the road (the clear zone) is generally free of hazards, with occasional culvert headwalls protruding above the natural batter level. Driver and heavy vehicle rest areas are available along 14A and

audio-tactile line markings (ATLM) are evident adjacent to the shoulder edge line as a fatigue countermeasure

Flinders Highway 14B

Section 14B of the Flinders Highway extends from Charters Towers to Hughenden. The formation comprises of a single, sealed carriageway with typical traffic lane widths of 3.5 m and 1 m shoulders. The road formation narrows in sections, particularly at culvert crossings, where little to no shoulders are provided. The pavement surface is in a suitable condition, with delineation evident. The segment is a Type 2 road train route with a speed limit of 100 km/h outside of townships, increasing to 110 km/h in some sections.

There are no overtaking lanes between Charters Towers and Hughenden, however due to the favourable horizontal and vertical geometry, overtaking opportunities exist. The clear zone is generally free of hazards. A traveller information board is located west of Charters Towers and driver and heavy vehicle rest areas with facilities, available along 14B.

Flinders Highway 14C

Section 14C of the Flinders Highway extends from Hughenden to Richmond. The formation comprises of a single carriageway with 3.5 m sealed lanes and shoulders. The pavement surface is in generally poor condition with significant bleeding, rutting and longitudinal cracking in the wheel paths. Shoving is evident in the outer wheel path and at the shoulder edge line. The posted speed limit for the Type 2 road train route is 110 km/h outside townships.

The roadside is traversable with clear zones generally free of hazards. A number of rest areas, heavy vehicle pull off areas and stopping bays are provided between Hughenden and Richmond. Rest stop facilities are also available at Marathon, approximately 50 km east of Richmond.

Flinders Highway 14D

Section 14D of the Flinders Highway extends from Richmond to Julia Creek. The formation comprises of a single, sealed carriage with a typical traffic lane width of 3.5 m and narrow shoulders. The road formation narrows approximately 10 km east of Julia Creek. The segment is undulating with a rough surface. Pavement defects such as bleeding, rutting and shoving are evident in the outer wheel path with depressions along the edge lines. Ravelling of aggregate was evident at intersections with LGRs. The segment is a Type 2 road train route with a posted speed limit of 110 km/h outside of townships.

There are no designated overtaking lanes between Richmond and Julia Creek, however due to the favourable horizontal and vertical geometry, overtaking opportunities are available. The roadside is traversable with clear zones generally free of hazards. Rest areas and heavy vehicle stopping bays are located along 14D. Rest stop facilities are available at Maxwellton, approximately 50 km west of Richmond.

Flinders Highway 14E

Section 14E of the Flinders Highway extends from Julia Creek to Cloncurry. The formation comprises of a single, sealed carriageway with traffic lanes typically 3.5 m in width and narrow shoulders. Multiple areas were identified with little to no shoulders particularly at floodway crossings and culverts. The pavement is generally in an adequate condition with minor bleeding and depressions evident in the outer wheel paths. Recent and significant rainfall in the area has likely contributed to the settlement of culvert structures and bridge abutments relative to the interfacing pavement layers. The settlement has progressed to cracking, rutting and shoving of the pavement in the wheel paths at the interface with drainage structures where the raised level

of the seal is subject to repetitive heavy vehicle loads. The Type 2 road train route has a posted speed limit of 100 km/h, increasing to 110 km/h in some areas outside of townships.

The roadside environment is predominantly flat and provides clear zones that are typically free of hazards. The road surface level is proud of the surrounding ground level, offering some flood immunity. A number of signed heavy vehicle pull off areas are available along 14E, in addition to a heavy vehicle rest area with facilities approximately 70 km west of Julia Creek.

Barkly Highway 15A

Section 15A of the Barkly Highway extends from Cloncurry to Mount Isa. The formation consists of a single, sealed carriageway with typical traffic lane widths of 3.5 m and with 1 m shoulders. The surface is in good condition with moderate bleeding and ravelling identified within the wheel paths. Line marking delineates the road, and warning signage is provided on approaches to abrupt changes in the horizontal or vertical geometry, that are typical of the surrounding terrain. The segment is a Type 2 road train route with a posted speed limit of 100 km/h outside of townships.

Overtaking lanes are provided between Cloncurry and Mount Isa in both directions as there are limited overtaking opportunities due to the terrain and geometry of the road. Signed heavy vehicle rest stops and pull over areas are available along 15A. A driver revive stop with facilities is also available approximately 60 km west of Cloncurry. ATLM is evident between traffic lanes and edge lines where insufficient clear zone is available within cuttings. Steel beam guardrail has been installed in various sections where the face of a cutting presents a significant roadside hazard.

This segment of the Flinders Highway (15A) intersects the Mount Isa Augmentation at three points as follows. The first intersection is located at 20.717 S, 140.408 E (approximately 10.7 km west of Cloncurry). The intersection has limited line of sight due to the vertical geometry of the surrounding area. The surrounding terrain is undulating and grassy, providing a clear zone that is generally free of hazards. The next intersection is located at 20.795 S, 140.074 E (approximately 48.5 km west of Cloncurry). This intersection also has poor line of sight due to the unfavourable horizontal and vertical terrain. It is located on a large horizontal curve, amongst dips and crests. The third intersection with the Mount Isa Augmentation is located at 20.760 S, 139.950 E (approximately 66.7 km west of Cloncurry). The terrain surrounding this intersection is typically hilly with rocky outcrops. The line of sight along 15A is limited due to the vertical geometry for the approach in both directions.

Barkly Highway 15B

Section 15B of the Barkly Highway extends from Mount Isa to Camooweal. The segment was inspected for approximately 2.4 km, from the intersection with 15A and the Diamantina Developmental Road (93F), north to Owen Stanley Road. The road formation in the section inspected is a dual carriageway separated by medians. The two sealed lanes in each direction typically consist of 3 m wide traffic lanes and 2 m shoulders. Longitudinal cracking was observed in the shoulders and the line marking has faded in areas. The posted speed for the Type 2 road train route is 60 km/h within this section.

Gregory Developmental Road 98B

Section 98B of the Gregory Developmental Road intersects the Flinders Highway (14B) approximately 3.5 km west of Charters Towers. The section intersects the Renewable Energy Hub at 20.301 S, 146.184 E, approximately 23.5 km south of Charters Towers. The intersection with the corridor section has limited sight distance due to unfavourable horizontal and vertical geometry. Heavy vehicles accessing the corridor section from 98B may not have the ability to perform turns safely across oncoming traffic lanes in both directions.

The formation comprises of a single, sealed carriageway with typically 3.5 m wide traffic lanes and 1 m sealed shoulders. The pavement surface condition is generally adequate, with minor rutting and depressions in the outer wheel paths. The segment is a Type 2 road train route, with a posted speed limit of 110 km/h. A signed heavy vehicle bay is provided on both sides of 98B, approximately 8.5 km south of the Flinders Highway.

Kennedy Developmental Road 99C

Section 99C of the Kennedy Developmental Road intersects the Flinders Highway (14B) in Hughenden. The section intersects the CopperString Core at 20.900 S, 144.203 E, approximately 5.5 km south of Hughenden. There appears to be adequate sight distance in all directions from where 99C intersects the corridor selection, due to the flat, grassy roadside terrain.

The formation within the section comprises of a single, sealed carriageway with typically 3.5 m wide traffic lanes and narrow shoulders. The pavement surface condition is generally adequate, with moderate longitudinal cracking, bleeding and rutting in the wheel paths. Line marking was observed along the centreline, however edge lines are unmarked. The segment is a Type 2 road train route, with a posted speed of 100 km/h outside of townships. The road geometry typically follows the horizontal and vertical contours of the surrounding undulating terrain. Visibility of the pavement surface throughout 99C was obstructed by the vertical and horizontal geometry. The road surface is slightly proud of the surrounding ground level, which is typically grassy, providing a clear zone that is generally free of hazards. A railway crossing is located approximately 2 km south of the Flinders Highway (14B), with warning signage on the approaches for both directions along with stop sign and line marking at the crossing.

Landsborough Highway 13H

Section 13H of the Landsborough Highway intersects the Flinders Highway (14E) east of Cloncurry. The section was inspected between the Flinders Highway and McKinlay. The section intersects the CopperString Core at 20.754 S, 140.666 E.

The road formation from McKinlay to the Eloise mine turn off, approximately 45 km, consists of a single carriageway with sealed traffic lanes typically 3.5 m wide and narrow shoulders. The formation width narrows at culvert crossings and bridge structures, where little to no shoulders are provided. The pavement is generally in an adequate condition with minor depressions observed in the wheel paths and longitudinal surface cracking in some areas. The pavement condition is generally in better condition for the northern half of this section, with typically 1 m wide sealed shoulders from the Eloise mine turn off to the intersection with Flinders Highway (14E).

The section has line marking delineating the road, with the exception of 1 km section north of McKinlay that was recently resealed. Signage is provided on the approaches to and at the rail crossing approximately 0.5 km south of the Flinders Highway (14E) intersection. Advisory signs exist for heavy vehicle stopping bays available along the section. The rail crossing has signalised lighting and stop bar pavement marking. This section is a Type 2 road train route, with a posted speed limit of 110 km/h, reducing to 60 km/h on the rail crossing approach.

Burke Developmental Road 89A

Section 89A of the Burke Developmental Road intersects the Barkly Highway (15A) east of Cloncurry. Approximately 2 km of the section was inspected, between the Barkly Highway intersection and the Cloncurry Heavy vehicle bypass. The posted speed limit for the Type 2 road train is 80 km/h. The pavement surface condition is adequate and line marking delineates the road. Warning signs are provided on the approaches to both intersections, with line marking and signage identified at the intersections.

Torrens Creek Aramac Road 5703

Section 5703 of Torrens Creek Aramac Road intersects the Flinders Highway (14B) at Torrens Creek. The section intersects the Renewable Energy Hub at 20.878 S, 145.026 E, (approximately 13 km south of Torrens Creek). Where the road intersects the corridor selection, sufficient sight distance is available in all directions. The Type 2 road train route has a posted speed of 100 km/h.

The formation comprises of a single, unsealed carriageway with a width of 15 m. The wearing surface has minimal gravel and is predominantly clay and silt material causing dust. Significant rutting and corrugation was observed along the unsealed surface. The wide formation and adjacent table drains provide a clear zone that is generally free of hazards. The surrounding terrain is generally flat with trees and shrubs on both sides. The dust produced from traffic on the unsealed surface may present a hazard or temporary reduction in sight distance when following or passing other vehicles.

Hughenden Muttaborra Road 5701

Section 5701 of Hughenden Muttaborra Road intersects the Flinders Highway (14B) east of Hughenden. The section intersects the CopperString Core at 20.900 S, 144.203 E approximately 4 km south of Flinders Highway. The road formation comprises of a single, sealed carriageway with typically 3.5 m wide traffic lanes and narrow shoulders. Line marking was not evident. The pavement surface is in a generally adequate condition with rutting and longitudinal cracking in the wheel paths.

The alignment of 5701 is generally straight with slight dips and crests in the road due to the surrounding undulating terrain. The section is a Type 2 road train route with posted speed of 100 km/h. The roadside is typically grassy and clear zones are generally free of hazards.

Richmond Winton Road 5803

Section 5803 of Richmond Winton Road intersects the Flinders Highway (14D) west of Richmond. The road intersects the CopperString Core at 20.86 S, 143.077 E (approximately 14 km south of the Flinders Highway). Sufficient sight distance is available in all directions of the intersection within the corridor selection.

The road formation typically consists of a single, sealed lane 3.5 m wide, with 3 m wide unsealed granular shoulders. The seal widens to approximately 8 m at floodway crossings. Significant rutting is evident in the wheel paths of the sealed lane and small potholes observed along the granular shoulders. Warning signage exists on the approaches and departures of the widened floodway pavement, however line marking was not observed within the inspected section. The posted speed for the Type 2 road train route is 100 km/h. The roadside environment is typically flat and generally provides a clear zone that is free of hazards. The surrounding ground is level with the road surface.

Julia Creek Kynuna Road 5807

Section 5807 of Julia Creek Kynuna Road intersects the CopperString Core at 20.796 S, 141.742 E (approximately 15.4 km south of Julia Creek). Where 5807 intersects the corridor selection, sufficient sight distance is available in all directions.

The road formation is typically a 4 m wide sealed lane with granular shoulders of varying width. No line marking is present for 5807. The seal widens to approximately 8 m at floodway crossings, providing some flood immunity. Deep rutting and depressions in the wheel paths was evident along the pavement surface in addition to breakaway of the seal edges. The Type 2 road train route has a posted speed limit of 100 km/h. The roadside environment and clear zone

are generally free of hazards. The railway crossing at Julia Creek has stop signs and faded stop bar marking the pavement.

Cloncurry Dajarra Road 7708

Section 7708 of Cloncurry Dajarra Road intersects the Barkly Highway (15A). The road intersects the CopperString Core south of the Barkly Highway, at 20.749 S, 140.411 E. This intersection is located on a horizontal curve and sight distance may be insufficient. Surrounding terrain is undulating and grassy. The road surface level is similar to surrounding ground level. There is a second intersection with the Southern Connection, located at 20.857 S, 140.369 E. Sight distance is restricted by the horizontal geometry and roadside vegetation in the area. The surrounding terrain is undulating with shrubs and trees on the roadside.

The road formation, from Cloncurry to approximately 30 km south of Malbon, comprises of a single, sealed carriageway with typically 3.5 m wide lanes and varying shoulder width. The surface condition is generally in adequate with recent reseal work completed, that currently has no line marking. An unsealed section was identified between Ch 73.80 km and CH 84 km. Concrete flood ways are generally in a suitable condition, with flood depth markers evident. 7708 has four railway crossings that have approach warning signage, give way or stop bar pavement marking, and signage at each crossing. The posted speed limit for the Type 2 road train route is 100 km/h outside of townships. The surrounding terrain varies with typically undulating terrain and grassy roadsides that provide a traversable clear zone, generally free of hazards.

Burdekin Falls Dam Road 5407

Section 5407 of Burdekin Falls Dam Road intersects the Flinders Highway (14A) at Mingela. The road also intersects the Renewable Energy Hub at 19.985 S, 146.729 E. The intersection is located through within a small cutting and with limited sight distance due to the unfavourable horizontal and vertical geometry.

The road formation is a single, sealed carriageway, with typically 3.5 m traffic lanes and 1 m shoulders. The formation narrows at flood ways and creek crossings to 3.5 m lanes with narrow shoulders. Line marking was evident along the centreline, however edge lines are not delineated. The pavement surface condition is generally adequate with depressions in the wheel paths and some breakaway of the seal edges at the shoulder. The segment is a Type 2 road train route with a posted speed limit of 100 km/h. The surrounding terrain is generally undulating with trees and shrubs. The roadside environment provides a clear zone that is generally free of hazards for most of the section. Small cuttings exist either side of the road toward the southern end of this section.

Diamantina Developmental Road 93E

Section 93E of the Diamantina Developmental Road was inspected from the Monument turn off to the intersection with Cloncurry Dajarra Road (7708) at Dajarra. The road formation comprises of a single carriageway with a single 3.5 m wide sealed traffic lane and 3 m wide gravel shoulders. Warning signage is provided on the approach to the Monument turn off and the intersection with 7708 and 93F. Line marking is not evident along 93E. The sealed surface has bleeding in the wheel paths and broken edges throughout the length of the road. The posted speed limit is 100 km/h for the Type 2 road train route. The roadside environment is generally free of hazards.

Diamantina Developmental Road 93F

Section 93F of Diamantina Developmental Road comprises of a single carriageway formation, typically with a single 3.5 m wide sealed lane and 3 m wide granular shoulders. Concrete floodway crossings that are approximately 8 m wide were observed along the section. There is

no line marking present along 93F outside of townships. The sealed section widens approximately 6 km south of the intersection with the Barkly Highway (15B) to accommodate two 3.5 m wide sealed lanes. The segment is a Type 2 road train route, with a posted speed limit of 100 km/h. The roadside environment provides clear zones that are generally free of hazards.

Mount Isa Duchess Road 7709

Section 7709 of Mount Isa Duchess Road comprises of a dual carriageway formation, from the Barkly Highway (15A) for approximately 1 km, to Dorothy Street. The road reduces to a single carriageway for the remaining southern section (approximately 3.7 km) with traffic lanes typically 3.5 m wide. Centre and roadside parking is provided along the dual carriageway section. The single carriageway section, south of Twenty Third Avenue, has 3.5 m wide sealed traffic lanes with minimal to no shoulders. The pavement surface condition is adequate, with cracking and bleeding evident in the wheel paths. Line marking and signage is provided along 7709. The posted speed limit for the Type 2 road train route is 60 km/h.

2.1.3 LGA road formation and surface

Cardington Road

This road intersects Flinders Highway 14A at chainage 56.98 km. The road was inspected for approximately 3.5 km where it becomes a PR. The formation comprises of a single carriageway with an unsealed gravel surface, typically 5 m wide. The terrain is undulating with dense vegetation and creek crossings. A bridge (5 m wide) is located approximately 1.4 km along the road, while dips are through though the remaining creeks and flood ways. This road was inspected as the Renewable Energy Hub intersects the PR at 19.856 S, 146.969 E.

Silver Valley Road

This road intersects Burdekin Falls Dam Road at chainage 16.76 km. The road was inspected for approximately 11 km. The formation consists of a single carriageway with an unsealed surface, typically 5 m wide. The surrounding terrain is undulating with dense roadside vegetation. The road intersects with the Renewable Energy Hub at two locations. The first intersection located at 20.022 S, 146.703 E, has sufficient sight distance. The second intersection, located at 20.050 S, 146.698 E, has limited sight distance due to the vegetation and horizontal geometry.

Fanning Downs Road

This road intersects Flinders Highway 14A at chainage 104.17 km. The road was inspected for approximately 1 km where it becomes a PR. The single carriageway formation has a sealed surface typically 6 m wide and an unsealed section, approximately 200 m. Line marking is not provided along the LG road. A railway crossing with signage is located approximately 930 m along this road. The surrounding terrain is generally flat grassland.

Millchester Road

This road intersects Flinders Highway 14A at chainage 124.94 km. The road is approximately 2.6 km long where it becomes Broughton Road. The formation comprises of a single, sealed carriageway with typically 3.5 m wide traffic lanes. The surrounding terrain is generally flat with residential private property either side of the road. A bridge was observed, approximately 2.2 km south of the Flinders Highway, with 3.5 m wide lanes and narrow shoulders.

Broughton Road

This road is approximately 17 km long where it becomes Lornesleigh Road. The formation is a single, sealed carriageway with typically 3.5 m wide traffic lanes and narrow shoulders. The

surrounding terrain is undulating with vegetation on the roadsides. There is a single lane bridge approximately 4.5 m wide at the southern extent of the road section.

Lornesleigh Road

This road was inspected for approximately 11.1 km, where a PR turn off is located. The formation comprises of a single carriageway with approximately 8 m wide unsealed granular surface. Corrugation was evident along the road surface. The surrounding terrain is undulating with grass and vegetation along the roadside. The road intersects the Renewable Energy Hub at 20.148 S, 146.487 E. Sufficient sight distance is available at the intersection with the corridor selection. The roadside environment is flat and level with the road surface.

Cameron Downs Road

This road intersects Lornesleigh Road and was inspected for approximately 2.4 km. The formation consists of a single carriageway with approximately 5 m wide unsealed granular surface and graded table drains on the roadsides. The surrounding terrain is generally flat along this road with grass and vegetation. The road intersects the Renewable Energy Hub at 20.160 S, 146.468 E. Adequate sight distance is available and the roadside clear zone is generally free of hazards.

Bluff Road

This road intersects the Flinders Highway 14A at chainage 125.446 km. The road was inspected for approximately 18.6 km. The formation comprises of a single, sealed carriageway with typically 3.5 m wide traffic lanes, for approximately 12.8 km. The remaining inspected length of the road consists of an unsealed surface, typically 7 m wide, with minimal gravel and table drains graded on the roadside. The road intersects the Renewable Energy Hub at 20.228 S, 146.340 E. There is adequate line of sight at the intersection with the corridor selection. The surrounding terrain is generally flat with grass and vegetation.

Mountain View Road

This road intersects Bluff Road and was inspected for approximately 7 km. The formation consists of a single carriageway, typically 6 m wide. The unsealed surface has minimal gravel and graded table drains on the roadside. The road intersects the corridor section at 20.243 S, 146.309 E. There is adequate sight distance at the intersection and the surrounding terrain is generally flat with grass and vegetation.

Rocky Creek Road

This road intersects the Gregory Developmental Road at chainage 180.571 km, extending approximately 5 km in length. The single carriageway formation has a sealed surface, typically 7 m in width. Moderate ravelling of the surface and breakaway of the seal edges was evident along the road. The surrounding terrain is undulating with dips in the road.

Mount Leyshon Road

This road intersects Rocky Creek Road and was inspected for approximately 5.4 km where the road becomes a PR, with a security gate installed. The single carriageway formation has a sealed surface, typically 7 m wide. The surrounding terrain is undulating with dips in the road. This road was inspected as the Renewable Energy Hub intersects the PR section at 20.679 S, 146.266 E.

Trafalgar Road

This road intersects Gregory Developmental Road at chainage 171.41 km. The road was inspected for approximately 12.3 km where it intersects the Renewable Energy Hub. The road formation consists of a single carriageway, typically 6 m wide with an unsealed gravel surface

and table drains graded on the roadside. The surrounding terrain is typically flat and open with grass and trees. The road intersects the corridor selection at 20.346 S, 146.104 E.

Braceborough Road

This road intersects Flinders Highway 14B at chainage 42.795 km. The road was inspected for approximately 16 km to where it becomes a PR. The road formation comprises of a single carriageway with an unsealed surface with minimal gravel, typically 6 m wide. A rail crossing is located 30 m from the Flinders Highway intersection with good signage, however large potholes were identified at the rails. The roadside terrain is generally flat and open with grass and sparse vegetation. The road intersects the Renewable Energy Hub at 20.531 S, 145.752 E.

Red Road

This road intersects the Flinders Highway 14B at chainage 72.599 km and was inspected for approximately 900 m to where it becomes Homestead Lascelles Road. The single carriageway formation has a sealed surface, typically 5 m wide. The surrounding terrain is generally flat, open grassland.

Homestead Lascelles Road

This road was inspected for approximately 6 km to where it becomes Helenslee Road. The road formation comprises of a single carriageway, typically 6 m wide. The surface is unsealed with minimal gravel and table drains graded to the roadsides. The surrounding terrain is generally flat with grass and vegetation. The road geometry dips at flood ways.

Helenslee Road

This road was inspected for approximately 18 km to where it intersects with the Renewable Energy Hub at 20.531 S, 145.752 E. The surrounding terrain is typically undulating with grass and vegetation alongside the road. A single lane timber bridge, approximately 4 m wide, is located approximately 12 km along the road where it crosses a river. Sufficient sight distance is available in all directions where the road intersects the corridor selection.

Longton Road

This road intersects Flinders Highway 14B at chainage 105.521 km. The road was inspected for approximately 26.5 km to where it intersects the Renewable Energy Hub at 20.621 S, 145.608 E. The road formation comprises of a single carriageway, typically 5 m wide. The surface has unsealed gravel and table drains graded on the roadsides. The surrounding terrain is typically undulating bushland with grass to the roadsides. The culvert crossings are typically one-way with priority signage on the approaches. Adequate line of sight is available at the intersection with the corridor selection.

Lyons Creek Road

This road intersects Flinders Highway 14B at chainage 138.385 km. The road was inspected for approximately 12.3 km, where it intersects with the Renewable Energy Hub at 20.841 S, 145.175 E. The road formation is a single carriageway, typically 5 m wide. The surface is unsealed with no gravel and minor rutting evident the wheel paths. The surrounding terrain is undulating with dense vegetation to the roadsides. At the intersection with the corridor selection, sufficient line of sight is available, with trees and grass to the roadsides.

Cotonvale Penrice Road

This road intersects Flinders Highway 14B at chainage 190 km and was inspected for approximately 12.6 km, where it intersects with the Renewable Energy Hub at 20.909 S, 144.765 E. The road formation comprises of a single carriageway track with minimal gravel and

vegetation to the wheel paths. The surrounding terrain is open and flat where the road intersects with the corridor selection and sufficient line of sight is available.

Prairie Muttaborra Road

This road intersects Flinders Highway 14B at chainage 201.958 km. The road was inspected for approximately 8.7 km to where it intersects with the Renewable Energy Hub at 20.948 S, 144.582 E. The road formation comprises of a single carriageway with 7 m wide sealed surface with no line marking and table drains graded on the roadsides. The seal is in generally good condition with minor bleeding. The surrounding terrain at the intersection with the corridor selection is generally flat with vegetation and grass to the roadsides and good line of sight.

Redcliffe Road

This road intersects Flinders Highway 14B at chainage 238.3 km, and was inspected for approximately 3.7 km, where it intersects the Renewable Energy Hub at 20.906 S, 144.280 E. The single carriageway road formation is 4 m wide. The surface is unsealed with no gravel and overgrown with grass and vegetation to the wheel paths. Adequate sight distance is available where the road intersects the corridor selection. The surrounding terrain is generally flat and open grassland.

Mowbray Street

This road intersects the Flinders Highway 14B and Kennedy Developmental Road 99C in Hughenden. Approximately 230 m of the road was inspected, between the two SCRs. The road formation comprises of a dual carriageway with 3.5 m wide sealed traffic lanes. Centre and parallel carparks are available on the sides of both lanes.

Thornhill Tamworth Road

This road intersects the Flinders Highway 14C at chainage 51.601 and was inspected for approximately 2.2 km to where it intersects the CopperString Core at 20.901 S, 143.748 E. The road formation comprises of a single carriageway, 4 m in width. The surface is unsealed, on the subgrade and no gravel. The surrounding terrain is flat and open with grass to the roadsides and sparse vegetation. At the intersection with the corridor selection, adequate sight distance is available and the roadsides are generally clear of hazards.

Marathon Stamford Road

This road intersects the Flinders Highway 14C at chainage 67.11 km. Approximately 3.4 km of the road was inspected, to where it intersects the CopperString Core at 20.888 S, 143.568 E. The road formation comprises of a 5 m wide single carriageway. The surface is unsealed with no gravel. A rail crossing is located approximately 540 m south of the Flinders Highway intersection. The crossing has stop signs, however warning signage is not provided on the approaches. The surrounding terrain is flat and open with grass to the roadsides and sparse vegetation providing clear roadsides. Sufficient sight distance is available where the road intersects the corridor selection.

Barabon Terranburby Road

This road intersects the Flinders Highway 14C at chainage 81.35 km. The road was inspected for approximately 5.1 km to where it intersects the CopperString Core at 20.885 S, 143.430 E. The road formation is a single carriageway with 9 m wide unsealed surface with no gravel. A rail crossing is located approximately 750 m south of the Flinders Highway. Stop signs are provided at the crossing, however warning signage is not provided on the approaches. The surrounding terrain is flat and open with grass and sparse vegetation, providing adequate line of sight where the road intersects the corridor selection.

Maxwelton Kynuna Road

This road intersects the Flinders Highway 14D at chainage 48.88 km. Approximately 13.1 km of the road was inspected, to where it intersects the CopperString Core at 20.826 S, 142.693 E. The road comprises of an unsealed, single carriageway formation, 5 m in width, with table drains graded on the roadsides. A sealed section of approximately 3.1 km was identified 5 km south of Maxwelton, approximately 3.1 km in length and 5 m wide. The seal is in poor condition with evidence of potholes and broken edges. The surrounding terrain is undulating and the road dips to a floodway crossing, approximately 7 km from the Flinders Highway. The roadsides are generally level with the road surface. There is adequate line of sight in both directions where the road intersects the corridor selection.

Maxwelton Coleraine Road

This road intersects Maxwelton Kynuna Road and approximately 5.8 km of the road was inspected, to where it intersects the CopperString Core at 20.833 S, 142.747 E. The road formation consists of a 4 m wide, single carriageway with an unsealed surface with minimal gravel. A dip exists at the floodway approximately 1.7 km from the intersection with Maxwelton Kynuna Road. The surrounding terrain is open with sparse vegetation and grass to the roadsides, providing adequate sight distance in both directions.

Minamere Nelia Road

This road intersects the Flinders Highway 14D at chainage 99.94 km. The road was inspected for approximately 15.6 km, where it intersects the CopperString Core at 20.787 S, 142.252 E. The road is comprised of an unsealed track that is overgrown to the wheel paths. The surrounding terrain is undulating with numerous dips at flood ways. Sufficient line of sight is available at the intersection of the road and corridor selection due to the generally clear roadsides.

Yorkshire Nelia Road

This road intersects the Flinders Highway 14D at chainage 105.758 km. Approximately 30.3 km of the road was inspected, to where it intersects with Yorkshire Road. The road intersects the CopperString Core at 20.798 S, 142.054 E. Adequate line of sight is available at the intersection of the corridor selection, due to the typically flat surrounding terrain, with sparse vegetation and grass. The road consists of a single carriageway formation, with 4 m wide unsealed gravel surface for approximately 11.5 km. The remaining section is an overgrown track on the existing subgrade, with grass to the wheel paths.

Proa Road

This road intersects Yorkshire Nelia Road and was inspected for approximately 4.4 km to where it intersects the CopperString Core, at 20.797 S, 142.111 E. The road has an unsealed surface, approximately 4 m in width, with minimal gravel. The surrounding terrain is generally flat with sparse vegetation, with grass to the sides of the roads and between the wheel paths. This provides sufficient sight distance at the intersection with the corridor selection in all directions.

Yorkshire Road

This road intersects the Flinders Highway 14D at chainage 148.659 km. The road was inspected for approximately 32.8 km, to the intersection with Yorkshire Nelia Road. The road intersects the CopperString Core at 20.799 S, 141.904 E. The road formation is 7 m wide with a well-graded gravel wearing surface from the Flinders Highway, for approximately 13.3 km. The road then narrows to a track on the subgrade for the remaining section, to the Yorkshire Nelia Road intersection. Adequate line of sight is available at the intersection with the corridor selection, as the surrounding terrain is typically flat and open.

McKinlay Gilliat Road

The road intersects the Flinders Highway 14E at chainage 24.565 km, and was inspected for approximately 15.7 km, to where the road intersects the CopperString Core at 20.794 S, 141.482 E. The pavement is 6 m wide with a sealed surface. The surface condition is good however, minor rutting was evident within the wheel paths. A rail crossing is located 4.6 km south of the Flinders Highway intersection, with stop signs at the crossing, however warning signage was not evident on the approaches. The surrounding terrain is typically flat with adequate sight distance in all directions.

Ivellen Road

This road intersects the Flinders Highway 14E at chainage 42.315 km, and was inspected for approximately 19.5 km to where it intersects with the CopperString Core at 20.788 S, 141.345 E. Where the road intersects the corridor selection, sufficient sight distance is available. The road formation consists of an overgrown, unsealed track that has a poor condition with no gravel. The roadside terrain is generally flat. A rail crossing is located approximately 10.2 km south of the Flinders Highway. There is a missing stop sign on the southern approach to the crossing.

Oorindi McKinlay Road

This road intersects the Flinders Highway 14E at chainage 72.77 km. The road was inspected for approximately 14.7 km, where it intersects the CopperString Core at 20.778 S, 141.053 E. Adequate sight distance is available in all directions at the intersection with the corridor selection. The road formation is 5 m wide with an unsealed gravel surface for approximately 6.3 km. The road narrows to an overgrown track with some gravel in the wheel paths for the remaining section. A rail crossing was observed, approximately 4.9 km from the Flinders Highway. Stop signs were present at the crossing, however warning signage was not observed on the approaches. The terrain is undulating, with dips evident at flood way crossings.

Toolebuc McKinlay Road

This road intersects the Landsborough Highway 13H at chainage 75.43 km. The road was inspected for approximately 80 km, to the proposed laydown area near Cannington Mine (21.868 S, 140.936 E). The road comprises of a sealed, 7 m wide formation. Rutting is evident in the wheel paths within the gazetted direction traffic lane, likely due to loaded heavy vehicles travelling from Cannington Mine. The road becomes a track on the subgrade, in poor condition, approximately 76 km south of McKinlay. Numerous dips were observed along the unsealed section that often allow ponding of rainfall. The surrounding terrain is flat providing no obstruction to sight distance.

Round Oak Road

This road intersects Flinders Highway at chainage 134.32, east of Cloncurry. Approximately 6.7 km of the road was inspected, to where it intersects the CopperString Core at 20.741 S, 140.548 E. Adequate sight distance is available where the road intersects the corridor selection. The road surface is gravel, 8 m in width, then narrows to a 4 m wide track south of the Great Australian Mine. The surrounding terrain is undulating with small dips and crests along the alignment. A rail crossing is located approximately 1.4 km south of the Flinders Highway intersection.

Power House Road

This road intersects the Barkly Highway 15A, west of Cloncurry, at chainage 1.24 km. The road was inspected for approximately 5.8 km, where it becomes Roxmere Road. The road formation

is 8 m wide with a sealed surface. Line marking was not evident along the section. The surrounding terrain is typically flat with private property either side of the road corridor.

Roxmere Road

This road was inspected for approximately 4.6 km, where it becomes a PR. The road formation is 8 m wide comprising of an unsealed gravel surface with graded table drains on the roadside. A rail crossing is located approximately 900 m from Power House Road. Warning signage on the approaches, in addition to stop signage and line marking is evident at the crossing. The surrounding terrain is undulating with sparse vegetation. The PR intersects the CopperString Core at 20.750 S, 140.511 E.

Malbon Selwyn Road

This road intersects Cloncurry Duchess Road 7708 at chainage 45.27 km. The road was inspected for approximately 66 km to where it intersects the Southern Connection at 21.546 S, 140.475 E. There is a second intersection with the Cannington Connection at 21.234 S, 140.429 E. The road comprises of an unsealed gravel surface, 7 m in width, and table drains graded on the roadsides. Scouring of the surface was identified along the edges and at dips for floodway crossings. The terrain is undulating with limited sight distance in some sections due to unfavourable horizontal and vertical geometry and roadside vegetation. A rail crossing is located approximately 1.5 km from the Cloncurry Duchess intersection. Warning signage is provided on the approaches and stop signs at the crossing.

Selwyn Toolebuc Road

This road intersects Malbon Selwyn Road and approximately 11.8 km was inspected, to where it intersects a private mine road. The road surface is 8 m wide with unsealed gravel. The surface is in poor condition with scouring of the road and corrugations evident. The surrounding terrain is undulating with dips and crests that limit sight distance in some sections.

Mount Frosty Road

This road intersects the Barkly Highway 15A at chainage 70.86 km. The road was inspected for approximately 600 m, where it intersects the Mount Isa Augmentation at 20.762 S, 139.924 E. The road formation is approximately 7 m wide comprising of an unsealed gravel surface in good condition. The surrounding terrain is undulating with crests and dips that limit sight distance. Where the road intersects the corridor selection, limited sight distance is available due to unfavourable horizontal and vertical geometry and vegetation on the roadsides.

East Leichardt Road

This road intersects the Barkly Highway 15A at chainage 88.3 km. Approximately 6.3 km of the road was inspected, to where it intersects the Mount Isa Augmentation at 20.766 S, 139.790 E. Site distance at the intersection with the corridor selection is limited due to the horizontal and vertical geometry. The road formation is approximately 7 m wide with an unsealed gravel surface. Deep scouring is evident along the edges and within flood ways. The surrounding terrain is undulating with crests and dips that limit sight distance.

Duchess Phosphate Hill Road

This road intersects Cloncurry Duchess Road 7708 at chainage 100.58 km and was inspected for approximately 52.6 km to where it intersects Monument Dajarra Road. The road formation is 6 m wide with a sealed surface. The surface condition is good, however line marking is not evident. Concrete flood ways exist along the road alignment.

Chatsworth Phosphate Road

This road intersects Duchess Phosphate Hill Road and was inspected for approximately 5.4 km, where it intersects the Phosphate Hill Connection at 21.846 S, 140.016 E. Sufficient sight distance is available in all directions at the intersection between the road and the corridor selection. A rail crossing is located approximately 600 m from Duchess Phosphate Road with signage at the crossing but not on the approaches. The road formation comprises of a 5 m wide, unsealed track on subgrade material in a poor condition. The terrain surrounding the road is flat and open with minimal vegetation.

Monument Dajarra Road

This road intersects Diamantina Developmental Road 93E at chainage 135.24 km. The road was inspected for approximately 45 km to the intersection with Duchess Phosphate Hill Road. The road surface is sealed, approximately 4 m wide. The surface is in poor condition with evidence of longitudinal cracking, depressions in the wheel paths and breakaway of the seal edges in some sections. The surrounding terrain is undulating with dips and horizontal curves along the road alignment.

Mount Isa Duchess Road

This road was inspected from Mount Isa for approximately 86 km, to the intersection with Duchess Dajarra Road. The road intersects the Mount Isa Augmentation at 20.785 S, 139.500 E. The road comprises of a 5 m wide gravel formation, with a sealed section (approximately 13 km) approaching Duchess Dajarra Road. A rail crossing is located along the road, with signage at the crossing. The terrain is undulating with crests and dips and sharp horizontal curves that limit sight distance in some sections.

2.1.4 Infrastructure

2.1.4.1 State controlled roads

A summary of SCRs within the Project area is provided in Table 2-1 below.

Table 2-1 Summary of state controlled roads

DTMR Road ID	Location	Classification	Route Capacity
841	Townsville Port Road	National Highway	Type 2 road trains
14A-14E	Flinders Highway	National Highway	Type 2 road trains
15A	Barkly Highway	National Highway	Type 2 road trains
13H	Landsborough Highway	National Highway	Type 2 road trains
98B	Gregory Developmental Road	State Strategic Road	Type 2 road trains
99C	Kennedy Developmental Road	Regional Road	Type 2 road trains
89A	Burke Developmental Road	Regional Road	Type 2 road trains
93E-93F	Diamantina Developmental Road	Regional Road	Type 2 road trains
5407	Burdekin Falls Dam Road	District Road	Type 2 road trains
5703	Torrens Creek Aramac Road	District Road	Type 2 road trains
5701	Hughenden Muttaborra Road	District Road	Type 2 road trains
5803	Richmond Winton Road	District Road	Type 2 road trains
5807	Julia Creek Kynuna Road	District Road	Type 2 road trains
7708	Cloncurry Dajarra Road	District Road	Type 2 road trains

Appendix B and Appendix C show SCRs in the Queensland Government DTMR Northern and North West Districts.

Figure 2-1 to Figure 2-4 show multi combination heavy vehicle routes on SCRs in the Project area.

The Flinders Highway (14A-14E), extending from Townsville to Cloncurry, forms part of the National Land Transport Network. The highway has capacity to service Type 2 road trains. It is a key heavy vehicle and freight route between Townsville and western Queensland, with direct access to and from the POT for Type 2 road trains via the Townsville Port Road (841).

The Barkly Highway (15A-15B) is classified within the National Land Transport Network and the only major route linking Mount Isa and the Northern Territory. The Barkly Highway (15A), between Cloncurry and Mount Isa, forms part of the National Highway. The route has capacity to facilitate Type 2 road trains in the area.

The Landsborough Highway (13H) is a segment of the National Highway, extending from Kynuna to the east of Cloncurry, where it intersects the Flinders Highway (14E). The highway forms part of the National Land Transport Network with capacity to service Type 2 road trains.

The Gregory Developmental Road (98B) commences at Belyando Crossing, intersecting the Flinders Highway (14B) west of Charters Towers. The State Strategic Road is a sealed, single carriageway formation with two lanes and narrow shoulders. The route is suitable for Type 2 road trains.

The Kennedy Developmental Road (99C) is a Regional Road connecting Hughenden to Winton. The Type 2 road train route has a single carriageway with two sealed lanes.

The Burke Developmental Road (89A) is a Regional Road that extends from Cloncurry to Normanton. The section of the road relevant to the Project is approximately 2.2 km between the Barkly Highway (15A) intersection and the Cloncurry Heavy Vehicle Bypass.

The Diamantina Developmental Road (93E) is a Regional Road from Boulia to Dajarra, relevant to the Project between Monument Dajarra Road and Dajarra, where it becomes 93F (approximately 13 km). The road formation within this section is approximately 10 m wide with a single sealed lane. The route has the capacity to service Type 2 road trains.

The Diamantina Developmental Road (93F) is a Regional Road commencing at Dajarra to Mount Isa, where it intersects the Barkly Highway (15B). The Type 2 road train route has a single sealed lane with granular shoulders for the majority of the section. The road serves as a key route for the transport of cattle.

Burdekin Falls Dam Road (5407), from Mingela to the Burdekin Falls Dam, is a sealed, single carriageway with two lanes. The route has capacity to facilitate Type 2 road trains. The corridor selection intersects the road approximately 15.7 km from Mingela.

Torrens Creek Aramac Road (5703) is a District Road suitable for Type 2 road trains, extending from Aramac to Torrens Creek. The road is sealed from Aramac to approximately 35 km south of Torrens Creek. Progressive sealing of the road is scheduled for completion in June 2022, funded by the Regional Economic Enabling Fund.

Hughenden Muttaborra Road (5701) is a sealed District Road, classified as a Type 2 road train route, from Hughenden to Muttaborra. The corridor selection intersects 5701 approximately 4 km from Hughenden.

Richmond Winton Road (5803) from Richmond to Winton is a District Road with capacity for Type 2 road trains. The corridor selection intersects 5803 approximately 14 km from Richmond and the road formation is a single sealed lane with granular shoulders for this section.

Julia Creek Kynuna Road (5807) is a District Road extending from Julia Creek to Kynuna. The road formation has a single sealed lane with granular shoulders, widening to two sealed lanes at flood ways. The road is suitable for Type 2 road trains.

Cloncurry Dajarra Road (7708) is a District Road between Cloncurry and Dajarra, suitable for heavy vehicles including Type 2 road trains. The road is a sealed, two-lane formation from Cloncurry to approximately 30 km south of Malbon. The remaining section, to Dajarra, is unsealed.

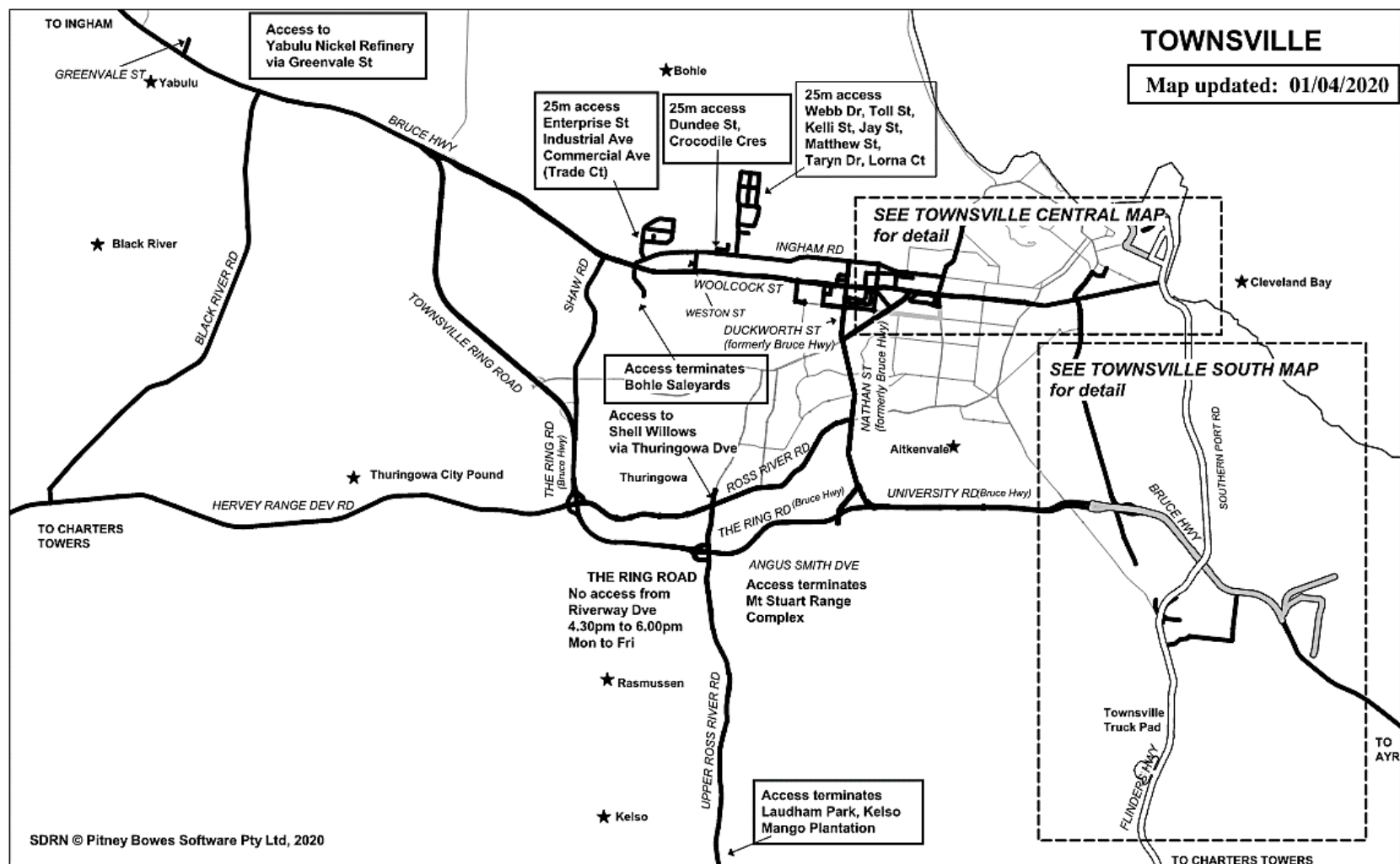


Figure 2-1 State controlled multi-combination routes (source: Queensland Government)

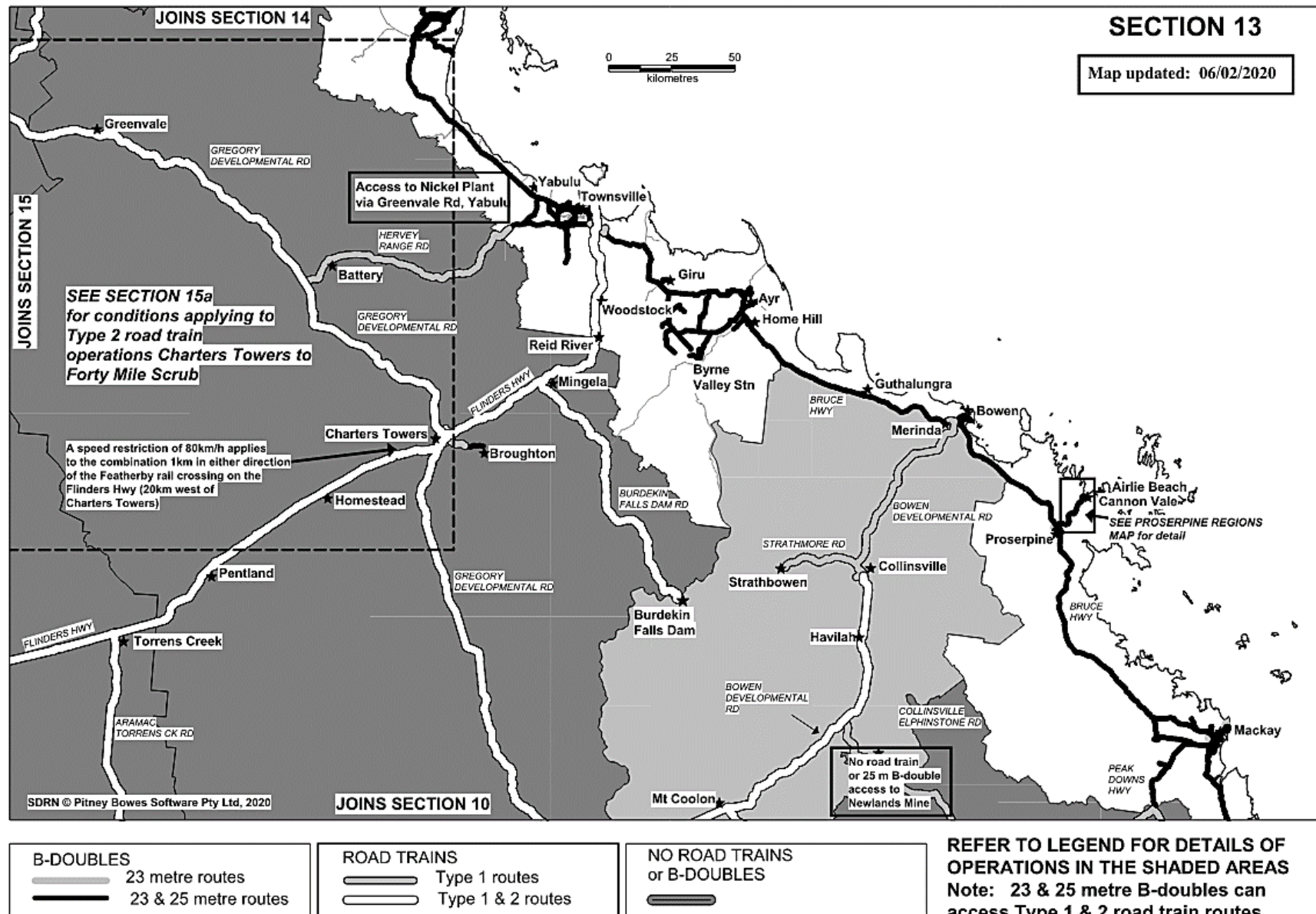


Figure 2-2 State controlled multi-combination routes (source: Queensland Government)

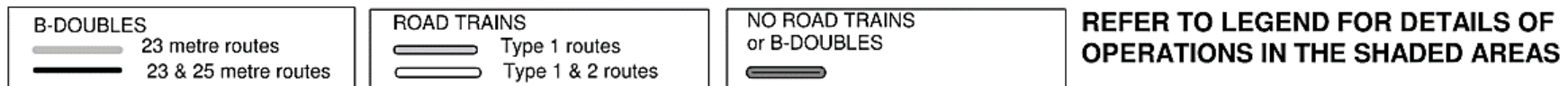
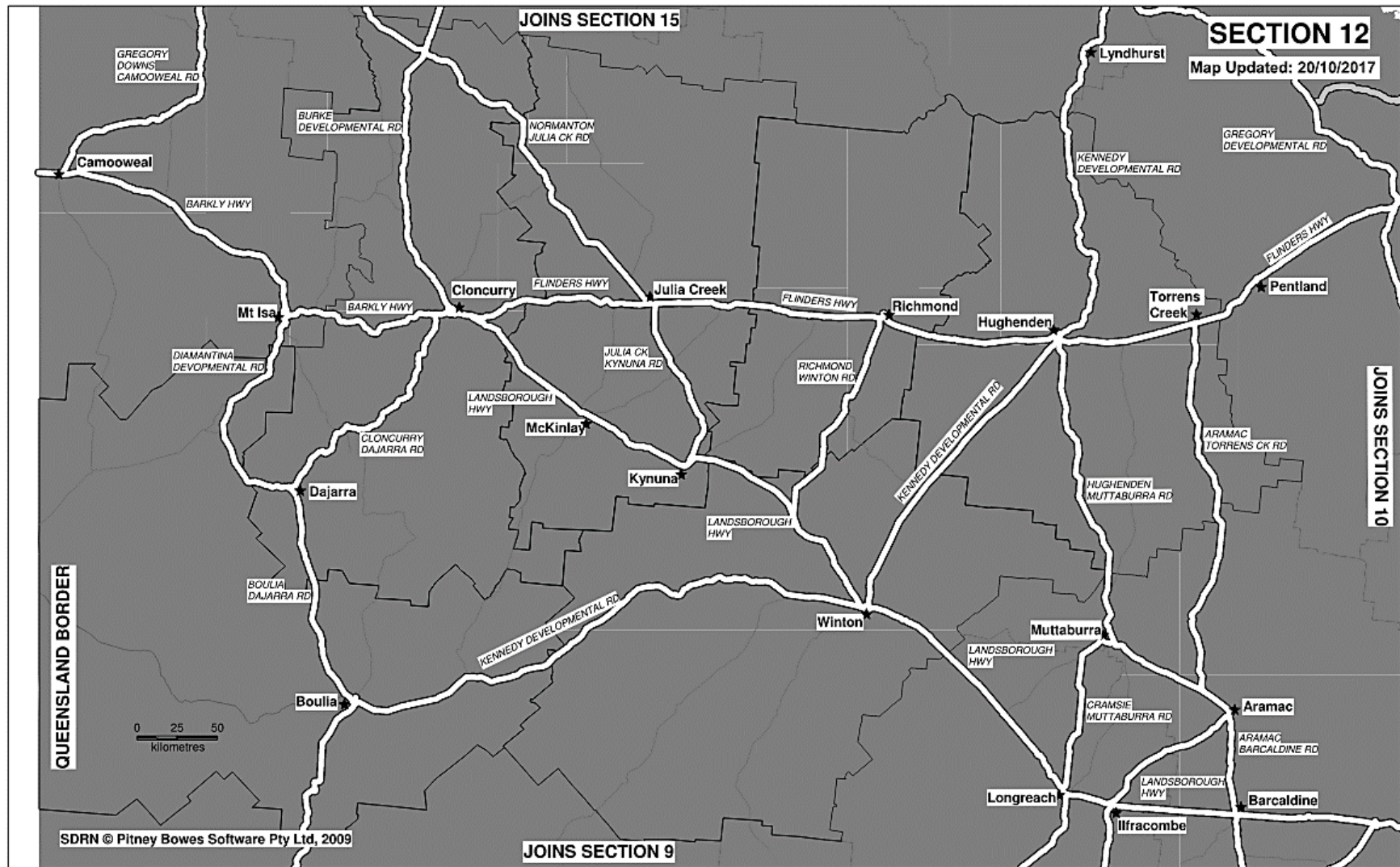


Figure 2-3 State controlled multi-combination routes (source: Queensland Government)

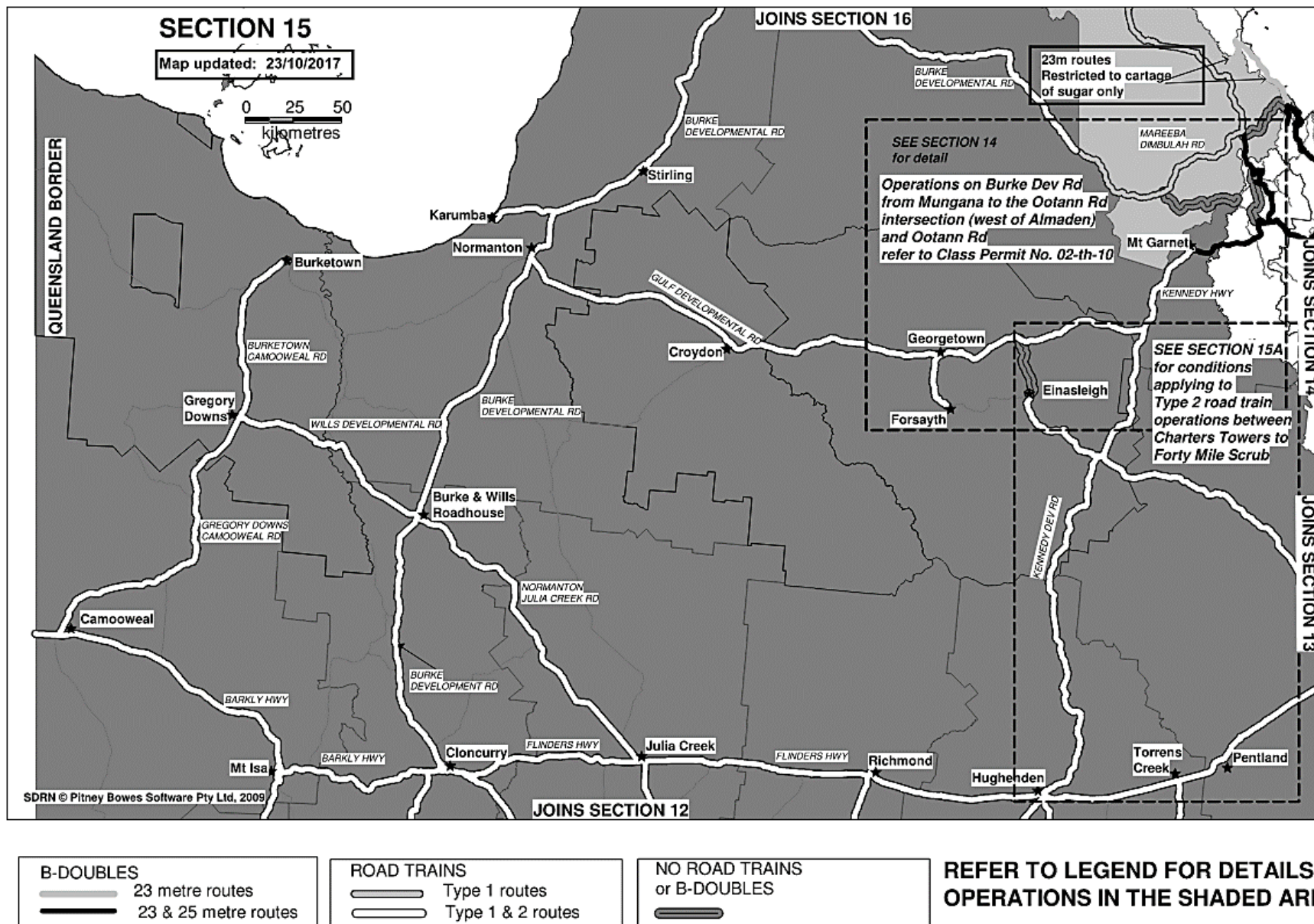


Figure 2-4 State controlled multi-combination routes (source: Queensland Government)

2.1.4.2 Local government roads

The following LGRs provide access to the corridor selection:

Charters Towers Regional Council

- Cardington Road
- Silver Valley Road
- Lornesleigh Road
- Cameron Downs Road
- Broughton Road
- Millchester Road
- Bluff Road
- Mountain View Road
- Rocky Creek Road
- Mount Leyshon Road
- Trafalgar Road
- Charters Towers Mirtna Road
- Braceborough Road
- Red Road
- Homestead Lascelles Road
- Helenslee Road
- Laidlow Crossing
- Paterson Street
- Longton Road
- Lauderdale Road
- Lyons Creek Road

Flinders Shire Council

- Penrice Cottonvale Road
- Prairie Muttaborra Road
- Redcliffe Road
- Mowbray Street
- Thornhill Tamworth Road
- Marathon Stamford Road
- Barabon Terranburby Road

Richmond Shire Council

- Maxwellton Kynuna Road

McKinlay Shire Council

- Minamere Road
- Nelia Road
- Proa Road
- Ardrin Road
- Yorkshire Road
- McKinlay Gilliat Road
- Ivellen Road
- Oorindi McKinlay Road

Cloncurry Shire Council

- Toolebuc McKinlay Road
- Round Oak Road
- Andrew Daniels Road
- Roxmere Road
- Malbon Selwyn Road
- Selwyn Toolebuc Road
- Selwyn Chatsworth Road
- Duchess Chatsworth Road
- Chatsworth Phosphate Road
- Duchess Phosphate Hill Road
- Monument Dajarra Road
- Mount Frosty Road
- East Leichardt Road

Mount Isa City Council

- Mount Isa Duchess Road
- Twenty-Third Avenue
- Camooweal Street

2.1.5 Intersection condition assessment

A review was undertaken of all intersections that may be used during the construction and operation of the transmission line and components. The review will be used to indicate whether the intersections are suitable for use or whether upgrades are required to achieve a level of

usability during the Project. A detailed summary of each intersection is provided in Appendix D, Table 1, 2 and 3, for DTMR, LG and PRs, respectively. Table 4 and 5 further details the improvements or additional investigations required for each of the identified intersections. It should be noted that the intersection coordinates were derived from Google Earth and represent approximate locations only. A summary of the intersections along SCRs that require additional works is provided in Table 2-2 below.

Table 2-2 SCR additional intersection works

DTMR Road ID	Location	Further Investigation Required	Improvements Required	Total
14A	Flinders Highway	0	1	1
14B	Flinders Highway	1	6	6
14C	Flinders Highway	2	3	4
14D	Flinders Highway	1	6	7
14E	Flinders Highway	1	2	3
15A	Barkly Highway	10	1	11
5407	Burdekin Falls Dam Road	1	1	1
98B	Gregory Developmental Road	1	0	1
5703	Torrens Creek Aramac Road	0	0	0
5701	Hughenden Muttaborra Road	0	0	0
99C	Kennedy Developmental Road	1	2	3
5803	Richmond Winton Road	0	1	1
5807	Julia Creek Kynuna Road	0	0	0
89A	Burke Developmental Road	0	0	0
13H	Landsborough Highway	1	1	1
7708	Cloncurry Dajarra Road	4	2	4
7709	Mount Isa Duchess Road	0	0	0
93E	Diamantina Developmental Road	0	1	1
93F	Diamantina Developmental Road	0	0	0

2.1.6 Traffic

Traffic information has been supplied by DTMR for SCRs that may be impacted during the Project construction and operation. The following information was extracted from the 2019 Average Annual Daily Traffic (AADT) segment reports, attached to Appendix E. The distribution of heavy and light vehicles for each road segment is outlined in Table 2-3.

Table 2-3 AADT information for State controlled roads

DTMR Road ID	Location	Start Chainage (km)	End Chainage (km)	Light	Heavy	Total*
841	Townsville Port Road	0	7.34	1,999	820	2,820
		7.34	7.81	2,774	1,062	3,836
14A	Flinders Highway Townsville - Charters Towers	0.00	2.47	1,194	770	1,967
		2.47	9.42	4,426	1,659	6,086
		9.42	122.11	1,924	547	2,471
		122.11	124.93	1,475	576	2,052
		124.93	126.15	2,199	639	2,839
14B		0.00	3.48	2,119	502	2,621
		3.48	61.79	794	349	1,139

DTMR Road ID	Location	Start Chainage (km)	End Chainage (km)	Light	Heavy	Total*
	Flinders Highway Charters Towers - Hughenden	61.79	139.72	390	289	679
		139.72	244.79	390	180	569
		244.79	247.29	459	255	714
14C	Flinders Highway Hughenden - Richmond	0.00	114.83	311	198	506
14D	Flinders Highway Richmond - Julia Creek	0.00	149.31	249	207	454
14E	Flinders Highway Julia Creek - Cloncurry	0.00	3.60	346	199	545
		3.60	24.50	107	94	200
		24.50	123.03	231	186	417
		123.03	134.32	545	381	926
		134.32	136.31	777	257	1,037
		136.31	136.83	2,824	274	3,097
15A	Barkly Highway Cloncurry - Mount Isa	0.00	2.05	949	408	1,357
		2.05	114.05	595	356	953
		114.05	120.55	766	325	1,091
15B	Barkly Highway Mount Isa - Camooweal	0.00	0.67	7,302	2,173	9,476
		0.67	7.28	2,779	519	3,298
13H	Landsborough Highway Cloncurry - Kynuna	0.00	166.18	249	95	343
		166.18	169.18	219	152	373
7708	Cloncurry - Dajarra	0.00	100.60	41	29	69
		100.60	169.08	11	4	18
5407	Burdekin Falls Dam Road	0.00	39.35	148	47	197
		39.35	121.06	47	11	61
98B	Gregory Developmental Road Belyando Crossing - Charters Towers	0.00	142.78	338	175	516
		142.78	193.19	679	84	762
5703	Aramac – Torrens Creek Road	0	124.86	35	13	49
		124.86	246.76	32	26	57
5701	Hughenden - Muttaborra	0.00	158.53	48	13	65
		158.53	204.98	27	5	36
99C	Kennedy Developmental Road The Lynd – Hughenden	0	2.44	675	114	789
		2.44	117.06	104	49	155
		117.06	214.64	101	51	154
5803	Richmond - Winton	0.00	100.32	33	19	52
		100.32	144.52	8	4	13
5807	Julia Creek - Kynuna	0.00	112.37	20	13	34
93E	Diamantina Developmental Road Boulia - Dajarra	0.00	87.56	71	31	103
		87.56	146.49	47	16	65
		146.49	146.89	62	21	82
93F		0.00	33.97	68	26	96

DTMR Road ID	Location	Start Chainage (km)	End Chainage (km)	Light	Heavy	Total*
	Diamantina Developmental Road Dajarra - Mount Isa	33.97	132.10	48	21	73
		132.10	149.94	365	129	495
		149.94	153.36	3,779	438	4,216
7709	Mount Isa – Duchess Road	0	2.38	7,702	733	8,435
		2.38	4.72	250	43	293

**Note: The AADT values reported are converted to whole numbers, thus occasional inaccuracies exist due to rounding. These inaccuracies are statistically insignificant.*

The AADT between Townsville and Mount Isa typically reduces toward western segments. The traffic counts from Townsville to Charters Towers range between 2000 and 6000 vehicles per day. The traffic volume tends to reduce west of Charters Towers, to an AADT between 600 and 700 vehicles per day. The traffic counts further decrease between Hughenden and Julia Creek to approximately 500 daily vehicles. The daily traffic volumes increase approaching the Cloncurry and Mount Isa townships, with daily volumes exceeding 1000 vehicles. Traffic volumes are greater within townships, likely due to daily commuter movements. The AADT counts for road segments that intersect the Flinders and Barkly Highways suggest that they are more lightly trafficked than the National Highways.

The heavy vehicle AADT's follow a similar pattern to the total traffic volumes, reducing in volume further west of Townsville, and increasing at Cloncurry and Mount Isa. Figure 2-5 and Figure 2-6 show representative daily traffic volume patterns for variable AADT counts. Daily peak volumes are typically observed twice, morning and afternoon, for segments with higher AADT counts. Whereas the daily peak is observed once, in the middle of the day, for segments with lower AADT counts.

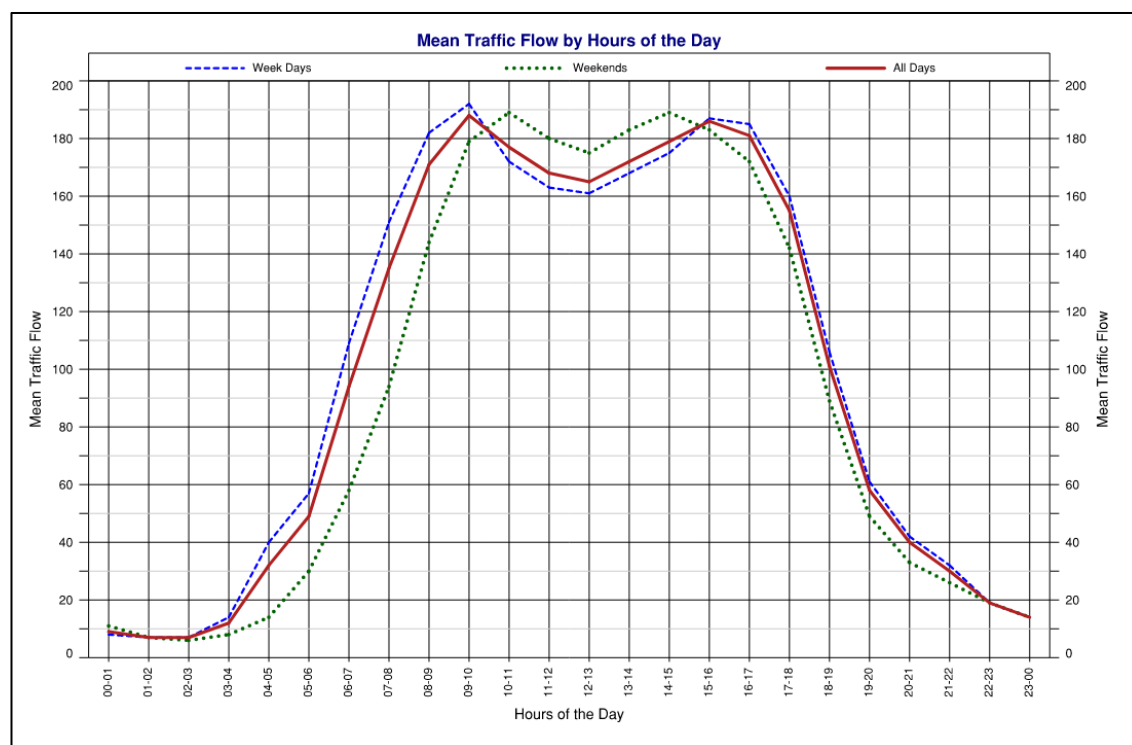


Figure 2-5 Example of high AADT peak volumes

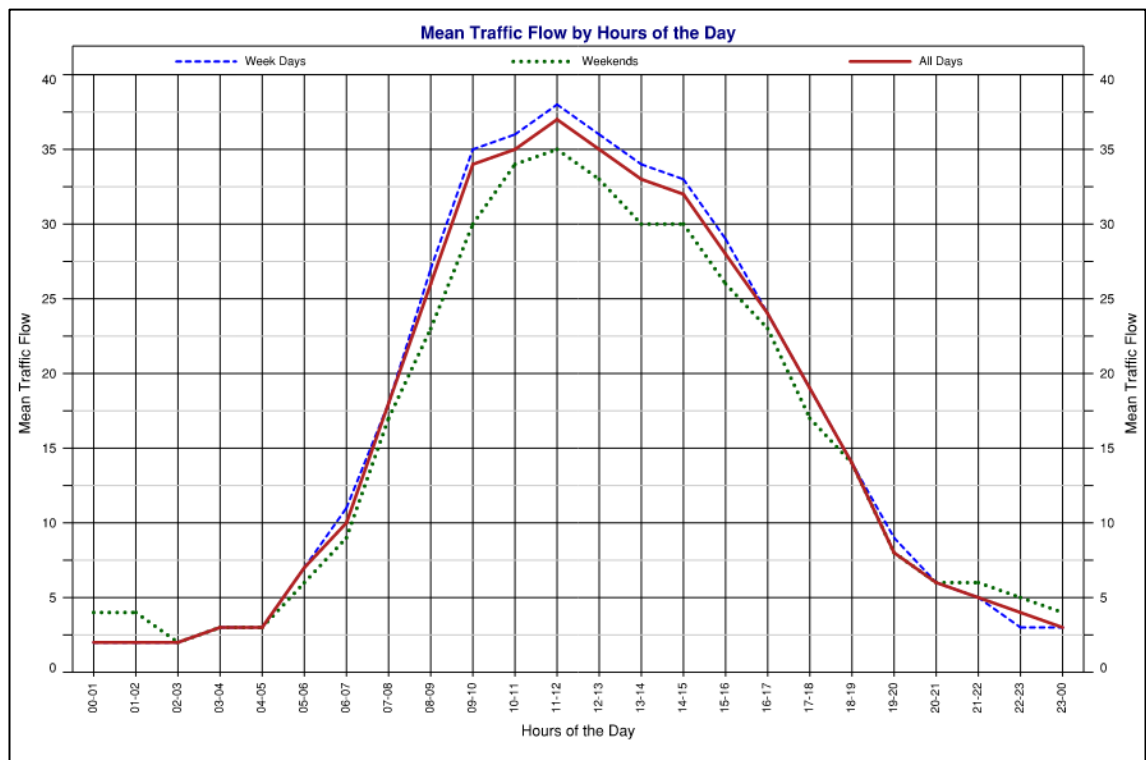


Figure 2-6 Example of low AADT peak volumes

2.2 Rail

The Mount Isa rail system is the critical link from the North West Queensland Minerals Province (NWMP) to the POT, commencing at Stuart on the North Coast Line. The system extends across 1032 kilometres of single, narrow gauge track (Queensland Rail, 2017), and incorporates the balloon loops at Yurbi, Phosphate Hill and Mount Isa (refer Figure 2-7).

The supplier of the below rail service for the system is Queensland Rail and freight transport operators are Pacific National, Aurizon and Linfox. Freight traffic shares the system with the “Inlander” passenger rail service that runs two weekly return services between Mount Isa and Townsville along with cattle trains. Due to Covid-19, Queensland Rail Travel is currently running on a limited services with normal services expected to resume by 19 September 2020.

Typically, trains depart Townsville at 12:40pm Wednesday and Saturday, arriving at Mount Isa 9:35am the next day, and returns Thursday and Sunday departing Mount Isa 1:30pm arriving Townsville at 10:10am the next day.

The Mount Isa Line supports the movement of more than \$4 billion in commodities each year (Queensland Rail, 2019). A large majority of the traffic in the system is mining-related, particularly industrial products and metals, (55% of total gross tonnes per kilometre (GTK) carried on the line) and mineral concentrates (41% of total GTK carried on the line) (Queensland Rail, 2019).

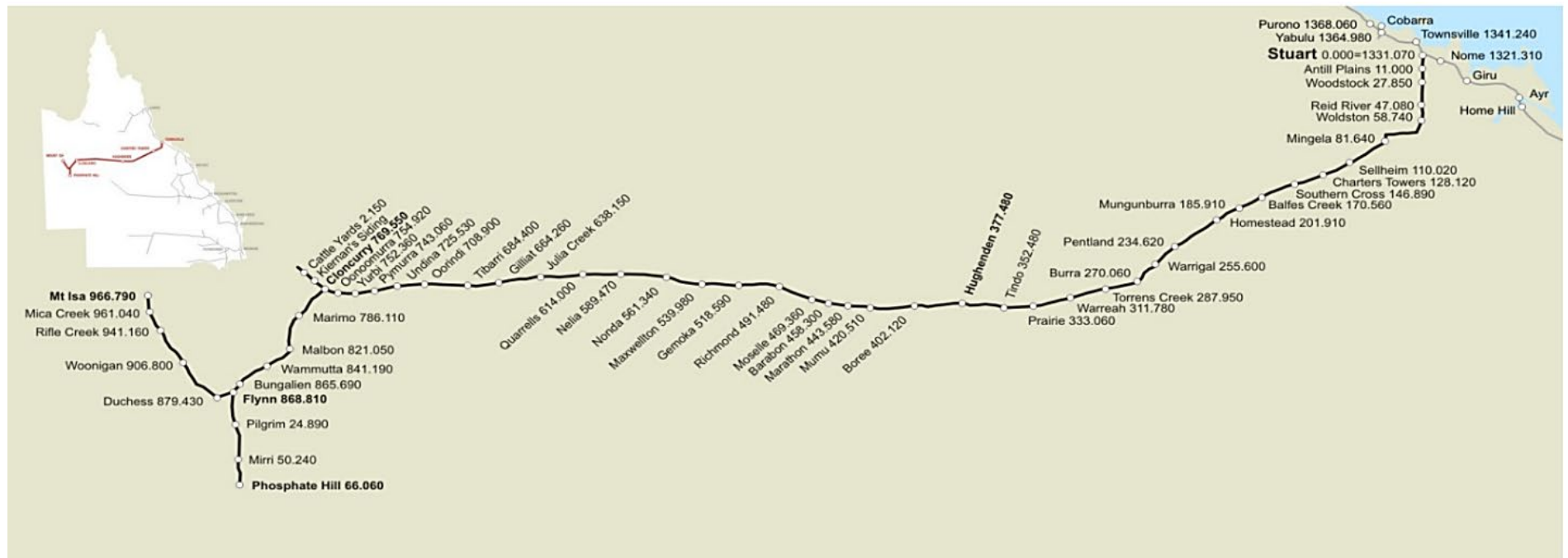


Figure 2-7 Mount Isa Line. Source: Mount Isa Systems Information Pack (2017)

Of the estimated 8 million tonnes of freight transported across the Mount Isa to Townsville rail corridor in 2018/19:

- 33% of volume was attributed to the Stuart to Cloncurry rail section
- 24% of volume was attributed to the Cloncurry to Flynn rail section
- 22% of volume was attributed to the Flynn to Mount Eliza rail section
- 20% of volume was attributed to the Flynn to Phosphate Hill rail section.

Aurizon one of the businesses of Queensland Rail has crewing depots and rolling stock depots in Townsville, Hughenden, Cloncurry and Mount Isa. The scale of their fleet enables a reliable, safe and flexible service to fulfil the transport of minerals, industrial products and livestock for their customers along the corridor. Aurizon's major customers in the NWMP include Glencore, Incitec Pivot and South32. Aurizon has a strong operational footprint in the province, further reinforced in March 2020 when they acquired Townsville Bulk Storage and Handling. Known as Aurizon Port Services, the strategic investment connects directly with the Mount Isa Line to the commodity rich NWMP. Aurizon also provides locomotive and rail corridor access to Linfox, which manages freight movements on behalf of its customers.

In 2013, The Mount Isa Rail Infrastructure Master Plan presented a series of commercially based rail infrastructure options highlighting potential for growth in the NWMP. Complementing the Master Plan, in 2013 the North Queensland Rail Supply Chain (NQRSC) commissioned a suite of studies to identify and forecast corridor demand with the aim to improve the efficiency and productivity of the corridor. GHD understands that as of 2015 updates to NQRSC demand model, the high volume scenario has the potential for volumes to increase to in excess of 12 Mtpa by 2023. Medium growth scenario suggests transport volumes to remain at approximately 8 Mtpa at 2023, and the low growth scenario be below 7 Mtpa. An estimated 8 million tonnes was transported across the corridor in 2018/19, in line with the medium growth scenario.

GHD understands that annual volumes are highly influenced by mine acquisitions and closures, and to a lesser extent commodity pricing and inclement weather events. The impact of the latter was recently felt when Queensland experienced a once in 500 year flood event in January 2019 that rendered damage across a 300 km stretch of rail between Hughenden and Oorindi and forced closures of the line for a 12-week period. While closed, Queensland Rail performed re-railing and track reconditioning that has resulted in 29 hours per week in productivity savings for the freight network since re-opening.

The Mount Isa line is one of the nation's most important export supply chains, which is why Queensland Rail has committed to investing \$380 million over the next five years in capital upgrades and maintenance work. The Queensland Government also recognizes the rail corridor as a cornerstone to the economic success of the NWMP. Subsequently, as of 1 July 2019 they have been providing \$20 million a year for four years to address the substantially higher rail access charges to those paid by trucks to use the taxpayer-funded highway between Mount Isa and Townsville. A shift of heavy and bulk freight transport from road to rail improves safety to the community and reduces the carbon footprint of goods.

The relevance of the aforementioned initiatives are paramount as eluded to by Pacific National (the other major above rail operator on the corridor) in a submission to the Productivity Commissions National Transport Regulatory Reform in June 2019. They discussed that the deteriorating Mount Isa line conditions burden productivity and when combined with rail access charges erode rail competitiveness relative to road.

In a more recent initiative (2019), the Queensland Government delivered a strategic blueprint for Queensland's NWMP. The blueprint aims to facilitate a strong and prosperous future for the

region and its communities by building on existing economic and community strengths in collaboration with industry, business and community leaders. Through strategic planning, the NWMP supply chain can demonstrate trade resiliency, with the intermodal connectivity via road train access and rail through the POT.

Key actions in delivering the blueprint include:

- The Queensland Government commitment to undertaking several review projects to clarify the issues and barriers to continued cost-effective private and public sector investment in the development and more efficient use of key infrastructure including rail connections, ports, various roads and internet access.
- The Queensland Government is committed to continuing to support feasibility work for a more stable and reliable track structure for freight services. The potential project involves construction of an eight kilometre rail freight line that will connect the North Coast Rail Line to the POT. This project is expected to create greater capacity on this section of the Mount Isa rail system.
- The Queensland Government will undertake mineral geophysics and geochemistry studies to better understand the prospective area east of Mount Isa and Cloncurry known as the Eastern Succession.

The Mount Isa Rail System remains an alternative for inward supply of supplementary materials if seasonal conditions result in road closure for any prolonged or unexpected periods. Where the use of rail is logistically possible it will reduce the interaction of heavy vehicles with road users and reduce the carbon footprint of transport.

2.3 Sea

The POT is in an artificial harbour at the mouth of Ross Creek near the Townsville city centre. With world-class infrastructure and intermodal connectivity via triple road train access and rail, the POT provides a strategic supply hub for the import and export of more than 30 different cargo and commodity types, along with cruise ships and military vessels. The POT is a significant component of the 'route to market' for a vast hinterland extending through the NWMP. While the POT is a major channel for the export of dry bulk, it also facilitates the trade of wet bulk, containers and break bulk.

The POT has eight operational berths, equipped with bulk handling facilities including pipelines for oil, gas, chemicals and molasses, ship loaders for sugar and metal concentrates, cranes for containers, metals, nickel ore and break-bulk cargo. The POT services the north-east and north-west minerals provinces that contain copper, zinc, lead, phosphate and magnetite.

Queensland ports map



Figure 2-8 Queensland ports map. Source: DTMR Trade Statistics for Queensland Ports, 2019

The POT is the main export and import port for the Northern Statistical Division and the Mount Isa section of the North West Statistical division. The POT ranks seventh (refer Table 2-4) in Queensland in terms of total tonnage handled and second (refer Table 2-5) to Brisbane in terms of general cargo trade as measured by container movements.

Table 2-4 Queensland Ports - Total tonnages 2018/19

Port	Tonnage (Mt)
Port of Brisbane Pty LTD.	
Port of Brisbane	34.0
Rio Tinto	
Port of Amrun	8.3
Gladstone Ports Corporation Limited	
Port of Bundaberg	0.5
Port of Gladstone	124.0
Port of Rockhampton	0.2
North Queensland Bulk Ports Corporation Limited	
Port of Abbot Point	28.9
Port of Hay Point	118.3
Port of Mackay	2.9
Port of Weipa	27.3
Port of Townsville	7.0
Port of Lucinda	0.6
Far North Queensland Ports Corporation Limited (trading as Ports North)	
Port of Cairns	1.3
Port of Cape Flattery	2.6
Port of Karumba	0.1
Port of Mourilyan	0.6
Port of Quintell Beach	0.002
Port of Skardon River	2.5
Port of Thursday Island	0.07

Table 2-5 Queensland Ports – 2018/19 Container Movements

Port	Container Movements (Total TEU)
Port of Brisbane	1,342,075
Port of Townsville	56,575
Port of Cairns	25,054
Port of Gladstone	6,626
Port of Rockhampton	951

As one of four Priority Ports under the Sustainable Ports Development Act 2015, POT is an essential component of the State's transport network, connecting communities, regions and industry. Subsequently, The Townsville Port Expansion Project (PEP) (over a 30 year time-frame in several stages) involves channel widening, deepening, and development of a new outer harbour, wharves, reclamation, and associated infrastructure to support new berths.

Projects for the POT include:

- **Channel Upgrade:** Stage one of the PEP is the \$193 million Channel Upgrade Project that will deliver a wider shipping channel and a 62-hectare Port Reclamation Area by 2023. The shipping channel will be widened from its current width of 92 metres to 180 metres at the inshore (Port) end, then taper to 120 metres at the seaward end. The wider shipping channel will allow vessels of up to 300 metres in length (up from 238 m) to safely access the POT.

- **Berth 4 Wharf Upgrade:** Officially opened 28/03/2018, The two-year Berth 4 \$40.7 million upgrade project resulted in a full upgrade of the inner harbour berth so larger vessels can be accommodated and efficiency improved. The upgrade has doubled the capacity of Berth 4, allowing an additional 2 million tonnes of product per annum, and delivering a 20% increase on current total port tonnage throughput capacity
- **Berth 4 Crane and Cargo Terminal:** A further \$27 million is being invested into Berth 4, with the construction of cargo handling facility and craneage. The construction is scheduled to be completed by the end of 2020. Once completed, Berth 4 will be able to accommodate growth in containerized cargo, general and large, heavy or high value cargo and be able to process increased container ship sizes.
- **Truck Staging Area:** The POT is working on the design of a combined truck-trailer lay-up and staging area. The truck staging area will be located on Benwell Road outside the POT's main entrance and will cater for up to 25 triple road trains. This facility will reduce truck queuing on port roads and the associated traffic congestion and improve safety around the POT resulting in freight efficiencies.

General cargo shipping services calling at Townsville are shown in Table 2-6.

Table 2-6 Container and break bulk shipping lines calling Townsville

Shipping Company	Origin/Destination
ANL Container Line	Indonesia, PNG
Kyowa Shipping	South Korea, PNG, Japan
Mariana Express Lines	China, PNG, Taiwan, Australia
Swire Shipping	Taiwan, China, Japan, South Korea, India, Thailand, Vietnam, Philippines, Malaysia, Indonesia, Singapore, Bangladesh, Pakistan, Sweden, Netherlands, Germany, UK, Belgium, France, Italy, Spain

It is anticipated that the container movement associated with the Project will be negligible for the POT. To avoid delay to the construction program, the substation equipment and transformers will require planning and early advice of vessel arrivals to ensure berth reservation and workforce management. The tonnages of transformers should be specified early, but with regard to capacity, the POT has handled similar loads direct from ship to low loader previously. Height restrictions within the POT and along the proposed haulage route (i.e. rail underpass in Charters Towers) will need to be considered in the planning of moving plant/infrastructure associated with the Project.

2.4 Air services

The natural environments surrounding Mount Isa and Cloncurry currently support a number of operational mines including; New Century (Century), Capricorn Copper (Capricorn Copper Mine), MMG (Dugald River), Glencore (Ernest Henry), Glencore's Mount Isa Mines (Mount Isa), Incitec Pivot (Phosphate Hill), Chinoya (Osbourne) and South32 (Cannington). There is a range of charter operators available for fly-in operations ex-Townsville, Cairns and Brisbane.

Airports in the study region are as below in Table 2-7.

Table 2-7 Airports in the study region

Airport	Length (m)	Width (m)
Boulia	1274	30
Cannington Station Airport	1200	26
Cloncurry	2000	30
Hughenden	1644	30

Airport	Length (m)	Width (m)
Julia Creek	1402	30
Pentland - Charters Towers	1737	30
Phosphate Hill (Monument Airport)	1900	30
Richmond	1524	30
Townsville	2438	45
Trepell Airport	1799	30
Winton	1402	30

Based on available public data as of July 2020, the following relevant passenger transport information has been determined. It is to be noted that the frequency of flights may be subject to variations to typical services due to COVID-19 related changes:

- Trepell Airport is the private airport adjacent to BHP Billiton's 'South32 Cannington' mine. It is serviced by 7 flights ex-Townsville, 2 flights ex-Cairns and 3 flights ex-Brisbane through Alliance Airlines on their F100 plane (100 seat capacity).
- Mount Isa Airport is serviced daily through commercial flights from Brisbane via Qantas Boeing 737-800 (174 seat capacity) and once through Alliance Airlines on their Fokker 70 (80 seat capacity). Flights are also available ex-Cairns through Regional Express (REX) on their SAAB 340B (33 seat capacity). Additionally, Mount Isa is connected through Townsville Airport once a week through Qantas - DH4 (50 seat capacity) or Alliance - Fokker 70.
- Flights to Cloncurry are available ex-Cairns, Townsville and Brisbane. The airport services nearby mining tenements MMG (Dugald River) and Glencore (Ernest Henry).
- As of the 1st of May 2020, Alliance Airlines has entered into a new service contract with South32 to be the sole supplier of services to Cannington for a ten-year term from 2020 to 2030. Alliance has been providing air charter services to Trepell Airport (Cannington Mine sites) since 2006.

In addition to the above, there are charter services to mines in the study area. Services and weekly seat numbers as at July 2020 are listed in Table 2-8.

Table 2-8 Charter services to mines within proximity to the Project

Origin	Route	Service Providers	Weekly Flights	Weekly Seat No's
Century	Ex-Cairns	Alliance Airlines	3	300
Cloncurry	Ex-Cairns	Alliance Airlines	1	100
	Ex-Townsville	Alliance Airlines / Qantas	9	700
	Ex-Brisbane	Alliance Airlines	2	200
Mount Isa	Ex-Townsville	Qantas / Alliance Airlines	2	130
	Ex-Cairns	REX	6	198
	Ex-Brisbane	Qantas / Alliance Airlines	8	1298
Phosphate Hill (The Monument Airport)	Ex-Townsville	Alliance Airlines	4	400
Trepell	Ex-Townsville	Alliance Airlines	7	700
	Ex-Cairns	Alliance Airlines	2	200
	Ex-Brisbane	Alliance Airlines	3	300

A range of charter operators are available for fly-in operations ex Townsville, the largest operator, Alliance, currently operates a fleet of Fokker 100, Fokker 70 and Fokker 50. Although their 100 seat aircraft would be too large to operate into Hughenden, Richmond and Julia Creek airports, their smaller crafts would be able to accommodate the runway sizes. In relation to the Mt Gordon and Osborne airstrips, there is no publicly available data for the number of charter service movements or weekly seat numbers.

2.5 Likely future trends and influences

The following trends are projected to likely influence road movements along SCRs, LG and PRs in the future.

- The key contributors to road and rail freight movements are inputs from agriculture and mining developments with up to 75 percent of Queensland's base minerals and metals contained in the NWMP including copper, lead, zinc, silver, gold and phosphate.
- The strong demand for North Queensland's resource exports is driving the development of new mines along the Townsville-Mount Isa corridor, serviced by the POT.
- The POT has predicted compounding annual throughput growth of 14 percent per annum between the years 2020 and 2032, peaking at 34 Mt in 2032.
- The \$1.6 billion PEP is a long-term development plan for the POTL that includes channel widening through capital dredging and land reclamation for construction of new harbour, wharves and infrastructure. The upgrades are expected to be completed by 2040 and will improve the capacity of the POT and enable larger vessels up to 300 m in length to access the POT.
- The Townsville Eastern Access Rail Corridor (TEARC) is a proposed 8.3 km freight rail link to connect the Mount Isa Line and North Coast Line directly to the POT, creating capacity for the growing tonnage demand on the rail system and improving safety and traffic flow in the city.
- The Mount Isa Line is a critical link from the NWMP to the POTL, transporting passengers and freight with minerals, fertiliser and acid accounting for almost 75 percent of freight transported on the line. The rail system is currently undergoing \$500 million in maintenance and upgrades to improve efficiency and reliability and meet forecasted throughput tonnage demands. The upgrades will make the Mount Isa Line more competitive for exporters and reduce heavy vehicle traffic on the Flinders Highway.

2.5.1 Mining developments

Higher Mass Limits and Intelligent Access Program

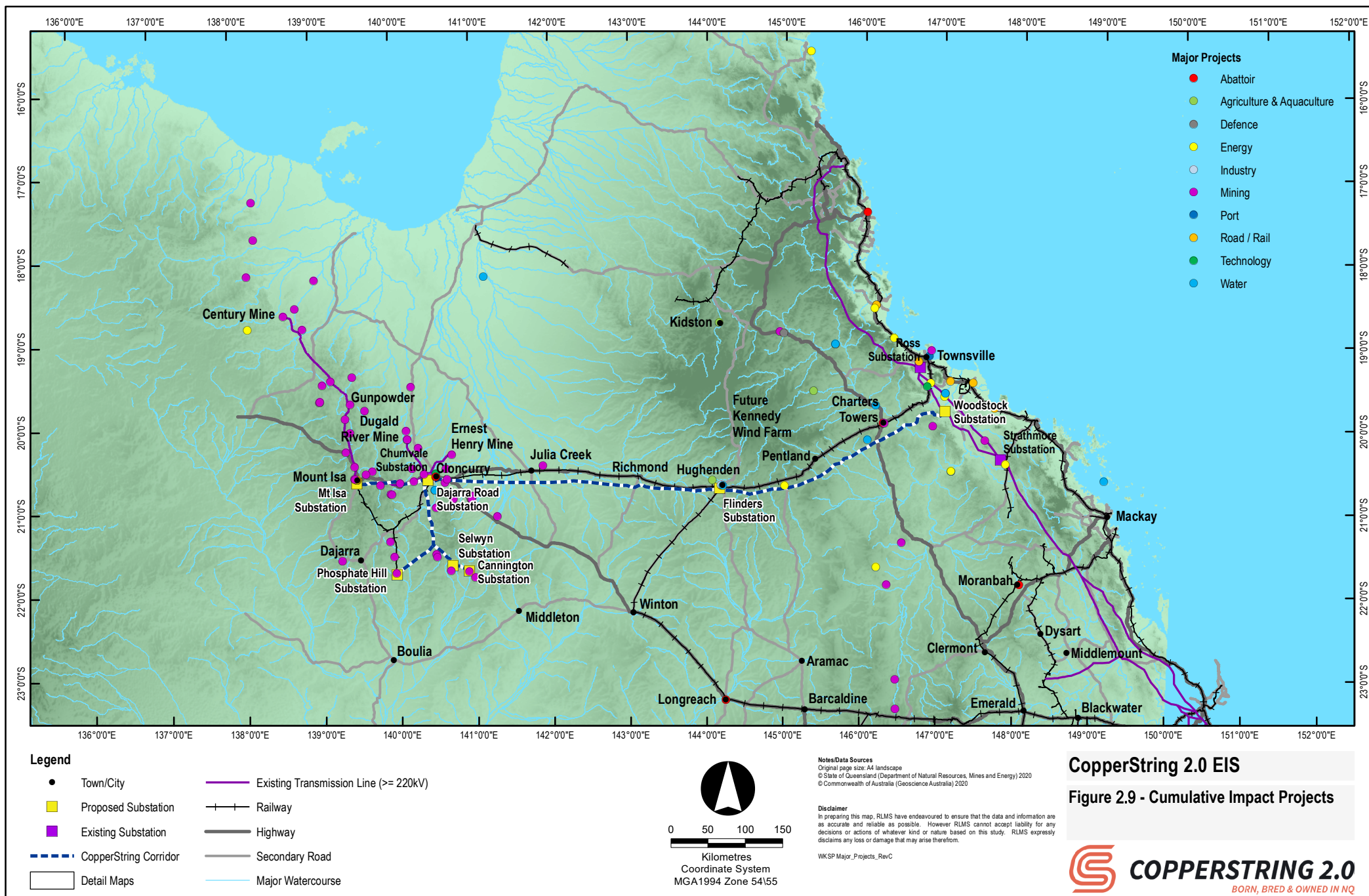
Higher Mass Limits (HML) allow particular heavy vehicles to access additional mass entitlements enabling increased productivity of road freight transport. To be eligible for HML, vehicles must be operating on an authorised HML route and be fitted with certified road friendly suspension systems to reduce the impact of laden axles on road pavements and bridge structures. The National Heavy Vehicle Register coordinates a range of access permit applications, liaising with asset owners to manage applications and issue permits to transport operators requiring access to unauthorised routes.

In Queensland, transport operators running HML must participate in the Intelligent Access Program (IAP). The IAP is a national program allowing participating operators with greater masses or heavier vehicles access to the road network in return for monitoring and compliance with access conditions imposed by road authorities. The IAP uses satellite and wireless communication technology to remotely monitor where and when heavy vehicles are being

operated. This allows road authorities and asset owners to ensure heavy vehicles are complying with their access conditions to protect infrastructure.

Existing and Advanced Minerals Projects

An advanced project is one for which the proponent has identified a resource and is carrying out investigations and seeking approvals to develop that resource to commercial production. Mining developments in the Project area are the key driver for increased demand on rail and freight movements over the Project period. Existing advanced minerals projects in proximity to the Project area are in Figure 2-9 and outlined in Appendix F.



2.5.2 Road projects

Substantial spending is projected on roads in the Northern and North West Regions for the 2019-20 to 2022-23 period as part of the Queensland Transport and Roads Investment Program (QTRIP). Table 2-9 outlines road projects proposed within the study area, with indicative total cost of \$1 million and over.

Additionally, government stimulus funding may include projects that are not captured in Table 2-9 due to the nature of the project delivery timeframes or the projects not yet being scoped at the time of writing.

Table 2-9 QTRIP (projects > \$1 million)

Road	Description of works	Indicative total cost
Flinders Highway (in Townsville City Council)	Woodstock – Giru Road intersection/construct overtaking lanes	\$6 m
Flinders Highway (in Charters Towers Regional Council)	Undertake transport project planning/rehabilitate pavement	\$22.65 m
Flinders Highway (in Richmond City Council)	Undertake transport project planning/rehabilitate bridges and culverts	\$3.56 m
Gregory Developmental Road (in Charters Towers Regional Council)	Widen and seal/rehabilitate and widen	\$51.2 m
Barkly Highway (in Mount Isa City Council)	Improve intersections	\$8.27 m
Aramac Torrens Creek Road	Construct to sealed standard	\$2.06 m
Cloncurry Dajarra Road	Construct to sealed standard	\$3 m
Note: Northern Region Investment Program 2019-20 to 2022-23. North West Region Investment Program 2019-20 to 2022-23.		

3. Project transport task and traffic routes

3.1 General

It is understood that rail remains a competitive alternative mode of transport for the supply of construction materials. However, based on the aspects summarised below, the transportation associated with the Project will be via road.

Bulk freight includes large quantities of material that is easily loaded and unloaded. This typically includes homogeneous products that can be poured or dumped. Rail is the typical mode of transport for large volumes of bulk material that require long distance transport as line haul costs are much lower than road transport. However, it is important to note that cost and time incurred with the pickup, delivery and rail terminal are significant for shorter distance transport tasks, therefore less efficient than road. Although transportation via rail reduces the interaction between heavy vehicles and road users, substantial investment in road networks and safety within the past decade, a trend which is set to continue, has seen freight that is traditionally transported via rail (i.e. cement, fuel, grain and sugar), move to road transportation. It is estimated by the Australian Bureau of Statistics Road Freight Movements, that approximately 33% of freight was transported via rail in 2013-2014. Therefore, road remains the predominant mode of transport for freight materials.

Non-bulk freight enables more diverse distribution networks. Road transport dominates the movement of non-bulk freight on all major corridors in Australia. The direct movements (point to point) associated with road transportation increases quality of service. Transportation of non-bulk materials via rail typically requires transshipment between road and rail at one or both ends, consequently adding freight cost and time.

Due to the structure of the Project, point to point service is considered more favourable than line haul transport. Transportation of materials via rail involves intermodal transport to Project sites via road. Due to the time inefficiencies and costs associated with rail and intermodal transportation, the modal choice for the Project will be road. Advantages and disadvantages of each transport mode are compared in Table 3-1.

Table 3-1 Modal choice

Mode	Advantages	Disadvantage
Rail	• Reduces interaction between heavy vehicles and road users • Reduces impact on road infrastructure • Reduces carbon footprint of transport • Bulk freight commodities over long distances • Access if seasonal conditions result in road closure for any prolonged or unexpected periods	• Intermodal transport required to transport from rail to road • Significant funding required to construct rail sidings • Transit times difficult to manage due to intermodal connection between road and rail • Capacity guarantee uncertain due to rail contract obligations for bulk mineral movements or train schedules
Road	• Direct transport (point to point) more suited to the Project • Faster transit times and more defined certainty of delivery to meet the construction program • Efficiencies for shorter distance freight • Capacity guarantees could be written into contracts and trucks can be positioned from other locations to meet demands	• Increased traffic on state controlled and local government roads • Increased impact on road infrastructure

The Project would be divided into up to 13 construction zones based on the transmission line sections. Work fronts can comprise of two or more construction zones. It is anticipated that the construction will be undertaken using four work fronts, moving to each sequential construction zone upon completion of activities. Table 3-2 outlines the approximate transmission line details of each construction zone.

Table 3-2 Transmission line summary

Transmission line section	Construction zone	Work front	Voltage (kV)	Length (km)	Average Tower Spacing (m)	Total Towers*
Renewable Energy Hub	Woodstock	A	330	39	470	84
	Charters Towers			72	470	153
	Pentland			139	470	296
	Hughenden (east)			92	470	195
CopperString Core	Hughenden (west)	B	330	50	475	107
	Richmond			132	475	279
	Julia Creek			146	475	309
	Cloncurry (east)			67	475	142
Mount Isa Augmentation	Cloncurry (west)	D	220	49.5	410	121
	Mount Isa			49.5	410	122
Southern Connection	Cloncurry (south)	C	220	129	410	314
Cannington Connection	Selwyn (to Cannington)		220	24	335	72
Phosphate Hill Connection	Selwyn (to Phosphate Hill)		220	63	425	148

* Estimated number of towers based on average tower spacing, used to inform foundation and tower construction movements. Note: estimation only.

Transportation movements generated by the construction of the Project comprise of a number of elements. It is proposed that materials used for construction of the transmission line (including steel, conductors, fixtures, foundation reinforcement and transformers) will be transported to the POT via sea. Materials will then be transported in shipping containers via road to a logistics yard outside of Townsville, accessible by heavy vehicles including Type 2 Road Trains. Transportation of plant, equipment and general deliveries to each site (i.e. fuel and cement) will also originate from Townsville.

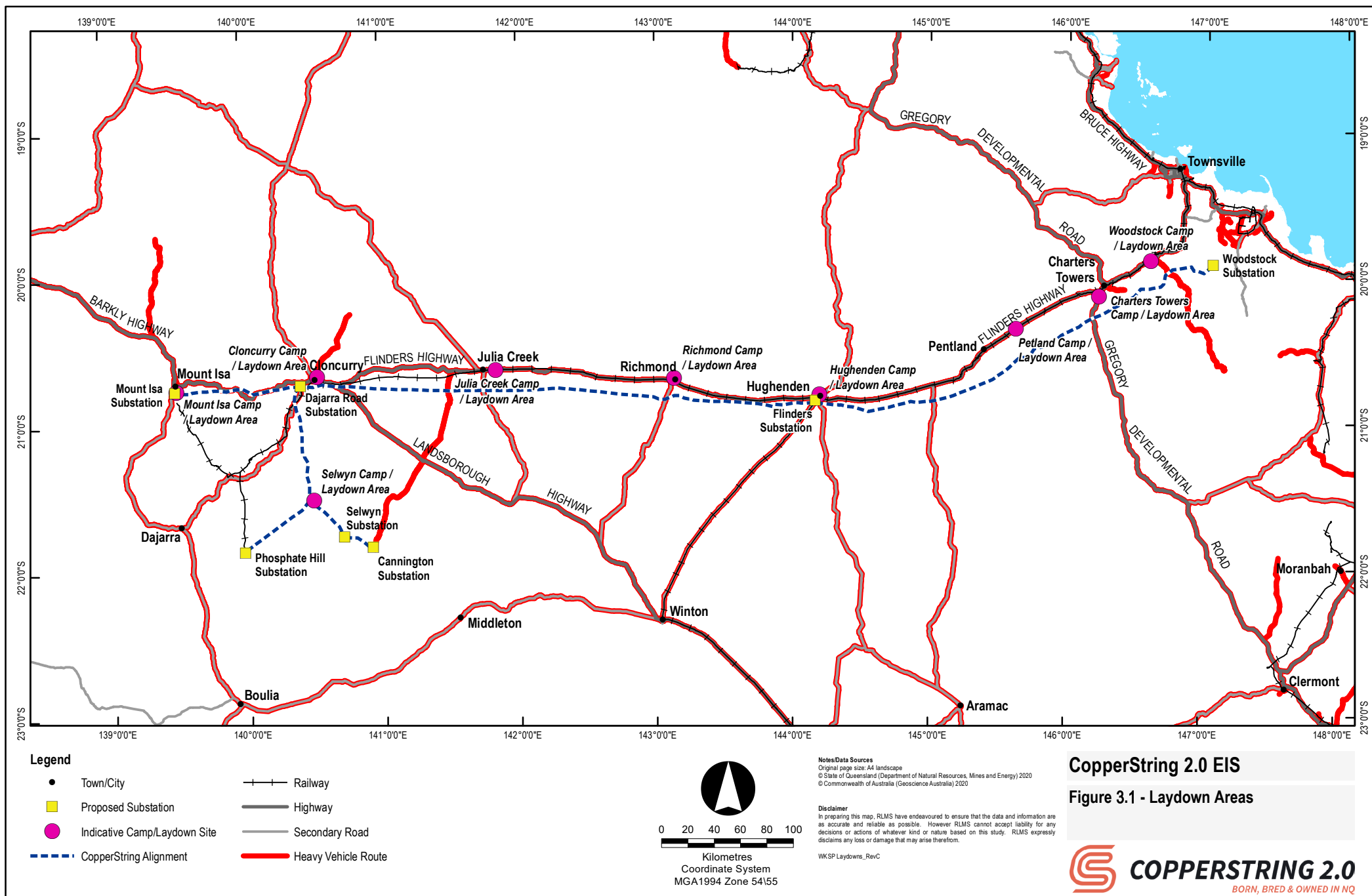
The materials will be transported to the proposed laydown areas of each construction zone. It is proposed that at least one laydown area will be proximate to each of the 13 transmission line construction zones. As the location of each laydown area has not been finalised, it is anticipated that laydown areas will be generally co-located at the construction camps (refer in Volume 3 Appendix I Indicative Infrastructure Layout and Cross-section Drawings). The materials will be distributed to tower locations via SCRs, LGRs and PRs and the corridor selection, by suitable sized vehicles.

To determine the traffic developed during the construction of the Project, the roads outlined in Table 3-3 have been considered to transport the construction materials directly from the laydown areas to the corridor selection.

Table 3-3 Route from laydown areas to corridor selection

Construction zone	Access route
Woodstock	Burdekin Falls Dam Road
Charters Towers	Gregory Developmental Road
Pentland	Longton Road
Hughenden	Kennedy Developmental Road
Richmond	Richmond – Winton Road
Julia Creek	Julia Creek – Kynuna Road
Cloncurry	Cloncurry – Dajarra Road
Mount Isa	Mount Isa – Duchess Road
Selwyn	Malbon Selwyn Road

The proposed location of the laydown areas summarised above are show in Figure 3-1 below and can be seen at Volume 3 Appendix I Indicative Infrastructure Layout and Cross-section Drawings.



In addition to transportation of construction material from the POT, it is proposed that concrete for tower footings will need to be sourced from existing or mobile batching plants proximate to the tower sites for each construction zone. Therefore, concrete transport movements, including the haulage of aggregate, will be localised within each of the construction zones.

It is proposed that each substation site will serve as a laydown area for the substation construction materials. Therefore, materials including transformers, buildings and fencing, will be transported directly to each substation site.

The workforce will be accommodated in temporary construction camps proximal to each construction zone. Where possible, the construction camps will be located near major towns of the region, to make best use of existing services, including water supply, electricity, sewage, and air transport (refer Figure 3-1). This will also enable local industry participation for services such as catering and cleaning and will avoid negative impacts on existing accommodation resources in the region while providing benefit to local supply services. The location of the camps proximate to towns within each construction zone will minimise travel time for workers and reduce daily movements within the project network. These reduced daily movements will minimise congestion along road links and at intersections. Indicative locations of construction camps are included in Volume 3 Appendix I Indicative infrastructure layout and cross-section drawings.

The camp sites for each construction zone are outlined in Table 3-4.

Table 3-4 Workforce Accommodation Locations

Construction zone	Accommodation location	Capacity	Peak workforce
Woodstock Substation	Options under consideration within the Townsville City LGA (within 1 hour of travel to Mingela and the Woodstock substation)	350	111
Woodstock Transmission Line			
Charters Towers Transmission Line	Charters Towers	350	129
Pentland Transmission Line	Pentland	350	204
Flinders Substation	Hughenden	350	261
Hughenden Transmission Line			
Richmond Transmission Line	Richmond	350	227
Julia Creek Transmission Line	Julia Creek	350	204
Cloncurry Transmission Line & Dajarra Road Substation	Cloncurry	350	266
Mount Isa Transmission Line & Substation	Mount Isa	250	182
Selwyn Transmission Line & Substation	Selwyn Substation	250	204
Cannington Transmission Line & Substation			

Construction zone	Accommodation location	Capacity	Peak workforce
Phosphate Transmission Line & Hill Substation			

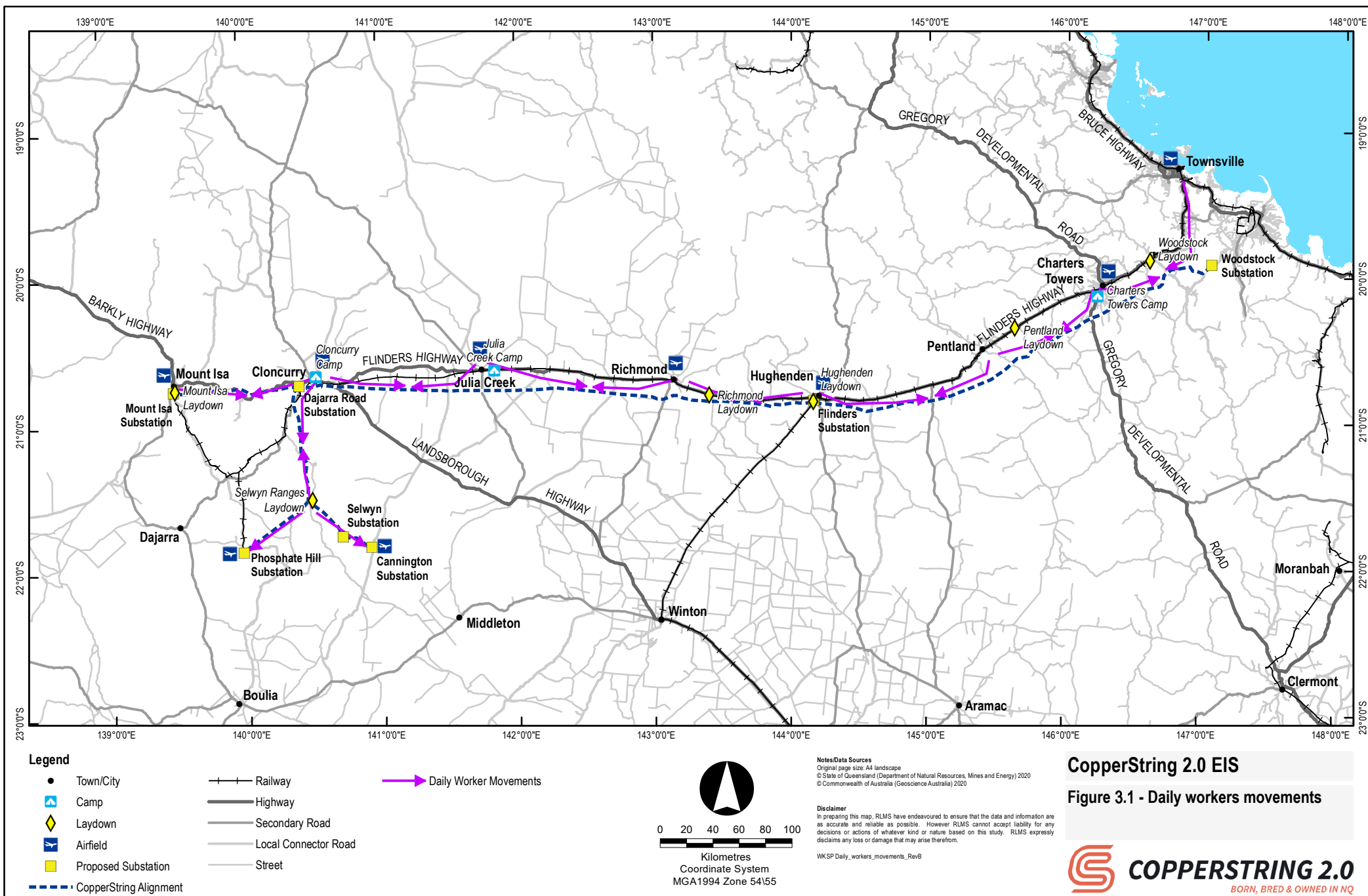
Camp establishment will involve the transportation of camp construction materials and demountable units from Townsville prior to the commencement of construction zone works. It is important to note that each camp will not be constructed to the full capacity outlined above. Instead, accommodation demountable units will be constructed to service workforce demand. Demountable units may be transferred between camp sites during construction to accommodate peak work forces to minimise cumulative movements from Townsville. Ongoing delivery of supplies to each camp facility will also generate movements from Townsville for the period of occupancy. Each camp will be demobilised upon completion of the respective construction zones. Final demobilisation will involve the transportation to return camp materials and demountable units to Townsville.

For the duration of operation, workforce personnel will require transportation to camp sites and to construction zones. It is envisaged that a combination of Fly-In Fly-Out (FIFO) and Bus-In Bus-Out (BIBO) will be operated for workforce deployment. Table 3-5 outlines the workforce deployment method for each camp site.

Table 3-5 Workforce deployment

Accommodation Location	Deployment Method
Woodstock / Mingela	Chartered bus
Charters Towers	Chartered bus
Pentland	Chartered bus
Hughenden	Chartered flight
Richmond	Chartered flight
Julia Creek	Chartered flight
Cloncurry	Chartered flight
Mount Isa	Chartered flight
Selwyn	Chartered flight

Daily workforce movements between camps and construction sites will occur for the duration of the construction zone. Workforce movements will be localised within each construction zone, via a combination of buses and four wheel drive (4WD) vehicles, suitable for the access roads and conditions, as illustrated in Figure 3-2.



As per the Volume 1 Chapter 2 Project Description, the Project construction schedule and camp operation schedule is outlined in Figure 3-3 and Figure 3-4, respectively.

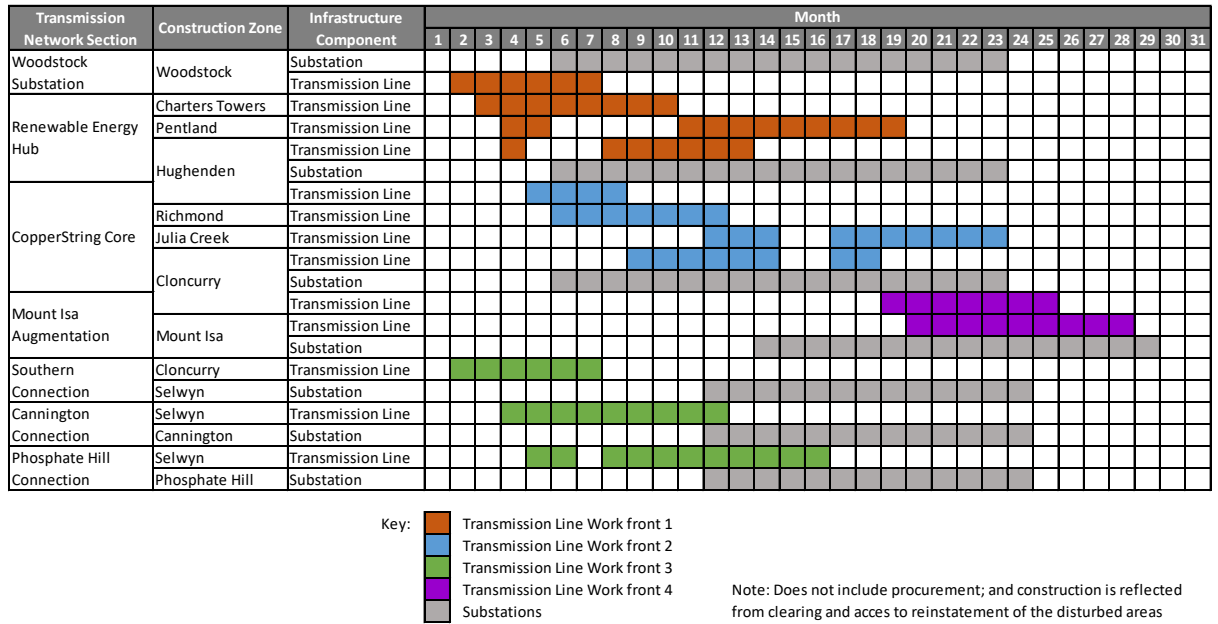


Figure 3-3 Construction zone staging

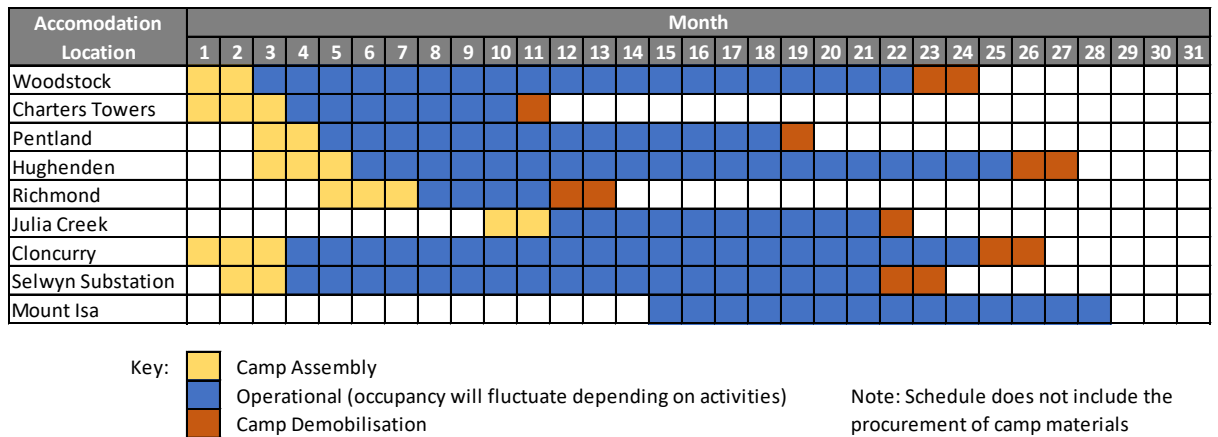


Figure 3-4 Construction camp operation schedule

Movements that originate from Townsville toward western construction zones will generate movements along the eastern SCR segments. For example, transportation of material to Cloncurry will involve movements along the Flinders Highway 14A, 14B, 14C, 14D and 14E. Therefore, movements need to be aggregated along the respective sections. Localised movements, such as workforce movements and concrete for the construction of foundations, will be confined within the construction zone.

3.2 Road transport

Traffic movements generated by the Project will predominantly occur during the construction period. Increased demand on transport infrastructure is anticipated between 2021 and 2024 due to the construction of transmission lines, substations, camps and associated workforce movements.

3.2.1 Transmission lines

The traffic generated during the construction of the transmission lines has been separated into the activities outlined in the following sections.

3.2.1.1 Survey and clearing

Surveying and clearing of the selection corridor will be undertaken using a range of plant and equipment, as outlined in Table 3-6. All plant that can travel to site along SCRs and LGRs, independently, will do so. Provision has been made for all other plant and equipment to be delivered to site via a single semi-trailer movement. It should be noted that larger plant may require heavy vehicle escort and supplementary approvals from DTMR and QPS.

Table 3-6 Survey and clearing plant and equipment

Activity	Quantity	Materials and Equipment	Movements
Clear and Grub	2	D10 Dozer	2
	2	Grader 16GRP	2
	2	D7 Dozer – with stick rake	2
	2	Tub Grinder	2
	2	30 t excavator (and grab in sensitive areas)	2
Construction of access tracks	2	Graders 16GRP	2
	2	30 t excavator (and grab in sensitive areas)	2
	2	Front End Loader	2
	2	20 t Articulated Truck	2*
	2	Water Truck	2*
	2	Backhoe	2

** Note: Vehicles that can traffic SCRs and LGRs independently.*

The plant and equipment outlined in the table above will be distributed from the POT to each of the four work fronts via SCRs and LGRs, upon commencement of the activity. It is anticipated that after the initial mobilisation, the plant will track along the Project corridor subsequent construction zones for the duration of the activity.

Movements that originate from Townsville will have a cumulative impact along the preceding SCRs.

3.2.1.2 Foundations

The foundations for each tower generally comprise of four concrete piles and reinforcing steel. As recommended in Volume 1 Chapter 2 Project Description, the distance between concrete batching plants and transmission tower sites is as follows:

- During summer, maximum 1 hour (est. 60 km)
- During winter, maximum 1.5 hours (est. 90 km)

Therefore, an existing or mobile batching plant will be required for each construction zone. Batching plant locations have not yet been established, however it is anticipated that the batching plants will be located proximate to laydown areas as follows (refer Volume 3 Appendix I Indicative infrastructure layout and cross-section drawings).

Table 3-7 Concrete batching plants

Construction zone	Batching plant	Location
Woodstock	Existing	Townsville or Charters Towers
Charters Towers	Existing	Charters Towers
Pentland	Mobile	Pentland
Hughenden (east)	Mobile	Hughenden
Hughenden (west)	Mobile	Hughenden
Richmond	Mobile	Richmond
Julia Creek	Mobile	Julia Creek
Cloncurry (east)	Mobile	Cloncurry
Cloncurry (west)	Mobile	Cloncurry
Mount Isa	Existing	Mount Isa
Cloncurry (south)	Mobile	Cloncurry
Selwyn (to Cannington)	Mobile	Selwyn
Selwyn (to Phosphate Hill)	Mobile	Selwyn

The concrete for the foundations will be transported between batching plants and tower locations using concrete agitator trucks, with a capacity of 5.6 m³. Concrete will comprise of 15% cement powder (2.4 t/m³), 75% aggregate (2 t/m³) and 10% water. Haulage of cement powder to each batching plant will originate in Townsville. It is proposed that the aggregate required will be sourced within the region/locally, pending further discussions with key stakeholders. However, Hughenden, Richmond and Julia Creek (black soil areas) will likely need to source aggregate from Charters Towers/Pentland or Cloncurry. Type 2 road trains with a capacity of 70 tonne will be used to haul the cement additives, generating additional movements along the Flinders and Barkly Highways. It is anticipated that the footing reinforcement for each tower will be transported from the POT to each laydown area in a single semi-trailer movement.

The foundation sizes vary throughout the corridor section due to the supporting soil conditions and tower sizes. Actual footing sizes of the foundations are unknown, therefore concrete movements have been determined using the range of foundation sizes summarised in the CopperString 1.0 EIS, Volume 1, Chapter 2 Description of the Project. An average foundation size has been adopted for the double circuit transmission lines at Woodstock, the Renewable Energy Hub, Mount Isa Augmentation and Southern Connection. As poor soil conditions are anticipated between Hughenden and Cloncurry (black soil areas), larger footing sizes have been adopted for the CopperString Core. Single circuit transmission lines are proposed for the Phosphate Hill Connection and Cannington Connection, therefore smaller footings have been adopted. The proposed foundation sizes for each construction zone are outlined in Table 3-8 below. It is important to note, the following foundations sizes are greater than those previously estimated.

Table 3-8 Foundation concrete volume

Construction zone	Footing Dimensions		Concrete required per tower (m3)
	Diameter (m)	Length (m)	
Woodstock	1.4	12	73.89
Charters Towers	1.4	12	73.89
Pentland	1.4	12	73.89
Hughenden (east)	1.4	12	73.89
Hughenden (west)	1.8	15	152.68
Richmond	1.8	15	152.68
Julia Creek	1.8	15	152.68
Cloncurry (east)	1.8	15	152.68
Cloncurry (west)	1.4	12	73.89
Mount Isa	1.4	12	73.89
Cloncurry (south)	1.4	12	73.89
Selwyn (to Cannington)	1	6	18.85
Selwyn (to Phosphate Hill)	1	6	18.85

The following transport movements are projected for each construction zone. The movements have been separated into localised movements (i.e. within each construction zone) and movements that originate from the POT (including reinforcement movements). It should be noted that the average weekly movements outlined in Table 3-9 are based on outbound (one way) movements for the duration of the activity.

Table 3-9 Foundation construction movements

Construction zone	Concrete Required (m ³)	Aggregate Required (tonne)	Cement Required (tonne)	Concrete Truck Movements ²	Road train movements (Aggregate) ³	Road train movements (Cement) ³	Reinforcement Movements	Period (weeks) ¹	Local average weekly movements	DTMR average weekly movements
Woodstock	4,877	7,315	1,756	871	105	26	66	8	123	13
Charters Towers	11,231	16,847	4,043	2,006	241	58	152	13	174	17
Pentland	21,650	32,475	7,794	3,867	464	112	293	32	136	14
Hughenden (east)	13,891	20,837	5,001	2,481	298	72	188	13	214	21
Hughenden (west)	16,795	25,192	6,046	3,000	360	87	110	10	336	20
Richmond	43,209	64,813	15,555	7,716	926	223	283	18	481	29
Julia Creek	47,331	70,997	17,039	8,453	1,015	244	310	19	499	30
Cloncurry (east)	21,986	32,979	7,915	3,927	472	114	144	17	259	16
Cloncurry (west)	8,719	13,079	3,139	1,557	187	45	118	12	146	14
Mount Isa	8,719	13,079	3,139	1,557	187	45	118	8	219	21
Cloncurry (south)	15,739	23,608	5,666	2,811	338	81	213	14	226	22
Selwyn (to Cannington)	2,809	4,213	1,011	502	61	15	149	6	95	28
Selwyn (to Phosphate Hill)	2,809	4,213	1,011	502	61	15	149	11	52	16

¹ Note: Tower foundation construction only

² Note: Concrete agitator trucks, 5.6 m³ capacity

³ Note: Type 2 Road trains, 70 tonne capacity

The construction of tower foundations will be undertaken using a range of plant and equipment, as outlined in Table 3-10. All plant that can travel to site along SCRs and LGRs independently will do so. Provision has been made for all other plant and equipment to be delivered to site via a single semi-trailer movement. It should be noted that larger plant may require heavy vehicle escort and supplementary approvals from DTMR and QPS.

Table 3-10 Foundation plant and equipment

Activity	Quantity	Materials and Equipment	Movements
Foundation Excavation	8	Excavator mounted auger	8
	2	30 t Excavator	2
	2	Airtrack	2
Stub Set and Form	4	8x8 with 2 t Hiab (truck)	4*
	8	Foundation Jigs	8
	4	20 t Franna (crane)	4*
Batch Plant	2	Front End Loader	2
	16	Cement Truck	16*

* Note: Vehicles that can traffic SCRs and LGRs independently.

The plant and equipment outlined in the table above will be distributed from the POT to each of the four work fronts via SCRs and LGRs, upon commencement of the activity. It is anticipated that after the initial mobilisation, the plant will track along the Project corridor to subsequent construction zones for the duration of the activity.

Movements that originate from Townsville will have a cumulative impact along the preceding SCRs.

3.2.1.3 Towers

The construction materials for each tower includes the steel for the lattice towers, conductors, insulators and OPGW. The materials will be transported in shipping containers to the POT via sea, before being relocated to the logistics yard location. The steel supplies will be distributed to the respective laydown area for each construction zone via Type 2 road trains along the Flinders Highway and Barkly Highway, then along the access roads to the laydown areas. It is anticipated that the Type 2 road trains will have a capacity of 70 tonne.

Tower sizes vary throughout the corridor selection. As the tower sizes are not yet confirmed, the following tonnage of steel has been adopted for the lattice work only, based on the transmission line voltage and conductor arrangement.

- Woodstock Substation 25 tonne
- Renewable Energy Hub 25 tonne
- CopperString Core 25 tonne
- Mount Isa Augmentation 23 tonne
- Southern Connection 23 tonne
- Cannington Connection 20 tonne
- Phosphate Hill Connection 20 tonne

The conductor combination within each transmission line section is outlined in Table 3-11. Information provided by CuString indicates that the conductors and OPGW have a mass of 1860 kg/km and 750 kg/km, respectively.

Table 3-11 Conductor and OPGW configuration

Corridor section	Construction zone	Wire configuration	Mass per kilometre (t/km)
Woodstock Substation	Woodstock	12 x conductor, 2 x OPGW	23.82
Renewable Energy Hub	Charters Towers	12 x conductor, 2 x OPGW	23.82
	Pentland	12 x conductor, 2 x OPGW	23.82
	Hughenden (east)	12 x conductor, 2 x OPGW	23.82
CopperString Core	Hughenden (west)	12 x conductor, 2 x OPGW	23.82
	Richmond	12 x conductor, 2 x OPGW	23.82
	Julia Creek	12 x conductor, 2 x OPGW	23.82
	Cloncurry (east)	12 x conductor, 2 x OPGW	23.82
Mount Isa Augmentation	Cloncurry (west)	12 x conductor, 2 x OPGW	23.82
	Mount Isa	12 x conductor, 2 x OPGW	23.82
Southern Connection	Cloncurry (south)	6 x conductor, 2 x OPGW	12.66
Cannington Connection	Selwyn (to Cannington)	3 x conductor, 2 x OPGW	7.08
Phosphate Hill Connection	Selwyn (to Phosphate Hill)	3 x conductor, 2 x OPGW	7.08

Based on the information summarised above, the following transport movements are projected for each construction zone. An additional Type 2 road train movement has been projected for the transportation of tower fixtures for three (3) towers. It should be noted that the average weekly movements outlined in Table 3-12 are based on outbound movements only for the duration of the activity.

Table 3-12 Tower construction movements

Construction Zone	Construction material (tonne)		Road train movements	Period (weeks) ¹	Average weekly movements ²
	Steel	Conductor/Cable			
Woodstock	1,650	738.42	57	6.0	10
Charters Towers	3,800	1,715.04	131	14.0	10
Pentland	7,325	3,310.98	251	33.0	8
Hughenden (east)	4,700	2,119.98	162	13.0	13
Hughenden (west)	2,750	1,238.64	95	9.0	11
Richmond	7,075	3,191.88	243	19.0	13
Julia Creek	7,750	3,501.54	266	19.0	14
Cloncurry (east)	3,600	1,619.76	124	17.0	8
Cloncurry (west)	2,714	1,191	97	13.0	8
Mount Isa	2,714	1,191	97	9.0	11
Cloncurry (south)	4,899	1,139.4	158	16.0	10
Selwyn (to Cannington)	2,980	446.04	100	8.0	13
Selwyn (to Phosphate Hill)	2,980	446.04	100	8.0	13

¹ Note: Tower construction only

² Note: Type 2 Road trains, 70 tonne capacity

The construction of the transmission line towers will be undertaken using a range of plant and equipment, as outlined in Table 3-13. All plant that can travel to site along SCRs and LGRs independently will do so. Provision has been made for all other plant and equipment to be delivered to site via a single semi-trailer movement. It should be noted that larger plant may require heavy vehicle escort and supplementary approvals from DTMR and QPS.

Table 3-13 Tower plant and equipment

Activity	Quantity	Materials and Equipment	Movements
Transmission tower assembly and erection	4	8x8 with 2 t Hiab (truck)	4
	4	Manitou (forklift)	4
	4	20t Franna (Crane)	4*
	4	Mobile Crib Room	4
	4	25 t Franna (crane)	4*
	4	120 t Crane (with long boom)	4*
	4	70 m Elevated work platform	4

** Note: Vehicles that can traffic SCRs and LGRs independently.*

The plant and equipment outlined in the table above will be distributed from the POT to each of the four work fronts via SCRs and LGRs, upon commencement of the activity. It is anticipated that after the initial mobilisation, the plant will track along the Project corridor to subsequent construction zones for the duration of the activity.

Movements that originate from Townsville will have a cumulative impact along the preceding SCRs.

3.2.1.4 Stringing

The stringing of transmission lines will be undertaken using a range of plant and equipment, as outlined in Table 3-14. All plant that can travel to site along SCRs and LGRs independently will do so. Provision has been made for all other plant and equipment to be delivered to site via a single semi-trailer movement. It should be noted that larger plant may require heavy vehicle escort and supplementary approvals from DTMR and QPS.

Table 3-14 Stringing plant and equipment

Activity	Quantity	Materials and Equipment	Movements
Stringing	1	Helicopter	0 – helicopters to fly to site
	1	Helicopter Support Vehicle	2*
	4	15 t Brake and Winch	4
	4	9 t Brake and Winch	4
	4	8x8 with 2 t Hiab (truck)	4*
	2	25 t Franna (crane)	2*
	12	70 m Elevated work platform	12*
	4	Winch Trucks	4*
	2	30 t Excavator	2
	2	Earthing Backhoe	2
	2	Earthing Airtrack	2
	500	Triple Stringing Blocks	10
	4	Mobile Crib Room	4

** Note: Vehicles that can traffic SCRs and LGRs independently.*

The plant and equipment outlined in the table above will be distributed from the POT to each of the four work fronts via SCRs and LGRs, upon commencement of the activity. It is anticipated

that after the initial mobilisation, the plant will track along the Project corridor to subsequent construction zones for the duration of the activity.

Movements that originate from Townsville will have a cumulative impact along the preceding SCRs.

3.2.1.5 General deliveries

General deliveries to support the construction of the transmission line include fuel for plant and equipment, diesel for generators and waste disposal. Provision for 4 average weekly movements has been included for the duration of each construction zone activities. It is anticipated that all general deliveries, originating in Townsville, will be transported to the construction zone laydown areas.

CEV hut components have been included within the general delivery movements as they will not generate a significant increase in movements. It is anticipated that the CEV hut locations will be accessed by the nearest SCR, LG road or the corridor selection.

3.2.1.6 Laydown area preparation and site rehabilitation

The preparation of laydown areas and site rehabilitation will be undertaken using a range of plant and equipment, as outlined in Table 3-15. All plant that can travel to site along SCRs and LGRs independently will do so. Provision has been made for all other plant and equipment to be delivered to site via a single semi-trailer movement. It should be noted that larger plant may require heavy vehicle escort and supplementary approvals from DTMR and QPS.

Table 3-15 Laydown area preparation and site rehabilitation plant and equipment

Activity	Quantity	Materials and Equipment	Movements
Laydown area	2	Water Truck	2*
	2	Grader 140G	2
	2	Front End Loader	2
	2	Fuel Truck	2*
	2	20 t Franna (crane)	2*
	2	Welding Plant	2
	2	5 t Forklift	2
Rehabilitation	2	Backhoe	2
	2	Bobcat	2
	2	30 t Excavator	2
	2	20 t Articulated Truck	2*
	2	Front End Loader	2

* Note: Vehicles that can traffic SCRs and LGRs independently.

The plant and equipment outlined in the table above will be distributed from the POT to each of the four work fronts via SCRs and LGRs, upon commencement of the activity. It is anticipated that after the initial mobilisation, the plant will track along the Project corridor to subsequent construction zones for the duration of the activity.

3.2.2 Substations

The traffic generated during the construction of the substations has been separated into disciplinary activities, as outlined in the following sections. As materials required for each substation is not yet confirmed, the quantities and movements previously calculated in the 2011 Transport Impact Assessment, completed as part of the CopperString 1.0 Supplementary EIS (SEIS) have been adopted, as detailed below.

3.2.2.1 Civil

The activities associated with the civil works are as follows.

- Construction of the access road
- Clear and grubbing
- Earthworks
- Benching
- Drainage
- Pavements.

Based on the above activities, the following transport movements outlined in Table 3-16 are projected for the civil works at each substation. It is anticipated that civil construction component movements will originate locally. It should be noted that following average weekly movements are based on outbound (one way) movements for the duration of the activity.

Table 3-16 Civil substation construction

Substation Location	Total Movements	Period (Weeks)	Average weekly movements
Woodstock	2,510	55	46
Hughenden	877	58	16
Cloncurry	877	55	16
Mount Isa	877	41	22
Selwyn	877	37	24
Cannington	877	37	24
Phosphate Hill	877	37	24

3.2.2.2 Structural

The activities associated with the structural works are as follows.

- Supply of foundation materials (including reinforcement, cement, aggregate, etc.)
- Transportation of equipment, finishing, buildings, tanks and fencing
- Construction traffic.

Based on the above activities, the following transport movements outlined in Table 3-17 are projected for the structural components at each substation. It should be noted that following average weekly movements are based on outbound (one way) movements for the duration of the activity.

Table 3-17 Civil substation construction

Substation Location	Total Movements	Period (Weeks)	Average weekly movements
Woodstock	570	24	24
Hughenden	570	16	36
Cloncurry	570	24	24
Mount Isa	570	16	36
Selwyn	570	15	38
Cannington	535	15	36
Phosphate Hill	535	15	36

It is proposed that civil construction movements will originate locally.

The concrete for the foundations will be transported from batching plants to substation locations via concrete agitator trucks, with a capacity of 5.6 m³. It is anticipated that the same tower batching plants within the construction zone will be utilised for the substations, thus haulage of concrete additives will be as per Section 3.2.1.2. The volume of concrete required at each substation, previously calculated in the 2011 SEIS TIA, was used to inform the projected movements outlined in Table 3-18. The movements have been separated into localised movements (i.e. within each construction zone) and movements that originate from the POT (including reinforcement movements). Movements that originate from Townsville will have a cumulative impact along the preceding SCRs. It should be noted that the average weekly movements outlined in the table below are based on outbound (one way) movements for the duration of the activity.

Table 3-18 Substation foundation movements

Substation location	Concrete Required (m ³)	Aggregate Required (tonne)	Cement Required (tonne)	Concrete Truck Movements ²	Road train movements (Aggregate) ³	Road train movements (Cement) ³	Period (weeks) ¹	Local average weekly movements	DTMR average weekly movements
Woodstock	2,700	4,050	972	483	58	14	24	24	25
Hughenden	2,700	4,050	972	483	58	14	16	35	37
Cloncurry	2,700	4,050	972	483	58	14	24	24	25
Mount Isa	2,700	4,050	972	483	58	14	16	35	37
Selwyn	2,700	4,050	972	483	58	14	15	37	39
Cannington	600	900	216	108	13	4	15	9	36
Phosphate Hill	600	900	216	108	13	4	15	9	36

¹ Note: Substation structural works only

² Note: Concrete agitator trucks, 5.6 m³ capacity

³ Note: Type 2 Road trains, 70 tonne capacity

3.2.2.3 Electrical

The components associated with the electrical works are as follows.

- Conduits
- Electrical and coms
- Lighting
- Transformers
- Oil for transformers

Based on the above activities, the following transport movements outlined in Table 3-19 are projected for the electrical works at each substation. It is anticipated that electrical substation component movements will be transported from the POT to substation laydown areas. It should be noted that following average weekly movements are based on outbound (one way) movements for the duration of the activity.

Table 3-19 Electrical substation construction

Substation Location	Total Movements	Period (Weeks)	Average weekly movements
Woodstock	101	65	2
Hughenden	101	65	2
Cloncurry	101	65	2
Mount Isa	101	54	2
Selwyn	101	44	3
Cannington	101	44	3
Phosphate Hill	101	44	3

In addition to the electrical components outlined above, a number of over mass and over dimension loads will be required to deliver specialised equipment, predominantly transformers. Over dimensional loads will be transported from the POT directly to each substation. Transportation of the over dimensional loads require permit approvals and escort vehicles. The total movements to each substation outlined in Table 3-20 represent one way movements.

The transformer dimensions from preliminary layout diagrams are as follows:

- 500 MVA transformers – 200 t – 9.60 m (L) x 6.03 m (W) x 7.31 m (H)
- 60 MVA transformers – 68 t – 5.10 m (L) x 3.24 m (W) x 4.22 m (H)

The total movements to each substation outlined in Table 3-20 represent one way movements.

Table 3-20 Over dimensional load movements

Substation location	Vehicle movements ¹
Woodstock	4
Hughenden	4
Cloncurry	10
Mount Isa	4
Selwyn	2
Cannington	2
Phosphate Hill	2

¹ Over dimensional load movements

Movements that originate from Townsville will have a cumulative impact along the preceding SCRs.

3.2.3 Camp

Each construction zone will have an associated camp. Work fronts will move between construction zones. Indicative locations of construction camps are included in Volume 3 Appendix I Indicative infrastructure layout and cross-section drawings.

3.2.3.1 Camp operation

Camps will comprise predominantly of demountable facilities. A demountable is required at a rate of one unit per four workforce personnel, with additional for each site office, kitchen mess and other facilities. Demountable units will be transported from Townsville during the mobilisation periods outlined in Figure 3-4. It should be noted that camps will not remain at full capacity for the duration of occupancy and demountable units may be transferred between camp sites during construction to accommodate peak work forces. Upon completion of the construction zone activities, camps will be demobilised. Demountable units will be relocated or returned to Townsville. Each demountable, including associated establishment equipment such as plumbing and electrical fixtures, will be transported in one semi-trailer movement. The semi-trailer movements outlined in Table 3-21 are anticipated for the construction and demobilisation of each camp.

Table 3-21 Camp construction movements

Location of accommodation	Peak Workforce	Demountable units required	Construction Period (Weeks)	Average weekly movements ¹	Demobilisation Period (Weeks)	Average weekly movements ¹
Woodstock	111	50	6	9	12	5
Charters Towers	129	55	15	4	13	5
Pentland	204	73	18	5	13	6
Hughenden	261	88	17	6	13	7
Richmond	227	79	17	5	13	7
Julia Creek	204	73	17	5	13	6
Cloncurry	266	89	15	6	12	8
Mount Isa	182	68	17	4	13	6
Selwyn	204	73	19	4	9	9

¹ Note: Semi-trailer movements

Throughout the duration of occupancy, movements will be generated between Townsville and each camp for general deliveries, such as camp supplies, waste disposal, etc. An average of 6 weekly movements has been included for each camp. Provision has also been made within the average weekly movements for the relocation of demountable units between camps.

As per the construction materials, movements that originate from Townsville will impact eastern road segments, therefore westbound movements will need to be aggregated along the respective sections.

3.2.3.2 Workforce movements

The Project will operate a combination of FIFO and BIBO deployment of workforce. Townsville will service camps at Woodstock, Charters Towers and Pentland via chartered buses. The camps at Hughenden, Richmond, Julia Creek, Cloncurry, Mount Isa and Selwyn will be serviced via chartered flights. It is proposed that two chartered buses will operate each week for the transportation of work personnel, with a western extent of Pentland.

Workforce movements between camps and construction sites will occur for the duration of the construction activities. Daily workforce movements will be localised within each construction

zone. A combination of buses, four wheel drive (4WD) vehicles or light utility trucks will be used to transport work personnel to and from worksites within the construction zone. Vehicles will travel along the safest and most efficient route to the respective worksites.

The number of workforce vehicle movements exceeds the total movements generated during construction of transmission lines and substations. However, the increase in usage will be short term as the work front progresses to subsequent construction zones. The concentrated usage will exceed what local users are accustomed to and are well above the current road maintenance programs. It is important to note that movements are largely dependent on the final location of access tracks and work sites. Therefore, movements may be distributed across numerous roads in order to reduce concentrated usage, congestion and accelerated damage.

The calculated weekly workforce movements outlined in Figure 3-6 are based on the nominal maximum workforce numbers for each construction zone, as outlined in Figure 3-5 provided by CuString. It should be noted that the workforce movements summarised in the figure below are one way. The weekly workforce movements are based on the following:

- 2 x 25 seater buses
- 4WD vehicles contain an average of 3 passengers.

			-2	-1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34		
			2021										2022										2023																	
			Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar		
Monthly Workforce Numbers	By Camp Site	Peak																																						
		Woodstock Sub	41												6	9	17	20	19	31	36	41	33	37	39	39	33	19	12	9	7	7								
		Mingela Line	70									24	53	65	65	65					6	70																		
		Charters Towers Line	129								24	24	65	65	65	129	129	65	65																					
		Pentland Line	204										24	24					6	140	140	204	204	204	204	204	76													
		Jardine Creek Sub	71												9	15	35	35	44	62	71	71	66			66	59	33	21	15	12	12								
		Hughenden Line	204											163	204	152	140	140	204	199	65	65				6	156	204	204	204	204	199	129	65						
		Richmond Line	227												29	163	227	204	204	204	129																			
		Julia Creek Line	204																	24	24	24	24				128	204	204	204	204	129	65							
		Cloncurry Line & Sub	266									24	128	199	152	137	137	114	118	52	121	258	266	255	259	262	262	127	159	223	217	163	76	65	65					
		Mount Isa Line & Sub	182																						21	69	69	69	93	69	69	182	182	110	65	65	65	65		
		Selwyn Line & Sub	204										24	75	98	98	140	140	204	204	129	69	75	75	75	15	19	19	18	17	9	4	4							
		Cannington Sub	19																					4	10	10	10	15	19	19	18	17	9	4	4					
		Phosphate Hill Sub	19																					4	10	10	10	15	19	19	18	17	9	4	4					
		Total		760									48	229	317	455	585	604	715	722	698	672	677	754	674	616	619	666	665	710	760	745	579	558	374	201	130	65	65	
Work Hours (thousands)											10.08	23.9	61.58	113.25	132.93	154.41	181.42	184.18	178.87	165.89	171.27	184.71	133.32	105.74	138.62	176.64	142.76	173.21	186.2	174.8	146.44	122.19	75.4	37.29	21.45	12.35	7.8			

Figure 3-5 Base case execution schedule – workforce numbers

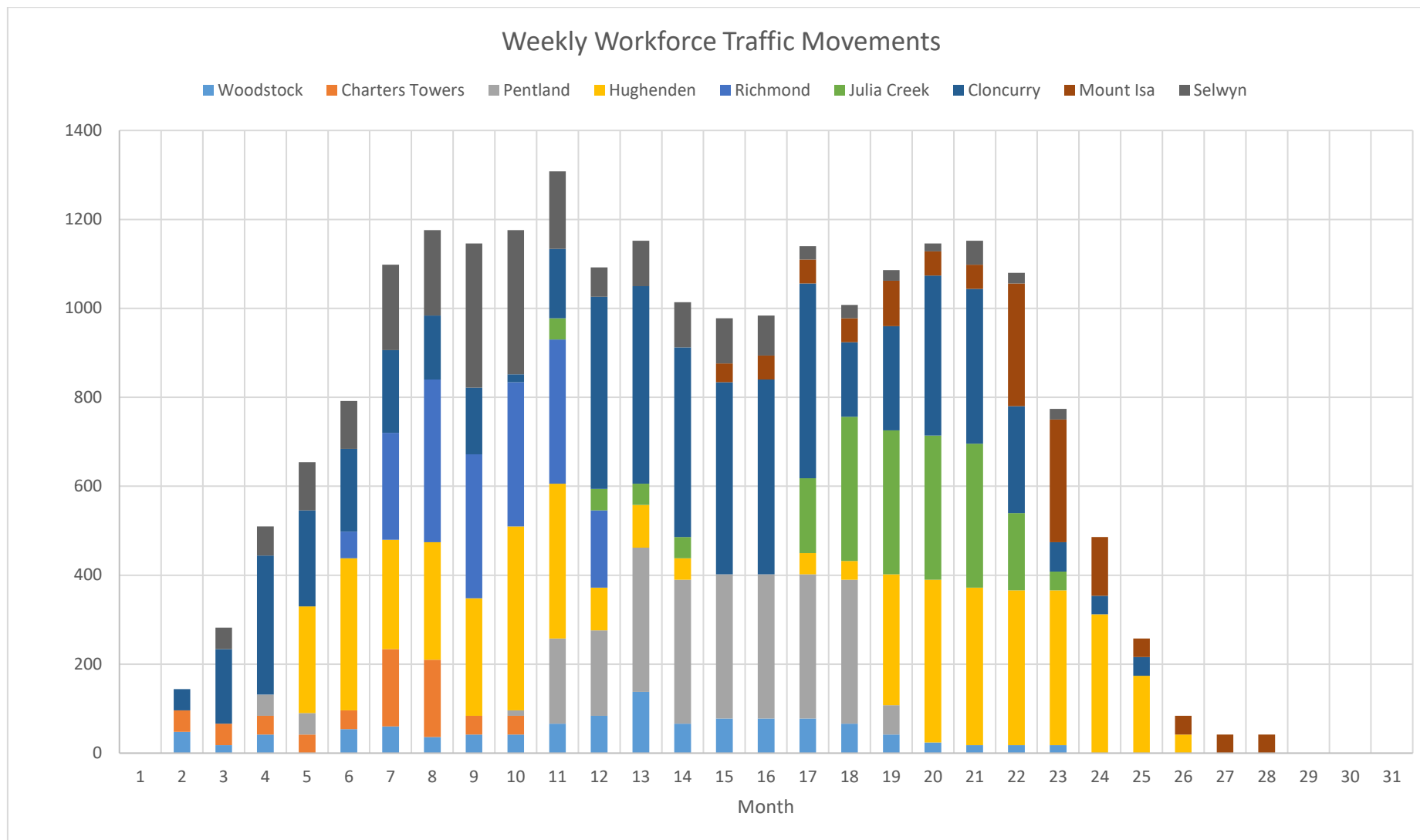


Figure 3-6 Workforce Traffic Movements

3.2.4 Laydown areas

Most plant and equipment imported to Townsville will be transported from the POT to a logistics yard located nearby. The logistics yard may be used to marshal deliveries, prior to dispatching to each laydown area via road. As abovementioned, a laydown area is proposed to service each construction zone, co-located with the worker camps. Indicative locations of construction camps and laydown areas are included in Volume 3 Appendix I Indicative infrastructure layout and cross-section drawings.

It is anticipated that the materials will be distributed to each of the tower locations along the most direct route between the laydown area and the corridor selection.

It is important to note that the Selwyn laydown area is anticipated to service part of the Southern Connection and the Cannington and Phosphate Hill Connection. In an attempt to reduce the number of heavy vehicle movements along Cloncurry – Dajarra Road to Selwyn, transportation movements have been distributed along Landsborough Highway toward Cannington Mine and further along Cloncurry – Dajarra Road toward Phosphate Hill Mine.

3.3 Operating phase

During the operational phase, it is anticipated that traffic movements generated will be minimal, primarily comprising of service vehicles undertaking general maintenance and inspections. As such, the service vehicles required onsite will include light vehicles and light rigid trucks. Thus, traffic volumes developed by the Project are anticipated to be low, with minimal impact to the road infrastructure. It is also anticipated that the number of workforce personnel onsite will be minimal, therefore workforce movements will not require further traffic management.

If large scale refurbishments to any structures are required, such as replacement of substation components, it would likely require oversized vehicles similar to those operating during the construction. The transport infrastructure established during the construction phase should still be operational, therefore communication with relevant stakeholders shall be required to undertake the works.

3.4 Decommissioning phase

The Project transmission network infrastructure will be decommissioned once total usefulness has been achieved. This process will entail disassembling the transmission towers and high voltage lines, in accordance with relevant standards and legislation. All materials required for the construction of the Project will be transported to a waste facility or repurposed and recycled, if possible.

It is anticipated that the decommissioning process will generate a similar transport demand as construction. However, the timeframe for decommissioning is likely to be less, as urgency to not spend additional budget on infrastructure that no longer produces revenue becomes a factor.

It is recommended that an assessment is undertaken to identify potential impacts to the transport infrastructure at the time of the Project decommissioning, as existing traffic and conditions may change.

3.5 Summary of transport activity and traffic routes

On the basis of the information presented in the sections above, the estimated traffic generated for each construction zone is outlined in Table 3-22. It should be noted that the following movements are based on outbound (one way) movements only.

Table 3-22 Estimated total vehicle movements

Construction Zone	Heavy Vehicles				Total Heavy Movements	Light Vehicle Movements	Total Movements
	Type 2 Road Train	Semi-Trailer	Concrete Truck	Bus			
Woodstock	380	4,142	1,376	260	6,158	4,564	10,722
Charters Towers	592	575	2,015	364	3,546	2,384	5,930
Pentland	1,060	950	3,872	468	6,350	10,380	16,730
Hughenden	1,331	2,820	5,979	1,196	11,326	18,958	30,284
Richmond	1,533	710	7,722	312	10,277	7,494	17,771
Julia Creek	1,583	1,008	8,455	364	11,410	7,820	19,230
Cloncurry	2,125	3,181	8,805	1,820	15,931	31,606	47,537
Mount Isa	567	2,330	2,056	676	5,629	4,712	10,341
Selwyn	756	2,846	1,505	0	5,107	2,688	7,795
Cannington	15	1,560	120	0	1,695	0	1,695
Phosphate Hill	15	1,560	120	0	1,695	0	1,695

As movements that originate from Townsville will accumulate along eastern DTMR segments, the movements need to be aggregated to represent the traffic generated on each section for the duration of construction. Localised movements will be confined within the construction zone. As construction routes and accesses have not been finalised, only major SCRs proximate to the estimated locations have been included in the impact assessment (i.e. the most direct route between the proposed camp/laydown area and the corridor selection). The traffic volumes on other SCRs is subject to confirmation of the proposed routes. The total cumulative movements in one direction of the various sections of SCRs is summarised in Table 3-23.

Table 3-23 Total cumulative Project movements

DTMR Road ID	Location	Start Chainage (km)	End Chainage (km)	Heavy Vehicle Movements	Light Vehicle Movements	Total Movements
841	Townsville Port Access Road	0	7.811	22,379	4560	26939
14A	Flinders Highway	0	57.011	22,379	4560	26939
14A	Flinders Highway	57.011	78.272	18,393	4560	22953
14A	Flinders Highway	78.272	126.149	18,616	2388	21004
14B	Flinders Highway	0	3.52	20,522	2388	22910
14B	Flinders Highway	3.52	76.1	21,974	10380	32354
14B	Flinders Highway	76.1	157.862	20,138	10380	30518

DTMR Road ID	Location	Start Chainage (km)	End Chainage (km)	Heavy Vehicle Movements	Light Vehicle Movements	Total Movements
14B	Flinders Highway	157.862	247.288	19,157	16122	35279
14C	Flinders Highway	0	51.601	16,301	16122	32423
14C	Flinders Highway	51.601	114.829	20,459	7,494	27,953
14D	Flinders Highway	0	69.57	18,366	7,494	25,860
14D	Flinders Highway	69.57	140	18,997	7,824	26,821
14D	Flinders Highway	140	149.31	19,638	7,824	27,462
14E	Flinders Highway	0	72.77	18,758	7,824	26,582
14E	Flinders Highway	72.77	123.03	15,070	23,502	38,572
14E	Flinders Highway	123.03	136.83	15,017	23,502	38,519
15A	Barkley Highway	0	10.7	18,850	23,502	42,352
15A	Barkley Highway	10.7	66	4,499	23,502	28,001
15A	Barkley Highway	66	120.64	4,163	4,716	8,879
13H	Landsborough Highway	169.18	75.43	2,099	0	2,099
7708	Cloncurry - Dajarra Road	0	3.55	15,954	31,602	47,556
7708	Cloncurry - Dajarra Road	3.55	45.27	9,574	81,00	17,674
7708	Cloncurry - Dajarra Road	45.27	100.58	3,439	9,444	12,883
5407	Burdekin Falls Dam Road	0	18	3,439	9,444	12,883
98B	Gregory Developmental Road	187.5	193.19	1,144	3,720	4,864
98B	Gregory Developmental Road	169.88	187.5	3,176	2,388	5,564
99C	Kennedy Developmental Road	0	5	10,094	18,966	29,060
99C	Kennedy Developmental Road	5	6	7,572	16,122	23,694
5803	Richmond - Winton Road	0	15.5	8,919	7,494	16,413
5807	Julia Creek - Kynuna Road	0	15.46	9,695	7,824	17,519
7709	Mount Isa - Duchess Road	0	3	3,313	4,716	8,029

DTMR Road ID	Location	Start Chainage (km)	End Chainage (km)	Heavy Vehicle Movements	Light Vehicle Movements	Total Movements
93F	Diamantina Developmental Road	147	153.36	2,984	4,716	7,700

The estimated weekly and daily movements determined for each DTMR road segment, for the duration of construction of the Project, are summarised in Table 3-24. The average week is based on 6 operational days. It should be noted that timing and the period of transportation associated with each activity has been considered in the summation of average and maximum movements. Movements outlined below represent one way movements.

Table 3-24 Cumulative weekly Project movements

DTMR Road Segment	Location	Start Chainage (km)	End Chainage (km)	Peak weekly movements	Peak daily movements	Average weekly movements	Average daily movements
841	Townsville Port Access Road	0	7.811	428	72	201	34
14A	Flinders Highway	0	57.011	428	72	201	34
14A	Flinders Highway	57.011	78.272	418	70	171	29
14A	Flinders Highway	78.272	126.149	494	83	157	27
14B	Flinders Highway	0	3.52	565	95	171	29
14B	Flinders Highway	3.52	76.1	736	123	241	41
14B	Flinders Highway	76.1	157.862	689	115	228	38
14B	Flinders Highway	157.862	247.288	800	134	263	44
14C	Flinders Highway	0	51.601	719	120	242	41
14C	Flinders Highway	51.601	114.829	966	161	209	35
14D	Flinders Highway	0	69.57	862	144	193	33
14D	Flinders Highway	69.57	140	1094	183	200	34
14D	Flinders Highway	140	149.31	1142	191	205	35
14E	Flinders Highway	0	72.77	1098	183	198	34
14E	Flinders Highway	72.77	123.03	845	141	288	48
14E	Flinders Highway	123.03	136.83	839	140	287	48
15A	Barkley Highway	0	10.7	938	157	316	53
15A	Barkley Highway	10.7	66	539	90	209	35
15A	Barkley Highway	66	120.64	585	98	66	12
13H	Landsborough Highway	169.18	75.43	72	12	16	3
7708	Cloncurry - Dajarra Road	0	3.55	720	120	355	60
7708	Cloncurry - Dajarra Road	3.55	45.27	415	70	132	22
7708	Cloncurry - Dajarra Road	45.27	100.58	449	75	96	17
5407	Burdekin Falls Dam Road	0	18	449	75	96	17
98B	Gregory Developmental Road	187.5	193.19	136	23	36	7
98B	Gregory Developmental Road	169.88	187.5	406	68	42	7
99C	Kennedy Developmental Road	0	5	760	127	217	37

DTMR Road Segment	Location	Start Chainage (km)	End Chainage (km)	Peak weekly movements	Peak daily movements	Average weekly movements	Average daily movements
99C	Kennedy Developmental Road	5	6	686	115	177	30
5803	Richmond - Winton Road	0	15.5	841	141	122	21
5807	Julia Creek - Kynuna Road	0	15.46	813	136	131	22
7709	Mount Isa - Duchess Road	0	3	537	90	60	10
93F	Diamantina Developmental Road	147	153.36	372	62	57	10

As noted in the table above, the peak weekly construction movements are projected to occur along the Flinders Highway (14D and 14E). These movements are predominantly derived from the construction zone at Julia Creek. Movements are typically greater between Hughenden and Cloncurry, due to the poor soil conditions requiring larger volumes of concrete for the foundations. It is important to note that the peak periods during the construction of the Project are short term, for the duration of activities associated with the construction of foundations.

The construction of the transmission line consists of a variety of activities. A conservative approach was adopted to determine the base case traffic. It is anticipated that each construction activity will have at least one movement associated within the hour. Concrete movements are expected to be more frequent within the base case. As such, it is expected that concrete agitator trucks will be able to pour the tower foundations within 10-15 minutes, therefore 5 movements have been adopted for the peak hour. As general deliveries include various deliveries that can occur simultaneously, provision for two movements has been adopted during the base case.

A breakdown of the vehicles anticipated to access each laydown area in an hour is provided in Table 3-25 below.

Table 3-25 Peak hour traffic

Construction Activity	Movements	Peak Hour
Survey and Clearing	Plant	1
Foundations	Plant	1
	Concrete agitator	5
	Semi-Trailer (reinforcement)	1
Towers	Plant	1
	Type 2 Road Train (steel/fixtures)	1
Stringing	Plant	1
General Deliveries	Type 2 Road Train (fuel/waste disposal)	2
Total		13

It is anticipated that all workforce movements, which predominantly comprise of light vehicles, will occur outside of the peak hours of the road segment, therefore have not been included in the assessment.

The comparison between the existing traffic volumes on each DTMR road segment and the projected movements generated during the construction phase of the Project, in addition to relevant mitigation measures, is discussed in Section 4.

4. Potential impacts & mitigation measures

4.1 Air services impacts

A number of operational airports, as outlined in Section 2.4, are proximate to the Project construction zones currently servicing the mining and resource industry in the region.

Based on previous flight information, the impact to air services is considered negligible due to the level of air services and availability of equipment based on demand. Existing charter companies such as Alliance Airlines currently operate regionally, while competing passenger services, operated by Qantas, Virgin Australia and REX Regional Express also have capacity to meet travel additional demands. As such, it is anticipated that the proposed workforce movements should adequately be catered for by airlines that currently operate within the region. The frequency of flights to the region have recently been impacted by COVID-19 travel restrictions, therefore it is unknown if commercial flights will be able to service the workforce movements in the future. For example, Virgin Australia recently entered administration, therefore services are uncertain.

It is recommended that the air services are reassessed prior to commencement of worker deployment in order to determine availability and impacts. To ensure feasibility to the Project, it is recommended that a cost comparison between the scheduled passenger services and charter companies is undertaken to secure arrangements based on capacity and scheduled travel times.

4.2 Sea transport impacts

It is anticipated that the bulk of materials and equipment will be imported via the POT. Majority of materials will be imported via shipping containers before being transported to the logistics yard and dispatched to the respective construction zones.

It is anticipated that the container movement associated with the Project will have a negligible impact on the POT, due to ongoing expansion works aimed to increase the capacity of importing and exporting goods.

It is recommended that early planning and liaison with the POT is undertaken to ensure berth reservation and workforce management. Over dimensional loads, such as substation transformers, will need to be declared to the POT to ensure berth space is available. Height restrictions within the POT will need to be considered when planning the transport of materials and equipment.

The regular scheduled shipping lines are expected to allow sufficient capacity for the estimated material volumes incurred for the Project duration. Similar to airline services, shipping lines can adjust capacity and routes to meet demands. There are two forms of shipping carrier that may be used to transport the Project materials, as follows:

- Scheduled liner services: operate within a schedule with a fixed route often advertised at ports
- Tramp services: operate without a fixed route or schedule and are typically available on shorter notice for larger tonnages

It is important to note that tramp services typically require a fixed volume or adequate pricing to be engaged exclusively, however scheduled liner services will allow a fixed price per container or mass on a regular route.

To ensure feasibility to the Project, it is recommended that an early cost comparison, between scheduled liner services and tramp service carriers, is undertaken to determine the best commercial option to transport materials and equipment from the manufacturer to Townsville.

4.3 Road traffic impacts

The traffic generated by the construction of the Project may impact the safety and functioning of SCRs and LGRs. Therefore, any traffic impacts require assessment and mitigation in order to maintain safety, efficiency and infrastructure condition of the road. A traffic impact assessment analyses the effect a development may have on a road and demonstrates how these impacts can be avoided, reduced, managed or mitigated. The following traffic impact assessment has been prepared in accordance with DTMR Guide to Traffic Impact Assessment, 2018 (GTIA). It considers the effects of traffic generated by the Project along the Corridor Selection and proposes mitigation measures where appropriate. As the proposed routes are yet to be confirmed, a high level traffic impact assessment has been undertaken on the entire network.

4.3.1 Road link assessment

The impact on the road network due to the traffic generated during the construction of the Project is shown in Table 4-1. It should be noted, that the Base AADT is based on the direction with the lowest volume of traffic, as this represents a conservative trigger. It should be noted that when comparing gazetted and against gazetted AADT the differences are negligible. The 10 year growth rates for the respective direction were adopted for each road segment. Instances where the growth rate is negative, a conservative approach of 0% growth was adopted between the data year and the projected start year. The Project AADT is based on the one way, average daily movements outlined in Table 3-24.

Table 4-1 Road link impact – construction traffic

DTMR Road ID	Location	Start Chainage (km)	End Chainage (km)	Base AADT ¹ (2019)	AADT ¹ (2021)	Project AADT ¹	% increase due to Project traffic ²
841	Townsville Port Road	0	7.34	1340	1340	34	2.47
841	Townsville Port Road	7.34	7.81	1815	1815	34	1.84
14A	Flinders Highway	0	2.47	942	942	34	3.48
14A	Flinders Highway	2.47	9.42	2837	2968	34	1.18
14A	Flinders Highway	9.42	57.011	1233	1264	34	2.68
14A	Flinders Highway	57.011	78.272	1233	1264	29	2.30
14A	Flinders Highway	78.272	122.11	1233	1264	27	2.14
14A	Flinders Highway	122.11	124.93	969	1028	27	2.71
14A	Flinders Highway	124.93	126.15	1343	1343	27	1.97
14B	Flinders Highway	0	3.48	1224	1224	29	2.31
14B	Flinders Highway	3.48	61.79	544	544	41	7.01
14B	Flinders Highway	61.79	76.1	335	351	41	10.90
14B	Flinders Highway	76.1	139.72	335	351	38	10.19
14B	Flinders Highway	139.72	157.862	276	333	38	12.10
14B	Flinders Highway	157.862	244.79	276	333	44	13.75
14B	Flinders Highway	244.79	247.29	352	352	44	11.11
14C	Flinders Highway	0	51.601	245	252	41	14.34
14C	Flinders Highway	51.601	114.83	245	252	35	12.50
14D	Flinders Highway	0	69.57	221	236	33	12.99
14D	Flinders Highway	69.57	140	221	236	34	13.33
14D	Flinders Highway	140	149.31	221	236	35	13.67
14E	Flinders Highway	0	3.6	268	268	34	11.26
14E	Flinders Highway	3.6	24.5	44	44	34	43.59
14E	Flinders Highway	24.5	72.77	203	205	34	14.35
14E	Flinders Highway	72.77	123.03	203	205	48	19.12
14E	Flinders Highway	123.03	134.32	448	463	48	9.68
14E	Flinders Highway	134.32	136.31	505	505	48	8.68
14E	Flinders Highway	136.31	136.83	1,534	1534	48	3.03
15A	Barkly Highway	0	2.05	676	676	53	7.27

DTMR Road ID	Location	Start Chainage (km)	End Chainage (km)	Base AADT ¹ (2019)	AADT ¹ (2021)	Project AADT ¹	% increase due to Project traffic ²
15A	Barkly Highway	2.05	10.7	475	612	53	10.04
15A	Barkly Highway	10.7	66	475	612	35	6.86
15A	Barkly Highway	66	114.05	475	612	12	2.46
15A	Barkly Highway	114.05	120.55	495	569	12	2.37
13H	Landsborough Highway	0	166.18	166	166	3	1.78
13H	Landsborough Highway	166.18	169.18	181	181	3	1.63
7708	Cloncurry – Dajarra Road	0	3.55	34	36	60	63.83
7708	Cloncurry – Dajarra Road	3.55	45.27	34	36	22	39.29
7708	Cloncurry – Dajarra Road	45.27	100.6	34	36	17	33.33
5407	Burdekin Falls Dam Road	0	39.35	91	91	8	8.08
98B	Gregory Developmental Road	142.78	187.5	377	390	7	1.82
98B	Gregory Developmental Road	187.5	193.19	377	390	8	2.08
99C	Kennedy Developmental Road	0	5	388	712	37	8.71
99C	Kennedy Developmental Road	5	117.06	77	85	37	32.46
99C	Kennedy Developmental Road	2.44	117.06	77	85	30	28.04
5803	Richmond – Winton Road	0	100.32	26	26	21	44.68
5807	Julia Creek – Kynuna Road	0	112.37	17	17	22	56.41
93F	Diamantina Developmental Road	132.1	149.94	241	241	10	3.98
93F	Diamantina Developmental Road	149.94	153.36	2002	2002	10	0.50
7709	Mount Isa – Duchess Road	0	2.38	4118	4118	10	0.24
7709	Mount Isa – Duchess Road	2.38	4.72	146	146	10	6.41

¹Note: One directional AADT

²Note: Red text denotes segments with an increase greater than 5%.

As outlined in the table above, the additional traffic generated during the construction of the Project, triggers a 5% impact along the majority of the Flinders Highway (14B, 14C, 14D, 14E), part of the Barkly Highway (15A) and various segments along SCR roads that intersect the primary highways. It is important to note that the base traffic volumes are low for many SCR segments west of Charters Towers, therefore the trigger volume is easily exceeded. The following breakdown indicates the development traffic will cause a 10-15% increase on most SCR segment.

- < 5% increase = 433 km
- 5% – 10% increase = 129 km
- 10% - 15% increase = 510 km
- >15% increase = 385 km.

The road link assessment was undertaken with respect to the average daily movements projected for the Project duration. However, it should be noted that the peak daily traffic projected during construction will trigger a 5% impact on all segments (based on the direction with the lowest AADT), with the exception of isolated sections along the Townsville Port Road (7.34 km – 7.81 km) and the Flinders Highway 14A (2.47 km – 9.42 km). However, the periods of above average traffic are anticipated to be short term (less than 6 months).

The assessment of the road link capacity is based on impacts to the road's level of service. As the Project is expected to generate additional heavy vehicle movements, the level of service may be impacted in segments where limited overtaking opportunities are available. Due to the low volume of existing traffic on the SCRs, it anticipated that the traffic generated should not significantly impact the capacity of the road link. Further analysis of the road link capacity will be undertaken upon confirmation of the proposed access routes as outlined in Section 4.15.

4.3.2 Intersection turn warrants

Turn warrants required at intersections along the Flinders and Barkly Highways were derived using an indicative peak hour traffic, and the projected base case generated during project construction, outlined in Section 3.5. Peak hourly traffic is based on 10% of the AADT for each direction. The AADT is derived from the sum of the 2021 projected AADT and the one directional development traffic determined for the respective SCR segment. As intersection counts are unavailable, it is anticipated that approximately 90% of the peak hour traffic will comprise the through movements (Q_M) at the intersection, while 10% will turn (Q_L/Q_R). As access to the corridor selection from laydown areas is not yet confirmed, the turn warrant assessment has been undertaken for all road segments where an access road intersects a SCR.

As per the DTMR Supplement to Austroads Guide to Road Design Part 4A: Unsignalised and Signalised Intersections, Figure 4A-1 Warrants – major road turn treatments – Normal Design Domain, the following treatments are required for turn movements within the sections outlined in Table 4-2.

Table 4-2 Traffic turn warrants

Road ID	Location	Start Chainage (km)	End Chainage (km)	Peak Hour (Gazettal)	Peak Hour (Against Gazettal)	QL	QM	QR	QM	Treatment Required
14A	Flinders Highway	9.42	57.011	130	130	26	117	26	117	BAL, BAR
14A	Flinders Highway	57.011	78.272	129	130	26	116	26	117	BAL, BAR
14A	Flinders Highway	78.272	122.11	129	130	26	116	26	117	BAL, BAR
14A	Flinders Highway	122.11	124.93	118	105	25	106	24	95	BAL, BAR
14A	Flinders Highway	124.93	126.15	152	137	28	137	27	123	BAL, BAR
14B	Flinders Highway	0	3.48	125	143	26	113	27	128	BAL, BAR
14B	Flinders Highway	3.48	61.79	64	59	19	57	19	53	BAL, BAR
14B	Flinders Highway	61.79	76.1	39	40	17	35	17	36	BAL, BAR
14B	Flinders Highway	76.1	139.72	39	40	17	35	17	36	BAL, BAR
14B	Flinders Highway	139.72	157.862	39	37	17	35	17	33	BAL, BAR
14B	Flinders Highway	157.862	244.79	40	38	17	36	17	34	BAL, BAR
14B	Flinders Highway	244.79	247.29	40	41	17	36	17	37	BAL, BAR
14C	Flinders Highway	0	51.601	29	31	16	26	16	28	BAL, BAR
14C	Flinders Highway	51.601	114.83	29	30	16	26	16	27	BAL, BAR
14D	Flinders Highway	0	69.57	27	28	16	24	16	25	BAL, BAR
14D	Flinders Highway	69.57	140	27	28	16	24	16	25	BAL, BAR
14D	Flinders Highway	140	149.31	27	28	16	24	16	26	BAL, BAR
14E	Flinders Highway	0	3.6	30	31	16	27	16	28	BAL, BAR
14E	Flinders Highway	3.6	24.5	19	8	15	17	14	7	BAL, BAR
14E	Flinders Highway	24.5	72.77	24	25	15	22	16	23	BAL, BAR
14E	Flinders Highway	72.77	123.03	25	26	16	23	16	24	BAL, BAR
14E	Flinders Highway	123.03	134.32	54	51	18	49	18	46	BAL, BAR
14E	Flinders Highway	134.32	136.31	55	58	19	50	19	52	BAL, BAR
14E	Flinders Highway	136.31	136.83	161	158	29	145	29	142	BAL, BAR
15A	Barkly Highway	0	2.05	73	73	20	66	20	66	BAL, BAR
15A	Barkly Highway	2.05	10.7	67	66	20	60	20	60	BAL, BAR
15A	Barkly Highway	10.7	66	65	65	20	59	19	58	BAL, BAR
15A	Barkly Highway	66	114.05	63	62	19	56	19	56	BAL, BAR

Road ID	Location	Start Chainage (km)	End Chainage (km)	Peak Hour (Gazettal)	Peak Hour (Against Gazettal)	QL	QM	QR	QM	Treatment Required
15A	Barkly Highway	114.05	120.55	70	58	20	63	19	52	BAL, BAR
13H	Landsborough Highway	0	166.18	18	17	15	16	15	15	BAL, BAR
13H	Landsborough Highway	166.18	169.18	20	18	15	18	15	17	BAL, BAR
7708	Cloncurry – Dajarra Road	0	3.55	10	10	14	9	14	9	BAL, BAR
7708	Cloncurry – Dajarra Road	3.55	45.27	6	6	14	5	14	5	BAL, BAR
7708	Cloncurry – Dajarra Road	45.27	100.6	5	5	14	5	14	5	BAL, BAR
5407	Burdekin Falls Dam Road	0	39.35	10	11	14	9	14	10	BAL, BAR
98B	Gregory Developmental Road	142.78	187.5	41	40	17	37	17	36	BAL, BAR
98B	Gregory Developmental Road	187.5	193.19	41	40	17	37	17	36	BAL, BAR
99C	Kennedy Developmental Road	0	5	75	77	20	67	21	70	BAL, BAR
99C	Kennedy Developmental Road	5	117.06	12	12	14	11	14	11	BAL, BAR
99C	Kennedy Developmental Road	2.44	117.06	11	12	14	10	14	10	BAL, BAR
5803	Richmond – Winton Road	0	100.32	5	5	13	4	13	4	BAL, BAR
5807	Julia Creek – Kynuna Road	0	112.37	4	4	13	4	13	4	BAL, BAR
93F	Diamantina Developmental Road	132.1	149.94	25	26	16	23	16	24	AUL(s), CHR(s)
93F	Diamantina Developmental Road	149.94	153.36	201	222	33	181	35	200	AUL or CHL, CHR
7709	Mount Isa – Duchess Road	0	2.38	433	413	56	389	54	372	BAL, BAR
7709	Mount Isa – Duchess Road	2.38	4.72	16	16	15	14	15	14	BAL, BAR

Based on the peak traffic volumes outlined above, basic left turn treatment (BAL) and basic right turn treatment (BAR) is warranted for most access roads that intersect the SCR segments, as the traffic volumes are so low. The only exception to the turn warrants occurs along the southern approach to Mount Isa, Diamantina Developmental Road, where a shorter length Auxiliary Left Turn Lane (AUL(s)) and Channelised Right-turn Lane (CHR(s)) is warranted. It is important to note that movements generated during the construction of the Project will not deviate from the main throughway within this section, therefore turn warrant treatments are not applicable. The turn warrant assessment should be revised upon confirmation of proposed project routes and intersection counts. This will also enable SIDRA intersection analysis to be undertaken as outlined in Section 4.15. High speed environments where high concentration of turning movements are expected, consideration should be given to advanced warning signage or speed restrictions to not impede through movements.

4.3.3 Swept paths

Turn path assessments were undertaken for 24 of the intersections identified between SCRs only that may be impacted during construction of the Project. The swept paths show the possible extents at these intersections for the SCR intersections. It is important to note that not all of the segments outlined in the abovementioned table intersect. Turn paths were completed using a 53.5 m Type 2 Road Train vehicle in Autoturn 2018 and Queensland Globe aerial images.

The swept path assessment shows the footprint required by the design vehicle to safely and adequately turn through all intersection movements while remaining lane compliant. The assessment indicated that 12 of the intersections are Type 2 road train compliant. These intersections are typically channelised. The remaining intersections were deemed non lane compliant as widening is required to undertake the movements, or vehicles impede into adjacent lanes therefore preventing simultaneous movements. As such, it is recommended that additional investigations and a road safety audit are undertaken to determine the extent of widening works warranted as outlined in Section 4.15. Turn paths for each TMR intersection are shown in Appendix G.

Numerous LGRs and intersections were identified as potential access routes for the corridor selection. Many of these will not accommodate lane compliant movements. Figure 4-1 shows an example of a LGR intersection with the swept paths for a Type 2 road train. It is evident that widening will likely be required in order to undertake the movements. Additional works will be negotiated with local governments upon confirmation of heavy vehicle access routes as outlined in Section 4.15.



Figure 4-1 Local government intersection turn path example

4.3.4 Intersection sight distance

Approximate sight distance at each intersection was measured during the site inspection undertaken by GHD in 2019. Measurements were undertaken using a DTMR GPS trip metre and car odometer, acquiring an accuracy of ± 50 m.

The approach sight distance is the minimum sight distance required on all minor road approaches to an intersection, as depicted in Figure 4-2.

Figure 3.1: Application of approach sight distance (ASD)

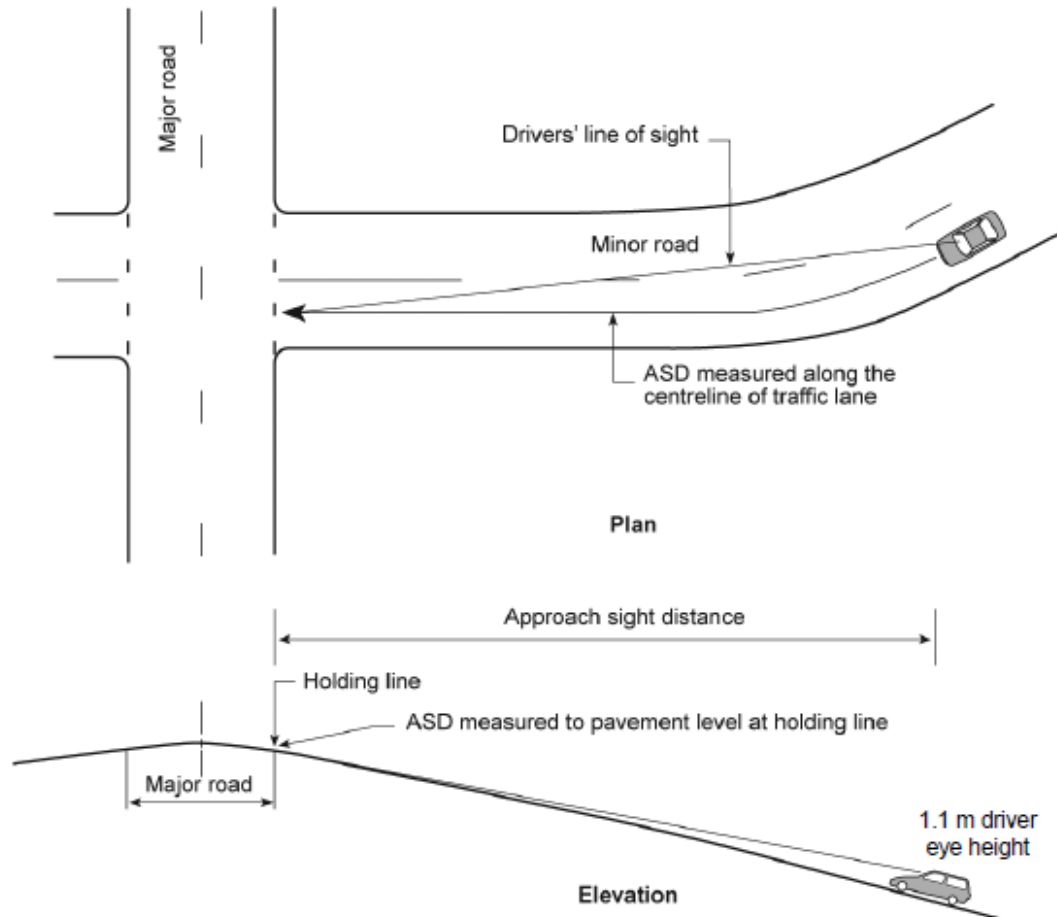


Figure 4-2 Approach sight distance

In accordance with Appendix B of the DTMR Route Assessment Guidelines for Multi-Combination Vehicles and Austroads Guide to Road Design Part 4A – Unsignalised and Signalised Intersections, the following sight distances were calculated. The stopping sight distance (SSD) outlined in Table 4-3 is based on the following parameters.

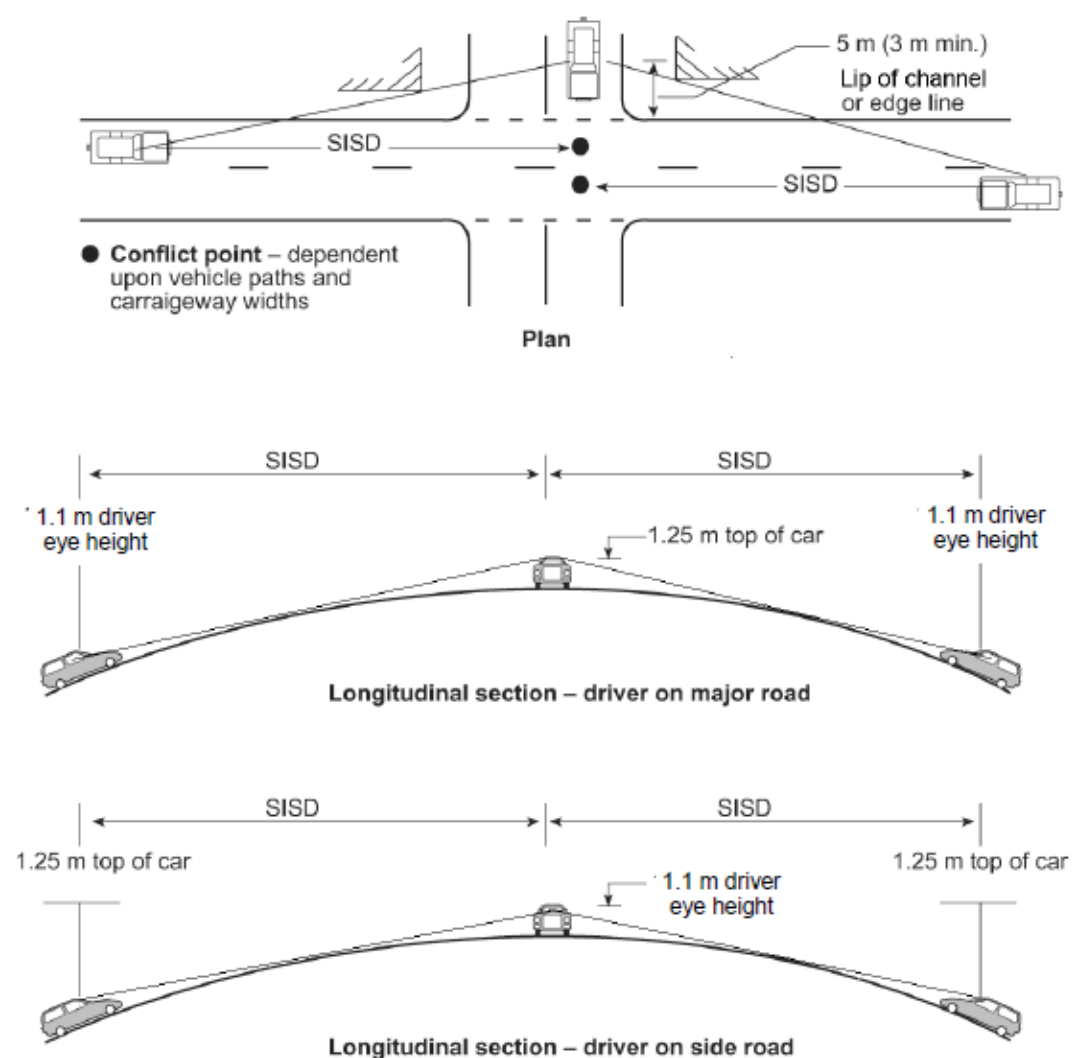
- Reaction time of 2.5 seconds
- Brake lag (brake response time) of 1 second for B-Doubles, 1.5 seconds for Type 1 Road Trains and 2 seconds for Type 2 Road Trains
- Longitudinal friction value of 0.29g up to 90 km/h, 0.28g at 100 km/h and 0.26g at 110 km/h
- The 85th % operating speed may be different for each class of vehicle due to the road geometry of the approach.

Table 4-3 Stopping sight distance (SSD) requirements

Vehicle Type	Design Speed	Required Sight Distance
Type 2 Road Train	70	135
Type 2 Road Train	90	197
Type 2 Road Train	110	290
Light Vehicle	70	---
Light Vehicle	90	151
Light Vehicle	110	209
Light Vehicle	120	241

Safe intersection sight distance (SISD) is the minimum sight distance required on a major road approaching an intersection, as depicted in Figure 4-3.

Figure 3.2: Safe intersection sight distance (SISD)



Source: Based on Department of Main Roads (2006⁵).

Figure 4-3 Safe intersection sight distance

In accordance with Appendix B of the DTMR Route Assessment Guidelines for Multi-Combination Vehicles and Austroads Guide to Road Design Part 4A – Unsignalised and Signalised Intersections, the following sight distances were calculated. The stopping sight distances (SSD) outlined in Table 4-4 were used when assessing the intersection. It is important to note that the assessment was undertaken from a driver's eye height of 1.7 m. The SISD is based on the following parameters.

- Alert reaction time of 2 seconds
- Observation time of 3 seconds
- Brake lag (brake response time) of 1 second for B-Doubles, 1.5 seconds for Type 1 Road Trains and 2 seconds for Type 2 Road Trains
- Longitudinal friction value of 0.29g up to 90 km/h, 0.28g at 100 km/h and 0.26g at 110 km/h
- The 85th % operating speed may be different for each class of vehicle due to the road geometry of the approach.

Table 4-4 Safe intersection sight distance (SISD) requirements

Vehicle Type	Design Speed	Required Sight Distance
Type 2 Road Train	70	203
Type 2 Road Train	90	285
Type 2 Road Train	110	397
Light Vehicle	70	---
Light Vehicle	90	226
Light Vehicle	110	300
Light Vehicle	120	341

As SISD provides the most conservative distance, the parameters outlined in Table 4-4 were used during the onsite assessment. As the grade of each intersection is unknown and varies, a level grade assessment was undertaken. Due to the accuracy of the measurements, it is anticipated that the measurements will account for an uphill or downhill grade.

The intersections summarised in Table 5 of Appendix D were identified to require additional investigations, based on an assessment of the SISD outlined above. As the site inspection provides a high level assessment of sight distance, further analysis is recommended upon confirmation of proposed access routes as outlined in Section 4.15.

4.3.5 Street lighting

A street lighting assessment was undertaken for intersections within segments of the SCR network that may be impacted during the Project construction. Warrants for consideration of road lighting were determined in accordance with the requirements of the Road Planning and Design Manual (2nd Edition), Volume 6 – Lighting (July, 2016). Refer Figure 4-4 below for lighting requirement warrants.

Figure 7.1.1 – Warrants for consideration of road lighting

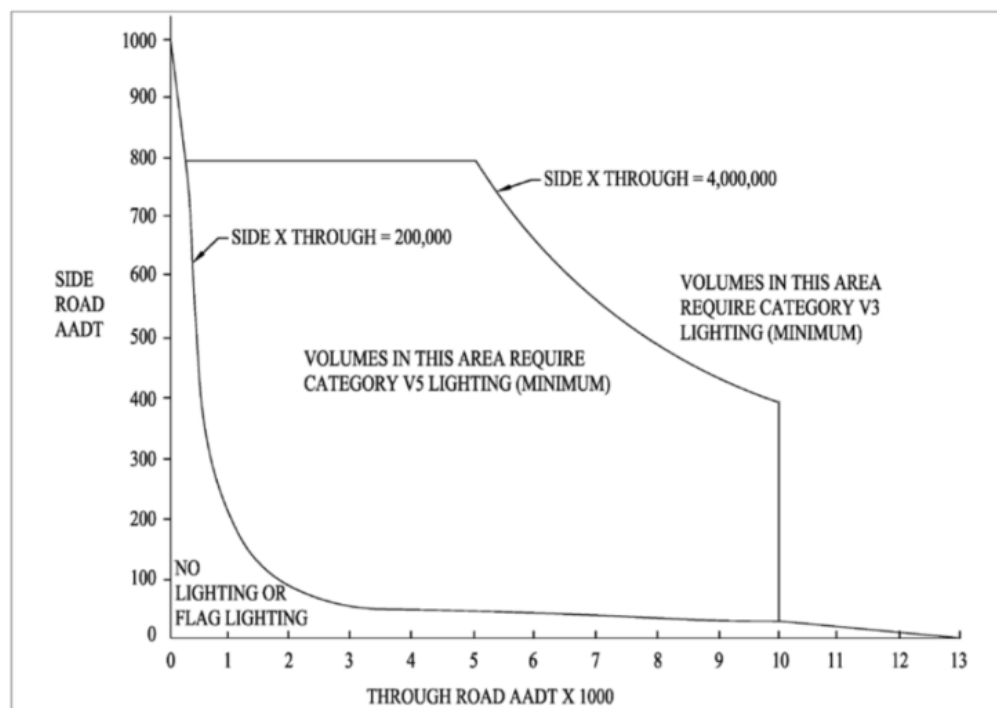


Figure 4-4 Road lighting consideration

The assessment was undertaken for the current base traffic and for associated construction traffic. Currently, lighting is predominantly provided only within townships along the Flinders and Barkly Highway. Bi-directional AADT counts at SCR intersections were used to determine lighting warrants outlined in Table 4-5. Only intersections between the Flinders and Barkly Highway with SCRs to access the corridor selection, where through and turn movements will be greatest, have been considered for lighting.

Table 4-5 SCR intersection lighting warrants

Stage	Through Road AADT	Side Road AADT	Lighting Requirements
Flinders Highway (14A) & Burdekin Falls Dam Road (5407) – TMR01			
Base	2471	197	Category V5 minimum
Construction	2525	213	Category V5 minimum
Flinders Highway (14B) & Gregory Developmental Road (98B) – TMR05*			
Base	2621	762	Category V5 minimum
Construction	2679	778	Category V5 minimum
Flinders Highway (14B) & Aramac – Torrens Creek Road (5703) – TMR07			
Base	569	57	No lighting or flag lighting
Construction	657	57	No lighting or flag lighting
Flinders Highway (14B) & Hughenden – Muttaborra Road (5701) – TMR09			
Base	714	65	No lighting or flag lighting
Construction	802	65	No lighting or flag lighting
Flinders Highway (14C) & Kennedy Developmental Road (99C) – TMR11*			
Base	506	789	Category V5 minimum
Construction	588	863	Category V3 minimum
Flinders Highway (14D) & Richmond – Winton Road (5803) – TMR17			
Base	454	52	No lighting or flag lighting
Construction	520	94	No lighting or flag lighting

Stage	Through Road AADT	Side Road AADT	Lighting Requirements
Flinders Highway (14D) & Julia Creek – Kynuna Road (5807) – TMR20*			
Base	454	34	No lighting or flag lighting
Construction	524	78	No lighting or flag lighting
Flinders Highway (14E) & Landsborough Highway (13H) – TMR23			
Base	926	373	Category V5 minimum
Construction	1022	379	Category V5 minimum
Barkly Highway (15A) & Cloncurry – Dajarra Road (7708) – TMR25			
Base	953	69	No lighting or flag lighting
Construction	1059	189	No lighting or flag lighting
Barkly Highway (15A) & Mount Isa – Duchess Road (7709)*			
Base	1091	8435	Category V3 minimum
Construction	1115	8455	Category V3 minimum
Barkly Highway (15A) & Diamantina Developmental Road (93F) – TMR33*			
Base	1091	4216	Category V3 minimum
Construction	1115	4236	Category V3 minimum

* Note: Existing lighting at intersection.

As intersection counts are unavailable for LGRs, it is anticipated that approximately 90% of the segment AADTs will comprise the through movements at each intersection, while 10% will turn at side roads. This approach was adopted for the consideration of road lighting outlined in Table 4-6. It should be noted that the warrants outlined in the table may apply to any given intersection within the SCR segment.

Table 4-6 Local government intersection lighting warrants

Road ID	Start Chainage (km)	End Chainage (km)	Base Through AADT	Base Side AADT	Lighting Warrant	Development Through AADT	Development Side AADT	Lighting Warrant
14A	9.42	57.011	2224	247	Category V5 minimum	2292	315	Category V5 minimum
14A	57.011	78.272	2224	247	Category V5 minimum	2282	305	Category V5 minimum
14A	78.272	122.11	2224	247	Category V5 minimum	2278	301	Category V5 minimum
14A	122.11	124.93	1847	205	Category V5 minimum	1901	259	Category V5 minimum
14A	124.93	126.15	2555	284	Category V5 minimum	2609	338	Category V5 minimum
14B	0	3.48	2359	262	Category V5 minimum	2417	320	Category V5 minimum
14B	3.48	61.79	1025	114	No lighting or flag lighting	1107	196	No lighting or flag lighting
14B	61.79	76.1	611	68	No lighting or flag lighting	693	150	No lighting or flag lighting
14B	76.1	139.72	611	68	No lighting or flag lighting	687	144	No lighting or flag lighting
14B	139.72	157.862	512	57	No lighting or flag lighting	588	133	No lighting or flag lighting
14B	157.862	244.79	512	57	No lighting or flag lighting	600	145	No lighting or flag lighting
14B	244.79	247.29	643	71	No lighting or flag lighting	731	159	No lighting or flag lighting
14C	0	51.601	455	51	No lighting or flag lighting	537	133	No lighting or flag lighting
14C	51.601	114.83	455	51	No lighting or flag lighting	525	121	No lighting or flag lighting
14D	0	69.57	409	45	No lighting or flag lighting	475	111	No lighting or flag lighting
14D	69.57	140	409	45	No lighting or flag lighting	477	113	No lighting or flag lighting

Road ID	Start Chainage (km)	End Chainage (km)	Base Through AADT	Base Side AADT	Lighting Warrant	Development Through AADT	Development Side AADT	Lighting Warrant
14D	140	149.31	409	45	No lighting or flag lighting	479	115	No lighting or flag lighting
14E	0	3.6	491	55	No lighting or flag lighting	559	123	No lighting or flag lighting
14E	3.6	24.5	180	20	No lighting or flag lighting	248	88	No lighting or flag lighting
14E	24.5	72.77	375	42	No lighting or flag lighting	443	110	No lighting or flag lighting
14E	72.77	123.03	375	42	No lighting or flag lighting	471	138	No lighting or flag lighting
14E	123.03	134.32	833	93	No lighting or flag lighting	929	189	No lighting or flag lighting
14E	134.32	136.31	933	104	No lighting or flag lighting	1029	200	Category V5 minimum
14E	136.31	136.83	2787	310	Category V5 minimum	2883	406	Category V5 minimum
15A	0	2.05	1221	136	No lighting or flag lighting	1327	242	Category V5 minimum
15A	2.05	10.7	858	95	No lighting or flag lighting	964	201	No lighting or flag lighting
15A	10.7	66	858	95	No lighting or flag lighting	928	165	No lighting or flag lighting
15A	66	114.05	858	95	No lighting or flag lighting	882	119	No lighting or flag lighting
15A	114.05	120.55	982	109	No lighting or flag lighting	1006	133	No lighting or flag lighting
13H	0	166.18	309	34	No lighting or flag lighting	315	40	No lighting or flag lighting
13H	166.18	169.18	336	37	No lighting or flag lighting	342	43	No lighting or flag lighting
7708	0	3.55	62	7	No lighting or flag lighting	182	127	No lighting or flag lighting
7708	3.55	45.27	62	7	No lighting or flag lighting	106	51	No lighting or flag lighting

Road ID	Start Chainage (km)	End Chainage (km)	Base Through AADT	Base Side AADT	Lighting Warrant	Development Through AADT	Development Side AADT	Lighting Warrant
7708	45.27	100.6	62	7	No lighting or flag lighting	96	41	No lighting or flag lighting
5407	0	39.35	177	20	No lighting or flag lighting	193	36	No lighting or flag lighting
98B	142.78	187.5	686	76	No lighting or flag lighting	700	90	No lighting or flag lighting
98B	187.5	193.19	686	76	No lighting or flag lighting	702	92	No lighting or flag lighting
99C	0	5	710	79	No lighting or flag lighting	784	153	No lighting or flag lighting
99C	5	117.06	140	16	No lighting or flag lighting	214	90	No lighting or flag lighting
99C	2.44	117.06	140	16	No lighting or flag lighting	200	76	No lighting or flag lighting
5803	0	100.32	47	5	No lighting or flag lighting	89	47	No lighting or flag lighting
5807	0	112.37	31	3	No lighting or flag lighting	75	47	No lighting or flag lighting
93F	132.1	149.94	446	50	No lighting or flag lighting	466	70	No lighting or flag lighting
93F	149.94	153.36	3794	422	Category V5 minimum	3814	442	Category V5 minimum
7709	0	2.38	7592	844	Category V3 minimum	7612	864	Category V3 minimum
7709	2.38	4.72	264	29	No lighting or flag lighting	284	49	No lighting or flag lighting

As outlined in the tables above, no lighting or flag lighting is required for the majority of intersections due to the construction traffic. This is a result of the low existing AADTs, particularly on the minor SCR segments. Lighting is warranted within segments proximate to townships, including Charters Towers, Cloncurry and Mount Isa, and along the Flinders Highway between Townsville and Charters Towers. As mentioned above, lighting is typically provided within townships. It is important to note that for segments where lighting is warranted, it is already required under the current traffic conditions, however not provided.

The majority of traffic generated during the construction period is anticipated to comprise of daily workforce movements. It is anticipated that daily workforce movements will occur in the early morning and late afternoons. Delivery of materials to construction sites is also expected to occur during the day. As such, lighting is not considered necessary for the transportation activities associated with the Project construction.

4.3.6 Pavement impact assessment

Upon review of the projected traffic and distribution of heavy vehicles during construction, it is anticipated that the development standard axle repetitions (SARs) will exceed the existing traffic SARs in excess of 5%. As such, it is recommended that upon confirmation of the traffic routes and vehicles, the pavement impact is assessed to ensure a more accurate representation of the impacts associated with the Project construction.

4.3.7 Infrastructure

The transport tasks associated with construction activities will involve various heavy vehicle movements along the road networks. As such, the movements will be subject to the legal load constraints to minimise impacts to transport infrastructure, including bridges and culverts.

Upon confirmation of the construction routes, all contractors engaged for transportation activities will comply with the legal loads specified by DTMR. It is anticipated that DTMR will provide a summary of the load constrained roads that the contractor will adopt, to plan construction routes and schedules. All contractors will operate within the Queensland regulations, should licencing and approvals be required, as per Section 4.10.4.

4.4 Transport corridor impacts

It is anticipated that the permanent infrastructure and development associated with the Project will be located outside transport corridors in order to minimise impacts with adjacent networks including road, rail and air.

4.4.1 Road

The corridor selection intersects SCRs, LGRs and PRs in numerous locations. Typically, these roads will be used to access the corridor selection. The location of infrastructure associated with the Project, such as the towers, substations, CEV huts, camps and worker facilities, will not be within the SCR network to avoid adverse impacts on the operation and structural integrity of the roads. Each tower location was reviewed and adjusted where necessary to avoid conflict with all road corridors and established PRs where possible (refer Volume 3 Appendix H Tower siting plans). The transmission line traverses 15 SCRs and 36 LGRs as shown in Volume 3 Appendix G Intersecting road and rail infrastructure.

Infrastructure such as intersection widenings and accesses will likely be located within SCR corridors. As such, these works will be designed and constructed in accordance with the DTMR Technical Note 163 Third Party Utility Infrastructure Installation in State Controlled Roads Technical Guidelines.

4.4.2 Rail

Works undertaken within the railway corridor, will comply with section 255 of the *Transport Infrastructure Act 1994*. The contractor shall obtain the railway managers written approval to undertake works within a railway corridor or interfere with the railway or its operation. It is important to note that this includes any works interfering with the railway corridor, transmission line crossings of the railway corridor and over-dimensional loads traversing the rail line. All works associated with the development will comply with PO20 of the State Code 2: Development in a Railway Environment of the State Development Assessment Provisions (refer Volume 3 Appendix N SDAP assessment).

Although the development associated with the Project is not located within railway corridors, the transmission line traverses Queensland Rail corridors in three locations as outlined in Table 4-7 below.

Table 4-7 Transmission line corridor and QR corridor intersections

KP	Asset Name	Latitude	Longitude
732.2WD	Mount Isa Line (Cloncurry to Flynn)	20.751	140.450
97.3DM	Mount Isa Line (Flynn to Mount Isa)	20.785	139.496
14.3DS	Mount Isa Line (Cloncurry to Flynn)	20.864	140.362

Once constructed, it is anticipated that the infrastructure will provide clearance from the railway corridor and emergency/maintenance tracks. As abovementioned, the tower locations will not be located proximate to established tracks. Based on the assumed conductor sag, the following clearances will be provided from the transmission lines, as noted in Volume 3 Appendix H Tower sitting plans.

Table 4-8 Transmission line clearance

Ground clearance	220 kV (m)	330 kV (m)
Minimum clearance above vegetation	4	4
Minimum design ground clearance	8.5	9
Ground clearance over roads	11.5	12
Above flood level	7.5	8
Above ground level at rail crossings	15	15

4.4.3 Air

The interaction between the Project infrastructure and existing aerodromes has been reviewed and assessed in Volume 3 Appendix Y Assessment of the impact to aviation.

4.5 Seasonal factors

Recent rainfall events within the Northern and North Western districts, producing above average rainfall records, has contributed to an increased awareness for regional and local flooding when undertaking works around watercourses.

It is anticipated that construction disruptions and delays will more likely occur during the summer wet season (December to March) with approximately 70% of the yearly rainfall

occurring during this period. The effects of heavy rainfall particularly apply to the black soil regions between Hughenden and Cloncurry. Due to the drainage and soil conditions, flooding between Woodstock and Pentland will generally cause relatively short delays, thus work is anticipated to continue during these periods. Similar conditions are anticipated between Cloncurry and Mount Isa, and south to Cannington and Phosphate Hill. Volume 2, Chapter 9 Water Resources and Water Quality provides additional information regarding the impact of regional and local flooding around watercourses.

Access is the key concern during significant rainfall events as road transport is typically prevented across major flood plains and via access roads to construction sites. Large rainfalls can cause closures of road sections for long periods of time, while short and intense rainfall events may also cause shorter closures. As such, it is recommended that priority is taken to complete works within known flood sensitive areas during the dry season.

As rainfall may affect the ground conditions, notable areas of soft soil should be avoided at all time during any rain event or immediately after, particularly with the use of heavy and over mass vehicles during construction. The ground condition should be confirmed safe before traversing after a rain event. Bogged heavy vehicles not only pose a danger in overturning and retrieval, but can also cause significant delays due to limited road usage for all vehicle types. Rutting damage is more likely during and after rainfall events, thus increasing the demand for road maintenance, adding additional costs and time lays to the Project.

The annual rainfall trends, shown in to Figure 4-11, use Bureau of Meteorology (BOM) data for various townships within the study area. Further analysis of the climate and rainfall patterns are provided in Volume 1 Chapter 3 Site description and climate.

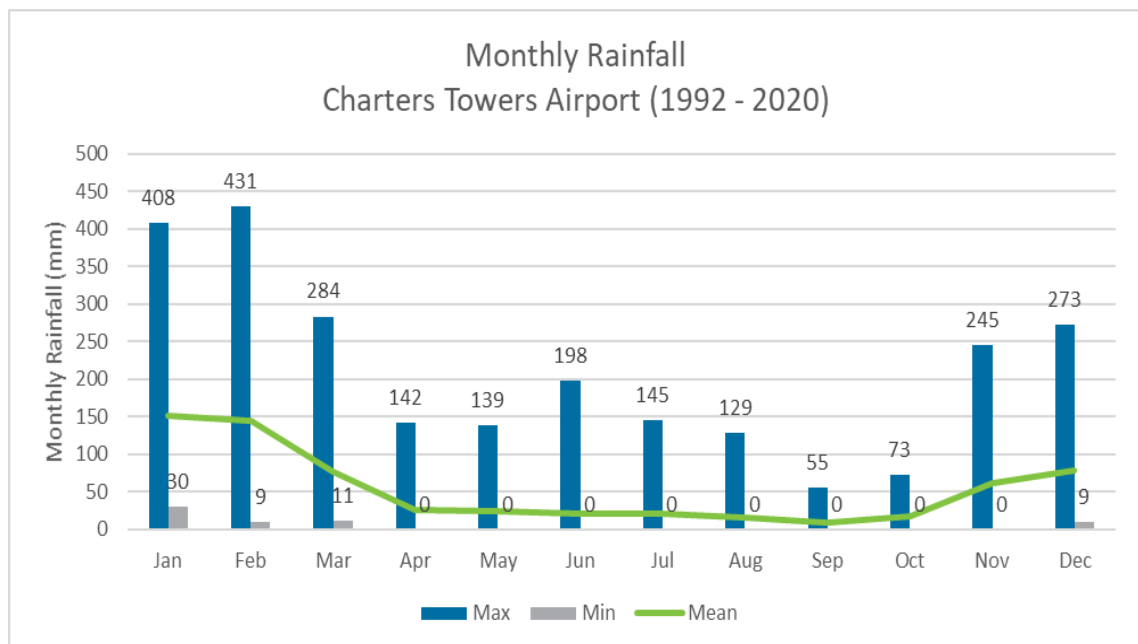


Figure 4-5 Charters Towers Airport (03048) monthly rainfall recordings

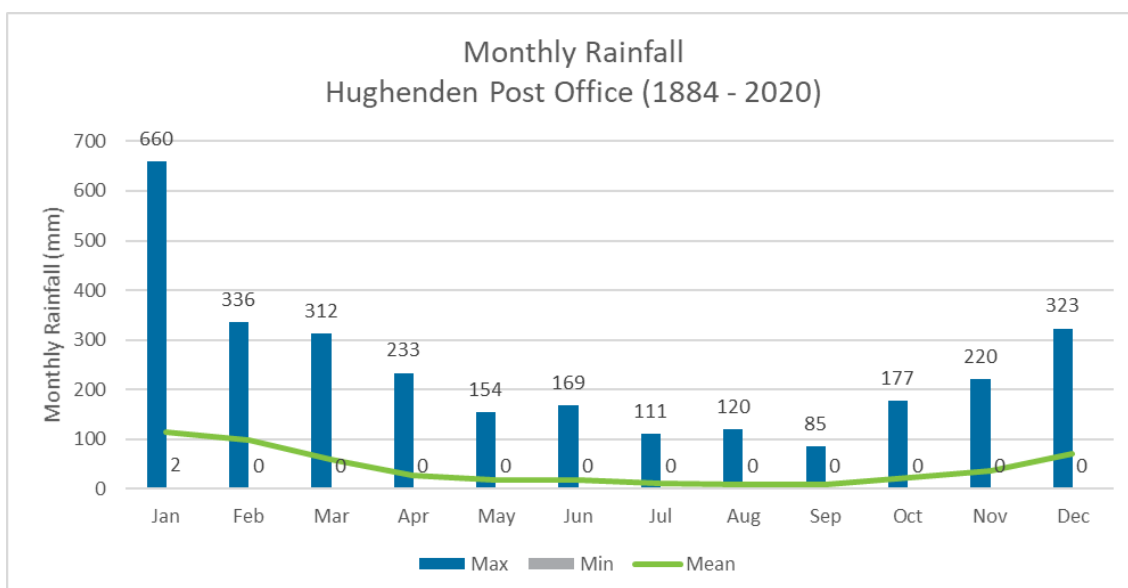


Figure 4-6 Hughenden Post Office (030024) monthly rainfall recordings -

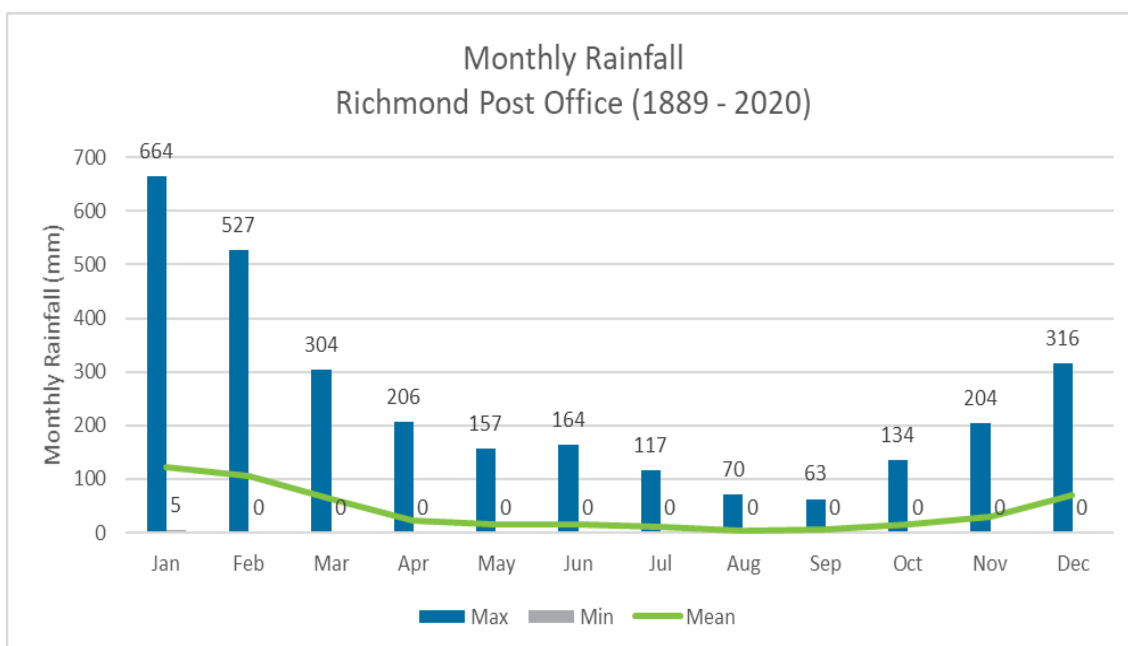


Figure 4-7 Richmond Post Office (030045) monthly rainfall recordings

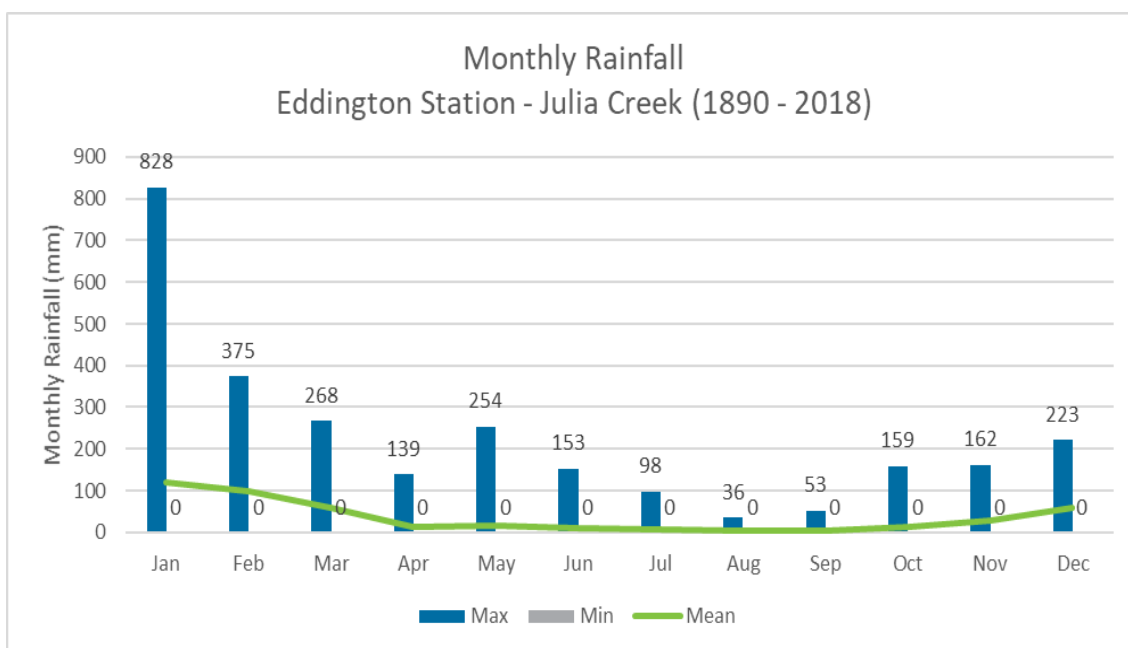


Figure 4-8 Eddington Station Julia Creek (29015) monthly rainfall recordings

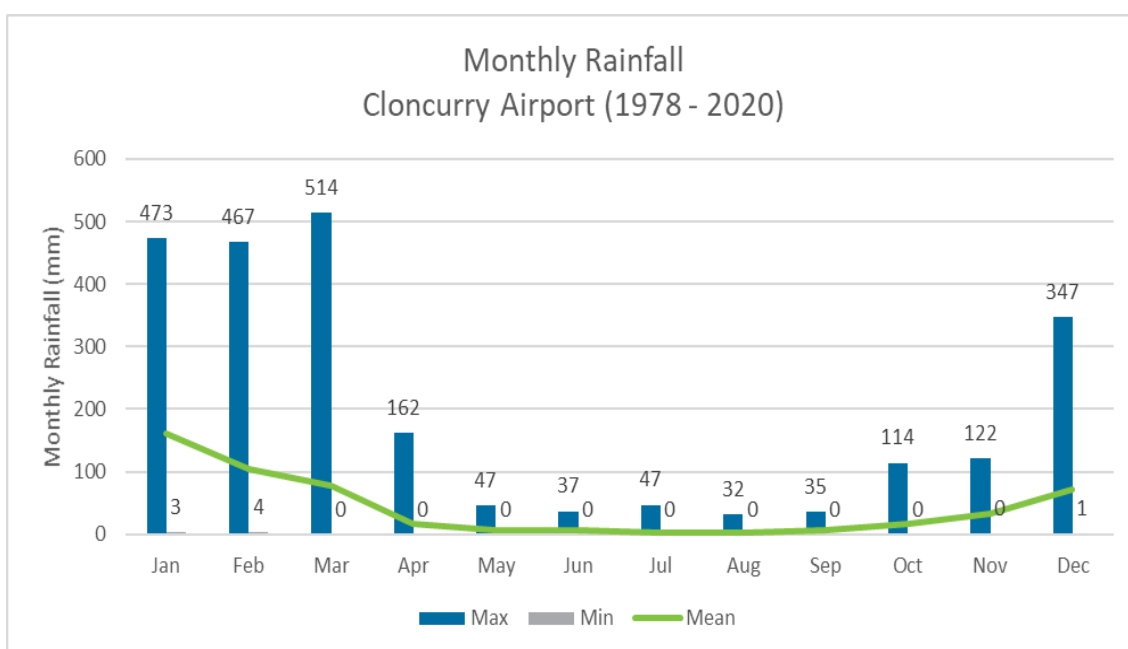


Figure 4-9 Cloncurry Airport (29141) monthly rainfall recordings

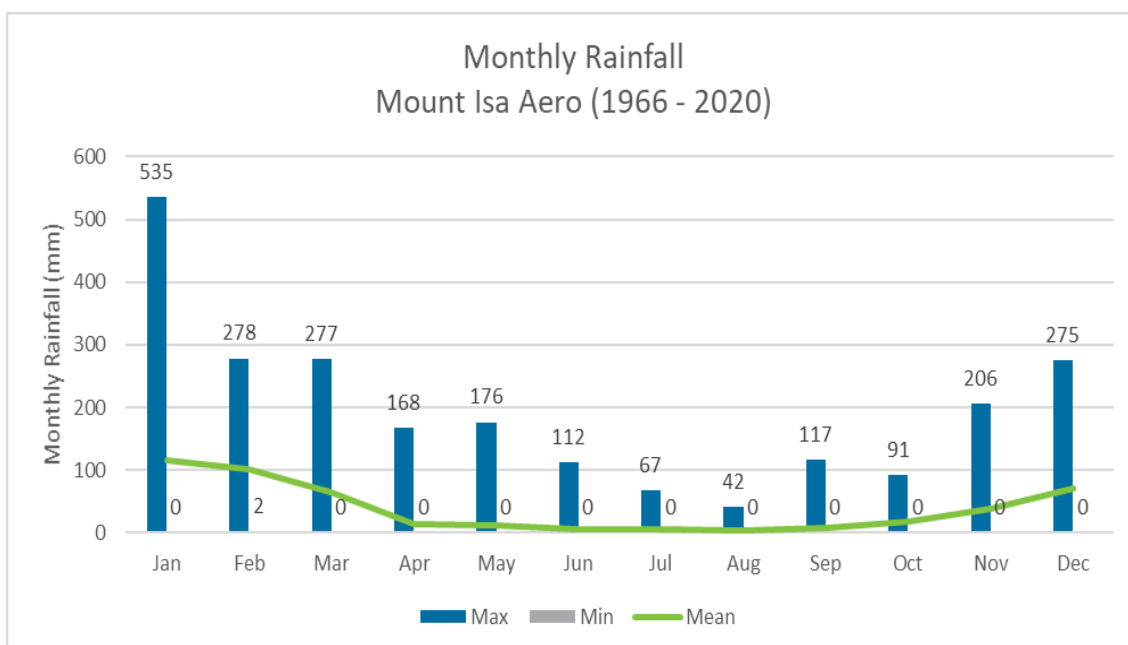


Figure 4-10 Mount Isa Aero (29127) monthly rainfall recordings

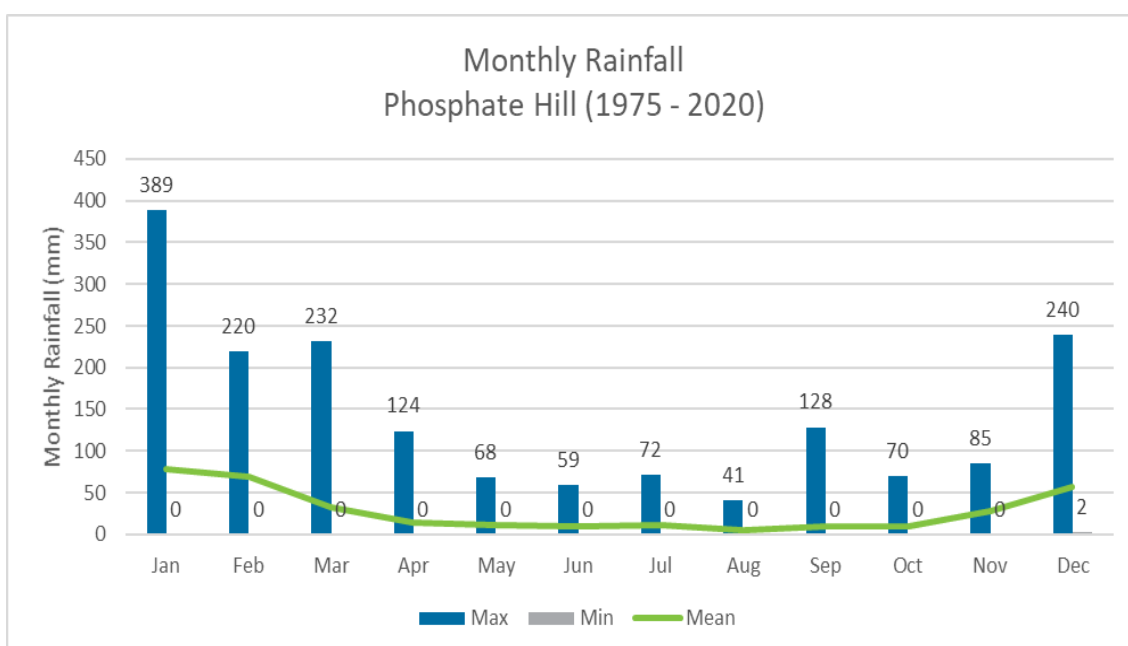


Figure 4-11 Phosphate Hill (37106) monthly rainfall recordings

Based on the figures above, it is evident that the rainfall pattern across the network consists of a wet season between December and March. The length and period of closures depends mostly on the condition of the road surface and pavement structure. For traffic alerts, road closures and condition updates along major roads, it is recommended that QLDTraffic.qld.gov.au is utilised.

Mitigation measures for rainfall are limited, thus early monitoring of weather patterns in conjunction to liaison with local BOM offices are recommended to provide an indication of the forecast rainfall. Local conditions should be sought from worker camps and local governments to assist in the evaluation of work schedules.

In addition to wet seasons, extreme dry seasons are typical for the region. Various rural roads comprise of an unsealed carriageway, generating dust when trafficked. This can pose a hazard to road users within the area through reduced sight distance and visibility. Where possible, water carts should wet down areas to prevent dust generation and pavement material being blown away.

4.6 Stormwater and flood management

No significant diversion or interception of overland flow will result from the Project. Flood analysis would be required in the detailed design phase to confirm the required flood immunity is provided to infrastructure and in isolated cases where Project infrastructure may change existing flood/stormwater behaviours (e.g. concentration of flows). The latter would only be expected to potentially arise at temporary camps and buildings in proximity to local or State controlled roads and railways or other adjoining properties and their buildings and infrastructure where localised hydrologic and hydraulic modelling and reporting to facilitate approvals would be required.

The State Development Assessment Provisions (SDAP) relevant to the Project are detailed in Volume 3 Appendix N SDAP assessment.

4.7 Worker traffic generation

As outlined in Section 3.2.3.2, traffic generated due to the workforce movements will occur for the duration of construction. Workers will travel between accommodation locations summarised in Table 3-4 and respective construction zones, on a daily basis. Workers will operate at various construction zones along the corridor selection concurrently. It is anticipated that a combination of buses and predominantly 4WD vehicles will be used to transport workers to and from site. As such, high volumes of traffic are expected to be generated during peak construction periods. The one way workforce movements will primarily occur in the early morning and late afternoons, outside of existing peak hours, particularly within townships.

It is anticipated that workforce movements will typically occur along LGRs and SCRs. Particular consideration should be given to higher speed environments, such as SCRs, where concentrated turning movements are projected during the peak hours. The increased turning movements may require through movements to slow down along intersection approaches. Typical treatments may include improving advanced warning and visibility of intersections through approach signage, reduced speed zones or chevrons. As the proposed routes are not confirmed, it is recommended that further analysis is undertaken on the traffic impacts at intersections and potential social impacts, once activities are scheduled, as outlined in Section 4.15.

4.8 Accident history

Crash history data between 1 January 2014 and February 2020 has been supplied by DTMR for SCRs that may be impacted during the Project construction and operation. Accidents typically involve at least one of the following criteria:

- A person is killed or injured
- At least one vehicle is towed away
- The value of the property damage is \$2500 or more damage to property other than vehicles (after 1 December 1999).

The crash severity, annual crash record and crash nature, for each road segment is outlined in Table 4-9, Figure 4-12, Table 4-10 and Figure 4-13, respectively. Crashes resulting from medical conditions or deliberate acts, such as alcohol and drugs, are typically omitted from the crash data. However, without crash details, all provided data has been analysed.

Table 4-9 Crash data and severity

DTMR Road ID	Location	Fatality	Hospitalised	Medically Treated	Minor Injury	Total
841	Townsville Port Road	1	12	5	2	20
14A	Flinders Highway	5	53	31	14	103
14B	Flinders Highway	1	42	8	3	54
14C	Flinders Highway	0	10	5	1	16
14D	Flinders Highway	0	12	2	0	14
14E	Flinders Highway	0	13	1	6	20
15A	Barkly Highway	4	50	22	6	82
13H	Landsborough Highway	3	10	2	1	16
7708	Cloncurry – Dajarra Road	1	6	0	0	7
5407	Burdekin Falls Dam Road	0	6	2	0	8
98B	Gregory Developmental Road	2	27	11	1	41
5703	Aramac – Torrens Creek Road	0	3	3	0	6
5701	Hughenden – Muttaborra Road	0	3	6	3	12
99C	Kennedy Developmental Road	1	7	0	2	10
5803	Richmond – Winton Road	0	0	2	0	2
5807	Diamantina Developmental Road	0	1	0	0	1
93F	Diamantina Developmental Road	0	10	6	2	18
93E	Hughenden – Muttaborra Road	0	1	0	0	1
7709	Richmond – Winton Road	0	5	4	6	15

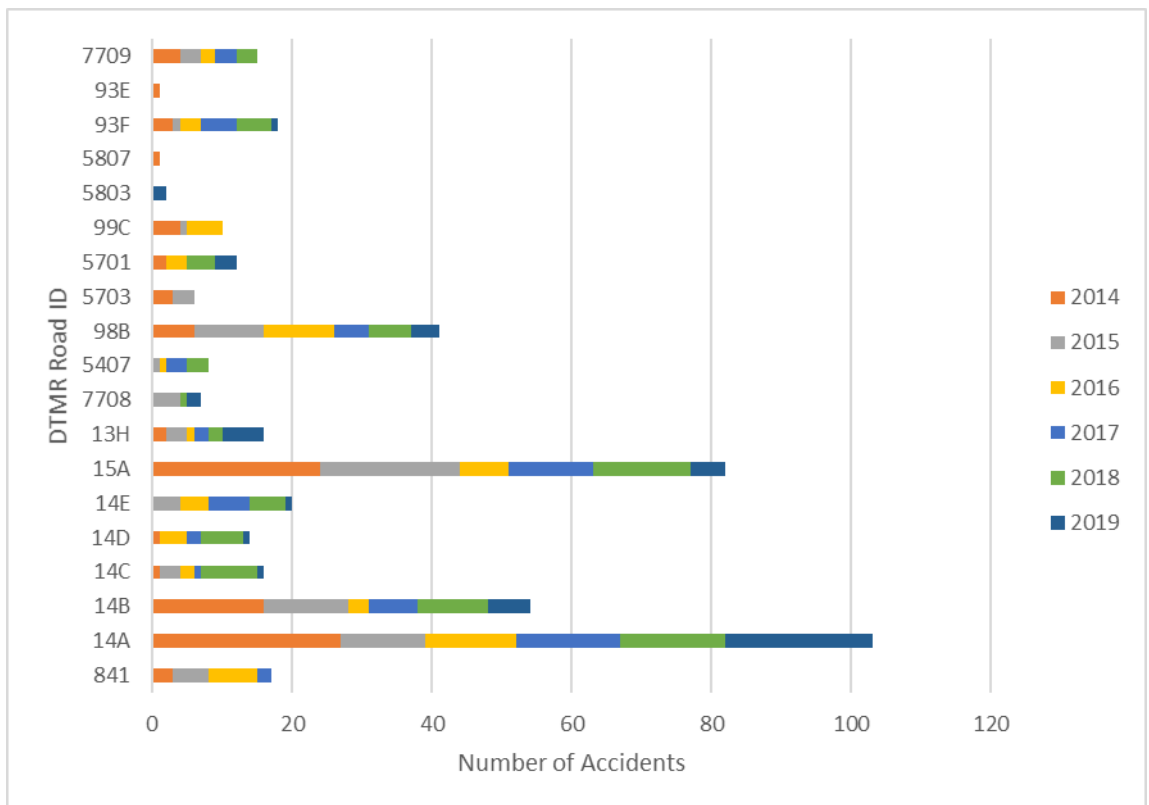


Figure 4-12 Annual road accidents

Table 4-10 Crash nature

DTMR Road ID	Angle	Fall from vehicle	Head-on	Hit animal	Hit object	Hit pedestrian	Overtaken	Rear-end	Sideswipe	Other	Total
841	5		1		7			1	2		16
14A	6	3	6	6	27	2	10	10	2		72
14B	1	1		3	20		12	2			39
14C					3		9				12
14D				1	2		6				9
14E	1		1		4		5				11
15A	18		2	2	14	4	14	1	1		56
13H				1	5		7				13
7708	1				2		1				4
5407		3		2	2						7
98B	1		1	3	8		15	3			31
5703					2		2				4
5701		1		1	1		3			1	7
99C		2			2		3				7
5803							1				1
5807	1										1
93F	2	3			3		3	1		1	13
93E							1				1
7709	7				1	2		2	2		14
Total	43	13	11	19	103	8	92	20	7	2	316

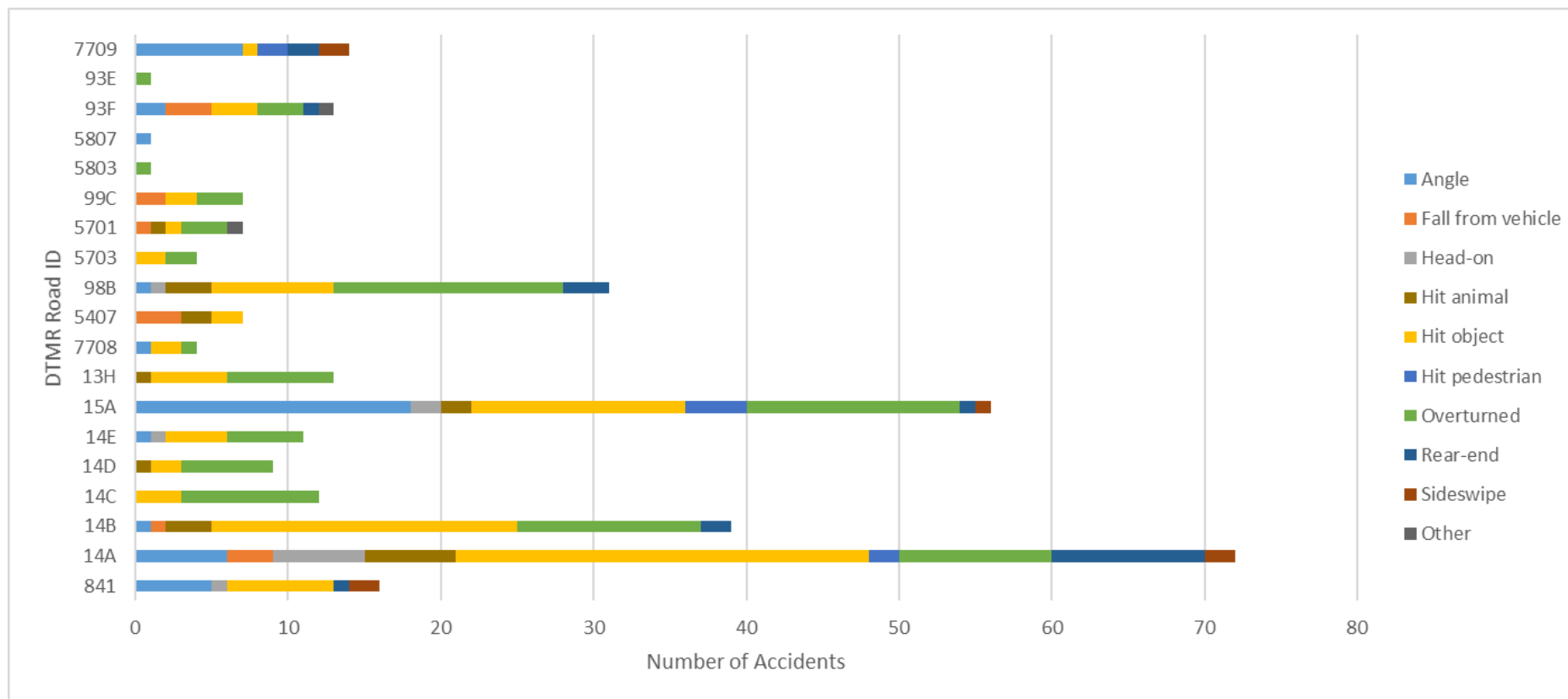


Figure 4-13 Crash Nature

It is evident in the tables and figures above that a large number of accidents are recorded along the Flinders Highway 14A and Barkly Highway 15A. It is important to note that both SCRs provide the main link between major establishments (Townsville to Charters Towers and Cloncurry to Mount Isa), thus the volume of traffic is higher than more regional road segments. The major traffic routes also carry significant volumes of heavy vehicles between Townsville and Mount Isa.

As outlined in Table 4-10 and Figure 4-13, the majority of incidents typically involve a single vehicle collision with an object or single vehicle roll over. Due to the rural nature of most SCRs the following factors may have contributed to the accidents summarised above.

- Speed
- Fatigue
- Hazards within the clear zone
- Poor road surface
- Distracted driving
- Animals on the road
- Narrow road with little to no shoulder
- Poor road geometry.

Austrroads Safe System for Local Government states that local road networks in Australia represent the majority of the length of public roads nationally. They carry a significantly smaller proportion of the traffic volumes than SCRs, however contribute to more than half of all casualties as a result of road crashes, with 40-46% of fatalities. As such, the risk to drivers on local roads can be up to twice that faced on SCRs. Upon confirmation of local movements, particularly workforce movements and cement trucks, it is important to assess the additional volume of traffic and potential alternative routes to minimise the concentration of vehicles on a road network.

4.9 Rail level crossings

The level railway crossings within the road network likely to be traversed by construction traffic were assessed during the site inspection undertaken by GHD. A total of 45 level railway crossings were inspected, see Appendix D for details of the crossings. The following level rail crossings include:

- 18 along SCRs
- 24 along LGRs
- 3 along PRs.

In addition to the visual inspection, the storage length was measured for various LGRs that consist of a level crossing proximate to a SCR, see Figure 4-14. The storage lengths are summarised in Table 4-11 below. It is important to note that only select LGR intersections, proximate to a SCR, where storage length may be of concern, are included in the following assessment.

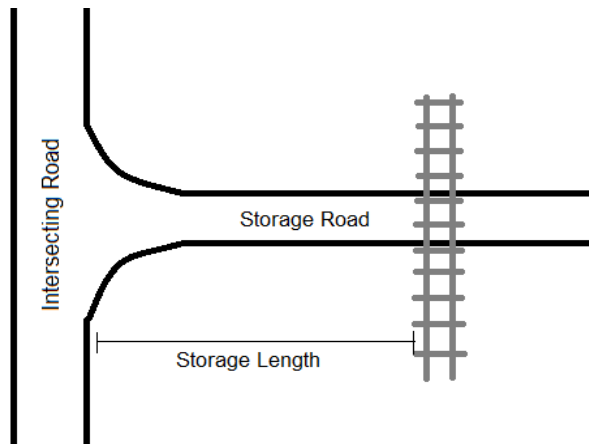


Figure 4-14 Storage length

Table 4-11 Storage length

Rail ID	Storage Road	Intersecting Road	Approximate Storage Length (m)
LG Rail 02	Braceborough Road	Flinders Highway 14B	30
LG Rail 03	Red Road	Flinders Highway 14B	30
LG Rail 04	Laidlow Crossing	Flinders Highway 14B	35
LG Rail 07	Unknown Road	Flinders Highway 14B	35
LG Rail 08	Cotonvale Penrice Road	Flinders Highway 14B	85
LG Rail 09	Prairie Muttaborra Road	Flinders Highway 14B	30
LG Rail 10	Kennedy Energy Park Access Track	Flinders Highway 14B	70
LG Rail 11	Thornhill Tamworth Road	Flinders Highway 14C	35
LG Rail 14	Unknown Road	Flinders Highway 14C	30
LG Rail 22	Duchess Chatsworth Road	Duchess Phosphate Hill Road	70

The typical heavy vehicles anticipated to be used during construction include the following.

- Semi-trailer: 19 m
- Type 2 road train: 53.5 m
- B-double: 25 m.

As shown in the table above, all LGRs with a level crossing proximate to a SCR have the capacity to store at least one heavy vehicle. However, confirmation of routes associated with transport activities and anticipated frequency of construction vehicles is required to adequately assess the queuing distance at each level rail crossing.

It is recommended that a traffic plan be supplied to Queensland Rail detailing the traffic volumes expected to traverse level rail crossings, the frequency and period of operation. This should include peak traffic volumes, such as daily workforce movements in addition to heavy, over dimensional vehicles that will cross rail structures including level crossings. The information to be supplied to form part of the request should include:

- Proposed haulage routes
- Traffic volumes
- Maximum design vehicle

- Locations of access
- Total payload and vehicle tare weights.

The future investigations should include traffic data and assessment of queuing distance in order to demonstrate sufficient clearance between each level crossing and adjacent intersections, to allow the maximum vehicle used in operation to queue. This work will consider the unmitigated risks associated utilising the rail crossings and provide acceptable solutions.

In addition to the traffic plan, the proposed construction routes, traffic volumes and vehicle details will be used to inform the Australian Level Crossing Assessment Model (ALCAM) assessments. The ALCAM assessment will identify any upgrades required for each railway level crossing impacted, in accordance with Section 2.2 of the Guide to Development in a Transport Environment: Rail, as outlined in Section 4.15.

As per PO20 of the State Code 2: Development in a Railway Environment, the development will not interfere with the public passenger transport infrastructure and services or access to the infrastructure and services. It is anticipated that developments including worker accommodation will be located proximate to a type 2 multi-modal corridor, therefore requiring consideration of acceptable outcomes for noise intrusion, as per PO24 of the State Code 2. The camp facilities will only accommodate workers associated with the construction of the Project temporarily. If there is fewer than 15 passing trains per day, noise mitigation may not be required.

4.10 Additional transport route considerations

Numerous safety factors contribute to the potential impacts on a transport route. Consideration should be made for the safety factors outlined below.

4.10.1 Driver fatigue

Driver fatigue is one of the leading factors contributing to road crashes on Queensland roads. Driver fatigue can affect anyone, particularly commercial drivers who spend long hours on the road, mostly during the night. Rural areas pose a higher risk of driver fatigue due to the lack of alertness through segments where low traffic volumes are experienced, and minimal roadside activity.

As per the DTMR Supplement for Road Safety for Rural and Remote Areas (2019), Queensland specific countermeasures to prevent driver fatigue include:

1. Driver education signs/billboards
2. Driver reviver program
3. Wide centre line treatment (WCLT)
4. Audio-tactile line marking (ATLM)
 - Rural roads with AADT greater than 4,000 vehicles per day should have WCLT and ATLM
 - ATLM shall be installed on edge lines and centrelines with a sealed shoulder greater than 0.5 m and a history of fatigue related crashes.
5. Rest areas and associated signing.

Existing fatigue countermeasures were identified within the SCR network. It should be noted that these design requirements are typically adopted for major road upgrade projects. Given the temporary nature of the Project, major upgrades are not anticipated.

Fatigue laws relating to work diaries apply to all heavy vehicle drivers in Queensland, as per the Heavy Vehicle National Law. All drivers of fatigue regulated heavy vehicles who drive more than

100 km from their base under standard hours or operate under basic or advanced fatigue management must carry and complete a work diary to record their work and rest times. Fatigue regulated heavy vehicles include a vehicle with a gross vehicle mass greater than 12 tonnes or a bus of more than 4.5 tonnes fitted to carry more than 12 adults. All contractors engaged for transportation activities associated with the construction must be fully compliant with the Queensland regulations for fatigue management.

4.10.2 Rest areas

Long distance haulage will be required for the transportation of materials to construction zones, particularly movements that originate in Townsville, destined for the western regions. It is anticipated that rest stops will be utilised throughout these movements.

Rest areas are primarily a mitigation measure for fatigue. Rest areas can be used for up to 20 hours at a time, however they are not long-term camping sites. There are three types of rest areas provided throughout Queensland:

- Motorist rest areas – for motor vehicle and caravan stopping only
- Heavy vehicle rest areas – for heavy vehicle stopping only
- Combined motorist and heavy vehicle rest areas – where trucks, motorists and caravans can stop and take a break.

The rest areas identified by DTMR and the facilities associated are outlined in Appendix H.

It is anticipated that adequate existing rest areas are provided along the SCRs that may be used for the duration of construction.

4.10.3 Dangerous goods transport hazards and risks

Dangerous goods, defined by the Australian Code for the Transport of Dangerous Goods by Road and Rail Act 1977 (ADG Code) are classified as follows, based on their predominant hazard.

1. Class 1 – Explosives
2. Class 2 – Gases
3. Class 3 – Flammable Liquids
4. Class 4 – Flammable solids; substances liable to spontaneous combustion; substances which, in contact with water, emit flammable gases
5. Class 5 – Oxidising substances and organic peroxides
6. Class 6 – Toxic substances and infectious substances
7. Class 7 – Radioactive material
8. Class 8 – Corrosive substances
9. Class 9 – Miscellaneous dangerous substances and articles, including environmentally hazardous substances.

Various construction materials may involve transportation of dangerous goods or hazardous substances. Therefore, all transportation activities associated with the construction must be fully compliant with Australian and Queensland regulations for the management and transportation of dangerous goods. It is recommended that the requirement for dangerous goods compliance is outlined in any transport contracts.

4.10.4 Load limit

The transportation of materials used during construction of the Project, including concrete foundations, steel tower components, camp demountable units, etc. will be subject to the Load Limits set out in the DTMR, Guideline for Multi-combination Vehicles in Queensland, Form Number 1 Version 11 July 2013. It is understood Flinders and Barkly Highway have no specified load limits and reference should be made to the DTMR Multi Combination Routes in Queensland, refer Figure 2-1 to Figure 2-4.

Restrictions on the movement of legal loads within the Project network will be specified by DTMR allowing the contractor to plan construction routes and schedules. All contractors engaged for transportation activities associated with the construction must be fully compliant with the Queensland regulations for licencing and approvals of equipment and personnel for the operation of multi-combination vehicles. It is recommended that the requirement for load limit compliance is outlined in any transport contracts.

4.10.5 Oversized vehicle permits

Oversized load permits will be required for the transportation of high voltage transformers at each substation, and various plant including large cranes. Oversized vehicle permits are to be obtained by the contractor, via liaison with QPS and DTMR.

A limiting height restriction has been identified along the proposed haulage route. A rail underpass is located along the Flinders Highway 14A at Charters Towers with a clearance of 5.5 m. Given the transformer dimensions in Section 3.2.2.3, it is anticipated that an alternative route and required permits will need to be sourced.

All contractors engaged for transportation activities associated with the construction must be fully compliant with Queensland regulations for licencing and approvals of equipment and personnel operating over dimensional equipment. It is recommended that the requirement for over dimensional vehicle is outlined in any transport contracts.

4.10.6 Rehabilitation of public roads used as access routes

Road pavements are typically designed to support a pre-determined volume of traffic for an expected amount of time. As the number of heavy vehicles using the SCR network is anticipated to increase during construction (refer Section 4.3.1), accelerated pavement impacts are expected to become evident, potentially reducing the safety and efficiency of the routes.

As stated in the DTMR GTIA, the desired outcome is to ensure no worsening to SCR pavements as a result of the increased vehicle movements. As such, road conditions should be established prior to commencement of transport activities. Intervention levels should be agreed with DTMR and local governments in order to develop a maintenance or rehabilitation plan. Regular monitoring of road conditions for the duration of usage is also recommended. Road and intersection conditions should be established via pre and post condition surveys and site inspections. It is important to note that upon completion of the transport activities associated with the Project, roads should remain in the same, or improved, condition upon commencement of transportation.

It is recommended that the records of flood damage or other issues affecting road condition are maintained for the duration of the Project transport activity to cover issues related to weather and other road users.

4.11 Heavy vehicles

The Project utilises the Flinders and Barkly Highway as the main transport link for the delivery of construction materials. These SCRs, as previously mentioned, also form part of the main road

link for the western region, transporting mining and agricultural resources. Given the existing heavy vehicle usage of the route, additional heavy vehicle traffic generated during the Project construction may result in an increased likelihood of collisions during normal usage.

Planning should be undertaken to schedule the peak heavy vehicle movement periods, generated by the Project, to avoid existing heavy vehicle peak hours. Thus, minimising the volume of heavy vehicles operating along a SCR and reducing interaction between road users. It is also recommended that project vehicles are equipped with a UHF radio to enable communications between heavy vehicles operating within an area.

4.12 Local movements

Workforce movements between camps and construction sites and localised concrete haulage will result in an increase on typically lightly trafficked roads. This may have impacts on pavement surfaces and the safety of the route to all road users. It is not anticipated that pedestrians and cyclists will be impacted by the local movements, as very low numbers are expected, if any, based on the nature and location of the roads.

It is recommended that CuString (or the Construction Contractor) liaise with local governments, particularly for the less trafficked roads in order to reach agreements regarding:

- Routes to be used, particularly during rain events and in black soil regions
- Additional maintenance that may be required
- Temporary signage or other notification methods to warn of additional traffic volumes on local roads during construction.

The solutions resulting from the identified impacts, if any, will be determined upon confirmation of construction corridor, as outlined in Table 4-14.

4.13 Tourism movements

Although the main economy of the north western district is derived from mining and agricultural activities, tourism plays a large role with visitors to outback regions and attractions, and travels across Australia. Tourism movements are dominated by caravans towed by 4WDs. Typically, travellers in 4WDs tend to take more risks when overtaking vehicles, which can cause fatal head on collisions particularly in dusty conditions. Travellers towing a caravan, tend to be more cautious with their movements, however may pose hazards due to impatience of following drivers, leading to potentially reckless overtaking under frustration.

Popular events within the region include the Mount Isa Rodeo, Julia Creek Dirt and Dust Festival, school holidays and winter months (dry season). Such events not only result in increased traffic movements of people not familiar with the rural conditions, but also create increased foot traffic within townships. It is recommended that planning is undertaken to avoid excessive heavy vehicle movements within these periods. It is important to note that the ideal construction period within black soil regions will likely coincide with peak tourism periods (dry season). Planning should include communication with Tourist Information Centres to advise visitors of the Project activities.

In light of recent concerns regarding the spread of COVID-19, there may be unpredictable events, disruptions and restrictions that affect tourism movements within the region for the foreseeable future.

4.14 Bus movements

4.14.1 School buses

There are no scheduled public transport operations within each of the townships adjacent to the Project alignment. However, school bus routes include SCRs such as the Flinders and Barkly Highways and surrounding areas. School bus services typically operate on school days between 7:30am and 9:00am, and between 3:00pm and 4:30pm, for the duration of the school year. The Table 4-12 below outlines the Queensland school terms for the proposed duration of the Project construction.

Table 4-12 Queensland School Terms

Term	Start Date	End Date	Duration (weeks)
2021			
1	Wednesday 27 January	Thursday 1 April	9
2	Monday 19 April	Friday 25 June	10
3	Monday 12 July	Friday 17 September	10
4	Tuesday 5 October	Friday 10 December	10
2022			
1	Monday 24 January	Friday 1 April	10
2	Tuesday 19 April	Friday 24 June	10
3	Monday 11 July	Friday 16 September	10
4	Tuesday 4 October	Friday 9 December	10
2023			
1	Monday 23 January	Friday 31 March	10
2	Monday 17 April	Friday 23 June	10
3	Monday 10 July	Friday 15 September	10
4	Tuesday 3 October	Friday 8 December	10
2024			
1	Monday 22 January	Thursday 28 March	10
2	Monday 15 April	Friday 21 June	10
3	Monday 8 July	Friday 13 September	10
4	Monday 30 September	Friday 13 December	11

Note: School terms may vary due to COVID-19.

Various school bus companies exist within the townships within the study area. School bus routes are typically demand related, therefore it is difficult to determine where and when school buses may interface with construction transportation activities.

School bus movements typically involve unexpected stops and the presence of unaccompanied children on the roadside. As such it is crucial to ensure that construction movements are made aware of the potential for school bus movements. It is recommended that construction movements, including workforce movements and material deliveries, are avoided or minimised during the operation hours of school buses. Mitigation measures may include consideration alternative routes or scheduling deliveries outside of school bus operation hours.

4.14.2 District bus service

Bus services connect Townsville to Charters Towers, Hughenden, Cloncurry and Mount Isa. It is important to note that due to COVID-19, limited trips are provided. The daily bus movements within the region are outlined in Table 4-13 below.

Table 4-13 Regional bus movements

Origin	Destination	Trips per day
Townsville	Hughenden	1
Townsville	Cloncurry	1
Townsville	Mount Isa	2
Cloncurry	Mount Isa	1
Mount Isa	Cloncurry	1
Mount Isa	Townsville	3
Cloncurry	Townsville	1
Hughenden	Townsville	1

Additionally, Bus Queensland provides the following services:

- Townsville to Mount Isa – day services Monday and Saturday, night service Wednesday
- Mount Isa to Townsville – day services Tuesday and Sunday, night service Thursday
- Townsville – Charters Towers – daily service Monday to Friday
- Charters Towers – Townsville – daily services Monday to Friday.

Douglas' Coaches operates the daily passenger service on behalf of Bus Queensland between Townsville and Charters Towers.

4.15 Recommended additional investigation

Upon final confirmation of the development associated with the Project (including camp and laydown locations, batching plants, etc), it is recommended that the following additional information and subsequent investigation works are undertaken prior to commencement of construction, in order to more accurately ascertain the transport impacts associated with the Project.

Table 4-14 Recommended additional investigation

Assessment	Investigation/Information
Road link assessment	Confirmation of project routes Confirmation of timeframes Confirmation of traffic volumes and vehicle distribution
Intersection turn warrants	Confirmation of project routes Confirmation of timeframes Confirmation of traffic volumes and vehicle distribution Detailed intersection counts SIDRA intersection analysis
Swept Paths	Confirmation of project routes Confirmation of maximum design vehicle Development of widening at intersections to enable lane compliant turn movements
Intersection sight distance	Confirmation of project routes

Assessment	Investigation/Information
	Further detailed assessment of each intersection noted Appendix D, upon confirmation of routes Road Safety Audit at each of the proposed intersections
Street lighting	Confirmation of project routes Confirmation of timeframes Confirmation of traffic volumes and vehicle distribution Detailed intersection counts Further lighting assessment
Pavement impact assessment	Confirmation of project routes Confirmation of timeframes Confirmation of traffic volumes and vehicle distribution
ALCAM assessment at all rail crossings	Confirmation of project routes Confirmation of timeframes Confirmation of traffic volumes and vehicle distribution Confirmation of rail level crossings being traversed and frequency

Due to the increased transport tasks and traffic, mitigation measures should be implemented to reduce the impacts on the community, public and private sectors. Listed below are a number of measures that may be taken to reduce impacts on the network:

- Scheduling large/heavy vehicle movements around times outside of peak traffic movements within the direct communities and on the highways, during events or times of high movements.
- Development of a traffic management plan to demonstrate the scheduling of deliveries, management of movements through townships, minimise movements during peak hours, implementing temporary modifications to intersections, and restoring the network to the original condition.
- Traffic control should be implemented where possible to manage situations where large vehicles may interrupt or block traffic.
- UHF radio communication signs on approaches to intersections, to advise vehicles operating a UHF if turning movements are occurring on highways or local roads.
- Compliance with Australian and Queensland regulations for additional factors such as dangerous goods, load limits, over dimensional vehicle permits and rehabilitation of public roads
- Constant and regular liaison with authorities regarding road usage, to maintain transparency surrounding movements within towns and traffic volumes on highways.

5. Conclusion

The Transport Impact Assessment prepared as part of the Project EIS demonstrates the impact that the traffic, generated during the Project construction and operation, is projected to have on the road network. The road network consists of SCRs, LGRs and PRs associated with the Project Area. The existing condition, projected traffic and impacts anticipated have been outlined within the report.

The Project transport activities will involve long distance haulage of construction materials to numerous construction zones located within the Project Area (approximately 1060 km). The deliveries will be scheduled over a timeframe of approximately 2-3 years. Deliveries originating within Townsville will result in cumulative movements across the road network, while localised high volume movements will surround construction camps. Thus, the transport activity will not be consistent for the construction period.

It is recognised that traffic generated, largely comprises of heavy vehicles for haulage of materials. As such, it is anticipated that the traffic associated with the Project construction will likely impact road link capacity, access and frontage, pavement and intersection delays. The heavy vehicle movements projected along SCRs that intersect the Flinders and Barkly Highway will typically extend short distances, before intersecting with the Project corridor selection. The traffic associated with the Project construction is anticipated to increase the overall AADTs along particular segments by greater than 5% due to the low existing daily volumes. The increase in ESAs is also anticipated to trigger an increase exceeding 5% due to the heavy vehicle movements. However, it is important to note that the traffic increase will be temporary, for the duration of construction, in comparison to a long term development such as a commercial mine. The traffic generated during the operational phase is anticipated to be minimal, comprising predominantly of service vehicles undertaking maintenance and inspections.

Due to the existing low volumes of daily traffic within the region and sparsity of communities, the impacts outlined above are considered to be manageable through liaison with stakeholders. Early liaison is recommended with DTMR, local government authorities and private landowners. Discussions with stakeholders should involve information of the projected traffic volumes, agreement of maintenance programs, determination of alternative routes and information regarding rain events and potential road closures.

This report documents the impacts on the road network. It is anticipated that the proposed routes and traffic distributions will be refined within the detailed design and pre-construction procurement phases of the Project. Prior to the commencement of construction, routes and haulage vehicles will be confirmed in order to undertake further detailed analysis and more accurately ascertain the transport impacts highlighted in Section 4. The TIA will be updated accordingly to reflect the impacts and include appropriate mitigation measures, in accordance with the DTMR GTIA. It is anticipated that an approval or staged approval will be granted, prior to construction commencing in 2021 subject to additional information being provided in a supplementary EIS.

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Appendices

Appendix A – Field investigations of intersections

Intersection: TMR 01

Roads: Flinders Highway & Burdekin Falls Dam Road

Location: 19.874'S - 146.641'E

Source: Queensland Globe © State of Queensland 2020.

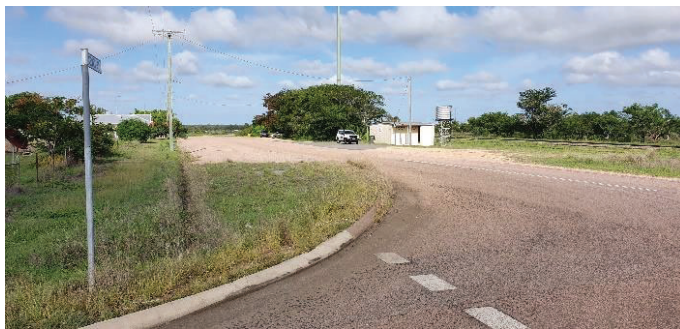


Intersection: TMR 04

Roads: Flinders Highway & Tors Street

Location: 20.064'S - 146.290'E

Source: Queensland Globe © State of Queensland 2020.



Intersection: TMR 05

Roads: Flinders Highway & Gregory Development Road

Location: 20.109'S – 146.244'E

Source: Queensland Globe © State of Queensland 2020.



Intersection: TMR 07

Roads: Flinders Highway & Aramac Torrens Creek Road

Location: 20.771'S – 145.015'E

Source: Queensland Globe © State of Queensland 2020.

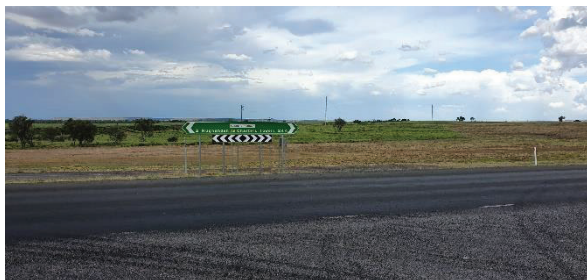


Intersection: TMR 09

Roads: Flinders Highway & Hughenden Muttaborra Road

Location: 20.866'S – 144.204'E

Source: Queensland Globe © State of Queensland 2020.



Intersection: TMR 11

Roads: Flinders Highway & Hughenden Muttaborra Road

Location: 20.844'S – 144.200'E

Source: Queensland Globe © State of Queensland 2020.

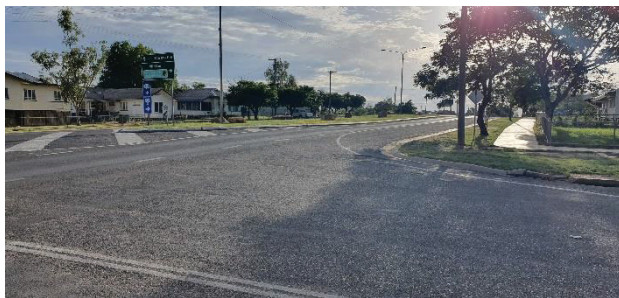


Intersection: TMR 12

Roads: Stansfield Street & Resolution Street

Location: 20.843'S – 144.198'E

Source: Queensland Globe © State of Queensland 2020.



Intersection: TMR 16

Roads: Larsen Street & Goldring Street

Location: 20.732'S – 143.144'E

Source: Queensland Globe © State of Queensland 2020.



Intersection: TMR 20

Roads: Allison Street/Julia Creek Kynuna Road & Goldring Street

Location: 20.659'S – 141.742'E

Source: Queensland Globe © State of Queensland 2020.



Intersection: TMR 17

Roads: Flinders Highway

Location: 20.742'S – 143.111'E

Source: Queensland Globe © State of Queensland 2020.



Intersection: TMR 19

Roads: Flinders Highway & Goldring Street

Location: 20.657'S – 141.751'E

Source: Queensland Globe © State of Queensland 2020.



Intersection: TMR 22

Roads: Flinders Highway & Goldring Street

Location: 20.658'S – 141.738'E

Source: Queensland Globe © State of Queensland 2020.



Intersection: TMR 23

Roads: Flinders Highway & Landsborough Highway

Location: 20.729'S – 140.633'E

Source: Queensland Globe © State of Queensland 2020.

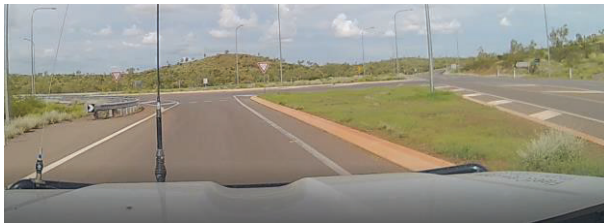


Intersection: TMR 38

Roads: Flinders Highway & Andrew Daniels Drive

Location: 20.707'S – 140.533'E

Source: Queensland Globe © State of Queensland 2020.



Intersection: TMR 36

Roads: Burke Developmental Road & Barkly Highway

Location: 20.702'S – 140.487'E

Source: Queensland Globe © State of Queensland 2020.



Intersection: TMR 25

Roads: Cloncurry Duchess Road & Barkly Highway

Location: 20.718'S – 140.409'E

Source: Queensland Globe © State of Queensland 2020.



Intersection: TMR 29

Roads: Cloncurry Duchess Road

Location: 20.857'S – 140.360'E

Source: Queensland Globe © State of Queensland 2020.



Intersection: TMR 30

Roads: Barkly Highway

Location: 20.794'S – 140.073'E

Source: Queensland Globe © State of Queensland 2020.



Intersection: TMR 31

Roads: Barkly Highway

Location: 20.759'S – 139.950'E

Source: Queensland Globe © State of Queensland 2020.

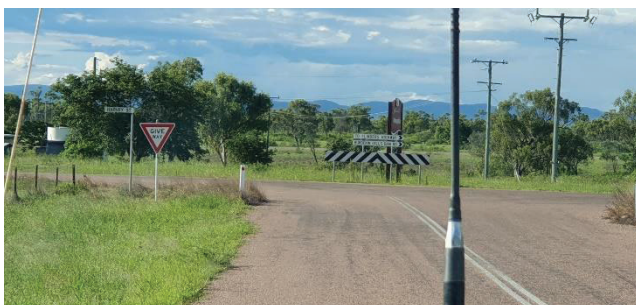


Intersection: TMR 02

Roads: Hervey Street & Ravenswood Street

Location: 19.878'S – 146.634'E

Source: Queensland Globe © State of Queensland 2020.



Intersection: TMR 03

Roads: Hervey Street & Ravenswood Street

Location: 19.985'S – 146.729'E

Source: Queensland Globe © State of Queensland 2020.



Intersection: TMR 06

Roads: Gregory Development Road

Location: 20.301'S – 146.184'E

Source: Queensland Globe © State of Queensland 2020.



Intersection: TMR 08

Roads: Aramac Torrens Creek Road

Location: 20.878'S – 145.026'E

Source: Queensland Globe © State of Queensland 2020.



Intersection: TMR 10

Roads: Hughenden Muttaborra Road

Location: 20.900'S – 144.203'E

Source: Queensland Globe © State of Queensland 2020.



Intersection: TMR 13

Roads: Resolution Street & Disraeli Street

Location: 20.851'S – 144.196'E

Source: Queensland Globe © State of Queensland 2020.



Intersection: TMR 14

Roads: McLaren Street & Winton Road

Location: 20.851'S – 144.193'E

Source: Queensland Globe © State of Queensland 2020.

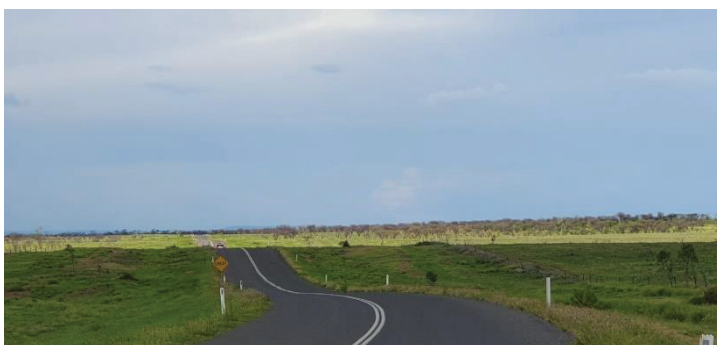


Intersection: TMR 15

Roads: Kennedy Developmental Road

Location: 20.893'S – 144.171'E

Source: Queensland Globe © State of Queensland 2020.

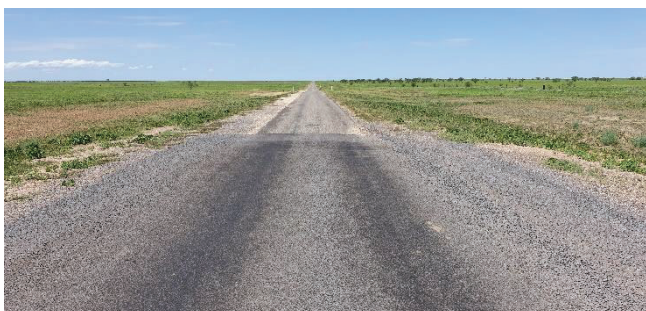


Intersection: TMR 18

Roads: Richmond Winton Road

Location: 20.860'S – 143.077'E

Source: Queensland Globe © State of Queensland 2020.



Intersection: TMR 21

Roads: Julia Creek Kynuna Road

Location: 20.796'S – 141.742'E

Source: Queensland Globe © State of Queensland 2020.



Intersection: TMR 24

Roads: Julia Creek Kynuna Road

Location: 20.752'S – 140.666'E

Source: Queensland Globe © State of Queensland 2020.



Intersection: TMR 37

Roads: Burke Developmental Road & Hendsley Drive

Location: 20.684'S – 140.485'E

Source: Queensland Globe © State of Queensland 2020.



Intersection: TMR 26

Roads: Julia Creek Kynuna Road

Location: 20.724'S – 140.409'E

Source: Queensland Globe © State of Queensland 2020.

No photos as site was not inspected.



Intersection: TMR 27

Roads: Cloncurry Duchess Road

Location: 20.745'S – 140.409'E

Source: Queensland Globe © State of Queensland 2020.



Intersection: TMR 28

Roads: Cloncurry Duchess Road

Location: 20.749'S – 140.411'E

Source: Queensland Globe © State of Queensland 2020.



Intersection: TMR 32

Roads: Duchess Dajarra Road & Boulia Mount Isa Highway

Location: 21.700'S – 139.521'E

Source: Queensland Globe © State of Queensland 2020.



Intersection: TMR 35

Roads: Oban Road & Twenty Third Avenue

Location: 20.745'S – 139.479'E

Source: Queensland Globe © State of Queensland 2020.



Intersection: TMR 34

Roads: Railway Avenue & Twenty Third Avenue

Location: 20.745'S – 139.485'E

Source: Queensland Globe © State of Queensland 2020.



Intersection: TMR 33

Roads: Grace Street & Barkly Highway

Location: 20.724'S – 139.487'E

Source: Queensland Globe © State of Queensland 2020.



Appendix B - Northern district state controlled roads

Disclaimer: While every care is taken to ensure the accuracy of this data, Pitney Bowes Australia Pty Ltd and/or the State of Queensland and/or QR Limited makes no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and disclaims all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damage) and costs which may or may not be incurred as a result of the data being inaccurate or incomplete in any way and for any reason.



Appendix C - North West district state controlled roads



Appendix D – Intersection summary

Table 1

Intersection number	TMR Road ID	TMR chainage (km)	Surface type	Layout type	Road Classification	Reason for inspection	Improvements or additional investigation	Longitude degrees (East)	Latitude degrees (South)
TMR 01	14A	78.272	Sealed	"T" intersection	Type 2 road train	Two TMR roads intersect	Nil	146.641	19.874
TMR 04	14A	123.86	Sealed	"T" intersection	Type 2 road train	Two TMR roads intersect	Nil	146.290	20.064
TMR 05	14B	3.52	Sealed	"T" intersection	Type 2 road train	Two TMR roads intersect	Nil	146.244	20.109
Rail 01	14B	10.765	Sealed	Stop lights	N/A	Rail line crosses TMR road network	Nil	146.178	20.122
TMR 07	14B	157.862	Sealed	"T" intersection	Type 2 road train	Two TMR roads intersect	Improvements required	145.015	20.771
Rail 03	14B	232.082	Sealed	Stop lights	N/A	Rail line crosses TMR road network	Nil	144.320	20.866
TMR 09	14B	244.762	Sealed	"T" intersection	Type 2 road train	Two TMR roads intersect	Improvements required	144.204	20.866
Rail 04	14B	245.324	Sealed	Stop lights	N/A	Rail line crosses TMR road network	Nil	144.203	20.863
Rail 05	14B	247.194	Sealed	Stop lights	N/A	Rail line crosses TMR road network	Nil	144.200	20.846
TMR 11	14B	247.288	Sealed	"T" intersection	Type 2 road train	Two TMR roads intersect	Nil	144.200	20.844
TMR 12	14C	0.252	Sealed	"T" intersection	Type 2 road train	Two TMR roads intersect	Nil	144.198	20.843
TMR 16	14C	114.829	Sealed	"T" intersection	Type 2 road train	Two TMR roads intersect	Nil	143.144	20.732
TMR 20	14D	0	Sealed	"T" intersection	Type 2 road train	Two TMR roads intersect	Nil	141.742	20.659
Rail 07	14D	0.405	Sealed	Stop lights	N/A	Rail line crosses TMR road network	Nil	143.140	20.734
TMR 17	14D	3.71	Sealed	"T" intersection	Type 2 road train	Two TMR roads intersect	Further investigation required	143.111	20.742
Rail 08	14D	112.092	Sealed	Stop lights	N/A	Rail line crosses TMR road network	Nil	142.095	20.652
TMR 19	14D	147.7	Sealed	"T" intersection	Type 2 road train	Two TMR roads intersect	Nil	141.751	20.657
TMR 22	14E	0.495	Sealed	"T" intersection	Type 2 road train	Two TMR roads intersect	Nil	141.738	20.658
TMR 23	14E	123.03	Sealed	"T" intersection	Type 2 road train	Two TMR roads intersect	Further investigation required	140.633	20.729
TMR 38*	14E	125.38	Sealed	"T" intersection	Type 2 road train	Two TMR roads intersect	Nil	140.533	20.707
Rail 11	14E	136.3	Sealed	Stop lights	N/A	Rail line crosses TMR road network	Nil	140.511	20.707
TMR 36*	15A	2.048	Sealed	"T" intersection	Type 2 road train	Two TMR roads intersect	Improvements required	140.487	20.702
TMR 25	15A	10.7	Sealed	"T" intersection	Type 2 road train	Two TMR roads intersect	Further investigation required	140.409	20.718
TMR 29	15A	17.2	Sealed	Greenfield	Type 2 road train	Power line easement crosses TMR road network	Further investigation required	140.360	20.857
TMR 30	15A	49.2	Sealed	Greenfield	Type 2 road train	Power line easement crosses TMR road network	Further investigation required	140.073	20.794
TMR 31	15A	66.87	Sealed	Greenfield	Type 2 road train	Power line easement crosses TMR road network	Further investigation required	139.950	20.759
TMR 02	5407	1.059	Sealed	"T" intersection	Type 2 road train	Two TMR roads intersect	Nil	146.634	19.878
TMR 03	5407	17.65	Sealed	Greenfield	Type 2 road train	Power line easement crosses TMR road network	Nil	146.729	19.985
TMR 06	98B	169.88	Sealed	Greenfield	Type 2 road train	Power line easement crosses TMR road network	Further investigation required	146.184	20.301
TMR 08	5703	234.07	Unsealed	Greenfield	Type 2 road train	Power line easement crosses TMR road network	Nil	145.026	20.878
Rail 02	5703	246.897	Sealed	Give way, 2 tracks	N/A	Rail line crosses TMR road network	Nil	145.015	20.772
TMR 10	5701	3.794	Sealed	Greenfield	Type 2 road train	Power line easement crosses TMR road network	Nil	144.203	20.900
TMR 13	99C	0.92	Sealed	"T" intersection	Type 2 road train	Two TMR roads intersect	Improvements required	144.196	20.851
TMR 14	99C	1.105	Sealed	"T" intersection	Type 2 road train	Two TMR roads intersect	Improvements required	144.193	20.851
Rail 06	99C	1.91	Sealed	Stop sign	N/A	Rail line crosses TMR road network	Nil	144.190	20.857
TMR 15	99C	5.7	Sealed	Greenfield	Type 2 road train	Power line easement crosses TMR road network	Further investigation required	144.171	20.893
TMR 18	5803	13.77	Sealed	Greenfield	Type 2 road train	Power line easement crosses TMR road network	Nil	143.077	20.860
Rail 09	5807	0.09	Sealed	Stop sign	N/A	Rail line crosses TMR road network	Nil	141.742	20.660
TMR 21	5807	15.46	Sealed	Greenfield	Type 2 road train	Power line easement crosses TMR road network	Nil	141.742	20.796
TMR 24	13H	164.8	Sealed	Greenfield	Type 2 road train	Power line easement crosses TMR road network	Nil	140.666	20.752
Rail 10	13H	168.878	Sealed	Stop lights	N/A	Rail line crosses TMR road network	Nil	140.634	20.733
TMR 37*	89A	2.69	Sealed	"T" intersection	Type 2 road train	Two TMR roads intersect	Nil	140.485	20.684
TMR 26	7708	0.69	-	-	-	Not inspected due to change in alignment	-	140.409	20.724
TMR 27	7708	3.5	-	-	-	Not inspected due to change in alignment	-	140.409	20.745
TMR 28	7708	3.6	Sealed	Greenfield	Type 2 road train	Power line easement crosses TMR road network	Further investigation required	140.411	20.749
Rail 12	7708	18.51	Sealed	Give way	N/A	Rail line crosses TMR road network	Nil	140.357	20.867

Table 1

Intersection number	TMR Road ID	TMR chainage (km)	Surface type	Layout type	Road Classification	Reason for inspection	Improvements or additional investigation	Longitude degrees (East)	Latitude degrees (South)
Rail 13	7708	41.46	Sealed	Stop lights	N/A	Rail line crosses TMR road network	Nil	140.295	21.040
Rail 14	7708	47.518	Sealed	Stop lights	N/A	Rail line crosses TMR road network	Nil	140.282	21.092
Rail 15	7708	100.023	Sealed	Stop sign	N/A	Rail line crosses TMR road network	Nil	139.948	21.368
Rail 16	7708	109.092	Unsealed	Stop sign. 2 tracks	N/A	Rail line crosses TMR road network	Nil	139.871	21.351
Rail 17	7708	110.227	Sealed	Stop sign	N/A	Rail line crosses TMR road network	Nil	139.864	21.358
TMR 32	7708	169.08	Sealed	"T" intersection	Type 2 road train	Two TMR roads intersect	Nil	139.521	21.700
TMR 35	93F	150.4	Sealed	"T" intersection	Type 2 road train	Two TMR roads intersect	Nil	139.479	20.745
TMR 34	93F	150.97	Sealed	"T" intersection	Type 2 road train	Two TMR roads intersect	Nil	139.485	20.745
Rail 18	93F	150.981	Sealed	Stop lights	N/A	Rail line crosses TMR road network	Nil	139.485	20.745
TMR 33	93F	153.36	Sealed	"T" intersection	Type 2 road train	Two TMR roads intersect	Nil	139.487	20.724

*Indicates additional inspection not included in our execution plan

^All rail crossing are managed and owned by Queensland Rail

Table 2

Intersection number	TMR Road ID	TMR chainage	Asset owner	Surface type	Layout type	Road Classification	Reason for inspection	Improvements or additional investigation	Longitude degrees (East)	Latitude degrees (South)
LG 01	14A	56.98	Charters Towers Regional Council	Sealed	"T" intersection	Type 2 road train	Local government road intersects TMR road network	Improvements required	146.817	19.812
LG 02	N/A	N/A	-	-	-	-	Not inspected as located on private property.	-	146.969	19.856
LG 03	5407	16.76	Charters Towers Regional Council	Sealed	"T" intersection	Type 2 road train	Local government road intersects TMR road network	Improvements required, further investigation required	146.723	19.981
LG 04	N/A	N/A	Charters Towers Regional Council	Unsealed	Greenfield	Type 2 road train	Power line easement crosses local government road	Nil	146.703	20.022
LG 05	N/A	N/A	Charters Towers Regional Council	Unsealed	Greenfield	Type 2 road train	Power line easement crosses local government road	Further investigation required	146.698	20.050
LG 06	14A	104.17	Charters Towers Regional Council	Sealed	"T" intersection	Type 2 road train	Local government road intersects TMR road network	Nil	146.442	19.998
LG 07	14A	124.93	Charters Towers Regional Council	Sealed	"Four way"	Type 2 road train	Local government road intersects TMR road network	Nil	146.272	20.078
LG 08	N/A	N/A	Charters Towers Regional Council	Unsealed	"Y" intersection	Type 2 road train	Two local government roads intersect	Further investigation required	146.464	20.145
LG 09	N/A	N/A	Charters Towers Regional Council	Unsealed	Greenfield	Type 2 road train	Power line easement crosses local government road	Nil	146.468	20.160
LG 10	N/A	N/A	Charters Towers Regional Council	Unsealed	Greenfield		Power line easement crosses local government road	Nil	146.487	20.148
LG 100*	N/A	N/A	Mackinlay Shire Council	Unsealed	"T" intersection		Two local government roads intersect	Improvements required	141.978	20.863
LG 101*	13H	75.9	Mackinlay Shire Council	Sealed	Four way	Type 2 road train	Local government road intersects TMR road network	Nil	141.289	21.272
LG 102*	7709	2.38	Mount Isa City LGA	Sealed	"T" intersection	Type 2 road train	Local government road intersects TMR road network	Nil	139.495	20.745
LG 103*	99C	0.23	Flinders Shire Council	Sealed	Four way	Type 2 road train	Local government road intersects TMR road network	Nil	144.198	20.845
LG 104*	14B	247.122	Flinders Shire Council	Sealed	Four way	Type 2 road train	Local government road intersects TMR road network	Nil	144.200	20.845
LG 11	N/A	N/A	-	-	-	-	Not inspected as located on private property.	-	146.547	20.139
LG 12	N/A	N/A	-	-	-	-	Not inspected as located on private property.	-	146.620	20.094
LG 13	14A	125.446	Charters Towers Regional Council	Sealed	Staggered "T" intersection	Type 2 road train	Local government road intersects TMR road network	Nil	146.269	20.081
LG 14	N/A	N/A	Charters Towers Regional Council	Unsealed	"Y" intersection	Type 2 road train	Two local government roads intersect	Improvements required	146.310	20.185
LG 15	N/A	N/A	Charters Towers Regional Council	Unsealed	Greenfield	Type 2 road train	Power line easement crosses local government road	Nil	146.340	20.228
LG 16	N/A	N/A	Charters Towers Regional Council	Unsealed	Greenfield	Type 2 road train	Power line easement crosses local government road	Nil	146.309	20.243
LG 17	98B	180.571	Charters Towers Regional Council	Sealed	"T" intersection	Type 2 road train	Local government road intersects TMR road network	Nil	146.207	20.214
LG 18	N/A	N/A	Charters Towers Regional Council	Sealed	Greenfield	Type 2 road train	Power line easement crosses local government road	Nil	146.266	20.269
LG 19	98B	171.41	Charters Towers Regional Council	Sealed	"T" intersection	Type 2 road train	Local government road intersects TMR road network	Nil	146.179	20.289
LG 20	N/A	N/A	Charters Towers Regional Council	Unsealed	"Y" intersection	Type 2 road train	Two local government roads intersect	Nil	146.121	20.317
LG 21	N/A	N/A	Charters Towers Regional Council	Unsealed	Greenfield	Type 2 road train	Power line easement crosses local government road	Nil	146.104	20.346
LG 22	14B	42.795	Charters Towers Regional Council	Unsealed	"T" intersection	Type 2 road train	Local government road intersects TMR road network	Nil	145.906	20.218
LG 23	14B	72.599	Charters Towers Regional Council	Sealed	"T" intersection	Type 2 road train	Local government road intersects TMR road network	Nil	145.657	20.361
LG 24	N/A	N/A	Charters Towers Regional Council	Unsealed	Greenfield	Type 2 road train	Power line easement crosses local government road	Nil	145.752	20.531
LG 25	14B	105.521	Charters Towers Regional Council	Sealed	"T" intersection	Type 2 road train	Local government road intersects TMR road network	Nil	145.399	20.524
LG 26	N/A	N/A	Charters Towers Regional Council	Sealed	"T" intersection	Type 2 road train	Two local government roads intersect	Improvements required, further investigation required	145.400	20.525
LG 27	N/A	N/A	Charters Towers Regional Council	Unsealed	Greenfield	Type 2 road train	Power line easement crosses local government road	Nil	145.608	20.621
LG 28	14B		Charters Towers Regional Council	Sealed	"T" intersection	Type 2 road train	Local government road intersects TMR road network	Improvements required	145.338	20.597
LG 29	14B	138.385	Charters Towers Regional Council	Sealed	"T" intersection	Type 2 road train	Local government road intersects TMR road network	Nil	145.194	20.727
LG 30	N/A	N/A	Charters Towers Regional Council	Unsealed	Greenfield	Type 2 road train	Power line easement crosses local government road	Nil	145.175	20.841
LG 31	14B	155	Flinders Shire Council	Unsealed	"T" intersection	Type 2 road train	Local government road intersects TMR road network	Improvements required	145.033	20.768
LG 32	14B	190	Flinders Shire Council	Sealed	"T" intersection	Type 2 road train	Local government road intersects TMR road network	Improvements required	144.718	20.846
LG 33	N/A	N/A	Flinders Shire Council	Unsealed	Greenfield	Type 2 road train	Power line easement crosses local government road	Nil	144.765	20.909
LG 34	14B	201.958	Flinders Shire Council	Sealed	"Four way"	Type 2 road train	Local government road intersects TMR road network	Nil	144.603	20.871

Table 2

Intersection number	TMR Road ID	TMR chainage	Asset owner	Surface type	Layout type	Road Classification	Reason for inspection	Improvements or additional investigation	Longitude degrees (East)	Latitude degrees (South)
LG 35	N/A	N/A	Flinders Shire Council	Sealed	Greenfield	Type 2 road train	Power line easement crosses local government road	Nil	144.582	20.947
LG 36	14B	222	Flinders Shire Council	Sealed	"T" intersection	Type 2 road train	Local government road intersects TMR road network	Nil	144.409	20.871
LG 37	N/A	N/A	-	-	-	-	Not inspected due to change in alignment	-	144.403	20.919
LG 38	14B	238.3	Flinders Shire Council	Unsealed	"T" intersection	Type 2 road train	Local government road intersects TMR road network	Improvements required, further investigation required	144.264	20.877
LG 39	N/A	N/A	Flinders Shire Council	Unsealed	Greenfield	Type 2 road train	Power line easement crosses local government road	Nil	144.280	20.906
LG 40	14C	51.601	Flinders Shire Council	Sealed	"T" intersection	Type 2 road train	Local government road intersects TMR road network	Improvements required	143.748	20.883
LG 41	N/A	N/A	Flinders Shire Council	Unsealed	Greenfield	Type 2 road train	Power line easement crosses local government road	Nil	143.748	20.901
LG 42	14C	67.11	Flinders Shire Council	Sealed	"T" intersection	Type 2 road train	Local government road intersects TMR road network	Improvements required, further investigation required	143.567	20.858
LG 43	N/A	N/A	Flinders Shire Council	Unsealed	Greenfield	Type 2 road train	Power line easement crosses local government road	Nil	143.568	20.888
LG 44	14C	81.35	Flinders Shire Council	Sealed	"T" intersection	Type 2 road train	Local government road intersects TMR road network	Further investigation required	143.434	20.840
LG 45	N/A	N/A	Flinders Shire Council	Unsealed	Greenfield	Type 2 road train	Power line easement crosses local government road	Nil	143.430	20.885
LG 46	14C	109.58	Richmond Shire Council	Sealed	"T" intersection	Type 2 road train	Local government road intersects TMR road network	Improvements required	143.176	20.767
LG 47	5803	15.28	Richmond Shire Council	Sealed	"T" intersection	Type 2 road train	Local government road intersects TMR road network	Improvements required	143.072	20.873
LG 48	14D	43.7	Richmond Shire Council	Sealed	"T" intersection	Type 2 road train	Local government road intersects TMR road network	Improvements required	142.730	20.725
LG 49	N/A	N/A	Richmond Shire Council	Unsealed	"T" intersection		Two local government roads intersect	Improvements required	142.708	20.759
LG 50	N/A	N/A	Richmond Shire Council	Unsealed	"T" intersection		Two local government roads intersect	Improvements required	142.700	20.810
LG 51	N/A	N/A	Richmond Shire Council	Unsealed	Greenfield		Power line easement crosses local government road	Nil	142.693	20.826
LG 52	N/A	N/A	Richmond Shire Council	Unsealed	Greenfield		Power line easement crosses local government road	Nil	142.747	20.833
LG 53	14D	48.88	Richmond Shire Council	Sealed	Four way	Type 2 road train	Local government road intersects TMR road network	Improvements required	142.681	20.724
LG 54	14D	69.57	Richmond Shire Council	Sealed	"T" intersection	Type 2 road train	Local government road intersects TMR road network	Improvements required	142.487	20.690
LG 55	14D	99.94	Mckinlay Shire Council	Sealed	"T" intersection	Type 2 road train	Local government road intersects TMR road network	Improvements required	142.206	20.670
LG 56	N/A	N/A	Mckinlay Shire Council	Unsealed	Greenfield		Power line easement crosses local government road	Nil	142.251	20.787
LG 57	14D	105.785	Mckinlay Shire Council	Sealed	"T" intersection	Type 2 road train	Local government road intersects TMR road network	Improvements required	142.152	20.672
LG 58	N/A	N/A	Mckinlay Shire Council	Unsealed	"T" intersection		Two local government roads intersect	Improvements required	142.085	20.766
LG 59	N/A	N/A	Mckinlay Shire Council	Unsealed	Greenfield		Power line easement crosses local government road	Nil	142.111	20.797
LG 60	N/A	N/A	Mckinlay Shire Council	Unsealed	Greenfield		Power line easement crosses local government road	Nil	142.054	20.798
LG 61	N/A	N/A	Mckinlay Shire Council	Unsealed	Four way		Two local government roads intersect	Improvements required, further investigation required	141.973	20.868
LG 62	N/A	N/A	Mckinlay Shire Council	Unsealed	Greenfield		Power line easement crosses local government road	Nil	141.904	20.799
LG 63	14D	148.659	Mckinlay Shire Council	Sealed	"T" intersection	Type 2 road train	Local government road intersects TMR road network	Improvements required	141.767	20.655
LG 64	14E	24.565	Mckinlay Shire Council	Sealed	"T" intersection	Type 2 road train	Local government road intersects TMR road network	Nil	141.509	20.659
LG 65	N/A	N/A	Mckinlay Shire Council	Sealed	Greenfield		Power line easement crosses local government road	Nil	141.482	20.794
LG 66	14E	42.315	Mckinlay Shire Council	Sealed	"T" intersection	Type 2 road train	Local government road intersects TMR road network	Improvements required	141.358	20.626
LG 67	N/A	N/A	Mckinlay Shire Council	Unsealed	Greenfield		Power line easement crosses local government road	Nil	141.345	20.789
LG 68	14E	72.77	Mckinlay Shire Council	Sealed	"T" intersection	Type 2 road train	Local government road intersects TMR road network	Improvements required	141.077	20.650
LG 69	N/A	N/A	Mckinlay Shire Council	Unsealed	Greenfield		Power line easement crosses local government road	Nil	141.053	20.778
LG 70	13H	120.665	Mckinlay Shire Council	Unsealed	"T" intersection	Type 2 road train	Local government road intersects TMR road network	Improvements required, further investigation required	140.948	21.027
LG 71	13H	75.43	Mckinlay Shire Council	Sealed	"T" intersection	Type 2 road train	Local government road intersects TMR road network	Nil	141.293	21.274
LG 72	N/A	N/A	Mckinlay Shire Council	Sealed	"T" intersection	Type 2 road train	Two local government roads intersect	Nil	140.929	21.814
LG 73	N/A	N/A	Mckinlay Shire Council	Unsealed	Four way	Type 2 road train	Two local government roads intersect	Nil	140.937	21.815

Table 2

Intersection number	TMR Road ID	TMR chainage	Asset owner	Surface type	Layout type	Road Classification	Reason for inspection	Improvements or additional investigation	Longitude degrees (East)	Latitude degrees (South)
LG 74	14E	134.32	Cloncurry Shire Council	Sealed	"T" intersection	Type 2 road train	Local government road intersects TMR road network	Nil	140.530	20.707
LG 75	N/A	N/A	Cloncurry Shire Council	Unsealed	Greenfield	Type 2 road train	Power line easement crosses local government road	Nil	140.548	20.741
LG 76	15A	1.24	Cloncurry Shire Council	Sealed	"T" intersection	Type 2 road train	Local government road intersects TMR road network	Nil	140.494	20.704
LG 77	N/A	N/A	-	-	-	-	Not inspected as located on private property	-	140.511	20.750
LG 78	7708	45.27	Cloncurry Shire Council	Unsealed	"T" intersection	Type 2 road train	Local government road intersects TMR road network	Further investigation required	140.286	21.071
LG 79	N/A	N/A	Cloncurry Shire Council	Unsealed	Greenfield	Type 2 road train	Power line easement crosses local government road	Nil	140.429	21.234
LG 80	N/A	N/A	Cloncurry Shire Council	Unsealed	Greenfield	Type 2 road train	Power line easement crosses local government road	Nil	140.483	21.536
LG 81	7708	100.58	Cloncurry Shire Council	Sealed	"T" intersection	Type 2 road train	Local government road intersects TMR road network	Improvements required, further investigation required	139.944	21.371
LG 82	N/A	N/A	Cloncurry Shire Council	Sealed	Four way	Type 2 road train	Two local government roads intersect	Improvements required	139.981	21.564
LG 83	N/A	N/A	-	-	-	-	Could not access due to poor track condition.	-	140.180	21.739
LG 84	N/A	N/A	Cloncurry Shire Council	Sealed	"T" intersection	Type 2 road train	Two local government roads intersect	Improvements required	139.966	21.830
LG 85	N/A	N/A	Cloncurry Shire Council	Sealed	"T" intersection	Type 2 road train	Two local government roads intersect	Improvements required	139.971	21.852
LG 86	N/A	N/A	Cloncurry Shire Council	Sealed	"T" intersection	Type 2 road train	Two local government roads intersect	Improvements required	139.985	21.859
LG 87	N/A	N/A	Cloncurry Shire Council	Unsealed	Greenfield	Type 2 road train	Power line easement crosses local government road	Nil	140.016	21.846
LG 88	N/A	N/A	Cloncurry Shire Council	Sealed	"T" intersection	Type 2 road train	Two local government roads intersect	Improvements required	139.919	21.797
LG 89	93E	135.24	Cloncurry Shire Council	Sealed	"T" intersection	Type 2 road train	Local government road intersects TMR road network	Improvements required	139.578	21.797
LG 90	7708	117.66	Cloncurry Shire Council	Unsealed	"T" intersection	Type 2 road train	Local government road intersects TMR road network	Improvements required, further investigation required	139.807	21.391
LG 91	N/A	N/A	Mount Isa City LGA	Sealed	Greenfield	Type 2 road train	Power line easement crosses local government road	Nil	139.500	20.785
LG 92	15A	88.3	Cloncurry Shire Council	Unsealed	"T" intersection	Tourist Road	Local government road intersects TMR road network	Nil	139.781	20.717
LG 93	N/A	N/A	Cloncurry Shire Council	Unsealed	Greenfield	Tourist Road	Power line easement crosses local government road	Further investigation required	139.790	20.766
LG 94	15A	70.86	Cloncurry Shire Council	Sealed	"T" intersection	Tourist Road	Local government road intersects TMR road network	Nil	139.922	20.757
LG 95	N/A	N/A	Cloncurry Shire Council	Unsealed	Greenfield	Tourist Road	Power line easement crosses local government road	Further investigation required	139.924	20.762
LG 96*	N/A	N/A	Cloncurry Shire Council	Unsealed	Greenfield	N/A	Two local government roads intersect	Nil	140.468	21.553
LG 97*	N/A	N/A	Cloncurry Shire Council	Unsealed	Four way	N/A	Two local government roads intersect	Nil	140.483	21.654
LG 98*	N/A	N/A	Charters Towers Regional Council	Unsealed	"T" intersection	N/A	Two local government roads intersect	Nil	146.529	20.166
LG 99*	N/A	N/A	Charters Towers Regional Council	Sealed	"T" intersection	N/A	Two local government roads intersect	Nil	146.254	20.216
LG Rail 01	N/A	N/A	Queensland Rail	Unsealed	Stop sign	N/A	Rail line crosses local government road	Nil	146.447	20.005
LG Rail 02	N/A	N/A	Queensland Rail	Sealed	Stop sign	N/A	Rail line crosses local government road	Nil	145.906	20.219
LG Rail 03	N/A	N/A	Queensland Rail	Sealed	Stop sign. 2 tracks	N/A	Rail line crosses local government road	Nil	145.657	20.362
LG Rail 04	N/A	N/A	Queensland Rail	Sealed	Stop sign	N/A	Rail line crosses local government road	Nil	145.400	20.525
LG Rail 05	N/A	N/A	-	-	-	-	Not inspected as no rail crossing present	-	145.338	20.597
LG Rail 06	N/A	N/A	Queensland Rail	Unsealed	Stop sign	N/A	Rail line crosses local government road	Nil	145.194	20.729
LG Rail 07	N/A	N/A	Queensland Rail	Unsealed	Stop sign	N/A	Rail line crosses local government road	Improvements required	145.033	20.769
LG Rail 08	N/A	N/A	Queensland Rail	Unsealed	Stop sign	N/A	Rail line crosses local government road	Improvements required	144.719	20.847
LG Rail 09	N/A	N/A	Queensland Rail	Sealed	Stop sign. 2 tracks	N/A	Rail line crosses local government road	Further investigation required	144.603	20.872
LG Rail 10	N/A	N/A	Queensland Rail	Sealed	Stop sign	N/A	Rail line crosses local government road	Nil	144.409	20.871
LG Rail 11	N/A	N/A	Queensland Rail	Unsealed	Give way sign	N/A	Rail line crosses local government road	Improvements required	143.748	20.883
LG Rail 12	N/A	N/A	Queensland Rail	Unsealed	Stop sign. 2 tracks	N/A	Rail line crosses local government road	Improvements required	143.569	20.863
LG Rail 13	N/A	N/A	Queensland Rail	Unsealed	Stop sign	N/A	Rail line crosses local government road	Improvements required	143.433	20.846
LG Rail 14	N/A	N/A	Queensland Rail	Unsealed	Stop sign	N/A	Rail line crosses local government road	Improvements required	143.176	20.767
LG Rail 15	N/A	N/A	Queensland Rail	Unsealed	Stop sign	N/A	Rail line crosses local government road	Improvements required	141.767	20.657
LG Rail 16	N/A	N/A	Queensland Rail	Sealed	Stop sign	N/A	Rail line crosses local government road	Improvements required	141.498	20.692
LG Rail 17	N/A	N/A	Queensland Rail	Unsealed	Stop sign	N/A	Rail line crosses local government road	Improvements required	141.345	20.788
LG Rail 18	N/A	N/A	Queensland Rail	Unsealed	Stop sign. 2 tracks	N/A	Rail line crosses local government road	Improvements required	141.075	20.694
LG Rail 19	N/A	N/A	Queensland Rail	Sealed	Stop lights	N/A	Rail line crosses local government road	Nil	140.526	20.719
LG Rail 20	N/A	N/A	Queensland Rail	Unsealed	Stop sign	N/A	Rail line crosses local government road	Nil	140.490	20.722
LG Rail 21	N/A	N/A	Queensland Rail	Sealed	Stop sign	N/A	Rail line crosses local government road	Improvements required	140.300	21.072

Table 2

Intersection number	TMR Road ID	TMR chainage	Asset owner	Surface type	Layout type	Road Classification	Reason for inspection	Improvements or additional investigation	Longitude degrees (East)	Latitude degrees (South)
LG Rail 22	N/A	N/A	Queensland Rail	Unsealed	Stop sign	N/A	Rail line crosses local government road	Improvements required	139.981	21.564
LG Rail 23	N/A	N/A	Queensland Rail	Sealed	Stop sign	N/A	Rail line crosses local government road	Improvements required	139.976	21.852
LG Rail 24	N/A	N/A	Queensland Rail	Unsealed	Stop sign	N/A	Rail line crosses local government road	Nil	139.595	21.034

Table 3

Intersection number	TMR Road ID	TMR chainage	Surface type	Layout type	Reason for inspection	Improvements or additional investigation	Longitude degrees (East)	Latitude degrees (South)
PR 01	14B	172.16	Unsealed	"T" intesection	Private access road intersects TMR road network	Nil	144.883	20.806
PR 17*	14B	178.43	Unsealed	"T" intesection	Private access road intersects TMR road network	Nil	144.825	20.821
PR 02	14C	32.22	Unsealed	"T" intesection	Private access road intersects TMR road network	Nil	143.898	20.866
PR 03	14C	92.61	Unsealed	"T" intesection	Private access road intersects TMR road network	Nil	143.331	20.817
PR 04	14D	25.69	Unsealed	"T" intesection	Private access road intersects TMR road network	Nil	142.902	20.733
PR 05	14E	59.315	Unsealed	"T" intesection	Private access road intersects TMR road network	Nil	141.201	20.629
PR 06	14E	89.44	Unsealed	"T" intesection	Private access road intersects TMR road network	Nil	140.919	20.646
PR 09	15A	18.92	Unsealed	"T" intesection	Private access road intersects TMR road network	Nil	140.331	20.715
PR 10	15A	25.59	Unsealed	"T" intesection	Private access road intersects TMR road network	Further investigation required	140.279	20.738
PR 11	15A	39.78	Unsealed	"T" intesection	Private access road intersects TMR road network	Further investigation required	140.158	20.773
PR 12	15A	46.3	Unsealed	"T" intesection	Private access road intersects TMR road network	Further investigation required	140.096	20.785
PR 13	15A	59.56	Unsealed	"T" intesection	Private access road intersects TMR road network	Further investigation required	139.999	20.802
PR 14	15A	63.28	Unsealed	"T" intesection	Private access road intersects TMR road network	Further investigation required	139.950	20.762
PR 15	15A	76.96	Unsealed	"T" intesection	Private access road intersects TMR road network	Further investigation required	139.861	20.763
PR 16	15A	103.57	Unsealed	"T" intesection	Private access road intersects TMR road network	Nil	139.642	20.708
PR 07	13H	156.15	Unsealed	"T" intesection	Private access road intersects TMR road network	Nil	140.736	20.787
PR 08	7708	24.38	Unsealed	"T" intesection	Private access road intersects TMR road network	Nil	140.340	20.913
PR 18*	93F	145.4	Sealed	"T" intersection	Private access road intersects TMR road network	Nil	139.479	20.784
PR 19*	93F	145.8	Sealed	"T" intersection	Private access road intersects TMR road network	Nil	139.481	20.781
PR Rail 01	N/A	N/A	Unsealed	Stop sign	Rail line crosses private access road in close vicinity to TMR road corridor	Nil	144.883	20.807
PR Rail 02	N/A	N/A	Unsealed	Stop sign	Rail line crosses private access road in close vicinity to TMR road corridor	Nil	143.898	20.867
PR Rail 03	N/A	N/A	Unsealed	Stop sign	Rail line crosses private access road in close vicinity to TMR road corridor	Improvements required	143.331	20.818

*Indicates additional inspection not included in our execution plan

^All rail crossing are managed and owned by Queensland Rail

Table 4

Intersection number	Potential safety concern	Recommended improvements	Longitude degrees (east)	Latitude degrees (south)
TMR 07	No warning signs on western or southern approaches and no signage at intersection	Asset owner to install signs	145.015	20.771
TMR 09	No signage at intersection	Asset owner to install signs	144.204	20.866
TMR 13	No warning signs on approaches	Asset owner to install signs	144.196	20.851
TMR 14	No warning signs on approaches, no signage at intersection	Asset owner to install signs	144.193	20.851
LG 63	No signage at intersection	Asset owner to install signs	141.767	20.655
LG Rail 15	Faded give way sign	Asset owner to replace sign	141.767	20.657
LG 66	No warning signs on approaches, no signage at intersection	Asset owner to install signs	141.358	20.626
LG 68	No signage at intersection	Asset owner to install signs	141.077	20.650
LG 70	No signage at intersection	Asset owner to install signs	140.948	21.027
LG Rail 16	No warning signs on approaches	Asset owner to install signs	141.498	20.692
LG Rail 18	No warning signs on approaches	Asset owner to install signs	141.075	20.694
LG Rail 21	Damaged warning sign on western approach	Asset owner to replace sign	140.300	21.072
TMR 36*	No warning sign on minor road approach	Asset owner to install sign	140.487	20.702
LG 88	No warning signs on approaches	Asset owner to install signs	139.919	21.797
LG 89	No signage at intersection	Asset owner to install signs	139.578	21.797
LG 90	No warning sign on western approach	Asset owner to install sign	139.807	21.391
LG 81	No signage at intersection, no warning sign on southern approach	Asset owner to install signs	139.944	21.371
LG 82	No signage at intersection, no warning signs on approaches	Asset owner to install signs	139.981	21.564
LG Rail 22	No warning sign on approaches	Asset owner to install signs	139.981	21.564
LG 84	No signage at intersection	Asset owner to install signs	139.966	21.830
LG 85	No warning signs on southern or astern approaches	Asset owner to install signs	139.971	21.852
LG 86	No signage at intersection	Asset owner to install signs	139.985	21.859
LG Rail 17	Missing stop sign on southern approach	Asset owner to install sign	141.345	20.788

Table 4

Intersection number	Potential safety concern	Recommended improvements	Longitude degrees (east)	Latitude degrees (south)
LG Rail 23	No warning signs on approaches	Asset owner to install signs	139.976	21.852
LG 61	No signage at intersection	Asset owner to install signs	141.973	20.868
LG 58	No signage at intersection, pole available	Asset owner to install signs	142.085	20.766
LG 57	No signage at intersection	Asset owner to install signs	142.152	20.672
LG 101*	No signage at intersection, no warning signs on approaches	Asset owner to install signs	141.289	21.272
LG 55	No signage at intersection, no warning signs on approaches	Asset owner to install signs	142.206	20.670
LG 54	No warning signs on approaches	Asset owner to install signs	142.487	20.690
LG 53	No signage at intersection	Asset owner to install signs	142.681	20.724
LG 50	No signage at intersection, pole available and no warning sign on northern approach	Asset owner to install signs	142.700	20.810
LG 48	No signage at intersection, no warning signs on approaches	Asset owner to install signs	142.730	20.725
LG 49	No signage at intersection, no warning signs from southern or eastern approaches	Asset owner to install signs	142.708	20.759
LG 46	No signage at intersection, no warning signs on approaches	Asset owner to install signs	143.176	20.767
LG 47	No signage at intersection, no warning signs on approaches	Asset owner to install signs	143.072	20.873
LG Rail 14	No warning signs on approaches	Asset owner to install signs	143.176	20.767
PR Rail 03	Located on a steep crossing	Asset owner to install signs	143.331	20.818
LG Rail 13	No warning signs on approaches	Asset owner to install signs	143.433	20.846
LG 42	No warning signs on approaches	Asset owner to install signs	143.567	20.858
LG Rail 12	No warning signs on approaches	Asset owner to install signs	143.569	20.863
LG Rail 11	Faded give way sign on South approach	Asset owner to install sign	143.748	20.883
LG 40	No signage at intersection, no warning signs on approaches	Asset owner to install signs	143.748	20.883
LG 38	No signage at intersection, no warning signs on approaches.	Asset owner to install signs	144.264	20.877
LG 32	No signage at intersection, no warning signs on approaches	Asset owner to install signs	144.718	20.846
LG Rail 08	No warning signs on approaches	Asset owner to install signs	144.719	20.847

Table 4

Intersection number	Potential safety concern	Recommended improvements	Longitude degrees (east)	Latitude degrees (south)
LG 31	No signage at intersection, no warning signs on approaches	Asset owner to install signs	145.033	20.768
LG Rail 07	No warning signs on approaches	Asset owner to install signs	145.033	20.769
LG 28	No signage at intersection, no warning signs on approaches	Asset owner to install signs	145.338	20.597
LG 26	No signage at intersection, no warning signs on approaches	Asset owner to install signs	145.400	20.525
LG 14	No signage at intersection	Asset owner to install signs	146.310	20.185
LG 01	No signage at intersection, no warning signs on approaches	Asset owner to install signs	146.817	19.812
LG 03	No signage at intersection, no warning signs on approaches	Asset owner to install signs	146.723	19.981

Table 5

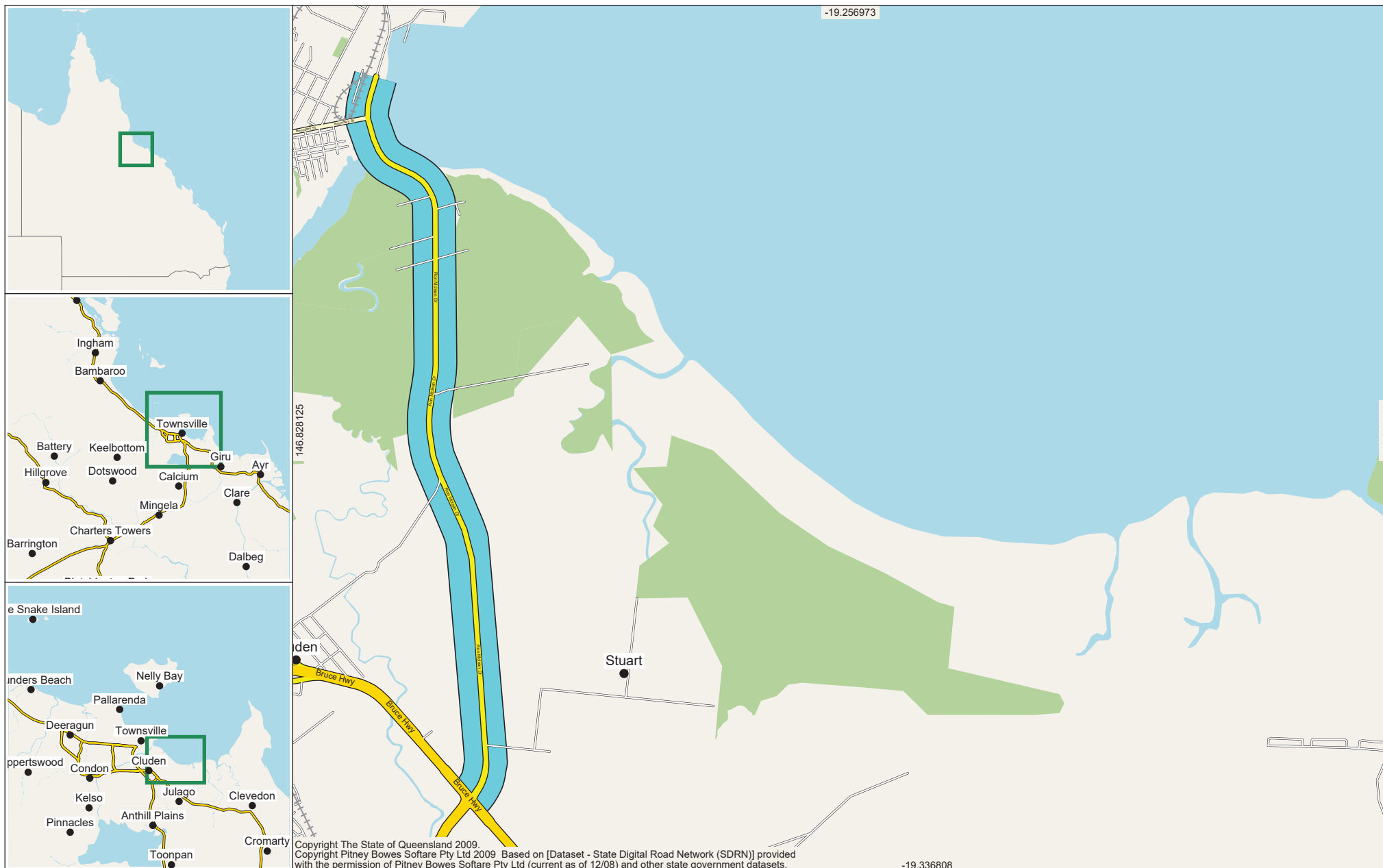
Intersection number	Potential safety concern	Recommended additional studies	Longitude degrees (east)	Latitude degrees (south)
TMR 06	Insufficient sight distance due to horizontal geometry, vertical geometry and overgrown vegetation	Undertake sight distance measurements and safety checks with Road Safety Auditor	146.184	20.301
TMR 17	Insufficient sight distance due to horizontal and vertical geometry	Undertake sight distance measurements and safety checks with Road Safety Auditor	143.111	20.742
LG 70	Insufficient sight distance due to vertical geometry	Undertake sight distance measurements and safety checks with Road Safety Auditor	140.948	21.027
LG 78	Insufficient sight distance due to horizontal and vertical geometry	Undertake sight distance measurements and safety checks with Road Safety Auditor	140.286	21.071
TMR 23	Insufficient sight distance due to horizontal and vertical geometry	Undertake sight distance measurements and safety checks with Road Safety Auditor	140.633	20.729
TMR 25	Insufficient sight distance due to vertical geometry and overgrown vegetation	Undertake sight distance measurements and safety checks with Road Safety Auditor	140.409	20.718
TMR 28	Insufficient sight distance due to horizontal geometry	Undertake sight distance measurements and safety checks with Road Safety Auditor	140.411	20.749
TMR 29	Insufficient sight distance due to horizontal geometry	Undertake sight distance measurements and safety checks with Road Safety Auditor	140.360	20.857
PR 09	Insufficient sight distance due to vertical geometry	Undertake sight distance measurements and safety checks with Road Safety Auditor	140.331	20.715
PR 10	Insufficient sight distance due to horizontal and vertical geometry	Undertake sight distance measurements and safety checks with Road Safety Auditor	140.279	20.738
PR 11	Insufficient sight distance due to horizontal geometry	Undertake sight distance measurements and safety checks with Road Safety Auditor	140.158	20.773
PR 12	Insufficient sight distance due to vertical geometry	Undertake sight distance measurements and safety checks with Road Safety Auditor	140.096	20.785
TMR 30	Insufficient sight distance due to horizontal and vertical geometry	Undertake sight distance measurements and safety checks with Road Safety Auditor	140.073	20.794
PR 13	Insufficient sight distance due to horizontal geometry, vertical geometry, vegetation and road side signage	Undertake sight distance measurements and safety checks with Road Safety Auditor	139.999	20.802
PR 14	Insufficient sight distance due to horizontal and vertical geometry	Undertake sight distance measurements and safety checks with Road Safety Auditor	139.950	20.762
TMR 31	Insufficient sight distance due to horizontal and vertical geometry	Undertake sight distance measurements and safety checks with Road Safety Auditor	139.950	20.759
LG 95	Insufficient sight distance due to horizontal geometry, vertical geometry and overgrown vegetation	Undertake sight distance measurements and safety checks with Road Safety Auditor	139.924	20.762
PR 15	Insufficient sight distance due to horizontal geometry, vertical geometry, overgrown vegetation and road side signage	Undertake sight distance measurements and safety checks with Road Safety Auditor	139.861	20.763
LG 93	Insufficient sight distance due to horizontal and vertical geometry	Undertake sight distance measurements and safety checks with Road Safety Auditor	139.790	20.766
LG 90	Insufficient sight distance due to horizontal geometry	Undertake sight distance measurements and safety checks with Road Safety Auditor	139.807	21.391

Table 5

Intersection number	Potential safety concern	Recommended additional studies	Longitude degrees (east)	Latitude degrees (south)
LG 81	Insufficient sight distance due to horizontal geometry	Undertake sight distance measurements and safety checks with Road Safety Auditor	139.944	21.371
LG 61	Insufficient sight distance due to horizontal geometry	Undertake sight distance measurements and safety checks with Road Safety Auditor	141.973	20.868
LG 44	Insufficient sight distance due to horizontal and vertical geometry and overgrown vegetation	Undertake sight distance measurements and safety checks with Road Safety Auditor	143.434	20.840
LG 42	Insufficient sight distance due to horizontal and vertical geometry, overgrown vegetation and road side signage	Undertake sight distance measurements and safety checks with Road Safety Auditor	143.567	20.858
LG 38	Insufficient sight distance due to horizontal and vertical geometry	Undertake sight distance measurements and safety checks with Road Safety Auditor	144.264	20.877
LG Rail 09	Insufficient sight distance due to overgrown vegetation	Undertake sight distance measurements and safety checks with Road Safety Auditor	144.603	20.872
LG 26	Insufficient sight distance due to horizontal geometry and overgrown vegetation	Undertake sight distance measurements and safety checks with Road Safety Auditor	145.400	20.525
LG 08	Insufficient sight distance due to horizontal geometry and overgrown vegetation	Undertake sight distance measurements and safety checks with Road Safety Auditor	146.464	20.145
LG 05	Insufficient sight distance due to horizontal geometry and overgrown vegetation	Undertake sight distance measurements and safety checks with Road Safety Auditor	146.698	20.050
LG 03	Insufficient sight distance due to horizontal and vertical geometry	Undertake sight distance measurements and safety checks with Road Safety Auditor	146.723	19.981
TMR 15	Insufficient sight distance due to vertical geometry	Undertake sight distance measurements and safety checks with Road Safety Auditor	144.171	20.893

Appendix E – DTMR AADT Segment Reports

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Traffic Analysis and Reporting System
AADT Segment Analysis Report (Complete)
Road Section 841 - TOWNSVILLE PORT ROAD
Traffic Year 2019

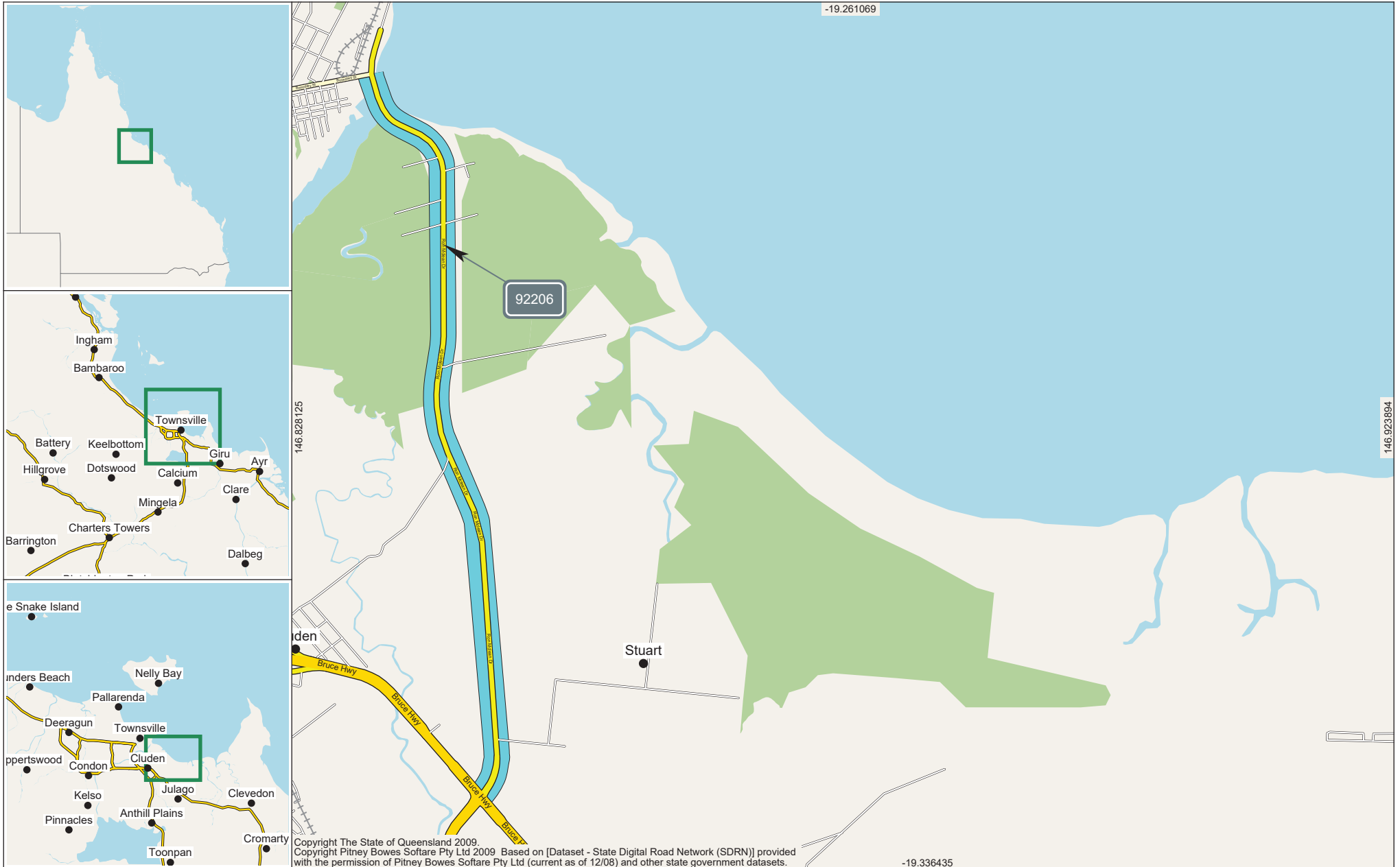
Road Segments Summary - All Vehicles

Region	Segment Start Tdist	Segment End Tdist	Site	Site Tdist	Description	AADT			VKT (Millions)			Data Year	Page
						G	A	B	G	A	B		
408	0.000 km	7.336 km	92206	5.430 km	WiM Site Townsville Port	1,480	1,340	2,820	3.96291	3.58804	7.55094	2019	2
408	7.336 km	7.811 km	92236	7.709 km	841 60m Sth of Archer Street	1,815	2,021	3,836	0.31468	0.35039	0.66507	2019	3
								Totals	4.27758	3.93843	8.21601		

Road Segments Summary - Heavy Vehicles only

VKT totals are calculated only if traffic class data is available for all sites.

HV Totals are calculated only on those sites where there is an entry																
Region	Segment Start Tdist	Segment End Tdist	Site	Site Tdist	Description	HV AADT						HV VKT (Millions)			Data Year	Page
						G		A		B						
						AADT	HV %	AADT	HV %	AADT	HV %	G	A	B		
408	0.000 km	7.336 km	92206	5.430 km	WiM Site Townsville Port	413	27.91%	407	30.37%	820	29.08%	1.10587	1.08980	2.19566	2019	
408	7.336 km	7.811 km	92236	7.709 km	841 60m Sth of Archer Street	560	30.85%	502	24.84%	1,062	27.69%	0.09709	0.08703	0.18412	2019	
											Totals	1.20296	1.17683	2.37979		



Site 92206. Point 290017543.
1.1km north of Racecourse Rd.

5.43 km

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

0.00 km

Start Point 290017441. Townsville
Port Rd 840 Int Bruce Hwy 10L &
10M & Flinders Hwy 14A.

7.34 km

End Point 290017442. 832 &
841 (Boundary St / Benwell 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.

All Vehicles (00)

G	1,480	100%
A	1,340	100%
B	2,820	100%

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	8.66%	5.00%	
A	12.13%	6.37%	
B	10.29%	5.64%	

Light Vehicles (0A)

G	1,065	71.96%
A	934	69.70%
B	1,999	70.89%

Heavy Vehicles (0B)

G	413	27.91%
A	407	30.37%
B	820	29.08%

Short Vehicles (1A)

G	1,065	71.96%
A	934	69.70%
B	1,999	70.89%

Trucks and Buses (1B)

G	160	10.81%
A	152	11.34%
B	312	11.06%

Articulated Vehicles (1C)

G	82	5.54%
A	84	6.27%
B	166	5.89%

Road Trains (1D)

G	171	11.55%
A	171	12.76%
B	342	12.13%

Short 2-Axle
Vehicles (2A)

G	1,041	70.34%
A	911	67.99%
B	1,952	69.22%

Short Vehicles
Towing (2B)

G	24	1.62%
A	23	1.72%
B	47	1.67%

2-Axle Trucks
and Buses (2C)

G	135	9.12%
A	125	9.33%
B	260	9.22%

3-Axle Trucks
and Buses (2D)

G	20	1.35%
A	21	1.57%
B	41	1.45%

4-Axle
Trucks (2E)

G	5	0.34%
A	6	0.45%
B	11	0.39%

3-Axle
Articulated (2F)

G	4	0.27%
A	4	0.30%
B	8	0.28%

4-Axle
Articulated (2G)

G	3	0.20%
A	3	0.22%
B	6	0.21%

5-Axle
Articulated (2H)

G	1	0.07%
A	3	0.22%
B	4	0.14%

6-Axle
Articulated (2I)

G	74	5.00%
A	74	5.52%
B	148	5.25%

B Double (2J)

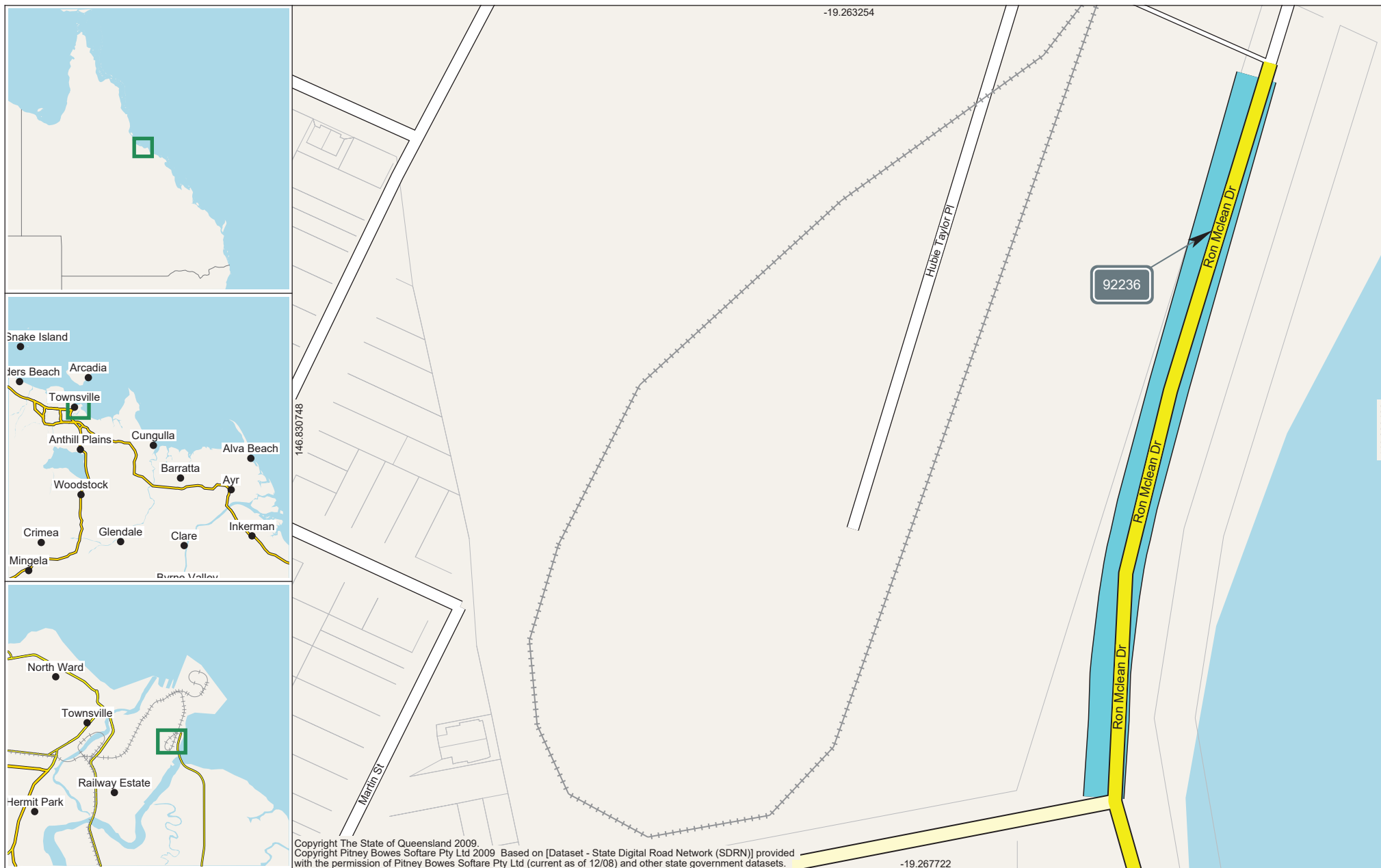
G	42	2.84%
A	43	3.21%
B	85	3.01%

Double Road
Trains (2K)

G	54	3.65%
A	53	3.96%
B	107	3.79%

Triple Road
Trains (2L)

G	75	5.07%
A	75	5.60%
B	150	5.32%



Site 92236. Point 290018188.
60m South of Archer St.

7.71 km

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

7.34 km

Start Point 290017442. 832 &
841 (Boundary St / Benwell Rd).

7.81 km

End Point 290017900. End
of 841 @ Property Boundary.

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.

All Vehicles (00)

G	1,815	100%
A	2,021	100%
B	3,836	100%

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	-10.41%	8.24%	
A	-14.98%	14.07%	
B	-12.88%	11.08%	

Light Vehicles (0A)

G	1,256	69.20%
A	1,518	75.11%
B	2,774	72.31%

Heavy Vehicles (0B)

G	560	30.85%
A	502	24.84%
B	1,062	27.69%

Short Vehicles (1A)

G	1,256	69.20%
A	1,518	75.11%
B	2,774	72.31%

Trucks and Buses (1B)

G	248	13.66%
A	224	11.08%
B	472	12.30%

Articulated Vehicles (1C)

G	146	8.04%
A	134	6.63%
B	280	7.30%

Road Trains (1D)

G	166	9.15%
A	144	7.13%
B	310	8.08%

Short 2-Axle
Vehicles (2A)

G	1,238	68.21%
A	1,496	74.02%
B	2,734	71.27%

Short Vehicles
Towing (2B)

G	18	0.99%
A	22	1.09%
B	40	1.04%

2-Axle Trucks
and Buses (2C)

G	190	10.47%
A	171	8.46%
B	361	9.41%

3-Axle Trucks
and Buses (2D)

G	44	2.42%
A	39	1.93%
B	83	2.16%

4-Axle
Trucks (2E)

G	14	0.77%
A	14	0.69%
B	28	0.73%

3-Axle
Articulated (2F)

G	4	0.22%
A	4	0.20%
B	8	0.21%

4-Axle
Articulated (2G)

G	5	0.28%
A	5	0.25%
B	10	0.26%

5-Axle
Articulated (2H)

G	8	0.44%
A	7	0.35%
B	15	0.39%

6-Axle
Articulated (2I)

G	129	7.11%
A	118	5.84%
B	247	6.44%

B Double (2J)

G	57	3.14%
A	51	2.52%
B	108	2.82%

Double Road
Trains (2K)

G	51	2.81%
A	45	2.23%
B	96	2.50%

Triple Road
Trains (2L)

G	58	3.20%
A	48	2.38%
B	106	2.76%

AADT Segment Report

Provides AADT Segment details for a Road Section together with the traffic flow data collected at the related Site. Traffic data is reported by the start and end Through Distance of the AADT Segments on each section of road. The road segments are represented diagrammatically with AADT data including:

AADT by direction of traffic flow
VKT Vehicle Kilometres Travelled
%VC Percentage Vehicle Class as per the Austroads vehicle classification scheme

Annual Average Daily Traffic (AADT)

Annual Average Daily Traffic (AADT) is the number of vehicles passing a point on a road in a 24 hour period, averaged over a calendar year.

AADT Segment

Is a subdivision of a Road Section. The boundaries of an AADT Segment are its Start Point and End Point (or Start and End Through Distance (TDist)) within the Road Section. These distances are measured in kilometres from the beginning of the Road Section in Gazettal Direction. AADT Segments are determined by the traffic volume, collected at a count Site, located within the limits of each AADT Segment.

Annual Segment Growth (when displayed)

A percentage that represents the increase or decrease in AADT for the AADT Segment, using an exponential fit, calculated over a 1, 5 or 10 year period.

Area

For administration purposes the Department of Transport and Main Roads has divided Queensland into 12 Districts. The Area field in TSDM reports displays the District Name and Number.

District Name	District
Central West District	401
Darling Downs District	402
Far North District	403
Fitzroy District	404
Mackay/Whitsunday District	405
Metropolitan District	406
North Coast District	407
North West District	409
Northern District	408
South Coast District	410
South West District	411
Wide Bay/Burnett District	412

Data Year

The most recent year the traffic data was collected for this AADT Segment.

Gazettal Direction

The Gazettal Direction is the direction of the traffic flow. It can be easily recognised by referring to the name of the road eg. Road Section: 10A Brisbane - Gympie denotes that the gazettal direction is from Brisbane to Gympie.

- G Traffic flowing in Gazettal Direction
- A Traffic flowing against Gazettal Direction
- B The combined traffic flow in both Directions

Road Section

Is the Gazetted road from which the traffic data is collected. Each Road Section is given a code, allocated sequentially in Gazettal Direction. Larger roads are broken down into sections and identified by an ID code with a suffix for easier data collection and reporting (eg. 10A, 10B, 10C). Road Sections are then broken into AADT Segments which are determined by traffic volume.

Site

The physical location of a traffic counting device. Sites are located at a specified Through Distance along a Road Section.

Site TDist

The Through Distance in gazettal direction from the start of the Road Section at which the site is located.

Site Description

The description of the physical location of the traffic counting device.

Start and End Point

The unique identifier for the Through Distance along a Road Section.

Through Distance

The distance, in kilometres, from the beginning of the Road Section in Gazettal Direction.

Traffic Class

Is the 12 Austroads vehicle categories or classes into which vehicles are placed or binned. Traffic classes are formed in a hierarchical format.

Volume or All Vehicles

00 = 0A + 0B

Light Vehicles

0A = 1A

1A = 2A + 2B

Heavy Vehicles

0B = 1B + 1C + 1D

1B = 2C + 2D + 2E

1C = 2F + 2G + 2H + 2I

1D = 2J + 2K + 2L

The following classes are the categories for which data can be captured:

Volume

00 All vehicles.

2-Bin

0A Light vehicles

0B Heavy vehicles

4-Bin

1A Short vehicles

1B Truck or bus

1C Articulated vehicles

1D Road train

12-Bin

2A Short 2 axle vehicles

2B Short vehicles towing

2C 2 axle truck or bus

2D 3 axle truck or bus

2E 4 axle truck

2F 3 axle articulated vehicle

2G 4 axle articulated vehicle

2H 5 axle articulated vehicle

2I 6 axle articulated vehicle

2J B double

2K Double road train

2L Triple road train

Vehicle Kilometres Travelled (VKT)

Daily VKT is a measure of the traffic demand. It is calculated by the length of an AADT Segment in kilometres multiplied by its AADT. The yearly VKT is the daily VKT multiplied by 365 days.

AADT Segment Summary - All Vehicles

The Total VKT can be used to gauge the demand on an entire Road Section.

AADT Segment Summary - Heavy Vehicles only

A blank field indicates that vehicle classification data was not collected for this AADT Segment.

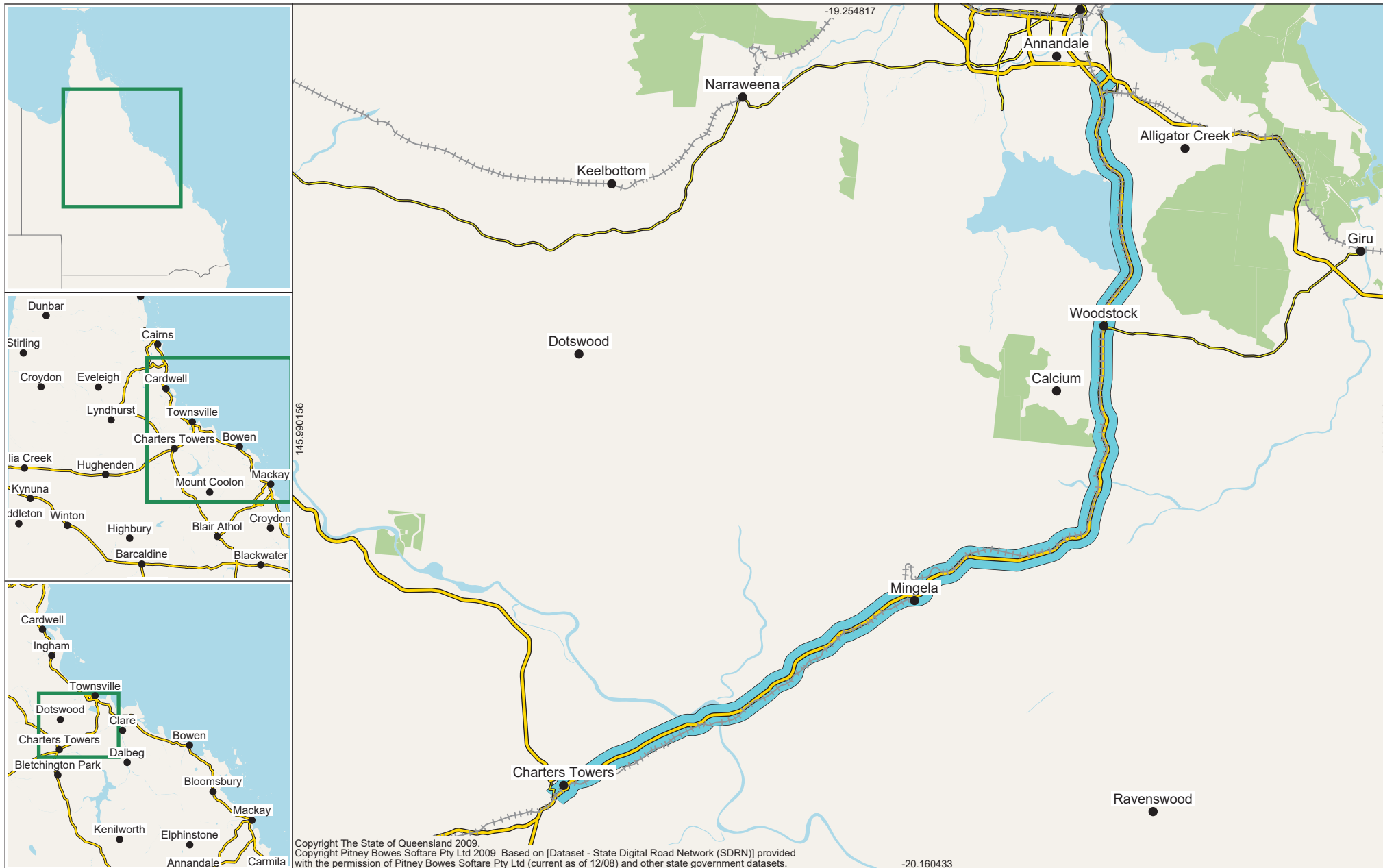
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Traffic Analysis and Reporting System
AADT Segment Analysis Report (Complete)
Road Section 14A - FLINDERS HIGHWAY (TOWNSVILLE - CHARTERS TOWERS)
Traffic Year 2019

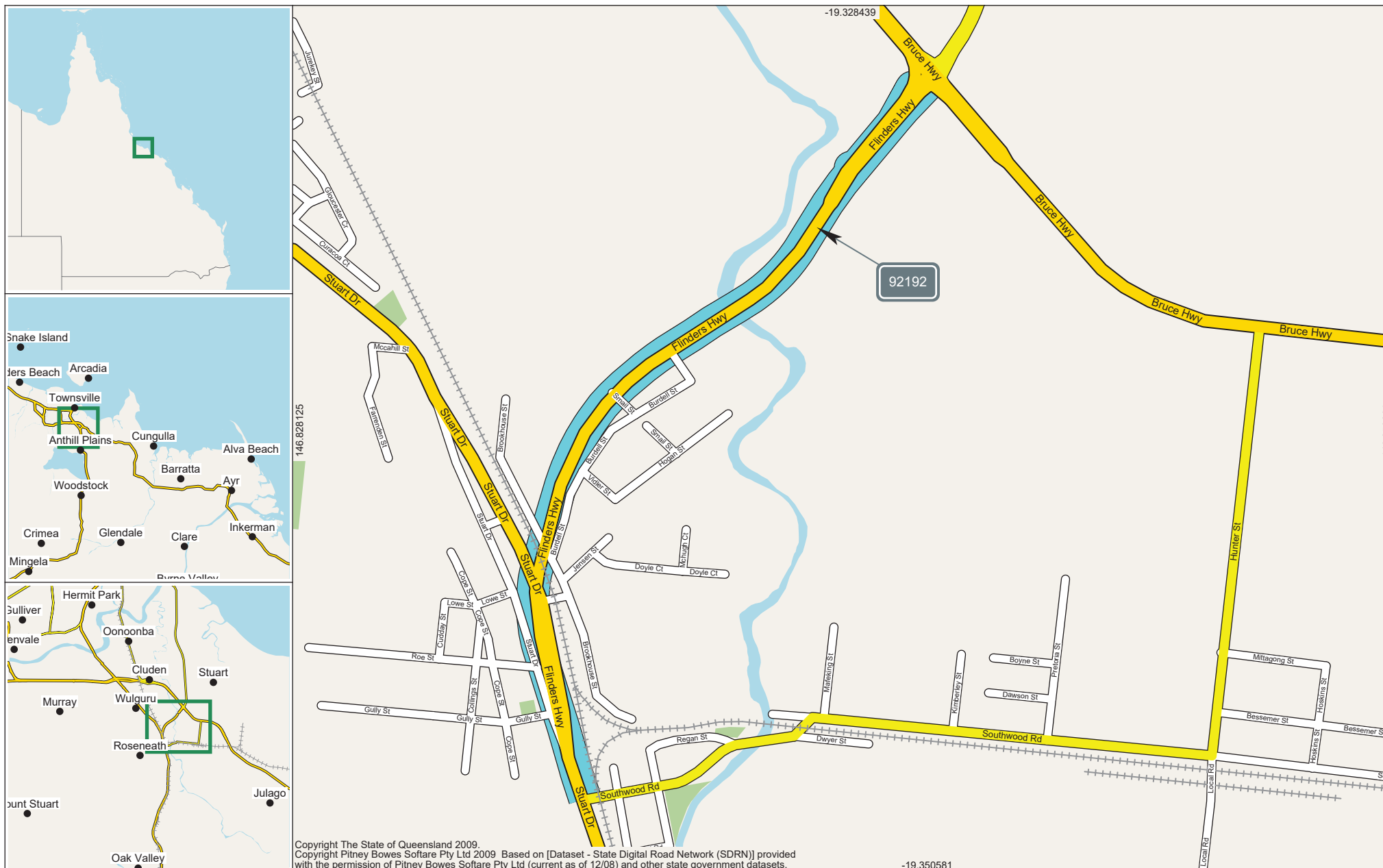
Road Segments Summary - All Vehicles

Region	Segment Start Tdist	Segment End Tdist	Site	Site Tdist	Description	AADT			VKT (Millions)			Data Year	Page
						G	A	B	G	A	B		
408	0.000 km	2.474 km	92192	0.530 km	500m West Bruce Highway Intersection	942	1,025	1,967	0.85064	0.92559	1.77622	2018	2
408	2.474 km	9.419 km	90060	4.039 km	200m Sth of Mt. Stuart Road	2,837	3,249	6,086	7.19158	8.23597	15.42755	2019	3
408	9.419 km	122.108 km	91389	35.269 km	WiM Site Calcium	1,233	1,238	2,471	50.71512	50.92078	101.63590	2018	4
408	122.108 km	124.930 km	91328	122.509 km	400m from Inter with 98C (New Queen Rd)	1,083	969	2,052	1.11552	0.99810	2.11362	2019	5
408	124.930 km	126.149 km	91329	125.749 km	14A 300m East of Rainbow Rd	1,496	1,343	2,839	0.66562	0.59755	1.26317	2019	6
								Totals	60.53848	61.67798	122.21647		

Road Segments Summary - Heavy Vehicles only

VKT totals are calculated only if traffic class data is available for all sites.

Region	Segment Start Tdist	Segment End Tdist	Site	Site Tdist	Description	HV AADT						HV VKT (Millions)			Data Year	Page
						G		A		B						
						AADT	HV %	AADT	HV %	AADT	HV %	G	A	B		
408	0.000 km	2.474 km	92192	0.530 km	500m West Bruce Highway Intersection	366	38.85%	404	39.41%	770	39.15%	0.33050	0.36482	0.69532	2018	2
408	2.474 km	9.419 km	90060	4.039 km	200m Sth of Mt. Stuart Road	662	23.33%	997	30.69%	1,659	27.26%	1.67812	2.52732	4.20544	2019	3
408	9.419 km	122.108 km	91389	35.269 km	WiM Site Calcium	276	22.38%	271	21.89%	547	22.14%	11.35229	11.14663	22.49892	2018	4
408	122.108 km	124.930 km	91328	122.509 km	400m from Inter with 98C (New Queen Rd)	286	26.41%	290	29.93%	576	28.07%	0.29459	0.29871	0.59330	2019	5
408	124.930 km	126.149 km	91329	125.749 km	14A 300m East of Rainbow Rd	261	17.45%	378	28.15%	639	22.51%	0.11613	0.16819	0.28431	2019	6
											Totals	13.77163	14.50566	28.27729		



Site 92192. Point 290001833.
TARS site TPAR.

0.53 km

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

0.00 km

Start Point 290001812. Flinders
Hwy 14A Int Bruce Hwy 10L & 10M.

2.47 km

End Point 290001832. Flinders
Hwy 14A Int Southwood 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.

All Vehicles (00)

G	942	100%
A	1,025	100%
B	1,967	100%

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	0.00%	6.91%	
A	0.00%	5.70%	
B	0.00%	6.27%	

Light Vehicles (0A)

G	574	60.93%
A	620	60.49%
B	1,194	60.70%

Heavy Vehicles (0B)

G	366	38.85%
A	404	39.41%
B	770	39.15%

Short Vehicles (1A)

G	574	60.93%
A	620	60.49%
B	1,194	60.70%

Trucks and Buses (1B)

G	115	12.21%
A	151	14.73%
B	266	13.52%

Articulated Vehicles (1C)

G	117	12.42%
A	113	11.02%
B	230	11.69%

Road Trains (1D)

G	134	14.23%
A	140	13.66%
B	274	13.93%

Short 2-Axle
Vehicles (2A)

G	556	59.02%
A	598	58.34%
B	1,154	58.67%

Short Vehicles
Towing (2B)

G	18	1.91%
A	22	2.15%
B	40	2.03%

2-Axle Trucks
and Buses (2C)

G	66	7.01%
A	99	9.66%
B	165	8.39%

3-Axle Trucks
and Buses (2D)

G	41	4.35%
A	43	4.20%
B	84	4.27%

4-Axle
Trucks (2E)

G	8	0.85%
A	9	0.88%
B	17	0.86%

3-Axle
Articulated (2F)

G	0	0%
A	0	0%
B	0	0%

4-Axle
Articulated (2G)

G	6	0.64%
A	6	0.59%
B	12	0.61%

5-Axle
Articulated (2H)

G	7	0.74%
A	6	0.59%
B	13	0.66%

6-Axle
Articulated (2I)

G	104	11.04%
A	101	9.85%
B	205	10.42%

B Double (2J)

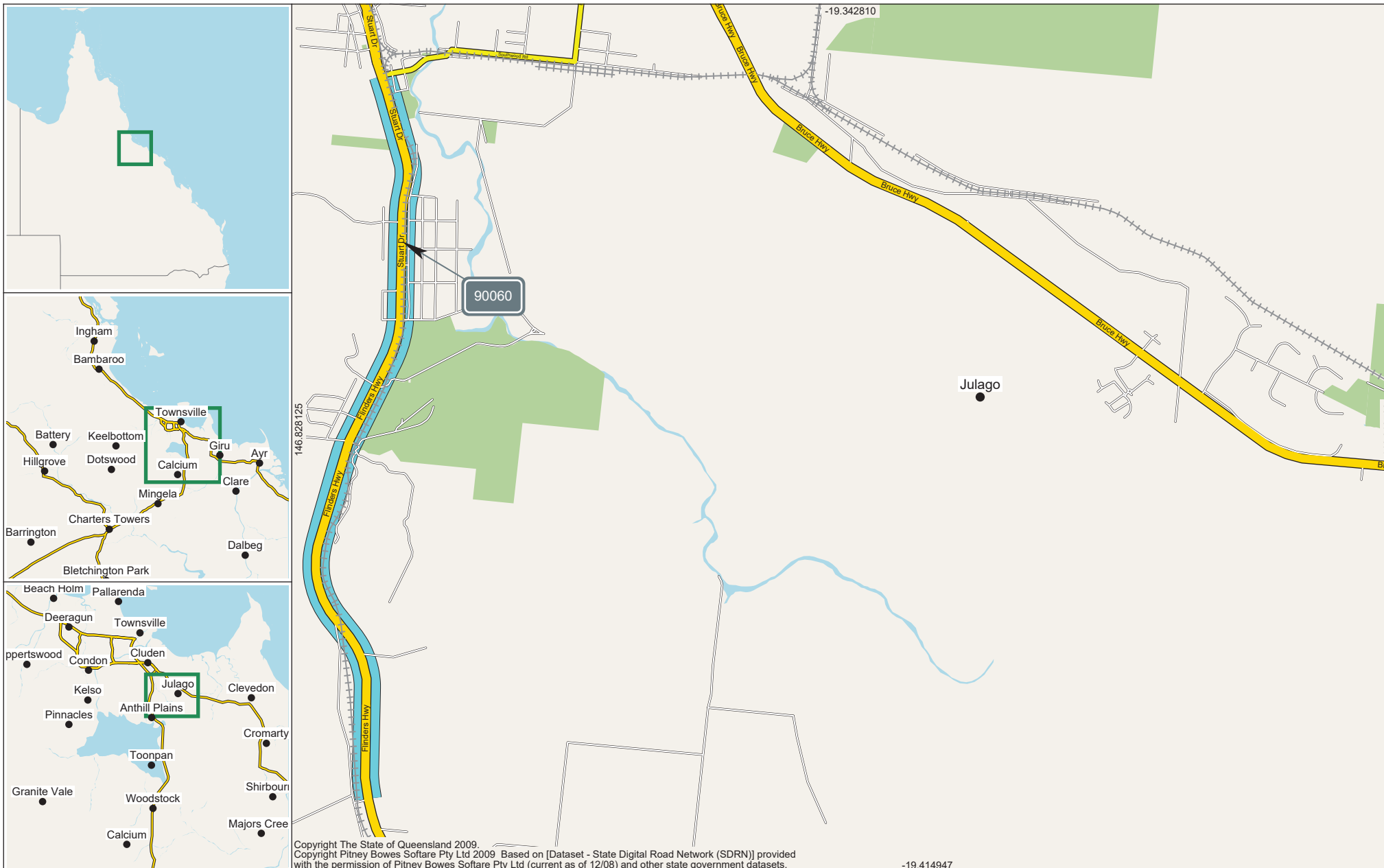
G	78	8.28%
A	78	7.61%
B	156	7.93%

Double Road
Trains (2K)

G	54	5.73%
A	54	5.27%
B	108	5.49%

Triple Road
Trains (2L)

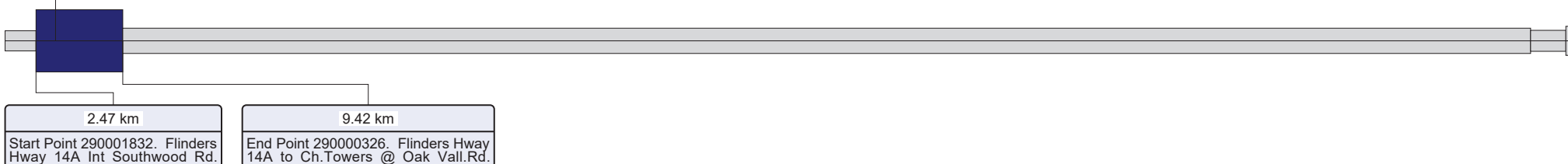
G	2	0.21%
A	8	0.78%
B	10	0.51%



Site 90060. Point 290000099.
200m Sth of Mt. Stuart Road.

4.04 km

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

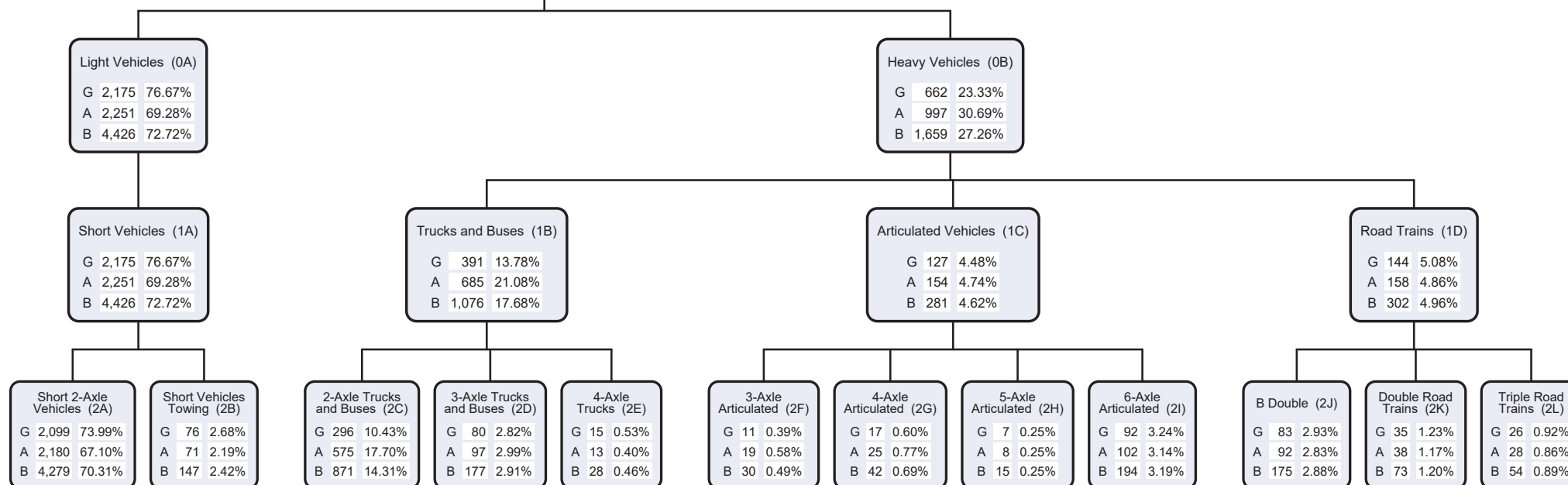


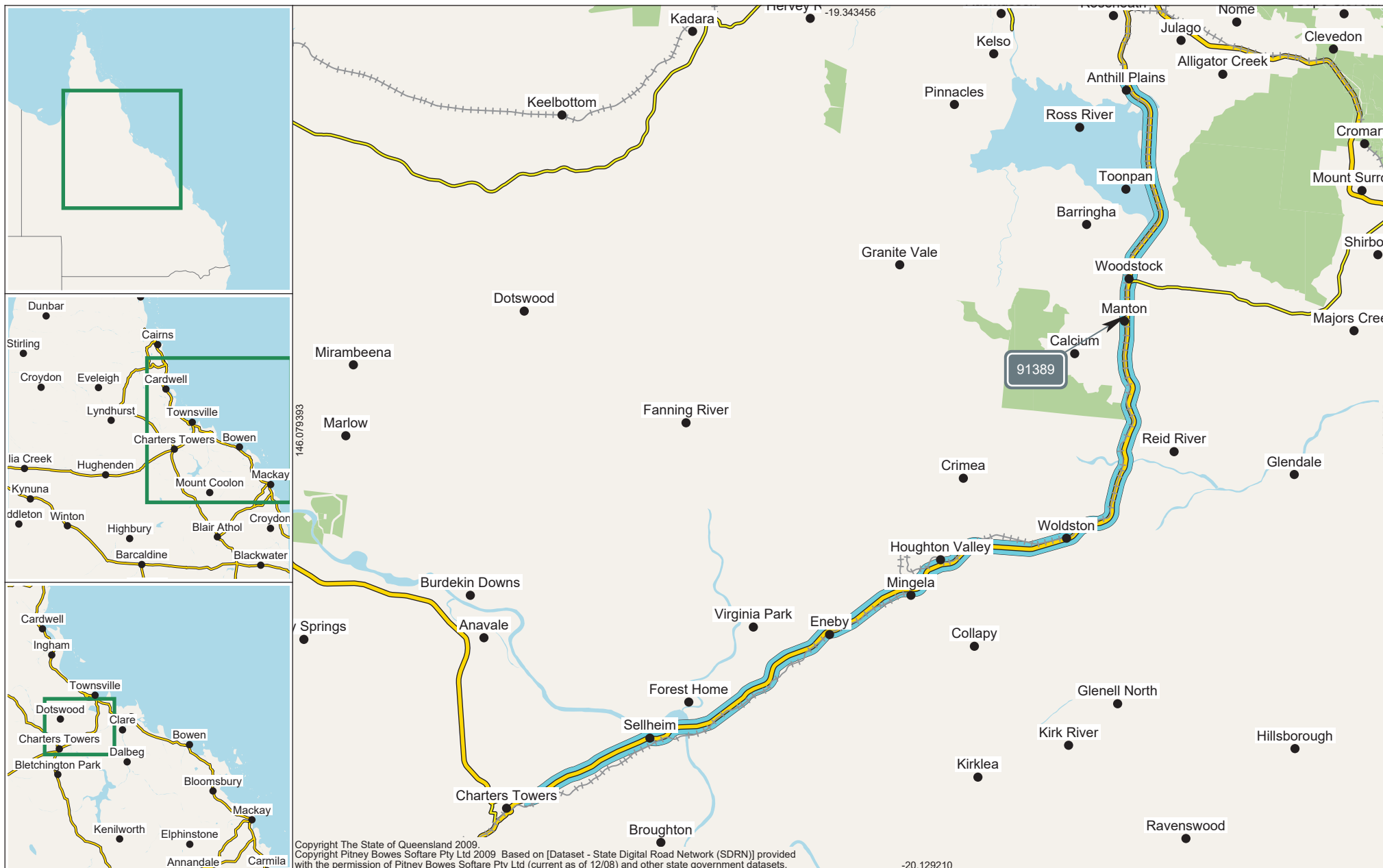
This report shows Annual Average Daily Traffic values (AADTs). Because the AADT values are converted to whole numbers, there will be occasional inaccuracies due to rounding. These inaccuracies are statistically insignificant.

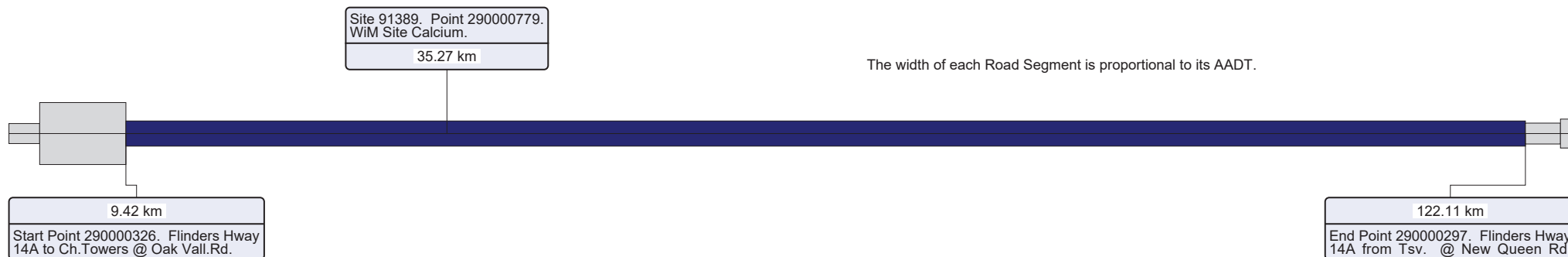
All Vehicles (00)

G	2,837	100%
A	3,249	100%
B	6,086	100%

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	-11.18%	0.35%	1.24%
A	-5.22%	4.04%	3.26%
B	-8.09%	2.23%	2.28%

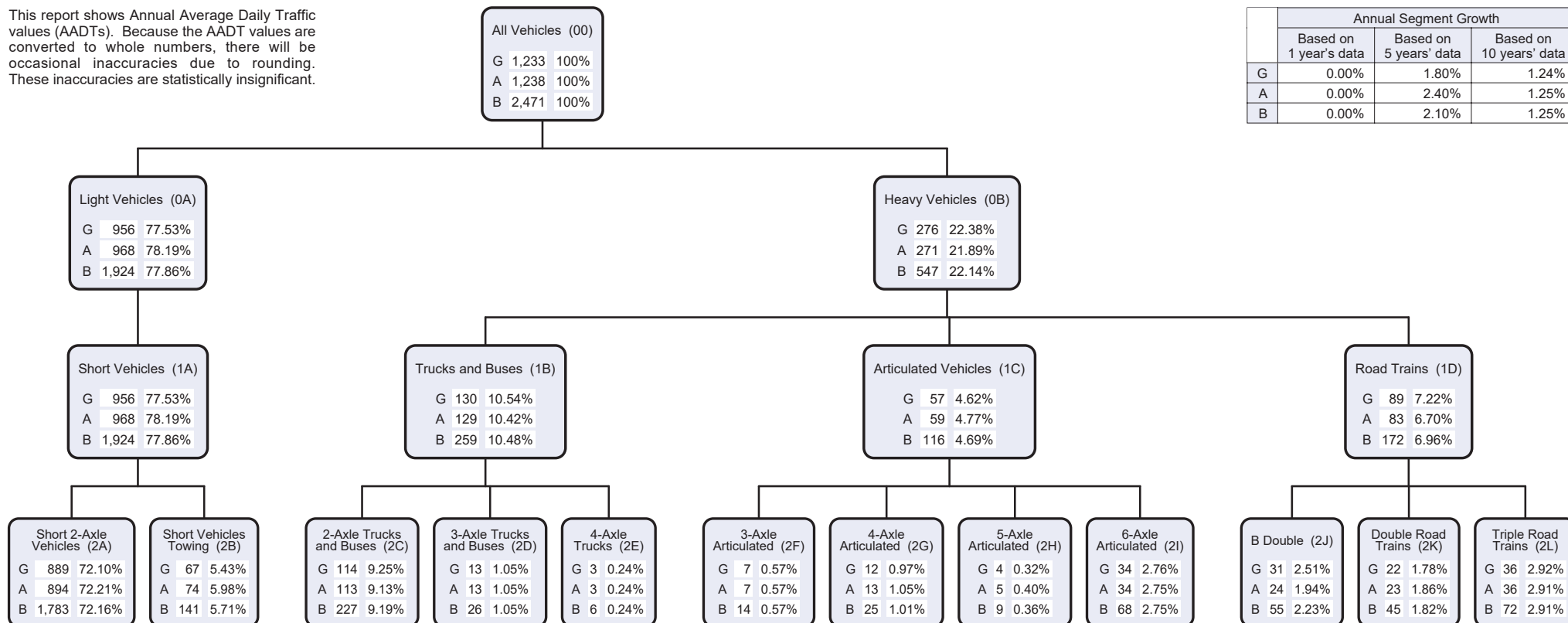


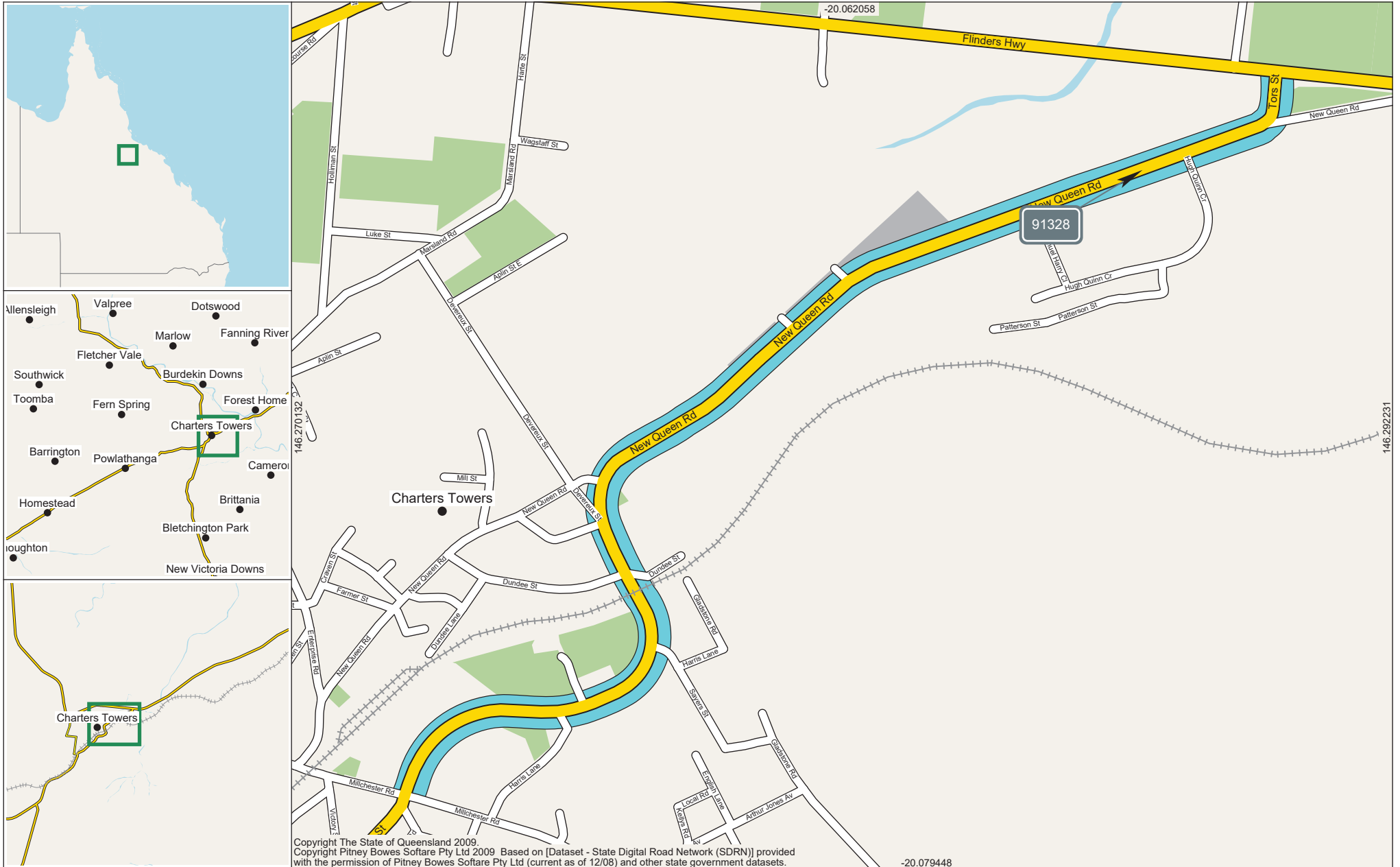




This report shows Annual Average Daily Traffic values (AADTs). Because the AADT values are converted to whole numbers, there will be occasional inaccuracies due to rounding. These inaccuracies are statistically insignificant.

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	0.00%	1.80%	1.24%
A	0.00%	2.40%	1.25%
B	0.00%	2.10%	1.25%

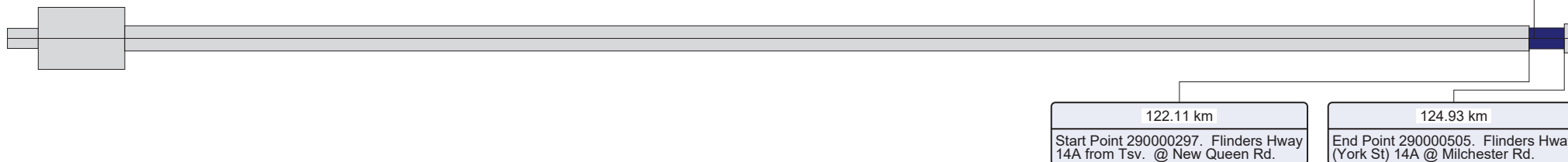




Site 91328. Point 290000751. 400m from Inter with 98C (New Queen Rd).

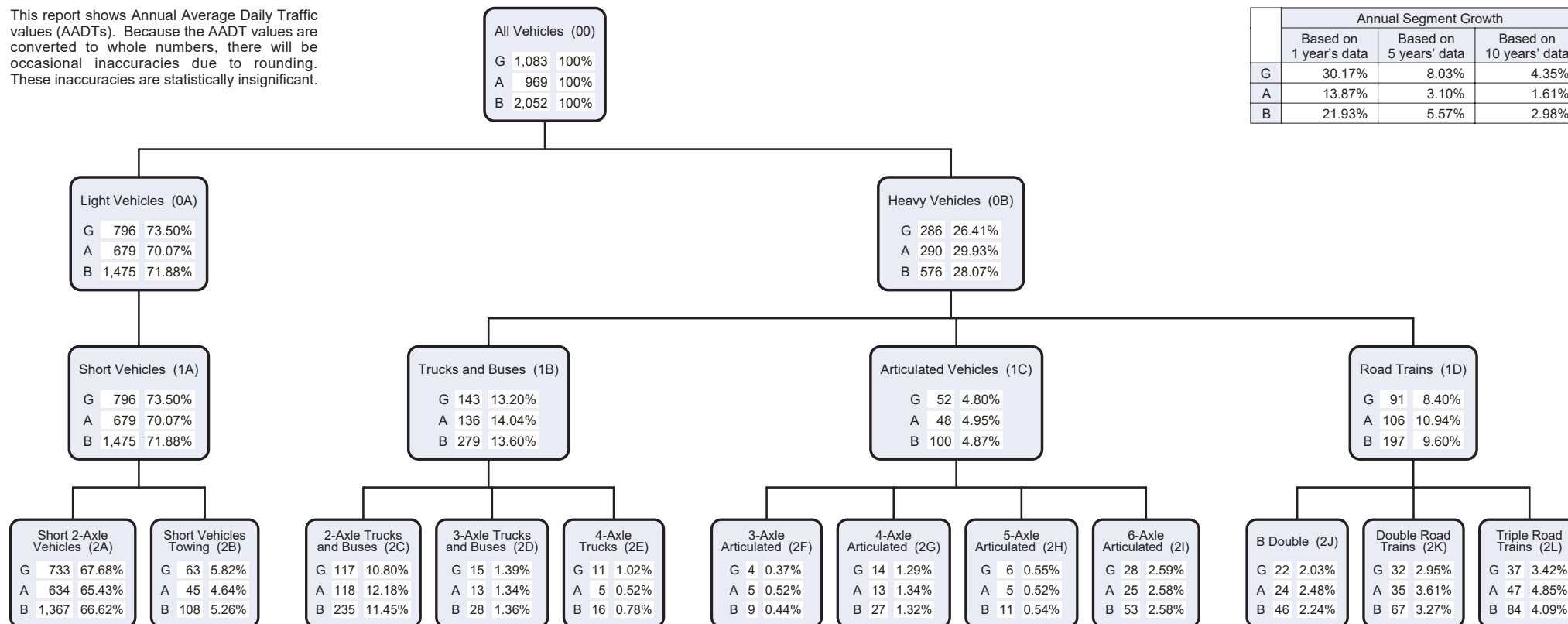
122.51 km

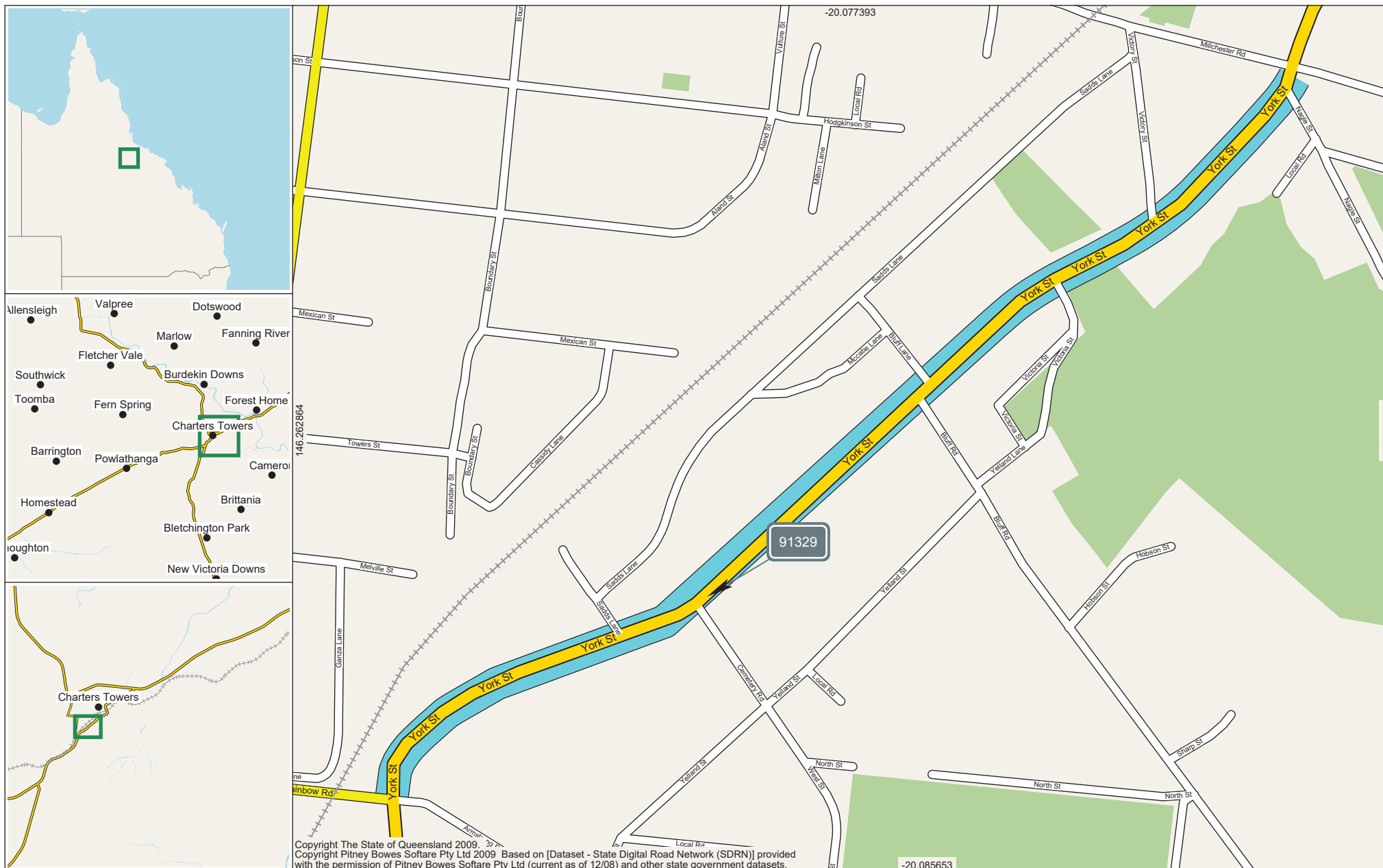
The width of each Road Segment is proportional to its AADT.



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.

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	30.17%	8.03%	4.35%
A	13.87%	3.10%	1.61%
B	21.93%	5.57%	2.98%





Site 91329. Point 290000753. 14A
Ridge Rd 100m West of Sadds Lane.

125.75 km

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

124.93 km

Start Point 290000505. Flinders
Hwy (York St) 14A @ Milchester Rd.

126.15 km

End Point 290000754. Flinders Hwy 14A Int
Flinders Hwy (Armstrong & Rainbow Rd) 14B.

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.

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	15.79%	3.66%	
A	-0.96%	-1.27%	
B	7.21%	1.19%	

All Vehicles (00)			
G	1,496	100%	
A	1,343	100%	
B	2,839	100%	

Light Vehicles (0A)			
G	1,234	82.49%	
A	965	71.85%	
B	2,199	77.46%	

Heavy Vehicles (0B)			
G	261	17.45%	
A	378	28.15%	
B	639	22.51%	

Short Vehicles (1A)			
G	1,234	82.49%	
A	965	71.85%	
B	2,199	77.46%	

Trucks and Buses (1B)			
G	128	8.56%	
A	234	17.42%	
B	362	12.75%	

Articulated Vehicles (1C)			
G	40	2.67%	
A	53	3.95%	
B	93	3.28%	

Road Trains (1D)			
G	93	6.22%	
A	91	6.78%	
B	184	6.48%	

Short 2-Axle Vehicles (2A)			
G	1,149	76.80%	
A	919	68.43%	
B	2,068	72.84%	

Short Vehicles Towing (2B)			
G	85	5.68%	
A	46	3.43%	
B	131	4.61%	

2-Axle Trucks and Buses (2C)			
G	105	7.02%	
A	216	16.08%	
B	321	11.31%	

3-Axle Trucks and Buses (2D)			
G	19	1.27%	
A	15	1.12%	
B	34	1.20%	

4-Axle Trucks (2E)			
G	4	0.27%	
A	3	0.22%	
B	7	0.25%	

3-Axle Articulated (2F)			
G	3	0.20%	
A	7	0.52%	
B	10	0.35%	

4-Axle Articulated (2G)			
G	12	0.80%	
A	20	1.49%	
B	32	1.13%	

5-Axle Articulated (2H)			
G	5	0.33%	
A	5	0.37%	
B	10	0.35%	

6-Axle Articulated (2I)			
G	20	1.34%	
A	21	1.56%	
B	41	1.44%	

B Double (2J)			
G	17	1.14%	
A	20	1.49%	
B	37	1.30%	

Double Road Trains (2K)			
G	32	2.14%	
A	31	2.31%	
B	63	2.22%	

Triple Road Trains (2L)			
G	44	2.94%	
A	40	2.98%	
B	84	2.96%	

AADT Segment Report

Provides AADT Segment details for a Road Section together with the traffic flow data collected at the related Site. Traffic data is reported by the start and end Through Distance of the AADT Segments on each section of road. The road segments are represented diagrammatically with AADT data including:

AADT by direction of traffic flow
VKT Vehicle Kilometres Travelled
%VC Percentage Vehicle Class as per the Austroads vehicle classification scheme

Annual Average Daily Traffic (AADT)

Annual Average Daily Traffic (AADT) is the number of vehicles passing a point on a road in a 24 hour period, averaged over a calendar year.

AADT Segment

Is a subdivision of a Road Section. The boundaries of an AADT Segment are its Start Point and End Point (or Start and End Through Distance (TDist)) within the Road Section. These distances are measured in kilometres from the beginning of the Road Section in Gazettal Direction. AADT Segments are determined by the traffic volume, collected at a count Site, located within the limits of each AADT Segment.

Annual Segment Growth (when displayed)

A percentage that represents the increase or decrease in AADT for the AADT Segment, using an exponential fit, calculated over a 1, 5 or 10 year period.

Area

For administration purposes the Department of Transport and Main Roads has divided Queensland into 12 Districts. The Area field in TSDM reports displays the District Name and Number.

District Name	District
Central West District	401
Darling Downs District	402
Far North District	403
Fitzroy District	404
Mackay/Whitsunday District	405
Metropolitan District	406
North Coast District	407
North West District	409
Northern District	408
South Coast District	410
South West District	411
Wide Bay/Burnett District	412

Data Year

The most recent year the traffic data was collected for this AADT Segment.

Gazettal Direction

The Gazettal Direction is the direction of the traffic flow. It can be easily recognised by referring to the name of the road eg. Road Section: 10A Brisbane - Gympie denotes that the gazettal direction is from Brisbane to Gympie.

- G Traffic flowing in Gazettal Direction
- A Traffic flowing against Gazettal Direction
- B The combined traffic flow in both Directions

Road Section

Is the Gazetted road from which the traffic data is collected. Each Road Section is given a code, allocated sequentially in Gazettal Direction. Larger roads are broken down into sections and identified by an ID code with a suffix for easier data collection and reporting (eg. 10A, 10B, 10C). Road Sections are then broken into AADT Segments which are determined by traffic volume.

Site

The physical location of a traffic counting device. Sites are located at a specified Through Distance along a Road Section.

Site TDist

The Through Distance in gazettal direction from the start of the Road Section at which the site is located.

Site Description

The description of the physical location of the traffic counting device.

Start and End Point

The unique identifier for the Through Distance along a Road Section.

Through Distance

The distance, in kilometres, from the beginning of the Road Section in Gazettal Direction.

Traffic Class

Is the 12 Austroads vehicle categories or classes into which vehicles are placed or binned. Traffic classes are formed in a hierarchical format.

Volume or All Vehicles

00 = 0A + 0B

Light Vehicles

0A = 1A

1A = 2A + 2B

Heavy Vehicles

0B = 1B + 1C + 1D

1B = 2C + 2D + 2E

1C = 2F + 2G + 2H + 2I

1D = 2J + 2K + 2L

The following classes are the categories for which data can be captured:

Volume

00 All vehicles.

2-Bin

0A Light vehicles

0B Heavy vehicles

4-Bin

1A Short vehicles

1B Truck or bus

1C Articulated vehicles

1D Road train

12-Bin

2A Short 2 axle vehicles

2B Short vehicles towing

2C 2 axle truck or bus

2D 3 axle truck or bus

2E 4 axle truck

2F 3 axle articulated vehicle

2G 4 axle articulated vehicle

2H 5 axle articulated vehicle

2I 6 axle articulated vehicle

2J B double

2K Double road train

2L Triple road train

Vehicle Kilometres Travelled (VKT)

Daily VKT is a measure of the traffic demand. It is calculated by the length of an AADT Segment in kilometres multiplied by its AADT. The yearly VKT is the daily VKT multiplied by 365 days.

AADT Segment Summary - All Vehicles

The Total VKT can be used to gauge the demand on an entire Road Section.

AADT Segment Summary - Heavy Vehicles only

A blank field indicates that vehicle classification data was not collected for this AADT Segment.

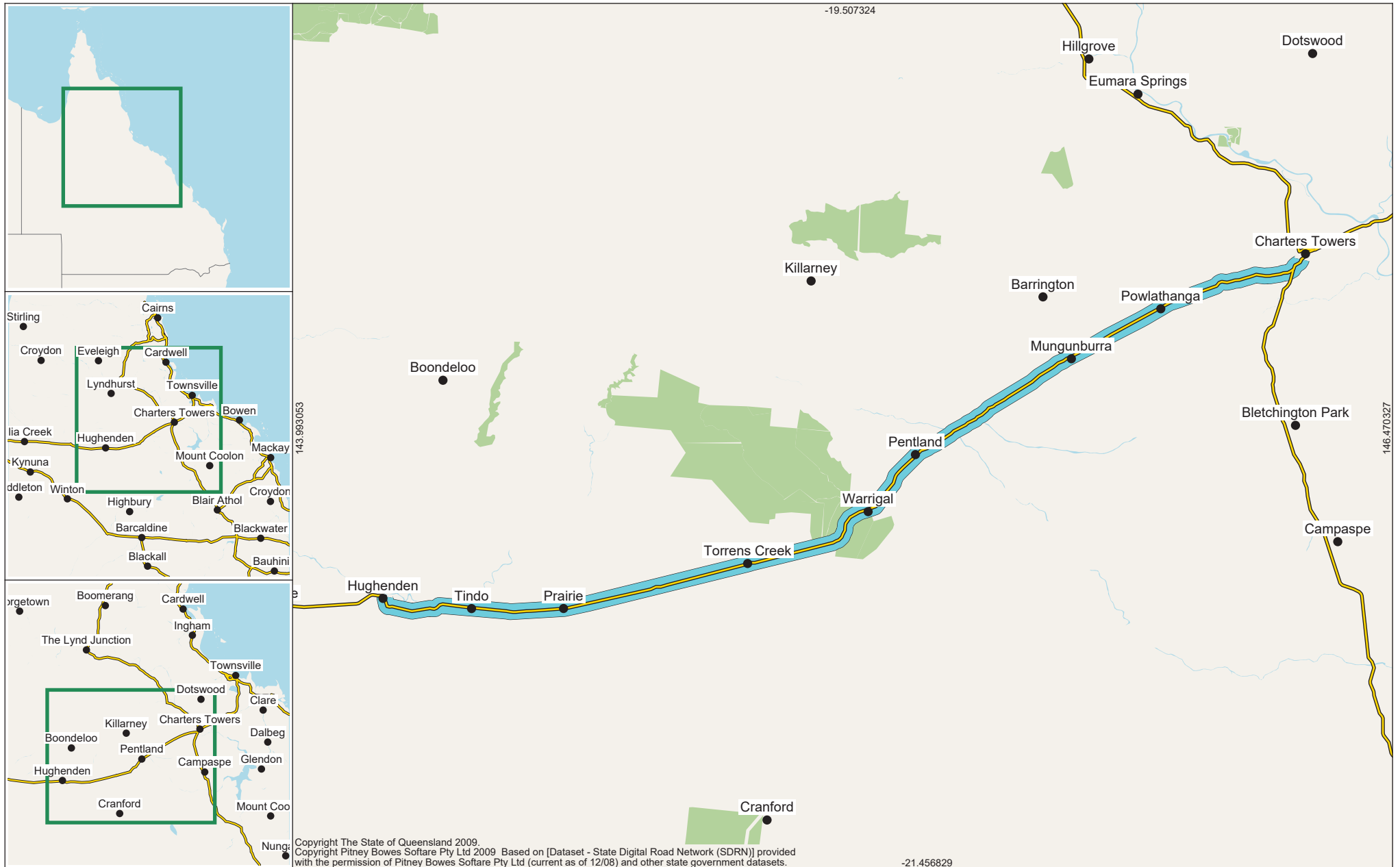
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Traffic Analysis and Reporting System
AADT Segment Analysis Report (Complete)
Road Section 14B - FLINDERS HIGHWAY (CHARTERS TOWERS-HUGHENDEN)
Traffic Year 2019

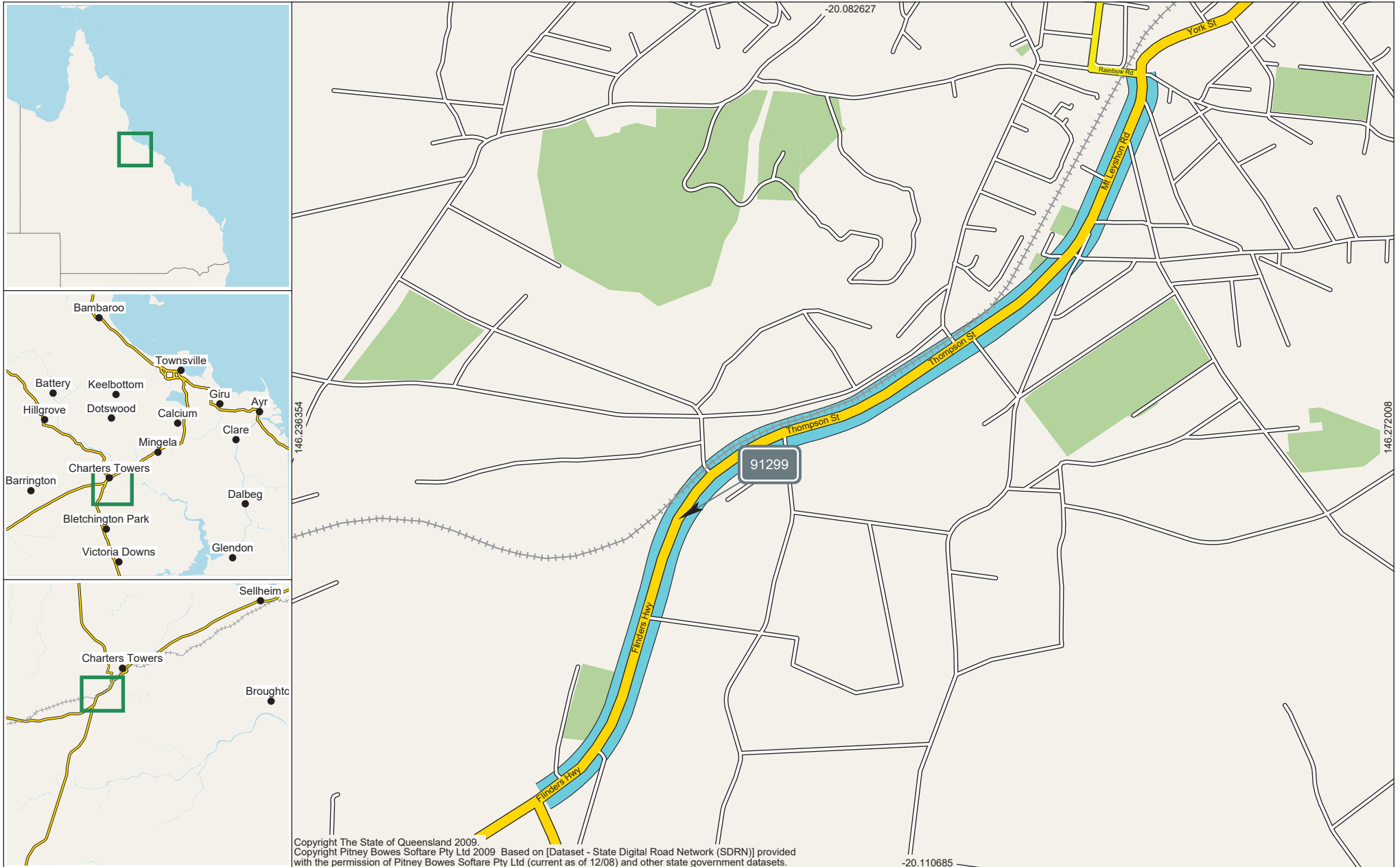
Road Segments Summary - All Vehicles

Region	Segment Start Tdist	Segment End Tdist	Site	Site Tdist	Description	AADT			VKT (Millions)			Data Year	Page
						G	A	B	G	A	B		
408	0.000 km	3.480 km	91299	2.360 km	350M Ch. Towers side of DSC depot	1,224	1,397	2,621	1.55472	1.77447	3.32919	2019	2
408	3.480 km	61.794 km	91324	4.020 km	500m West of Greg Dev Rd 98B	595	544	1,139	12.66434	11.57883	24.24317	2019	3
408	61.794 km	139.718 km	90009	74.385 km	Homestead 74km West of Charters Twrs	335	344	679	9.52816	9.78414	19.31229	2019	4
409	139.718 km	244.788 km	100107	153.867 km	14B Ch 153.867 - East Torrens Creek Bdge	293	276	569	11.23671	10.58475	21.82146	2019	5
409	244.788 km	247.288 km	100055	244.900 km	14B Ch 237.24 - 10km east of Hughenden	352	362	714	0.32120	0.33032	0.65153	2019	6
								Totals	35.30514	34.05251	69.35765		

Road Segments Summary - Heavy Vehicles only

VKT totals are calculated only if traffic class data is available for all sites.

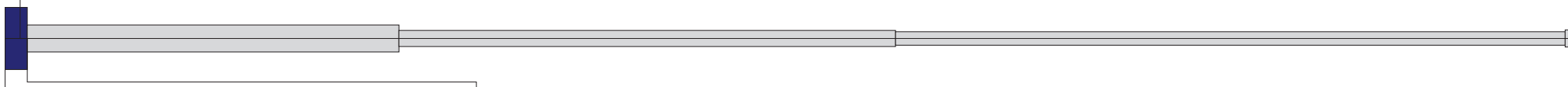
Region	Segment Start Tdist	Segment End Tdist	Site	Site Tdist	Description	HV AADT						HV VKT (Millions)			Data Year	Page
						G		A		B						
						AADT	HV %	AADT	HV %	AADT	HV %	G	A	B		
408	0.000 km	3.480 km	91299	2.360 km	350M Ch. Towers side of DSC depot	232	18.95%	270	19.33%	502	19.15%	0.29469	0.34295	0.63764	2019	
408	3.480 km	61.794 km	91324	4.020 km	500m West of Greg Dev Rd 98B	149	25.04%	200	36.76%	349	30.64%	3.17141	4.25692	7.42833	2019	
408	61.794 km	139.718 km	90009	74.385 km	Homestead 74km West of Charters Twrs	142	42.39%	147	42.73%	289	42.56%	4.03880	4.18101	8.21981	2019	
409	139.718 km	244.788 km	100107	153.867 km	14B Ch 153.867 - East Torrens Creek Bdge	96	32.76%	84	30.43%	180	31.63%	3.68165	3.22145	6.90310	2019	
409	244.788 km	247.288 km	100055	244.900 km	14B Ch 237.24 - 10km east of Hughenden	108	30.68%	147	40.61%	255	35.71%	0.09855	0.13414	0.23269	2019	
											Totals	11.28510	12.13647	23.42157		



Site 91299. Point 290000731. 350M
Ch. Towers side of DSC depot.

2.36 km

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



0.00 km

Start Point 290000302. Flinders Hwy 14B Int
Flinders Hwy (High St & Rainbow Rd) 14A.

3.48 km

End Point 290000732. Flinders Hwy 14B
East of Int Gregory Developmental Rd 98B.

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.

All Vehicles (00)

G	1,224	100%
A	1,397	100%
B	2,621	100%

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	-5.56%	1.83%	
A	6.40%	4.94%	
B	0.46%	3.43%	

Light Vehicles (0A)

G	993	81.13%
A	1,126	80.60%
B	2,119	80.85%

Heavy Vehicles (0B)

G	232	18.95%
A	270	19.33%
B	502	19.15%

Short Vehicles (1A)

G	993	81.13%
A	1,126	80.60%
B	2,119	80.85%

Trucks and Buses (1B)

G	124	10.13%
A	106	7.59%
B	230	8.78%

Articulated Vehicles (1C)

G	36	2.94%
A	41	2.93%
B	77	2.94%

Road Trains (1D)

G	72	5.88%
A	123	8.80%
B	195	7.44%

Short 2-Axle Vehicles (2A)

G	904	73.86%
A	1,046	74.87%
B	1,950	74.40%

Short Vehicles Towing (2B)

G	89	7.27%
A	80	5.73%
B	169	6.45%

2-Axle Trucks and Buses (2C)

G	108	8.82%
A	87	6.23%
B	195	7.44%

3-Axle Trucks and Buses (2D)

G	14	1.14%
A	17	1.22%
B	31	1.18%

4-Axle Trucks (2E)

G	2	0.16%
A	2	0.14%
B	4	0.15%

3-Axle Articulated (2F)

G	3	0.25%
A	2	0.14%
B	5	0.19%

4-Axle Articulated (2G)

G	12	0.98%
A	10	0.72%
B	22	0.84%

5-Axle Articulated (2H)

G	5	0.41%
A	5	0.36%
B	10	0.38%

6-Axle Articulated (2I)

G	16	1.31%
A	24	1.72%
B	40	1.53%

B Double (2J)

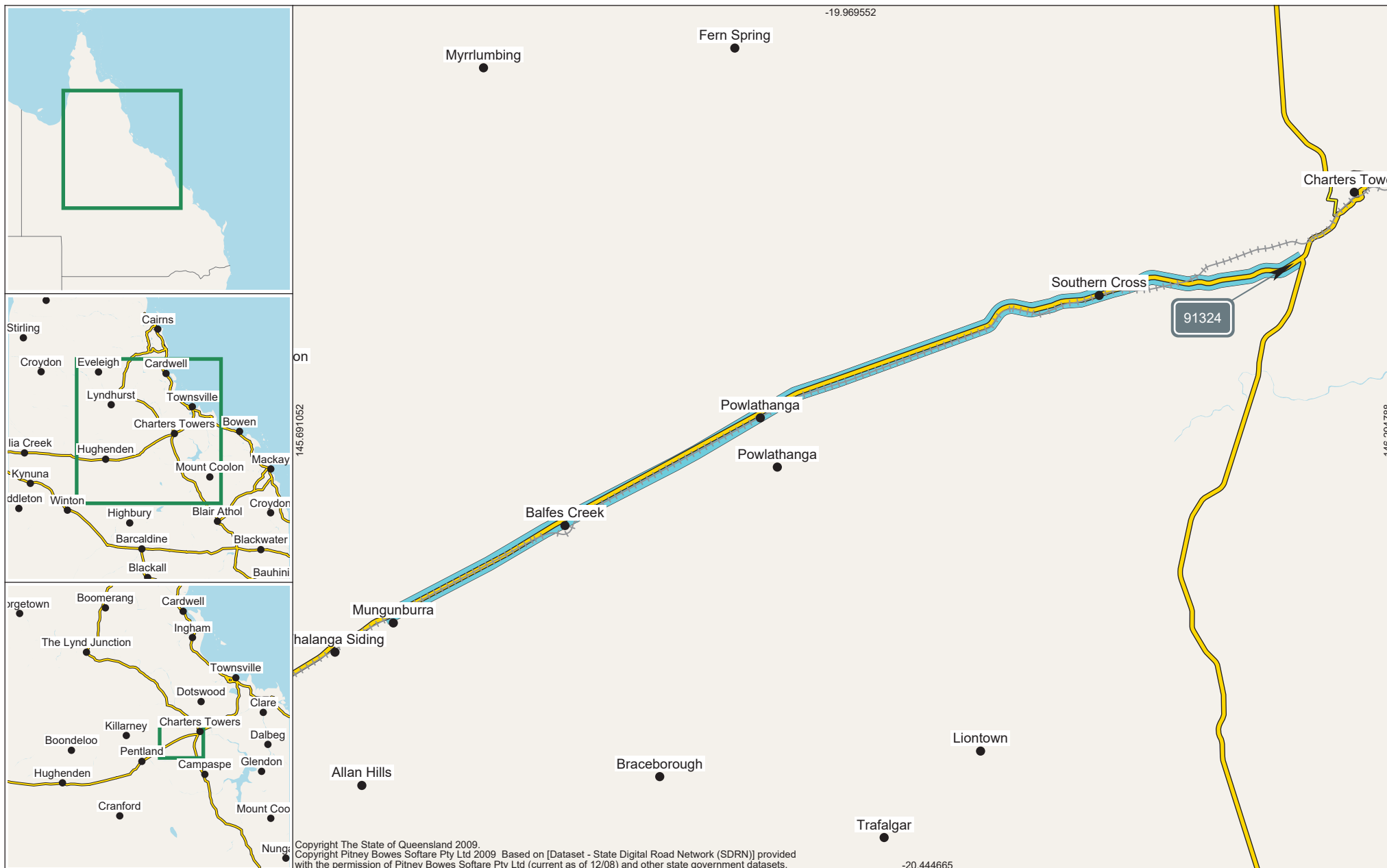
G	11	0.90%
A	23	1.65%
B	34	1.30%

Double Road Trains (2K)

G	24	1.96%
A	38	2.72%
B	62	2.37%

Triple Road Trains (2L)

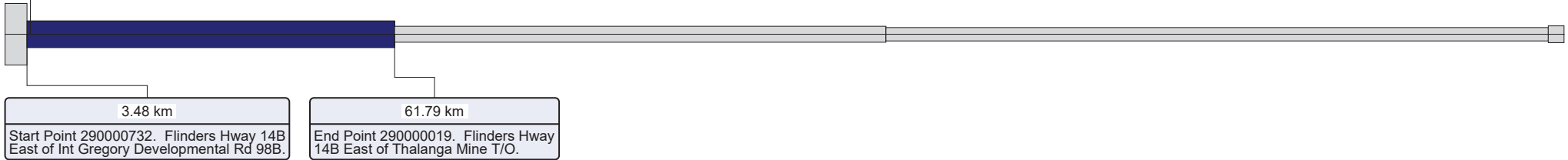
G	37	3.02%
A	62	4.44%
B	99	3.78%



Site 91324. Point 290000747.
500m West of Greg Dev Rd 98B.

4.02 km

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

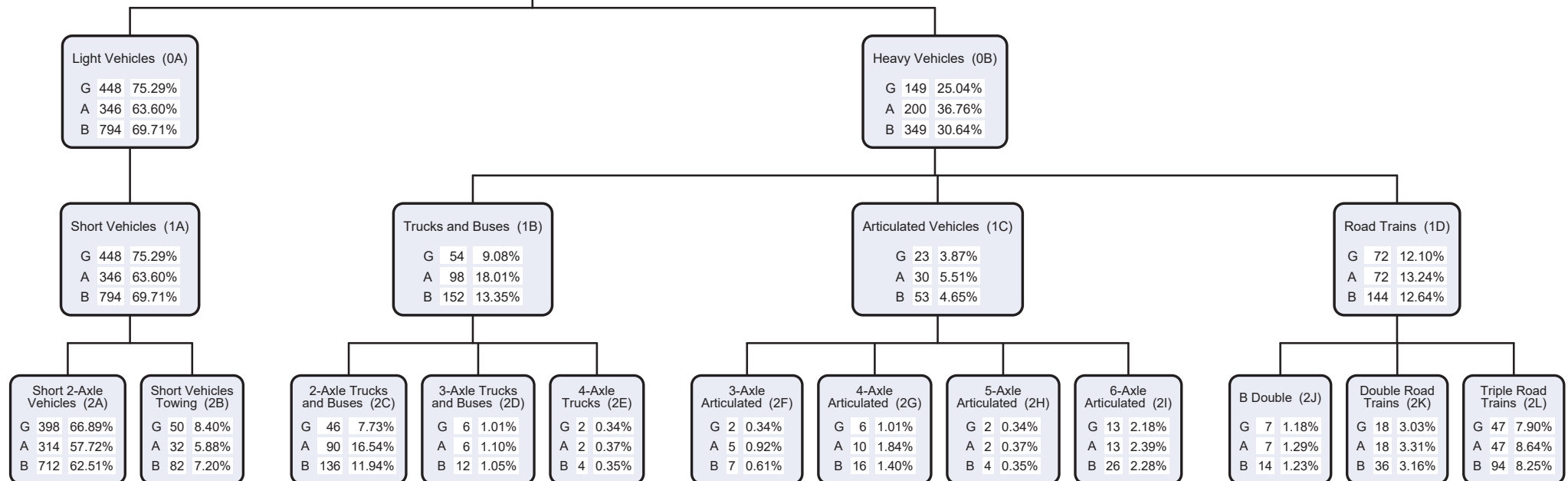


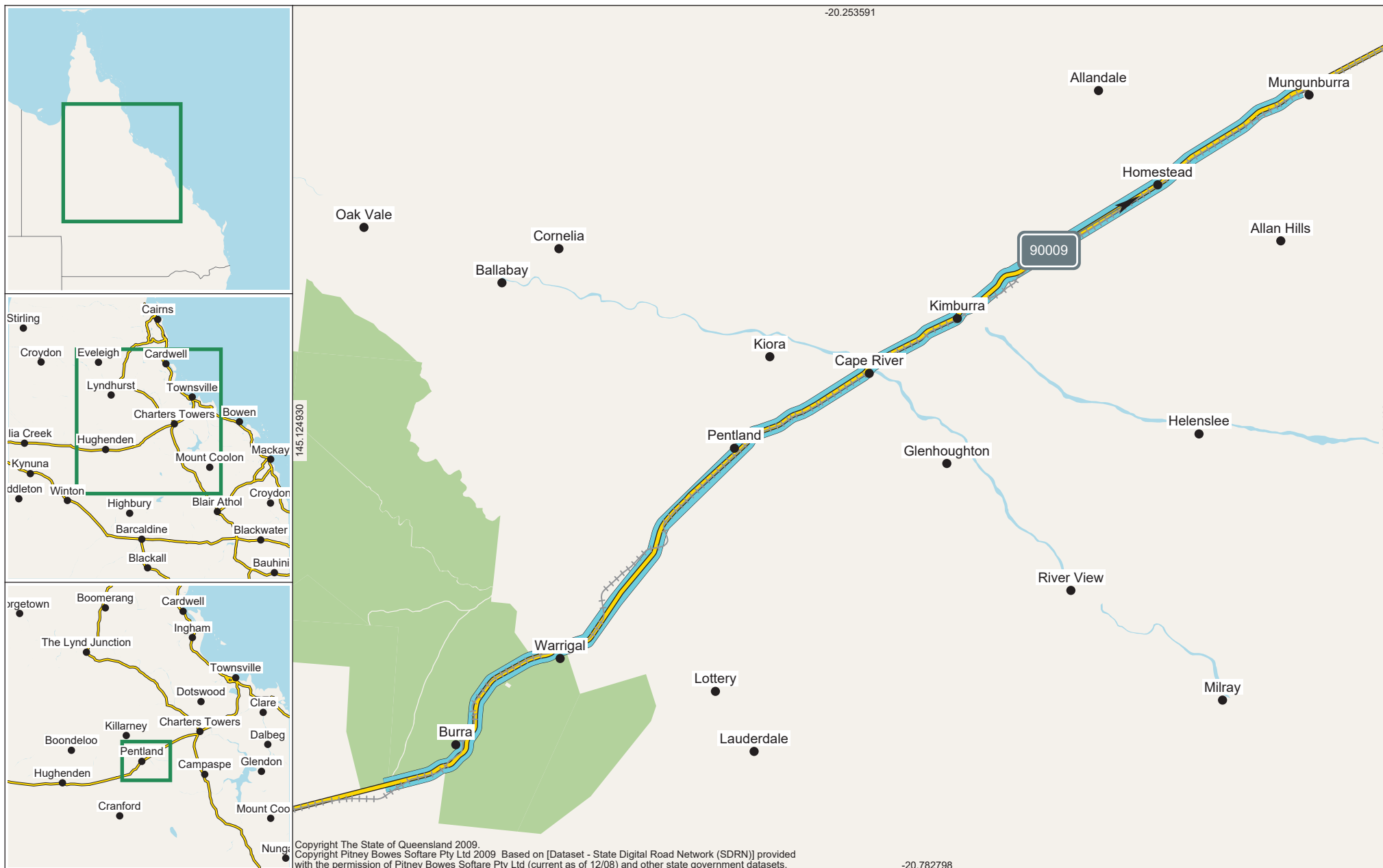
This report shows Annual Average Daily Traffic values (AADTs). Because the AADT values are converted to whole numbers, there will be occasional inaccuracies due to rounding. These inaccuracies are statistically insignificant.

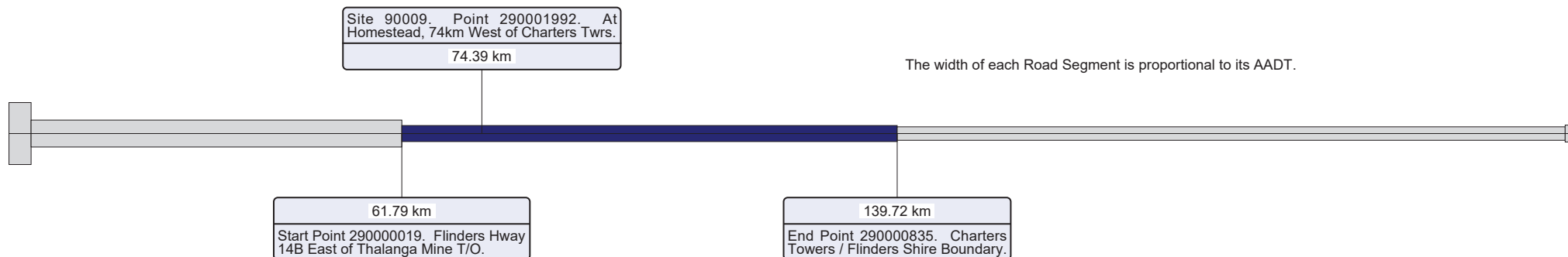
All Vehicles (00)

G	595	100%
A	544	100%
B	1,139	100%

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	16.44%	5.35%	
A	8.58%	2.11%	
B	12.55%	3.74%	

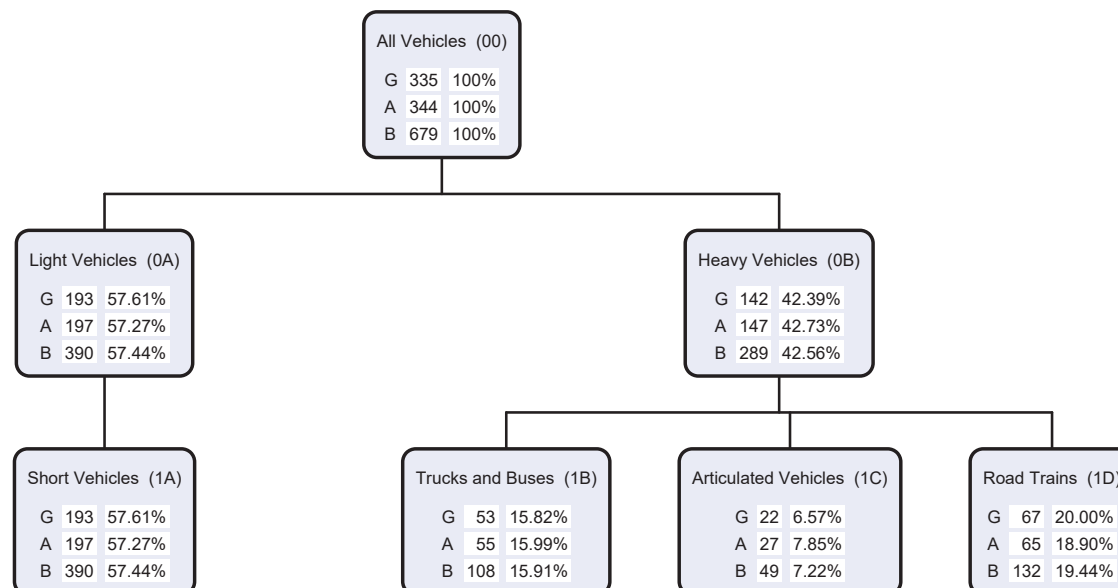


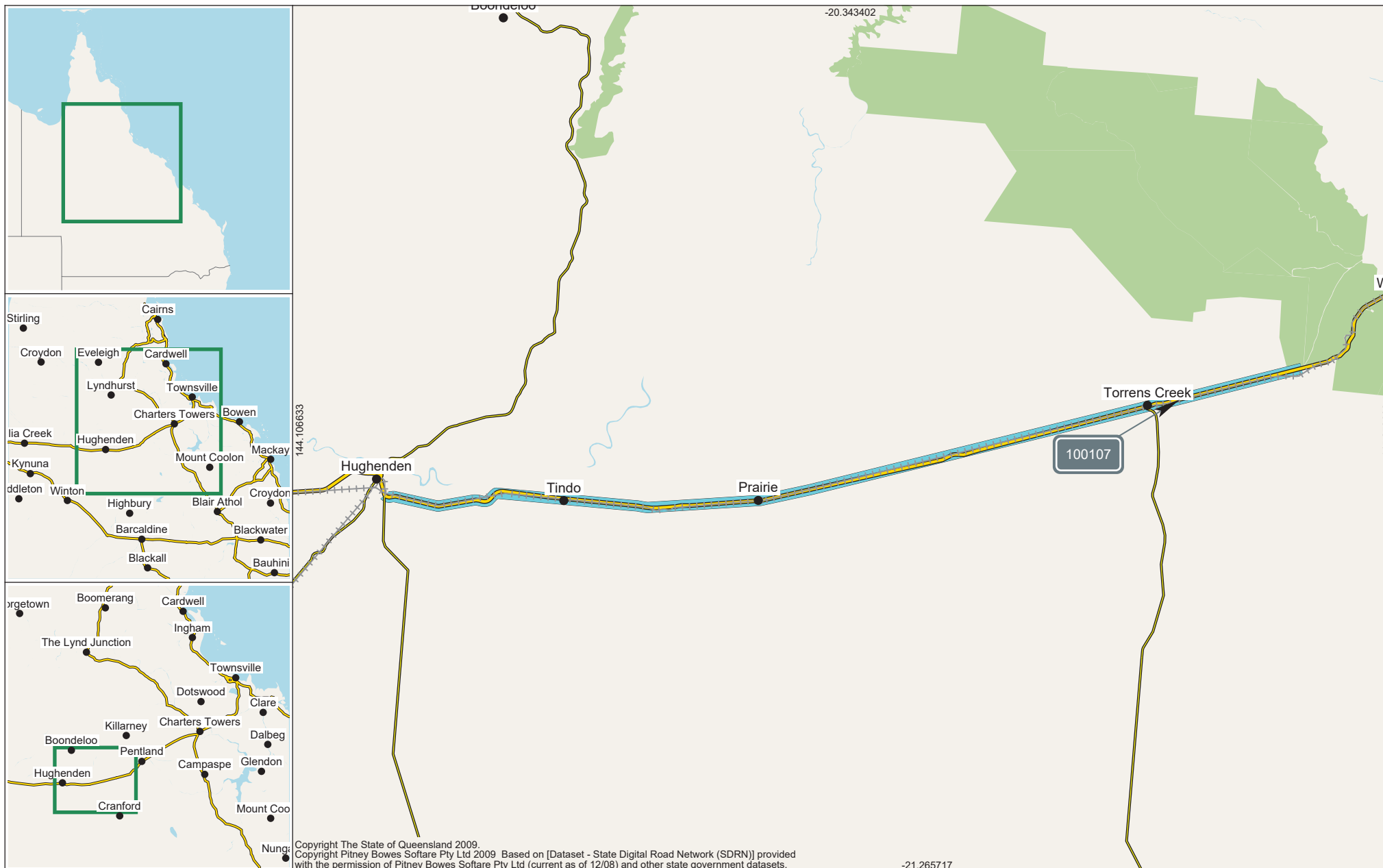




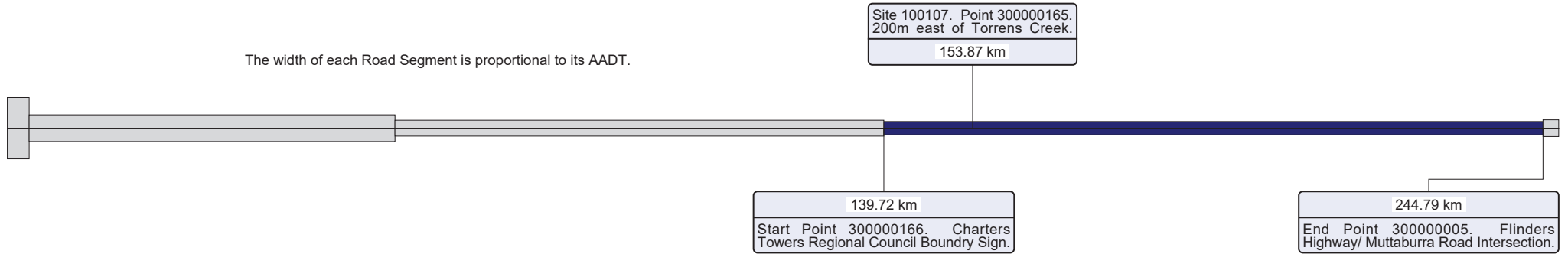
This report shows Annual Average Daily Traffic values (AADTs). Because the AADT values are converted to whole numbers, there will be occasional inaccuracies due to rounding. These inaccuracies are statistically insignificant.

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	1.21%	4.04%	2.55%
A	2.08%	4.11%	2.18%
B	1.65%	4.06%	2.36%





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

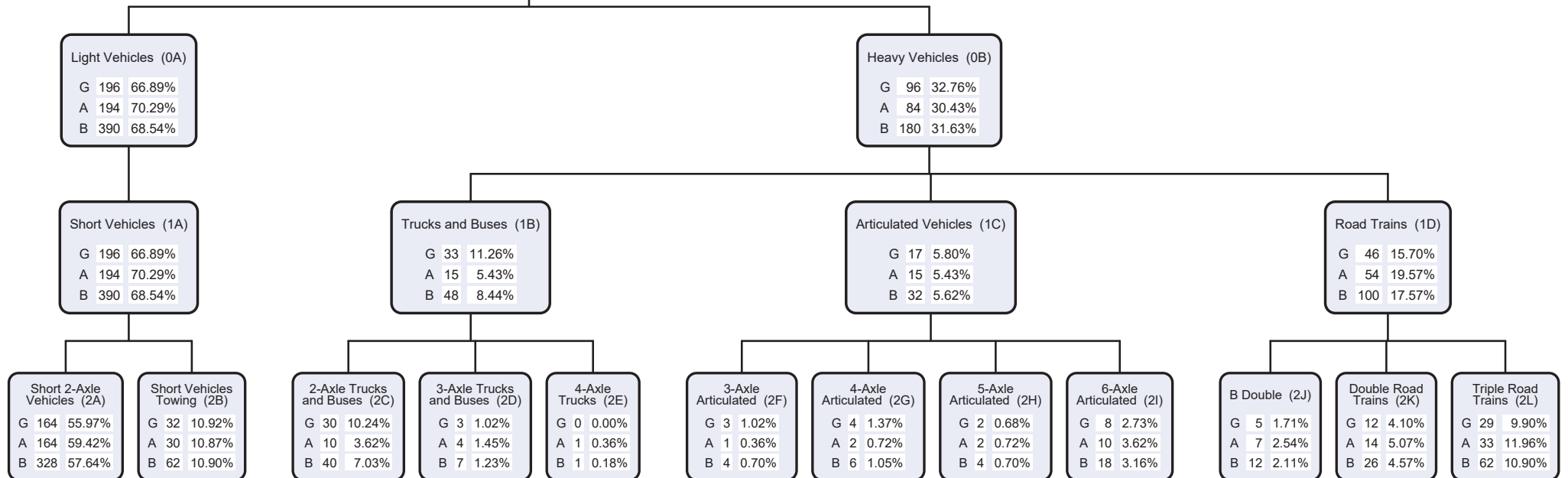


This report shows Annual Average Daily Traffic values (AADTs). Because the AADT values are converted to whole numbers, there will be occasional inaccuracies due to rounding. These inaccuracies are statistically insignificant.

All Vehicles (00)

G	293	100%
A	276	100%
B	569	100%

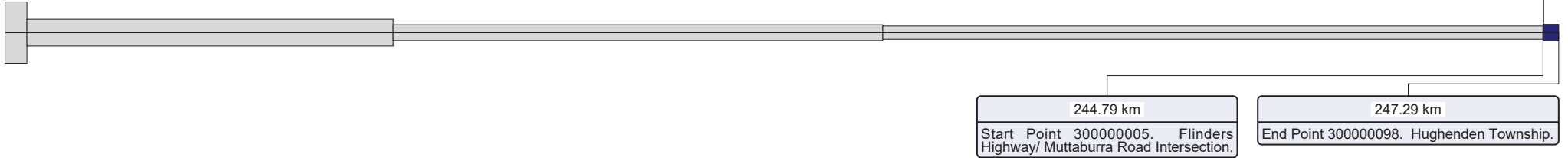
	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	12.69%	1.89%	10.31%
A	2.60%	-0.18%	9.40%
B	7.56%	0.86%	9.85%



Site 100055. Point 300021801.
Traffic Counting Site 100055.

244.90 km

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

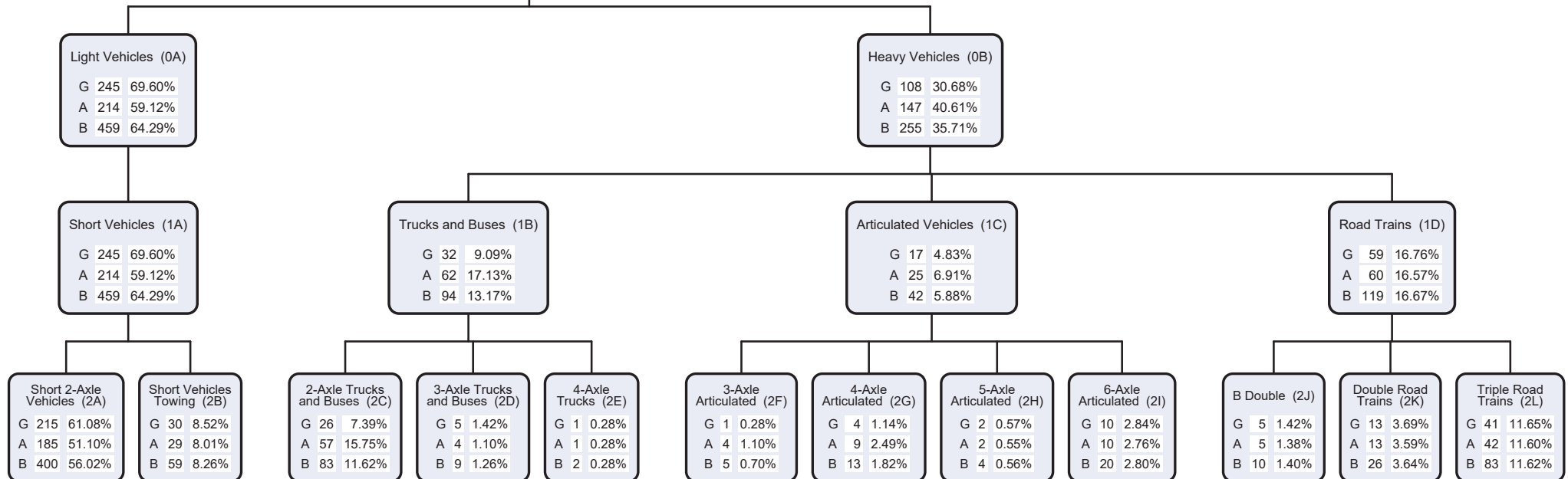


This report shows Annual Average Daily Traffic values (AADTs). Because the AADT values are converted to whole numbers, there will be occasional inaccuracies due to rounding. These inaccuracies are statistically insignificant.

All Vehicles (00)

G	352	100%
A	362	100%
B	714	100%

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	-14.56%		
A	-15.02%		
B	-14.80%		



AADT Segment Report

Provides AADT Segment details for a Road Section together with the traffic flow data collected at the related Site. Traffic data is reported by the start and end Through Distance of the AADT Segments on each section of road. The road segments are represented diagrammatically with AADT data including:

AADT by direction of traffic flow
VKT Vehicle Kilometres Travelled
%VC Percentage Vehicle Class as per the Austroads vehicle classification scheme

Annual Average Daily Traffic (AADT)

Annual Average Daily Traffic (AADT) is the number of vehicles passing a point on a road in a 24 hour period, averaged over a calendar year.

AADT Segment

Is a subdivision of a Road Section. The boundaries of an AADT Segment are its Start Point and End Point (or Start and End Through Distance (TDist)) within the Road Section. These distances are measured in kilometres from the beginning of the Road Section in Gazettal Direction. AADT Segments are determined by the traffic volume, collected at a count Site, located within the limits of each AADT Segment.

Annual Segment Growth (when displayed)

A percentage that represents the increase or decrease in AADT for the AADT Segment, using an exponential fit, calculated over a 1, 5 or 10 year period.

Area

For administration purposes the Department of Transport and Main Roads has divided Queensland into 12 Districts. The Area field in TSDM reports displays the District Name and Number.

District Name	District
Central West District	401
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Mackay/Whitsunday District	405
Metropolitan District	406
North Coast District	407
North West District	409
Northern District	408
South Coast District	410
South West District	411
Wide Bay/Burnett District	412

Data Year

The most recent year the traffic data was collected for this AADT Segment.

Gazettal Direction

The Gazettal Direction is the direction of the traffic flow. It can be easily recognised by referring to the name of the road eg. Road Section: 10A Brisbane - Gympie denotes that the gazettal direction is from Brisbane to Gympie.

- G Traffic flowing in Gazettal Direction
- A Traffic flowing against Gazettal Direction
- B The combined traffic flow in both Directions

Road Section

Is the Gazetted road from which the traffic data is collected. Each Road Section is given a code, allocated sequentially in Gazettal Direction. Larger roads are broken down into sections and identified by an ID code with a suffix for easier data collection and reporting (eg. 10A, 10B, 10C). Road Sections are then broken into AADT Segments which are determined by traffic volume.

Site

The physical location of a traffic counting device. Sites are located at a specified Through Distance along a Road Section.

Site TDist

The Through Distance in gazettal direction from the start of the Road Section at which the site is located.

Site Description

The description of the physical location of the traffic counting device.

Start and End Point

The unique identifier for the Through Distance along a Road Section.

Through Distance

The distance, in kilometres, from the beginning of the Road Section in Gazettal Direction.

Traffic Class

Is the 12 Austroads vehicle categories or classes into which vehicles are placed or binned. Traffic classes are formed in a hierarchical format.

Volume or All Vehicles

00 = 0A + 0B

Light Vehicles

0A = 1A

1A = 2A + 2B

Heavy Vehicles

0B = 1B + 1C + 1D

1B = 2C + 2D + 2E

1C = 2F + 2G + 2H + 2I

1D = 2J + 2K + 2L

The following classes are the categories for which data can be captured:

Volume

00 All vehicles.

2-Bin

0A Light vehicles

0B Heavy vehicles

4-Bin

1A Short vehicles

1B Truck or bus

1C Articulated vehicles

1D Road train

12-Bin

2A Short 2 axle vehicles

2B Short vehicles towing

2C 2 axle truck or bus

2D 3 axle truck or bus

2E 4 axle truck

2F 3 axle articulated vehicle

2G 4 axle articulated vehicle

2H 5 axle articulated vehicle

2I 6 axle articulated vehicle

2J B double

2K Double road train

2L Triple road train

Vehicle Kilometres Travelled (VKT)

Daily VKT is a measure of the traffic demand. It is calculated by the length of an AADT Segment in kilometres multiplied by its AADT. The yearly VKT is the daily VKT multiplied by 365 days.

AADT Segment Summary - All Vehicles

The Total VKT can be used to gauge the demand on an entire Road Section.

AADT Segment Summary - Heavy Vehicles only

A blank field indicates that vehicle classification data was not collected for this AADT Segment.

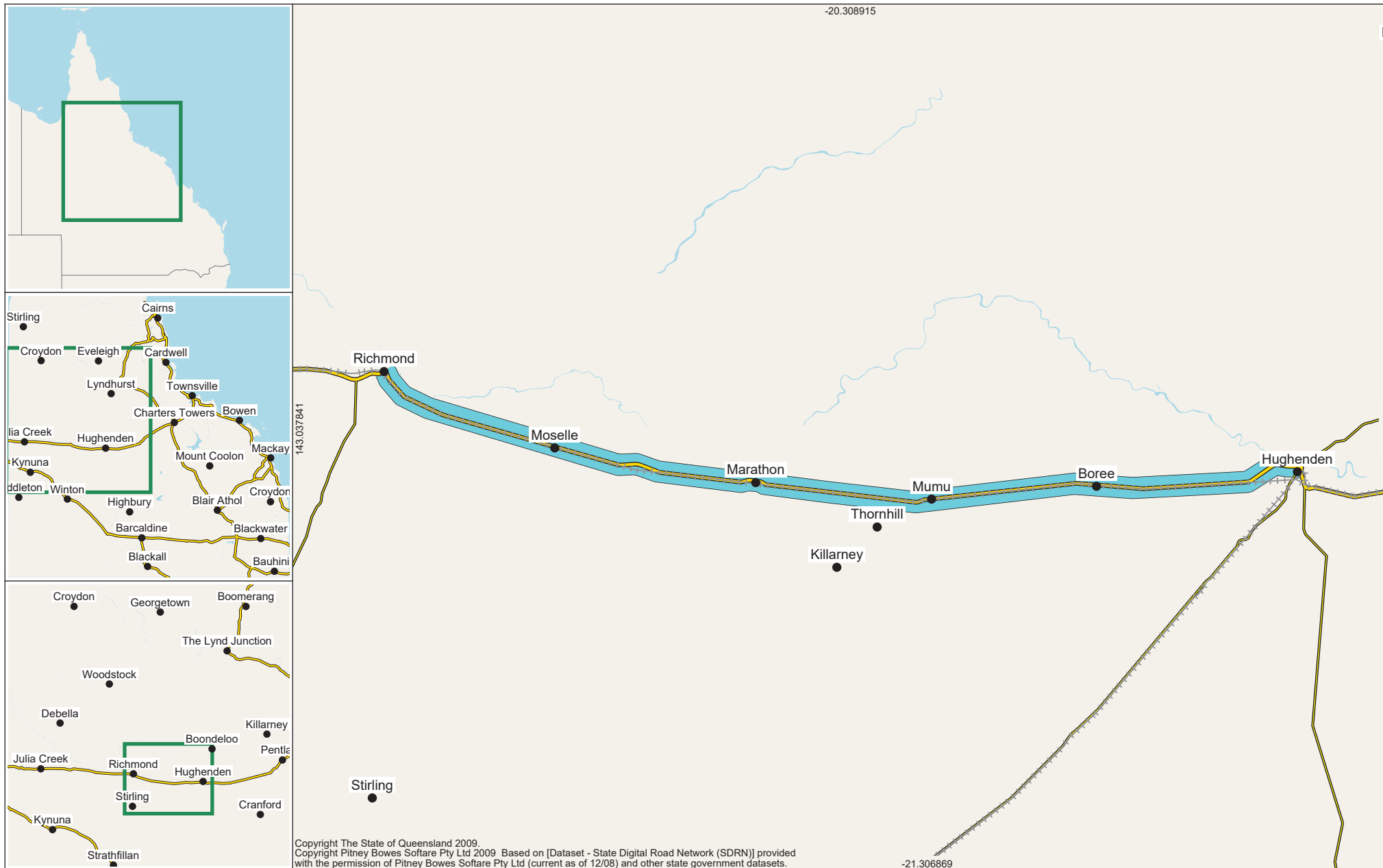
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Traffic Analysis and Reporting System
AADT Segment Analysis Report (Complete)
Road Section 14C - FLINDERS HIGHWAY (HUGHENDEN - RICHMOND)
Traffic Year 2019

Road Segments Summary - All Vehicles

Region	Segment Start Tdist	Segment End Tdist	Site	Site Tdist	Description	AADT			VKT (Millions)			Data Year	Page
						G	A	B	G	A	B		
409	0.000 km	114.829 km	100148	17.220 km	14C Ch 17.22 - West Hughenden	245	261	506	10.26858	10.93918	21.20777	2019	2
								Totals	10.26858	10.93918	21.20777		

Road Segments Summary - Heavy Vehicles only

VKT totals are calculated only if traffic class data is available for all sites.

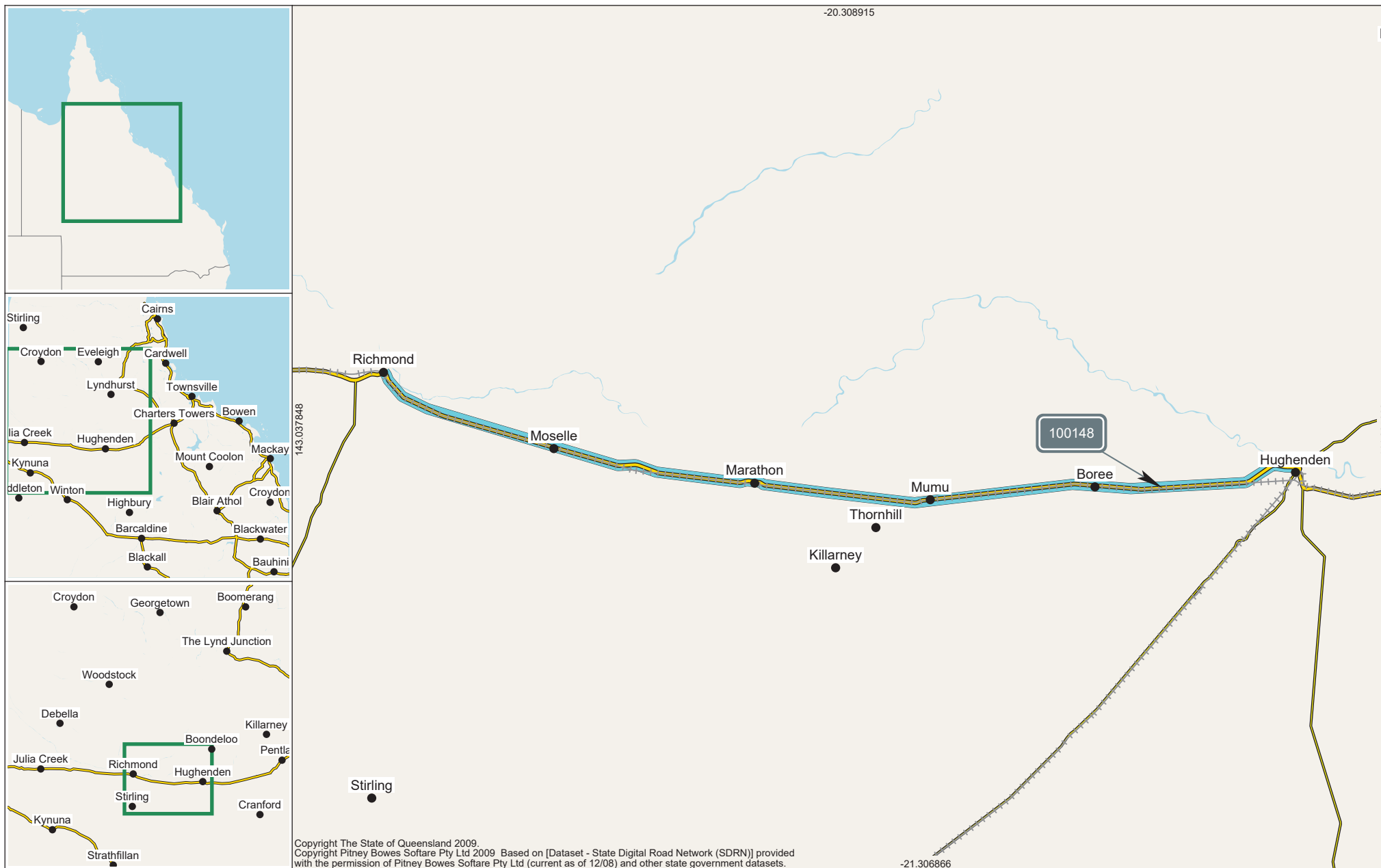
Region	Segment Start Tdist	Segment End Tdist	Site	Site Tdist	Description	HV AADT						HV VKT (Millions)			Data Year	Page
						G		A		B		G	A	B		
						AADT	HV %	AADT	HV %	AADT	HV %					
409	0.000 km	114.829 km	100148	17.220 km	14C Ch 17.22 - West Hughenden	95	38.78%	103	39.46%	198	39.13%	3.98170	4.31700	8.29869	2019	2
											Totals	3.98170	4.31700	8.29869		

AADT Segment Analysis Report (Complete)

Area 409 - North West District

Road Section 14C - FLINDERS HIGHWAY (HUGHENDEN - RICHMOND)

Traffic Year 2019 - Data Collection Year 2019



Site 100148. Point 300000260.
17.22km west of Hughenden.

17.22 km

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



0.00 km

Start Point 300000100. Hughenden.

114.83 km

End Point 300000072. End
of 14C- Richmond township.

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.

All Vehicles (00)

G	245	100%
A	261	100%
B	506	100%

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	34.62%	0.60%	1.13%
A	38.10%	1.65%	1.69%
B	36.39%	1.14%	1.40%

Light Vehicles (0A)

G	151	61.63%
A	160	61.30%
B	311	61.46%

Heavy Vehicles (0B)

G	95	38.78%
A	103	39.46%
B	198	39.13%

Short Vehicles (1A)

G	151	61.63%
A	160	61.30%
B	311	61.46%

Trucks and Buses (1B)

G	27	11.02%
A	27	10.34%
B	54	10.67%

Articulated Vehicles (1C)

G	15	6.12%
A	18	6.90%
B	33	6.52%

Road Trains (1D)

G	53	21.63%
A	58	22.22%
B	111	21.94%

Short 2-Axle
Vehicles (2A)

G	130	53.06%
A	133	50.96%
B	263	51.98%

Short Vehicles
Towing (2B)

G	21	8.57%
A	27	10.34%
B	48	9.49%

2-Axle Trucks
and Buses (2C)

G	22	8.98%
A	23	8.81%
B	45	8.89%

3-Axle Trucks
and Buses (2D)

G	4	1.63%
A	3	1.15%
B	7	1.38%

4-Axle
Trucks (2E)

G	1	0.41%
A	1	0.38%
B	2	0.40%

3-Axle
Articulated (2F)

G	2	0.82%
A	2	0.77%
B	4	0.79%

4-Axle
Articulated (2G)

G	4	1.63%
A	5	1.92%
B	9	1.78%

5-Axle
Articulated (2H)

G	1	0.41%
A	2	0.77%
B	3	0.59%

6-Axle
Articulated (2I)

G	8	3.27%
A	9	3.45%
B	17	3.36%

B Double (2J)

G	3	1.22%
A	4	1.53%
B	7	1.38%

Double Road
Trains (2K)

G	10	4.08%
A	11	4.21%
B	21	4.15%

Triple Road
Trains (2L)

G	40	16.33%
A	43	16.48%
B	83	16.40%

AADT Segment Report

Provides AADT Segment details for a Road Section together with the traffic flow data collected at the related Site. Traffic data is reported by the start and end Through Distance of the AADT Segments on each section of road. The road segments are represented diagrammatically with AADT data including:

AADT by direction of traffic flow
VKT Vehicle Kilometres Travelled
%VC Percentage Vehicle Class as per the Austroads vehicle classification scheme

Annual Average Daily Traffic (AADT)

Annual Average Daily Traffic (AADT) is the number of vehicles passing a point on a road in a 24 hour period, averaged over a calendar year.

AADT Segment

Is a subdivision of a Road Section. The boundaries of an AADT Segment are its Start Point and End Point (or Start and End Through Distance (TDist)) within the Road Section. These distances are measured in kilometres from the beginning of the Road Section in Gazettal Direction. AADT Segments are determined by the traffic volume, collected at a count Site, located within the limits of each AADT Segment.

Annual Segment Growth (when displayed)

A percentage that represents the increase or decrease in AADT for the AADT Segment, using an exponential fit, calculated over a 1, 5 or 10 year period.

Area

For administration purposes the Department of Transport and Main Roads has divided Queensland into 12 Districts. The Area field in TSDM reports displays the District Name and Number.

District Name	District
Central West District	401
Darling Downs District	402
Far North District	403
Fitzroy District	404
Mackay/Whitsunday District	405
Metropolitan District	406
North Coast District	407
North West District	409
Northern District	408
South Coast District	410
South West District	411
Wide Bay/Burnett District	412

Data Year

The most recent year the traffic data was collected for this AADT Segment.

Gazettal Direction

The Gazettal Direction is the direction of the traffic flow. It can be easily recognised by referring to the name of the road eg. Road Section: 10A Brisbane - Gympie denotes that the gazettal direction is from Brisbane to Gympie.

- G Traffic flowing in Gazettal Direction
- A Traffic flowing against Gazettal Direction
- B The combined traffic flow in both Directions

Road Section

Is the Gazetted road from which the traffic data is collected. Each Road Section is given a code, allocated sequentially in Gazettal Direction. Larger roads are broken down into sections and identified by an ID code with a suffix for easier data collection and reporting (eg. 10A, 10B, 10C). Road Sections are then broken into AADT Segments which are determined by traffic volume.

Site

The physical location of a traffic counting device. Sites are located at a specified Through Distance along a Road Section.

Site TDist

The Through Distance in gazettal direction from the start of the Road Section at which the site is located.

Site Description

The description of the physical location of the traffic counting device.

Start and End Point

The unique identifier for the Through Distance along a Road Section.

Through Distance

The distance, in kilometres, from the beginning of the Road Section in Gazettal Direction.

Traffic Class

Is the 12 Austroads vehicle categories or classes into which vehicles are placed or binned. Traffic classes are formed in a hierarchical format.

Volume or All Vehicles

00 = 0A + 0B

Light Vehicles

0A = 1A

1A = 2A + 2B

Heavy Vehicles

0B = 1B + 1C + 1D

1B = 2C + 2D + 2E

1C = 2F + 2G + 2H + 2I

1D = 2J + 2K + 2L

The following classes are the categories for which data can be captured:

Volume

00 All vehicles.

2-Bin

0A Light vehicles

0B Heavy vehicles

4-Bin

1A Short vehicles

1B Truck or bus

1C Articulated vehicles

1D Road train

12-Bin

2A Short 2 axle vehicles

2B Short vehicles towing

2C 2 axle truck or bus

2D 3 axle truck or bus

2E 4 axle truck

2F 3 axle articulated vehicle

2G 4 axle articulated vehicle

2H 5 axle articulated vehicle

2I 6 axle articulated vehicle

2J B double

2K Double road train

2L Triple road train

Vehicle Kilometres Travelled (VKT)

Daily VKT is a measure of the traffic demand. It is calculated by the length of an AADT Segment in kilometres multiplied by its AADT. The yearly VKT is the daily VKT multiplied by 365 days.

AADT Segment Summary - All Vehicles

The Total VKT can be used to gauge the demand on an entire Road Section.

AADT Segment Summary - Heavy Vehicles only

A blank field indicates that vehicle classification data was not collected for this AADT Segment.

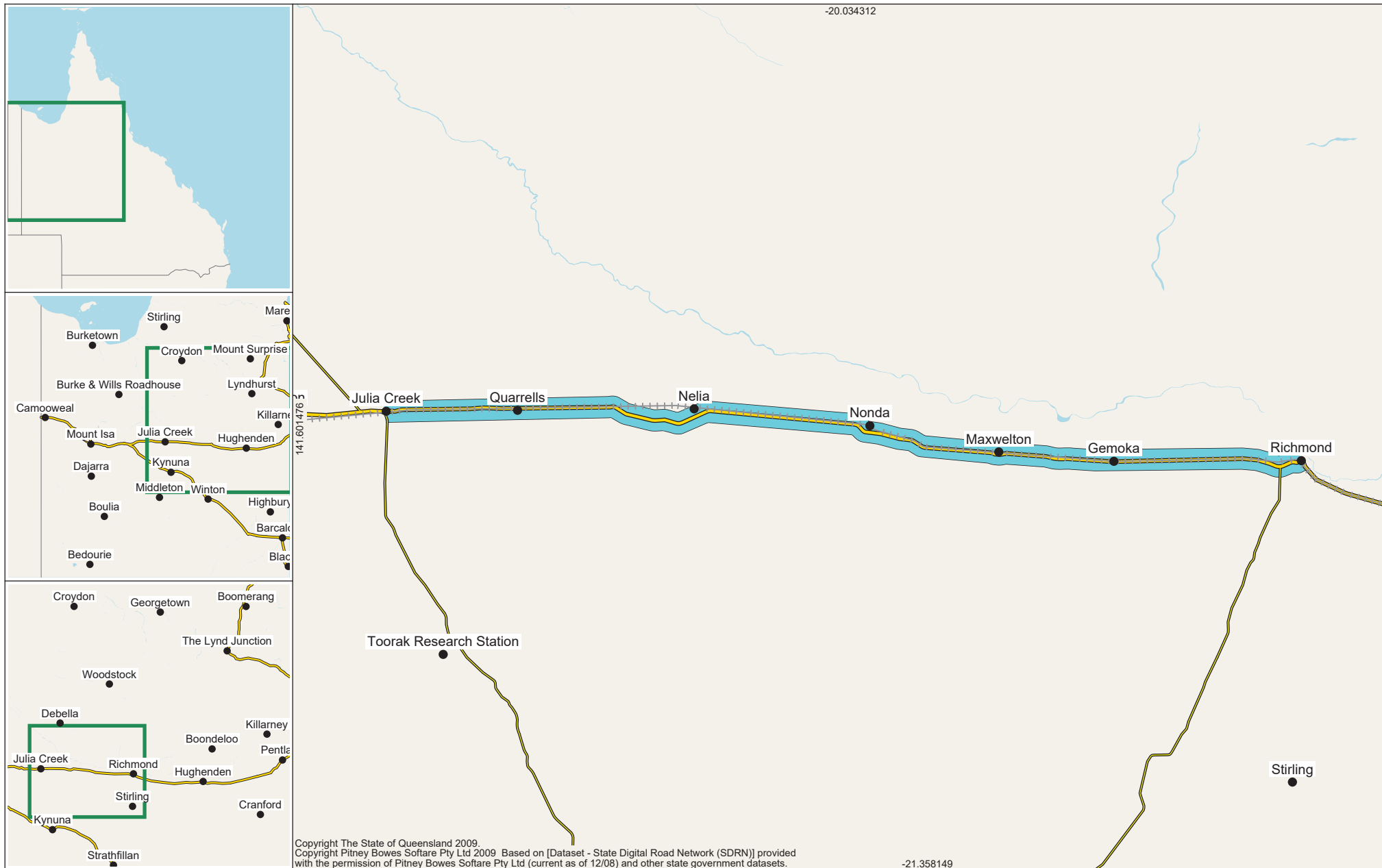
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Traffic Analysis and Reporting System
AADT Segment Analysis Report (Complete)
 Road Section 14D - FLINDERS HIGHWAY (RICHMOND - JULIA CREEK)
 Traffic Year 2019

Road Segments Summary - All Vehicles

Region	Segment Start Tdist	Segment End Tdist	Site	Site Tdist	Description	AADT			VKT (Millions)			Data Year	Page
						G	A	B	G	A	B		
409	0.000 km	149.310 km	100019	116.900 km	14D Ch 116.9km - Spellary Creek	221	233	454	12.04409	12.69807	24.74216	2019	2
								Totals	12.04409	12.69807	24.74216		

Road Segments Summary - Heavy Vehicles only

VKT totals are calculated only if traffic class data is available for all sites.

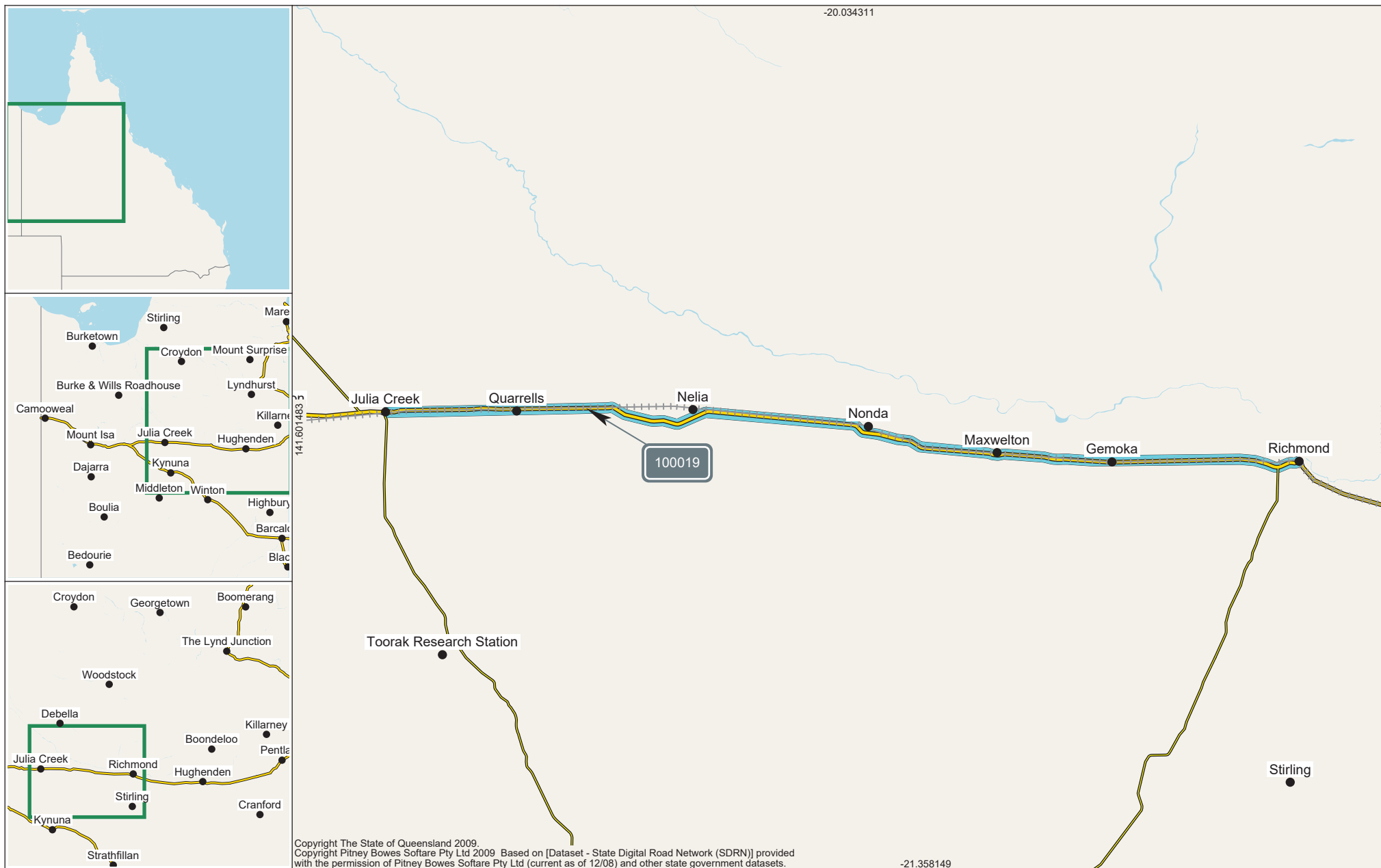
Region	Segment Start Tdist	Segment End Tdist	Site	Site Tdist	Description	HV AADT						HV VKT (Millions)			Data Year	Page
						G		A		B						
						AADT	HV %	AADT	HV %	AADT	HV %	G	A	B		
409	0.000 km	149.310 km	100019	116.900 km	14D Ch 116.9km - Spellary Creek	90	40.72%	117	50.21%	207	45.59%	4.90483	6.37628	11.28112	2019	
											Totals	4.90483	6.37628	11.28112		

AADT Segment Analysis Report (Complete)

Area 409 - North West District

Road Section 14D - FLINDERS HIGHWAY (RICHMOND - JULIA CREEK)

Traffic Year 2019 - Data Collection Year 2019



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

Site 100019. Point 300000026. Spellary Creek.

116.90 km

0.00 km

Start Point 300000102. Richmond.

149.31 km

End Point 300000028. Julia Creek.

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.

All Vehicles (00)

G	221	100%
A	233	100%
B	454	100%

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	25.57%	4.92%	3.04%
A	22.63%	5.33%	3.66%
B	24.04%	5.12%	3.35%

Light Vehicles (0A)

G	132	59.73%
A	117	50.21%
B	249	54.85%

Heavy Vehicles (0B)

G	90	40.72%
A	117	50.21%
B	207	45.59%

Short Vehicles (1A)

G	132	59.73%
A	117	50.21%
B	249	54.85%

Trucks and Buses (1B)

G	16	7.24%
A	35	15.02%
B	51	11.23%

Articulated Vehicles (1C)

G	12	5.43%
A	20	8.58%
B	32	7.05%

Road Trains (1D)

G	62	28.05%
A	62	26.61%
B	124	27.31%

Short 2-Axle Vehicles (2A)

G	110	49.77%
A	95	40.77%
B	205	45.15%

Short Vehicles Towing (2B)

G	22	9.95%
A	22	9.44%
B	44	9.69%

2-Axle Trucks and Buses (2C)

G	12	5.43%
A	31	13.30%
B	43	9.47%

3-Axle Trucks and Buses (2D)

G	3	1.36%
A	3	1.29%
B	6	1.32%

4-Axle Trucks (2E)

G	1	0.45%
A	1	0.43%
B	2	0.44%

3-Axle Articulated (2F)

G	1	0.45%
A	4	1.72%
B	5	1.10%

4-Axle Articulated (2G)

G	3	1.36%
A	6	2.58%
B	9	1.98%

5-Axle Articulated (2H)

G	1	0.45%
A	2	0.86%
B	3	0.66%

6-Axle Articulated (2I)

G	7	3.17%
A	8	3.43%
B	15	3.30%

B Double (2J)

G	3	1.36%
A	3	1.29%
B	6	1.32%

Double Road Trains (2K)

G	10	4.52%
A	11	4.72%
B	21	4.63%

Triple Road Trains (2L)

G	49	22.17%
A	48	20.60%
B	97	21.37%

AADT Segment Report

Provides AADT Segment details for a Road Section together with the traffic flow data collected at the related Site. Traffic data is reported by the start and end Through Distance of the AADT Segments on each section of road. The road segments are represented diagrammatically with AADT data including:

AADT by direction of traffic flow
VKT Vehicle Kilometres Travelled
%VC Percentage Vehicle Class as per the Austroads vehicle classification scheme

Annual Average Daily Traffic (AADT)

Annual Average Daily Traffic (AADT) is the number of vehicles passing a point on a road in a 24 hour period, averaged over a calendar year.

AADT Segment

Is a subdivision of a Road Section. The boundaries of an AADT Segment are its Start Point and End Point (or Start and End Through Distance (TDist)) within the Road Section. These distances are measured in kilometres from the beginning of the Road Section in Gazettal Direction. AADT Segments are determined by the traffic volume, collected at a count Site, located within the limits of each AADT Segment.

Annual Segment Growth (when displayed)

A percentage that represents the increase or decrease in AADT for the AADT Segment, using an exponential fit, calculated over a 1, 5 or 10 year period.

Area

For administration purposes the Department of Transport and Main Roads has divided Queensland into 12 Districts. The Area field in TSDM reports displays the District Name and Number.

District Name	District
Central West District	401
Darling Downs District	402
Far North District	403
Fitzroy District	404
Mackay/Whitsunday District	405
Metropolitan District	406
North Coast District	407
North West District	409
Northern District	408
South Coast District	410
South West District	411
Wide Bay/Burnett District	412

Data Year

The most recent year the traffic data was collected for this AADT Segment.

Gazettal Direction

The Gazettal Direction is the direction of the traffic flow. It can be easily recognised by referring to the name of the road eg. Road Section: 10A Brisbane - Gympie denotes that the gazettal direction is from Brisbane to Gympie.

- G Traffic flowing in Gazettal Direction
- A Traffic flowing against Gazettal Direction
- B The combined traffic flow in both Directions

Road Section

Is the Gazetted road from which the traffic data is collected. Each Road Section is given a code, allocated sequentially in Gazettal Direction. Larger roads are broken down into sections and identified by an ID code with a suffix for easier data collection and reporting (eg. 10A, 10B, 10C). Road Sections are then broken into AADT Segments which are determined by traffic volume.

Site

The physical location of a traffic counting device. Sites are located at a specified Through Distance along a Road Section.

Site TDist

The Through Distance in gazettal direction from the start of the Road Section at which the site is located.

Site Description

The description of the physical location of the traffic counting device.

Start and End Point

The unique identifier for the Through Distance along a Road Section.

Through Distance

The distance, in kilometres, from the beginning of the Road Section in Gazettal Direction.

Traffic Class

Is the 12 Austroads vehicle categories or classes into which vehicles are placed or binned. Traffic classes are formed in a hierarchical format.

Volume or All Vehicles

00 = 0A + 0B

Light Vehicles

0A = 1A

1A = 2A + 2B

Heavy Vehicles

0B = 1B + 1C + 1D

1B = 2C + 2D + 2E

1C = 2F + 2G + 2H + 2I

1D = 2J + 2K + 2L

The following classes are the categories for which data can be captured:

Volume

00 All vehicles.

2-Bin

0A Light vehicles

0B Heavy vehicles

4-Bin

1A Short vehicles

1B Truck or bus

1C Articulated vehicles

1D Road train

12-Bin

2A Short 2 axle vehicles

2B Short vehicles towing

2C 2 axle truck or bus

2D 3 axle truck or bus

2E 4 axle truck

2F 3 axle articulated vehicle

2G 4 axle articulated vehicle

2H 5 axle articulated vehicle

2I 6 axle articulated vehicle

2J B double

2K Double road train

2L Triple road train

Vehicle Kilometres Travelled (VKT)

Daily VKT is a measure of the traffic demand. It is calculated by the length of an AADT Segment in kilometres multiplied by its AADT. The yearly VKT is the daily VKT multiplied by 365 days.

AADT Segment Summary - All Vehicles

The Total VKT can be used to gauge the demand on an entire Road Section.

AADT Segment Summary - Heavy Vehicles only

A blank field indicates that vehicle classification data was not collected for this AADT Segment.

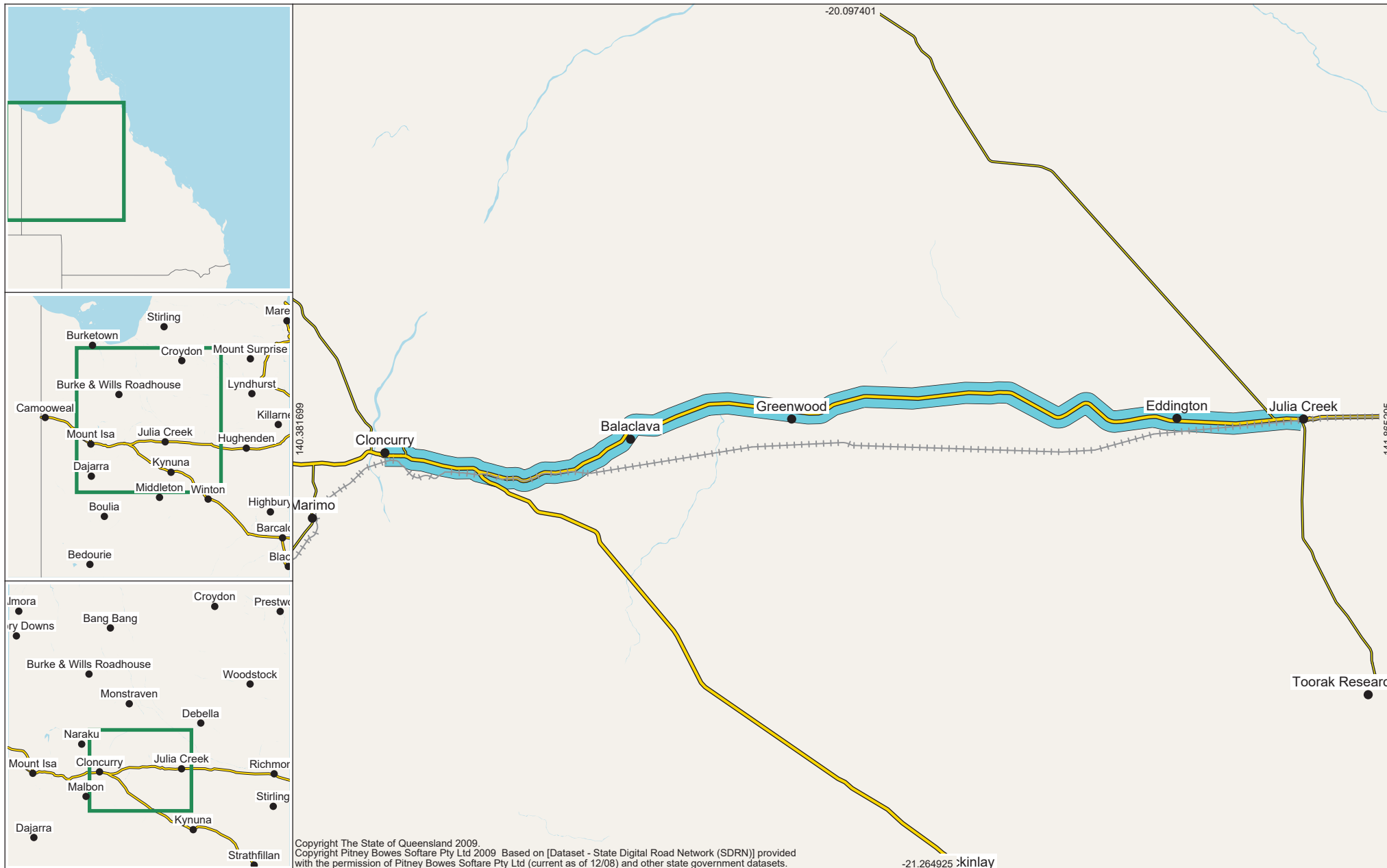
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Traffic Analysis and Reporting System
AADT Segment Analysis Report (Complete)
Road Section 14E - FLINDERS HIGHWAY (JULIA CREEK - CLONCURRY)
Traffic Year 2019

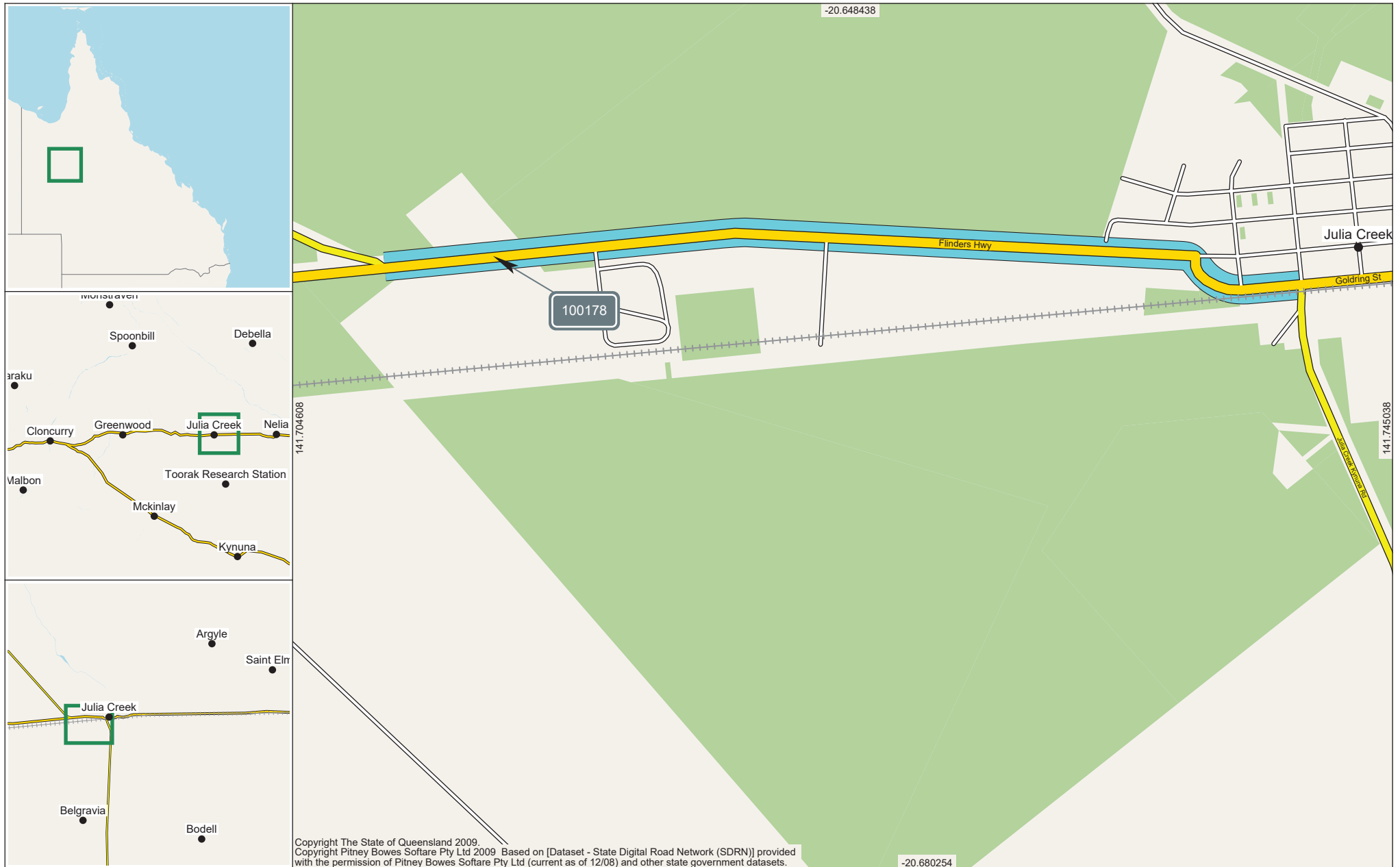
Road Segments Summary - All Vehicles

Region	Segment Start Tdist	Segment End Tdist	Site	Site Tdist	Description	AADT			VKT (Millions)			Data Year	Page
						G	A	B	G	A	B		
409	0.000 km	3.600 km	100178	3.180 km	14E Ch 3.18 West of Int 14E/14D/5807	268	277	545	0.35215	0.36398	0.71613	2019	2
409	3.600 km	24.500 km	100154	6.330 km	14E Ch 6.33 - 2.7km West of Int 14E/78A	156	44	200	1.19005	0.33565	1.52570	2019	3
409	24.500 km	123.030 km	100005	121.300 km	14E Ch121.3km - 2km east of Int 14E/13H	203	214	417	7.30058	7.69618	14.99676	2019	4
409	123.030 km	134.320 km	100052	125.900 km	14E Ch 125.9 - 10km East of Cloncurry	478	448	926	1.96977	1.84614	3.81591	2019	5
409	134.320 km	136.310 km	100060	134.500 km	14E Ch 134.5 - 420m East Railway Xing	505	532	1,037	0.36681	0.38642	0.75322	2019	6
409	136.310 km	136.830 km	100035	136.820 km	14E Ch 136.82 Ramsay St opp St Vincent's	1,563	1,534	3,097	0.29666	0.29115	0.58781	2019	7
								Totals	11.47601	10.91952	22.39553		

Road Segments Summary - Heavy Vehicles only

VKT totals are calculated only if traffic class data is available for all sites.

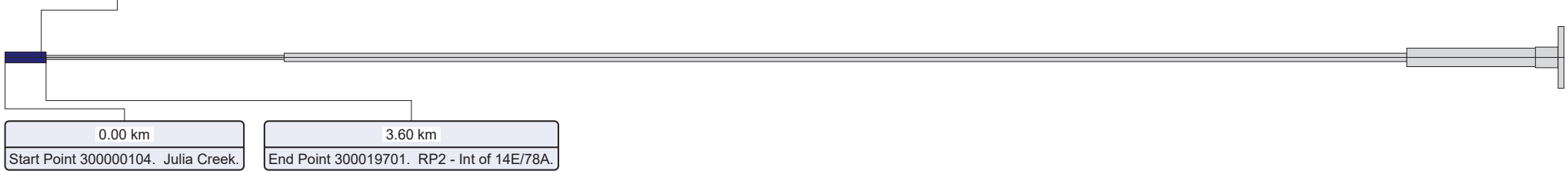
Region	Segment Start Tdist	Segment End Tdist	Site	Site Tdist	Description	HV AADT						HV VKT (Millions)			Data Year	Pag
						G		A		B						
						AADT	HV %	AADT	HV %	AADT	HV %	G	A	B		
409	0.000 km	3.600 km	100178	3.180 km	14E Ch 3.18 West of Int 14E/14D/5807	98	36.57%	101	36.46%	199	36.51%	0.12877	0.13271	0.26149	2019	
409	3.600 km	24.500 km	100154	6.330 km	14E Ch 6.33 - 2.7km West of Int 14E/78A	70	44.87%	24	54.55%	94	47.00%	0.53399	0.18308	0.71708	2019	
409	24.500 km	123.030 km	100005	121.300 km	14E Ch121.3km - 2km east of Int 14E/13H	86	42.36%	100	46.73%	186	44.60%	3.09286	3.59634	6.68920	2019	
409	123.030 km	134.320 km	100052	125.900 km	14E Ch 125.9 - 10km East of Cloncurry	208	43.51%	173	38.62%	381	41.14%	0.85714	0.71291	1.57004	2019	
409	134.320 km	136.310 km	100060	134.500 km	14E Ch 134.5 - 420m East Railway Xing	170	33.66%	87	16.35%	257	24.78%	0.12348	0.06319	0.18667	2019	
409	136.310 km	136.830 km	100035	136.820 km	14E Ch 136.82 Ramsay St opp St Vincent's	118	7.55%	156	10.17%	274	8.85%	0.02240	0.02961	0.05201	2019	
											Totals	4.75864	4.71785	9.47649		



Site 100178. Point 300019674.
3.18km west of Int 14E/14D/5807.

3.18 km

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

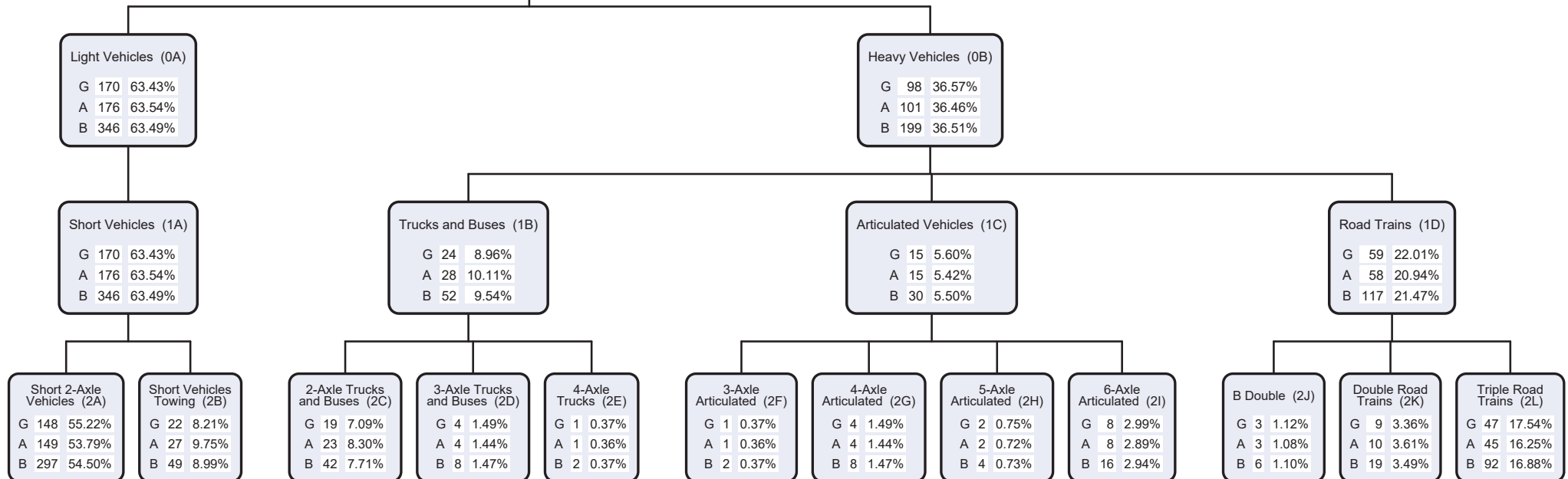


This report shows Annual Average Daily Traffic values (AADTs). Because the AADT values are converted to whole numbers, there will be occasional inaccuracies due to rounding. These inaccuracies are statistically insignificant.

All Vehicles (00)

G	268	100%
A	277	100%
B	545	100%

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	9.84%	9.93%	
A	12.15%	9.53%	
B	11.00%	9.72%	

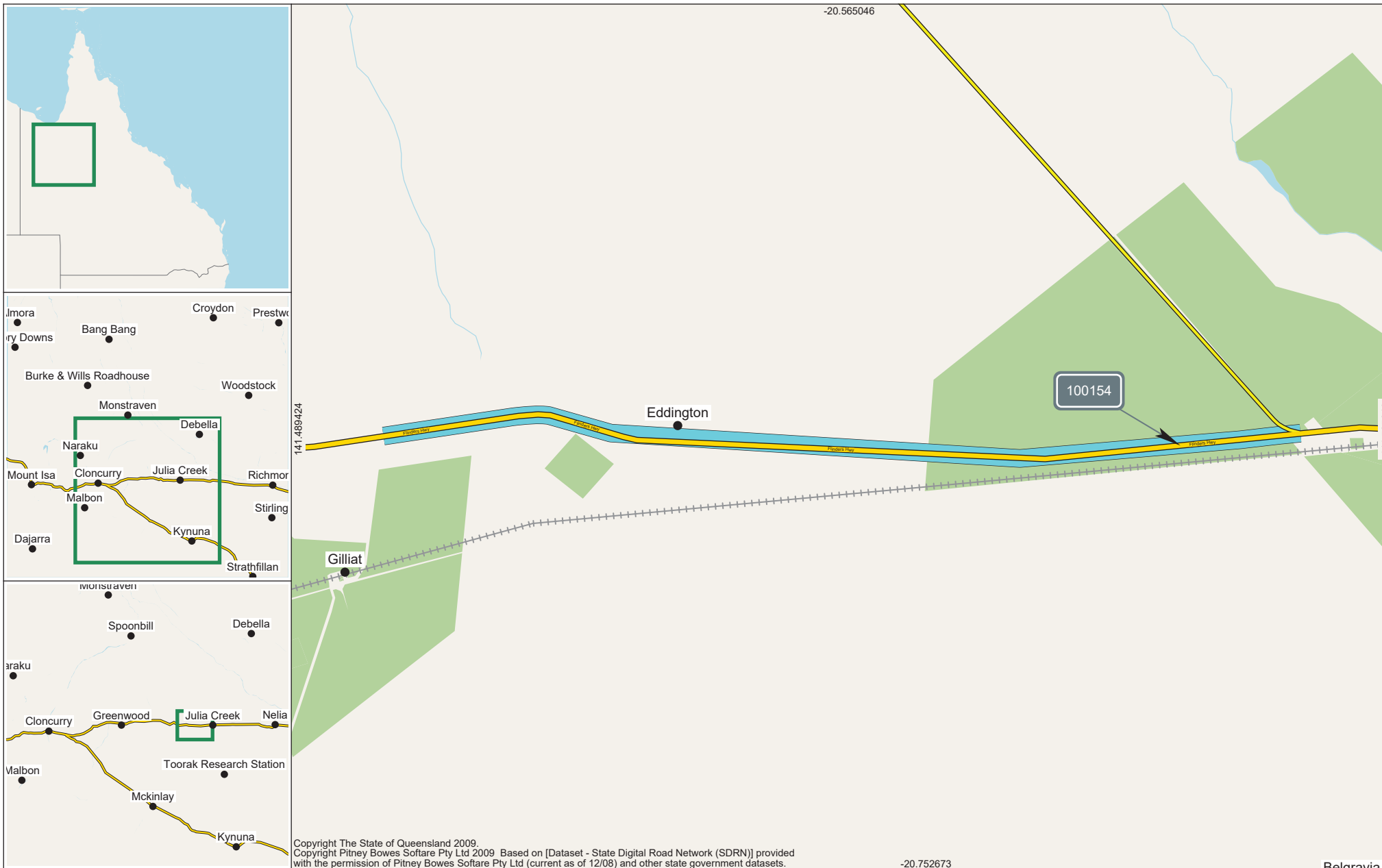


AADT Segment Analysis Report (Complete)

Area 409 - North West District

Road Section 14E - FLINDERS HIGHWAY (JULIA CREEK - CLONCURRY)

Traffic Year 2019 - Data Collection Year 2019



Site 100154. Point 300000261.
6.33k west of Julia Creek.

6.33 km

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

3.60 km

Start Point 300019701. RP2 - Int of 14E/78A.

24.50 km

End Point 300019700. RP3 -
Int of 14E/McKinlay - Gilliat 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.

All Vehicles (00)

G	156	100%
A	44	100%
B	200	100%

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	-0.64%	-4.39%	-3.10%
A	-29.03%	-32.00%	-19.65%
B	-8.68%	-15.29%	-9.39%

Light Vehicles (0A)

G	86	55.13%
A	21	47.73%
B	107	53.50%

Heavy Vehicles (0B)

G	70	44.87%
A	24	54.55%
B	94	47.00%

Short Vehicles (1A)

G	86	55.13%
A	21	47.73%
B	107	53.50%

Trucks and Buses (1B)

G	29	18.59%
A	11	25.00%
B	40	20.00%

Articulated Vehicles (1C)

G	9	5.77%
A	3	6.82%
B	12	6.00%

Road Trains (1D)

G	32	20.51%
A	10	22.73%
B	42	21.00%

Short 2-Axle
Vehicles (2A)

G	77	49.36%
A	19	43.18%
B	96	48.00%

Short Vehicles
Towing (2B)

G	9	5.77%
A	2	4.55%
B	11	5.50%

2-Axle Trucks
and Buses (2C)

G	25	16.03%
A	8	18.18%
B	33	16.50%

3-Axle Trucks
and Buses (2D)

G	3	1.92%
A	3	6.82%
B	6	3.00%

4-Axle
Trucks (2E)

G	1	0.64%
A	0	0.00%
B	1	0.50%

3-Axle
Articulated (2F)

G	1	0.64%
A	0	0.00%
B	1	0.50%

4-Axle
Articulated (2G)

G	3	1.92%
A	1	2.27%
B	4	2.00%

5-Axle
Articulated (2H)

G	1	0.64%
A	1	2.27%
B	2	1.00%

6-Axle
Articulated (2I)

G	4	2.56%
A	1	2.27%
B	5	2.50%

B Double (2J)

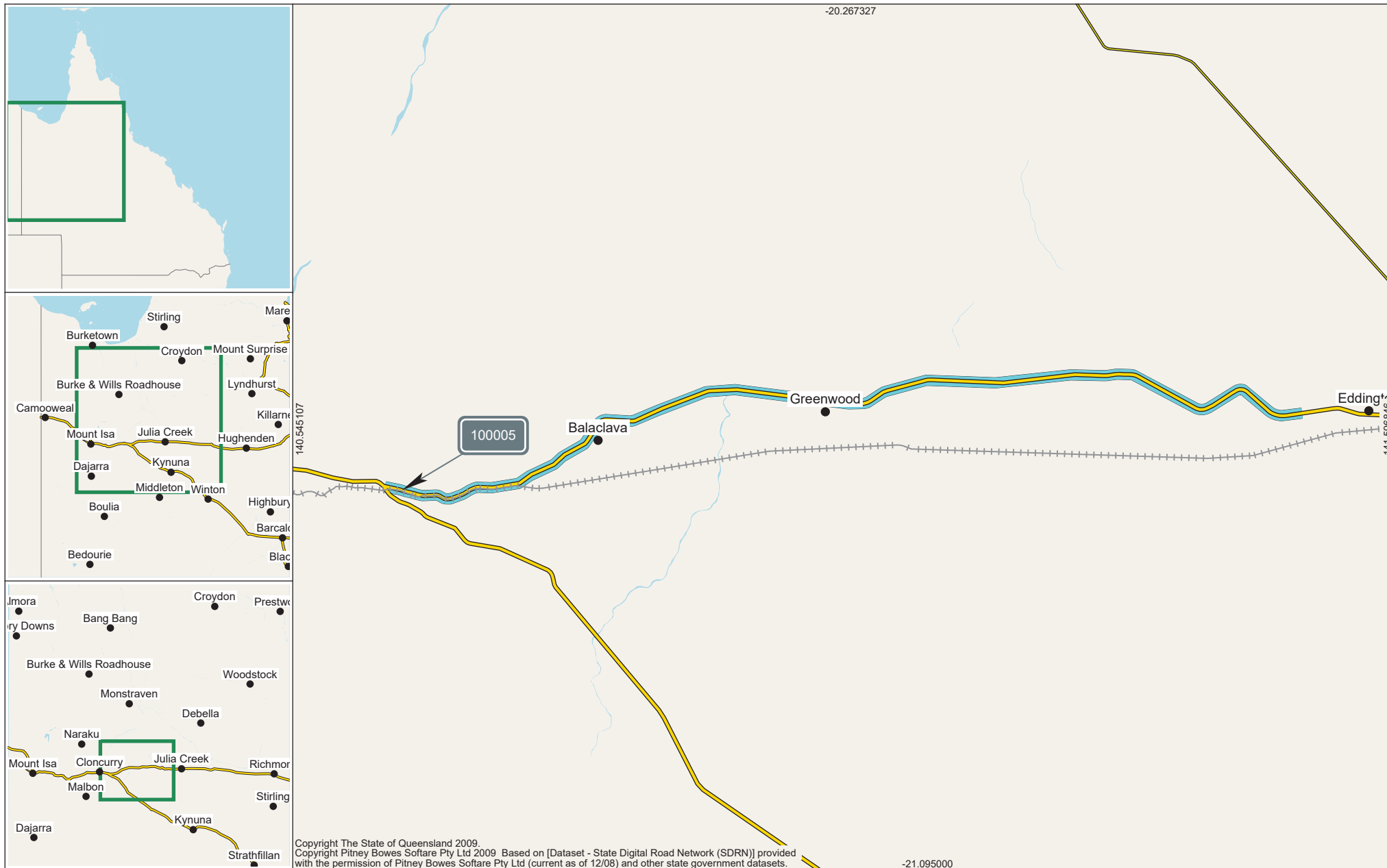
G	1	0.64%
A	1	2.27%
B	2	1.00%

Double Road
Trains (2K)

G	6	3.85%
A	2	4.55%
B	8	4.00%

Triple Road
Trains (2L)

G	25	16.03%
A	7	15.91%
B	32	16.00%



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

Site 100005. Point 300000011.
2km east of Landsborough Hwy.

121.30 km

24.50 km

Start Point 300019700. RP3 -
Int of 14E/McKinlay - Gilliat Rd.

123.03 km

End Point 300000013.
Landsborough Highway Turn off.

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.

All Vehicles (00)

G	203	100%
A	214	100%
B	417	100%

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	2.01%	2.29%	0.55%
A	0.47%	2.36%	0.40%
B	1.21%	2.32%	0.47%

Light Vehicles (0A)

G	117	57.64%
A	114	53.27%
B	231	55.40%

Heavy Vehicles (0B)

G	86	42.36%
A	100	46.73%
B	186	44.60%

Short Vehicles (1A)

G	117	57.64%
A	114	53.27%
B	231	55.40%

Trucks and Buses (1B)

G	18	8.87%
A	27	12.62%
B	45	10.79%

Articulated Vehicles (1C)

G	10	4.93%
A	14	6.54%
B	24	5.76%

Road Trains (1D)

G	58	28.57%
A	59	27.57%
B	117	28.06%

Short 2-Axle
Vehicles (2A)

G	100	49.26%
A	95	44.39%
B	195	46.76%

Short Vehicles
Towing (2B)

G	17	8.37%
A	19	8.88%
B	36	8.63%

2-Axle Trucks
and Buses (2C)

G	14	6.90%
A	24	11.21%
B	38	9.11%

3-Axle Trucks
and Buses (2D)

G	3	1.48%
A	2	0.93%
B	5	1.20%

4-Axle
Trucks (2E)

G	1	0.49%
A	1	0.47%
B	2	0.48%

3-Axle
Articulated (2F)

G	1	0.49%
A	2	0.93%
B	3	0.72%

4-Axle
Articulated (2G)

G	2	0.99%
A	5	2.34%
B	7	1.68%

5-Axle
Articulated (2H)

G	1	0.49%
A	1	0.47%
B	2	0.48%

6-Axle
Articulated (2I)

G	6	2.96%
A	6	2.80%
B	12	2.88%

B Double (2J)

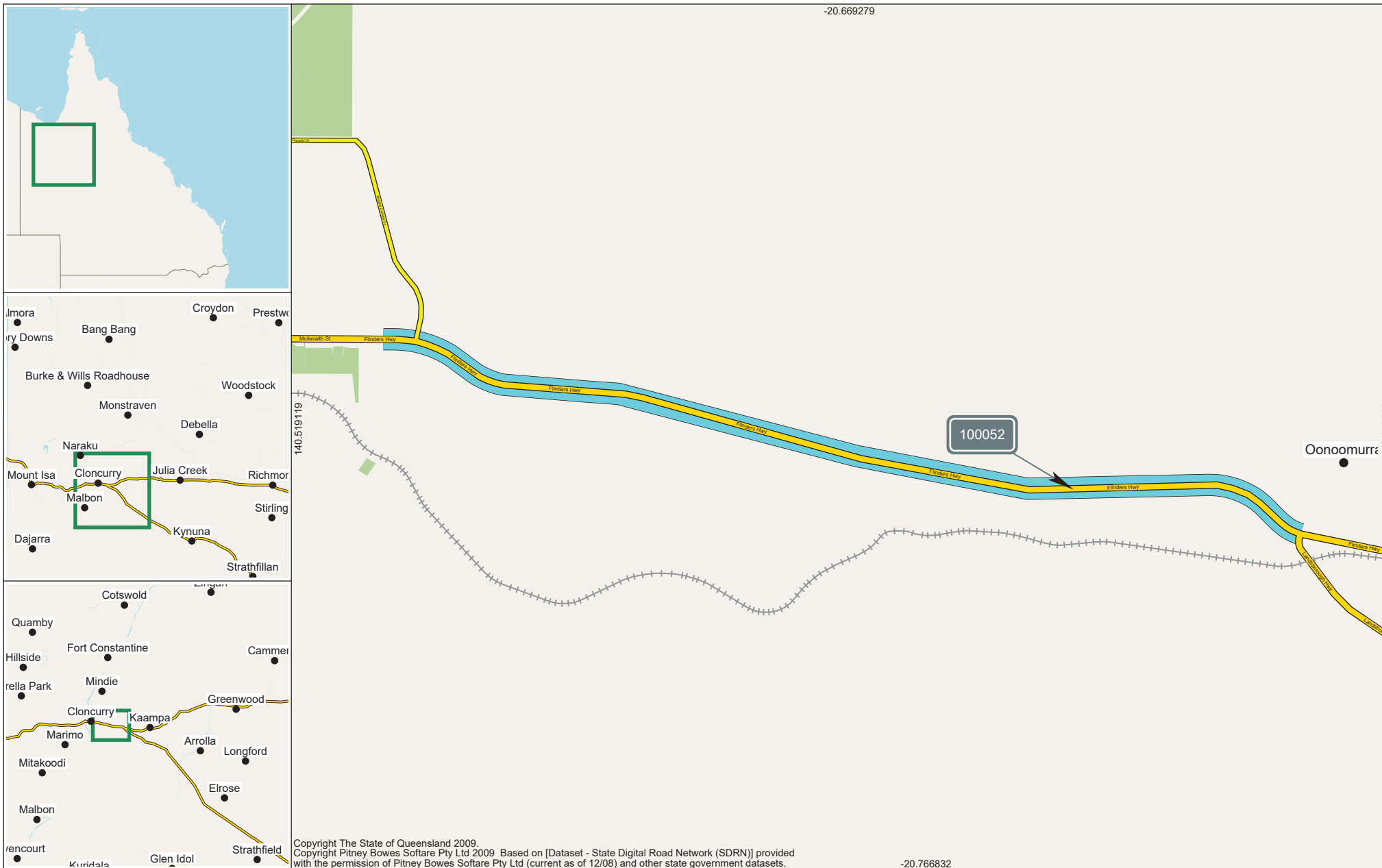
G	2	0.99%
A	3	1.40%
B	5	1.20%

Double Road
Trains (2K)

G	8	3.94%
A	9	4.21%
B	17	4.08%

Triple Road
Trains (2L)

G	48	23.65%
A	47	21.96%
B	95	22.78%



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

Site 100052. Point 300000089.
10km East of Cloncurry.

125.90 km

123.03 km

Start Point 300000013.
Landsborough Highway Turn off.

134.32 km

End Point 300000090. Round Oaks
Rd (Heavy vehicle bypass T/O).

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.

All Vehicles (00)

G	478	100%
A	448	100%
B	926	100%

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	20.40%	5.40%	2.15%
A	-3.03%	3.10%	1.11%
B	7.80%	4.25%	1.63%

Light Vehicles (0A)

G	270	56.49%
A	275	61.38%
B	545	58.86%

Heavy Vehicles (0B)

G	208	43.51%
A	173	38.62%
B	381	41.14%

Short Vehicles (1A)

G	270	56.49%
A	275	61.38%
B	545	58.86%

Trucks and Buses (1B)

G	67	14.02%
A	44	9.82%
B	111	11.99%

Articulated Vehicles (1C)

G	31	6.49%
A	21	4.69%
B	52	5.62%

Road Trains (1D)

G	110	23.01%
A	108	24.11%
B	218	23.54%

Short 2-Axle
Vehicles (2A)

G	221	46.23%
A	226	50.45%
B	447	48.27%

Short Vehicles
Towing (2B)

G	49	10.25%
A	49	10.94%
B	98	10.58%

2-Axle Trucks
and Buses (2C)

G	59	12.34%
A	36	8.04%
B	95	10.26%

3-Axle Trucks
and Buses (2D)

G	6	1.26%
A	6	1.34%
B	12	1.30%

4-Axle
Trucks (2E)

G	2	0.42%
A	2	0.45%
B	4	0.43%

3-Axle
Articulated (2F)

G	6	1.26%
A	2	0.45%
B	8	0.86%

4-Axle
Articulated (2G)

G	11	2.30%
A	6	1.34%
B	17	1.84%

5-Axle
Articulated (2H)

G	3	0.63%
A	3	0.67%
B	6	0.65%

6-Axle
Articulated (2I)

G	11	2.30%
A	10	2.23%
B	21	2.27%

B Double (2J)

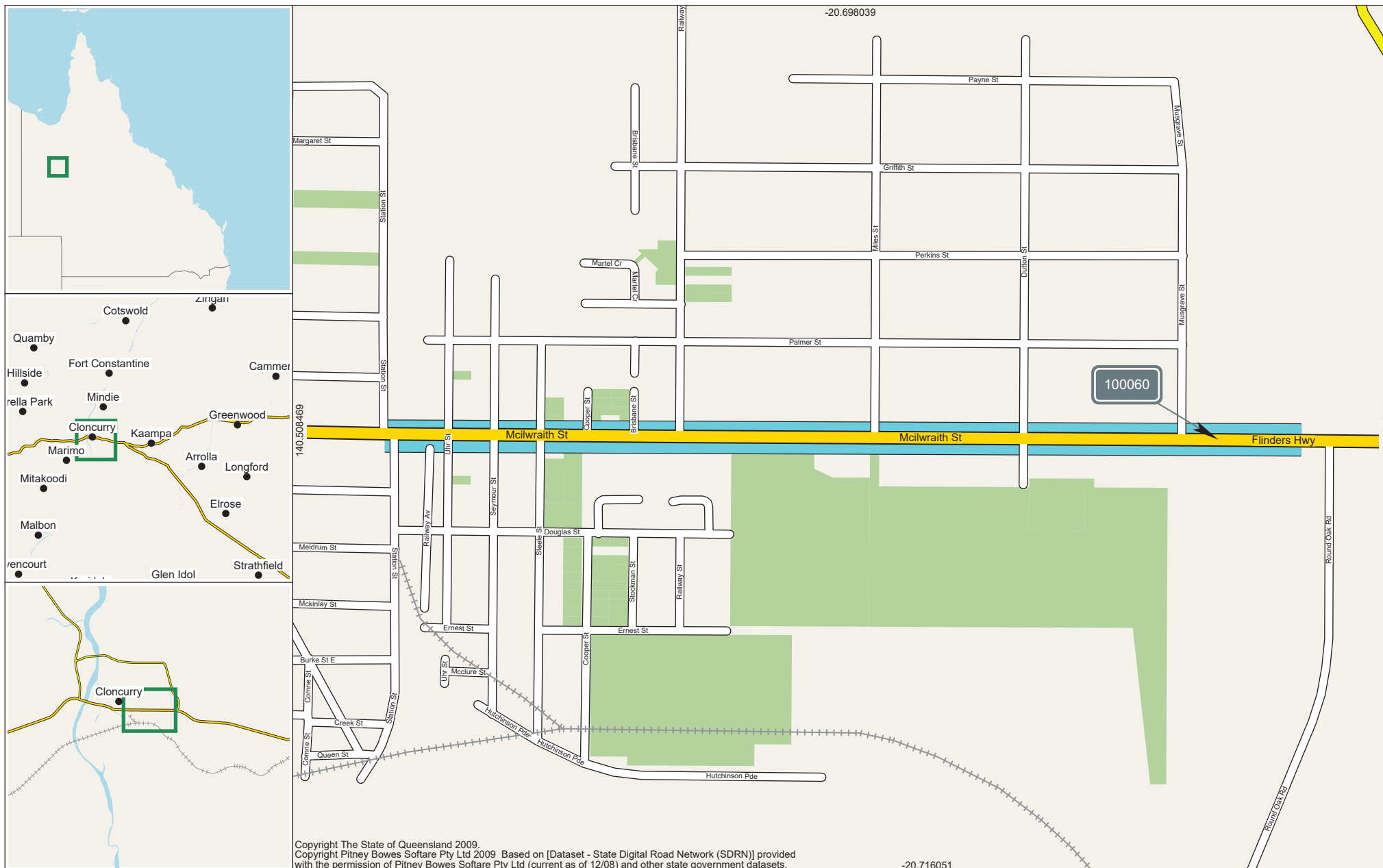
G	6	1.26%
A	6	1.34%
B	12	1.30%

Double Road
Trains (2K)

G	22	4.60%
A	22	4.91%
B	44	4.75%

Triple Road
Trains (2L)

G	82	17.15%
A	80	17.86%
B	162	17.49%



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

Site 100060. Point 300019714.
600m west of Heavy Vehicle T/O.

134.50 km

134.32 km

Start Point 300000090. Round Oaks Rd (Heavy vehicle bypass T/O).

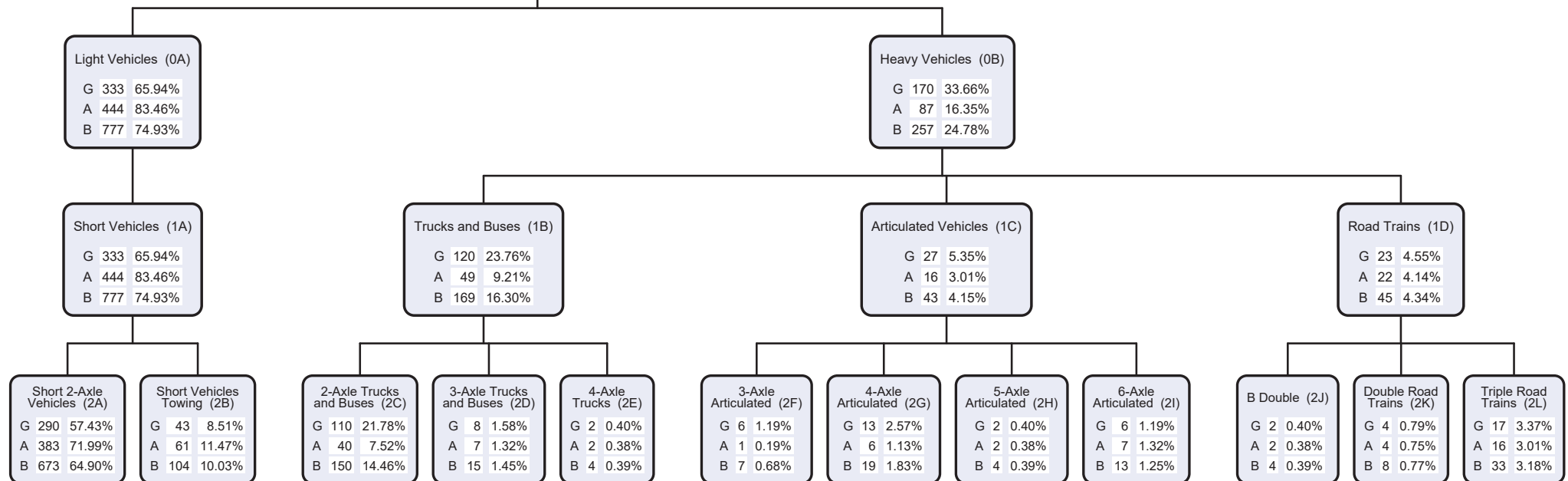
136.31 km

End Point 300000061. Cloncurry rail xing.

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.

All Vehicles (00)		
G	505	100%
A	532	100%
B	1,037	100%

Annual Segment Growth			
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	4.55%	-1.85%	
A	3.50%	-1.75%	
B	4.01%	-1.82%	

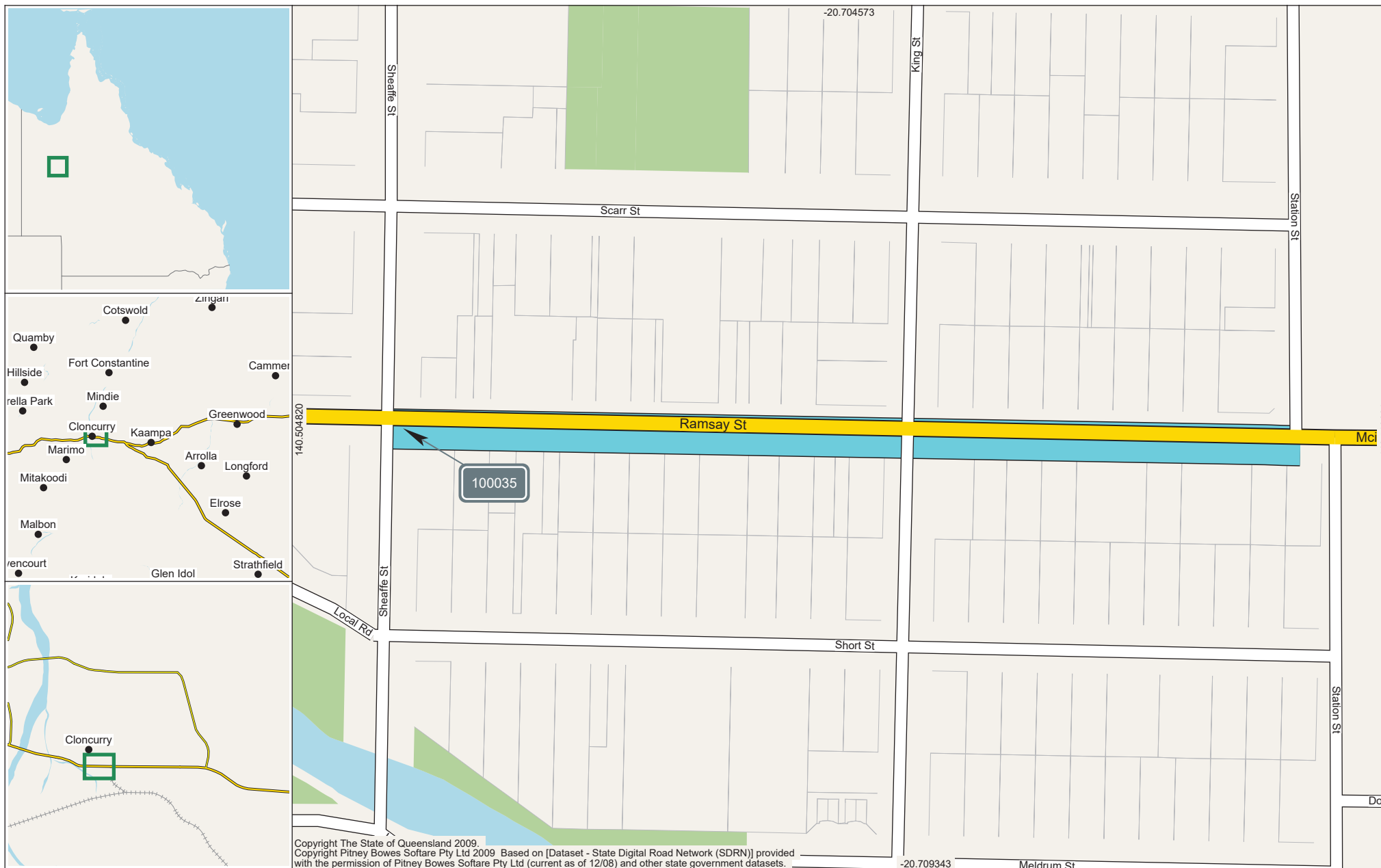


AADT Segment Analysis Report (Complete)

Area 409 - North West District

Road Section 14E - FLINDERS HIGHWAY (JULIA CREEK - CLONCURRY)

Traffic Year 2019 - Data Collection Year 2019



Site 100035. Point 300019673.
Ramsay St opp St Vincents.

136.82 km

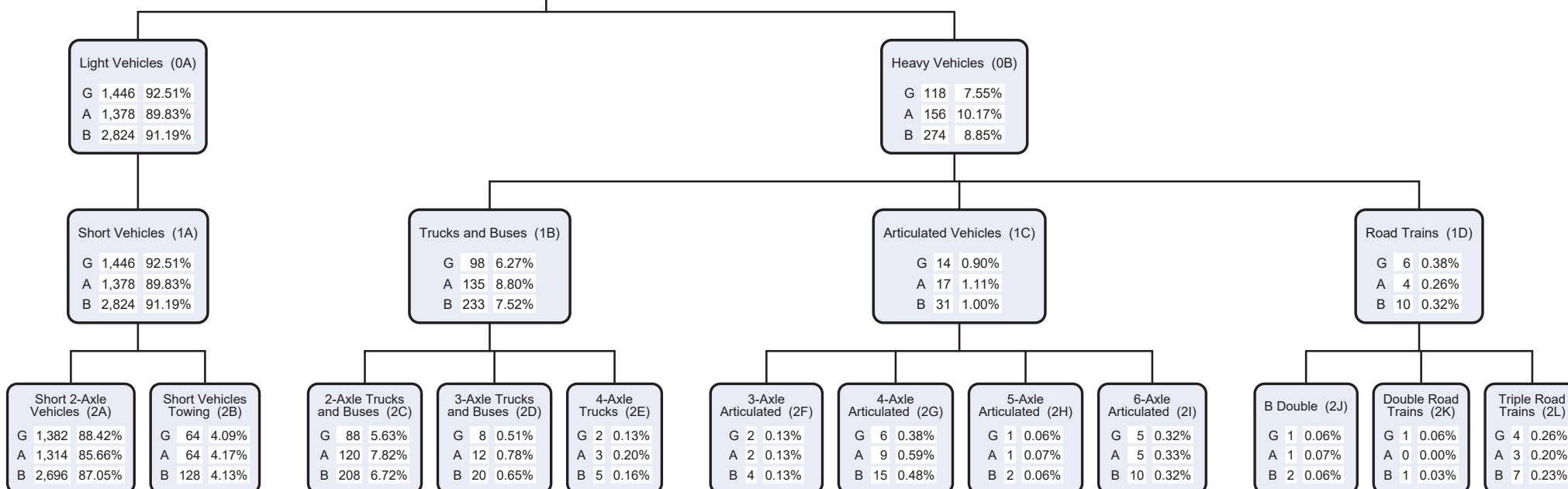
The width of each Road Segment is proportional to its AADT.



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.

All Vehicles (00)		
G	1,563	100%
A	1,534	100%
B	3,097	100%

Annual Segment Growth			
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	7.64%	-1.16%	
A	21.94%	-2.02%	
B	14.28%	-1.66%	



AADT Segment Report

Provides AADT Segment details for a Road Section together with the traffic flow data collected at the related Site. Traffic data is reported by the start and end Through Distance of the AADT Segments on each section of road. The road segments are represented diagrammatically with AADT data including:

AADT by direction of traffic flow
VKT Vehicle Kilometres Travelled
%VC Percentage Vehicle Class as per the Austroads vehicle classification scheme

Annual Average Daily Traffic (AADT)

Annual Average Daily Traffic (AADT) is the number of vehicles passing a point on a road in a 24 hour period, averaged over a calendar year.

AADT Segment

Is a subdivision of a Road Section. The boundaries of an AADT Segment are its Start Point and End Point (or Start and End Through Distance (TDist)) within the Road Section. These distances are measured in kilometres from the beginning of the Road Section in Gazettal Direction. AADT Segments are determined by the traffic volume, collected at a count Site, located within the limits of each AADT Segment.

Annual Segment Growth (when displayed)

A percentage that represents the increase or decrease in AADT for the AADT Segment, using an exponential fit, calculated over a 1, 5 or 10 year period.

Area

For administration purposes the Department of Transport and Main Roads has divided Queensland into 12 Districts. The Area field in TSDM reports displays the District Name and Number.

District Name	District
Central West District	401
Darling Downs District	402
Far North District	403
Fitzroy District	404
Mackay/Whitsunday District	405
Metropolitan District	406
North Coast District	407
North West District	409
Northern District	408
South Coast District	410
South West District	411
Wide Bay/Burnett District	412

Data Year

The most recent year the traffic data was collected for this AADT Segment.

Gazettal Direction

The Gazettal Direction is the direction of the traffic flow. It can be easily recognised by referring to the name of the road eg. Road Section: 10A Brisbane - Gympie denotes that the gazettal direction is from Brisbane to Gympie.

- G Traffic flowing in Gazettal Direction
- A Traffic flowing against Gazettal Direction
- B The combined traffic flow in both Directions

Road Section

Is the Gazetted road from which the traffic data is collected. Each Road Section is given a code, allocated sequentially in Gazettal Direction. Larger roads are broken down into sections and identified by an ID code with a suffix for easier data collection and reporting (eg. 10A, 10B, 10C). Road Sections are then broken into AADT Segments which are determined by traffic volume.

Site

The physical location of a traffic counting device. Sites are located at a specified Through Distance along a Road Section.

Site TDist

The Through Distance in gazettal direction from the start of the Road Section at which the site is located.

Site Description

The description of the physical location of the traffic counting device.

Start and End Point

The unique identifier for the Through Distance along a Road Section.

Through Distance

The distance, in kilometres, from the beginning of the Road Section in Gazettal Direction.

Traffic Class

Is the 12 Austroads vehicle categories or classes into which vehicles are placed or binned. Traffic classes are formed in a hierarchical format.

Volume or All Vehicles

00 = 0A + 0B

Light Vehicles

0A = 1A

1A = 2A + 2B

Heavy Vehicles

0B = 1B + 1C + 1D

1B = 2C + 2D + 2E

1C = 2F + 2G + 2H + 2I

1D = 2J + 2K + 2L

The following classes are the categories for which data can be captured:

Volume

00 All vehicles.

2-Bin

0A Light vehicles

0B Heavy vehicles

4-Bin

1A Short vehicles

1B Truck or bus

1C Articulated vehicles

1D Road train

12-Bin

2A Short 2 axle vehicles

2B Short vehicles towing

2C 2 axle truck or bus

2D 3 axle truck or bus

2E 4 axle truck

2F 3 axle articulated vehicle

2G 4 axle articulated vehicle

2H 5 axle articulated vehicle

2I 6 axle articulated vehicle

2J B double

2K Double road train

2L Triple road train

Vehicle Kilometres Travelled (VKT)

Daily VKT is a measure of the traffic demand. It is calculated by the length of an AADT Segment in kilometres multiplied by its AADT. The yearly VKT is the daily VKT multiplied by 365 days.

AADT Segment Summary - All Vehicles

The Total VKT can be used to gauge the demand on an entire Road Section.

AADT Segment Summary - Heavy Vehicles only

A blank field indicates that vehicle classification data was not collected for this AADT Segment.

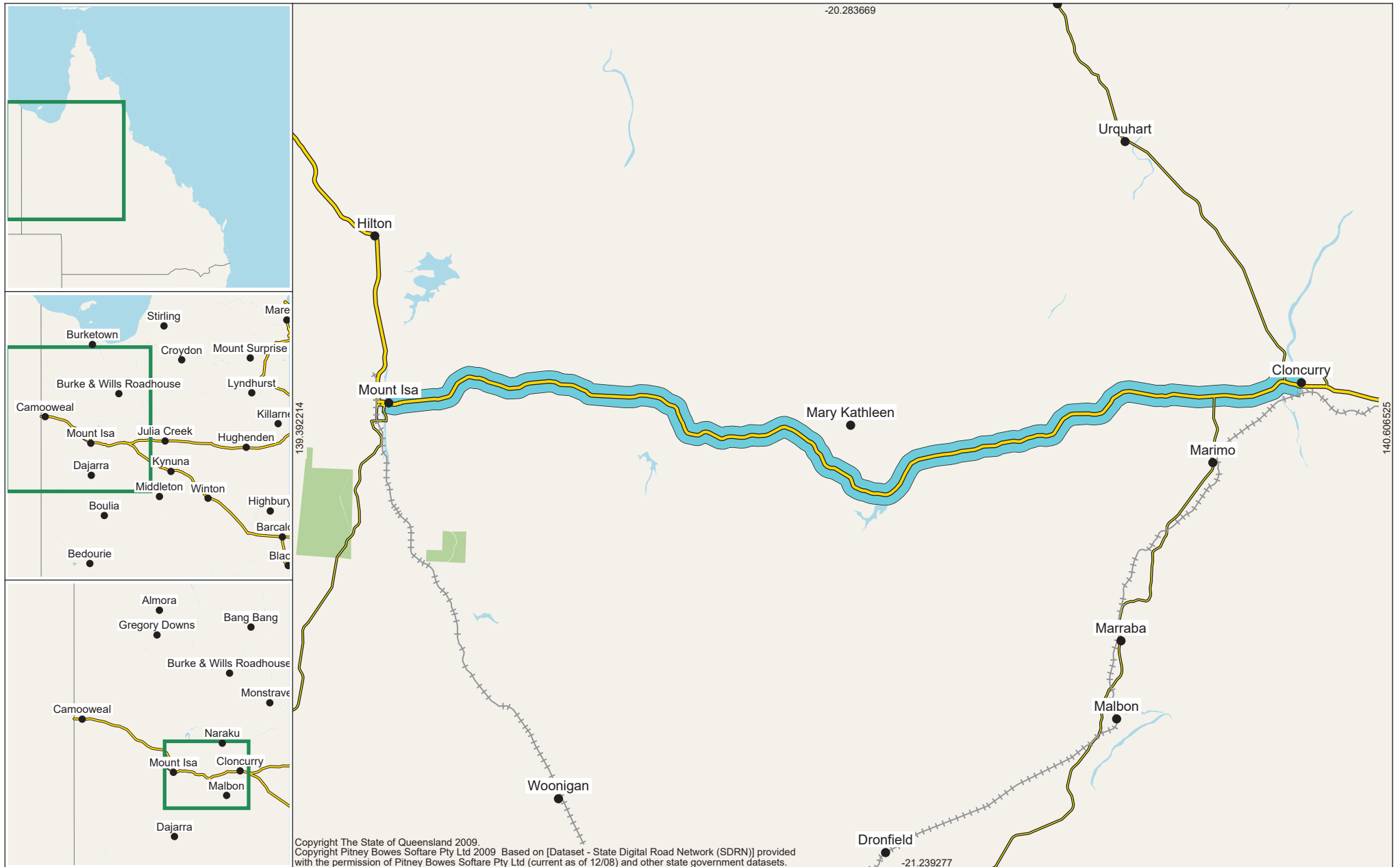
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Traffic Analysis and Reporting System
AADT Segment Analysis Report (Complete)
Road Section 15A - BARKLY HIGHWAY (CLONCURRY - MT ISA)
Traffic Year 2019

Road Segments Summary - All Vehicles

Region	Segment Start Tdist	Segment End Tdist	Site	Site Tdist	Description	AADT			VKT (Millions)			Data Year	Page
						G	A	B	G	A	B		
409	0.000 km	2.050 km	100062	1.500 km	15A Ch 1.5 East abut Cloncurry River Bdg	676	681	1,357	0.50582	0.50956	1.01538	2019	2
409	2.050 km	114.050 km	100021	7.048 km	15A WiM Site Cloncurry Ch 7.048km	478	475	953	19.54064	19.41800	38.95864	2019	3
409	114.050 km	120.550 km	100063	117.000 km	15A Ch 117 - 0.5km East Breakaway dr T/O	596	495	1,091	1.41401	1.17439	2.58840	2019	4
								Totals	21.46047	21.10195	42.56241		

Road Segments Summary - Heavy Vehicles only

VKT totals are calculated only if traffic class data is available for all sites.

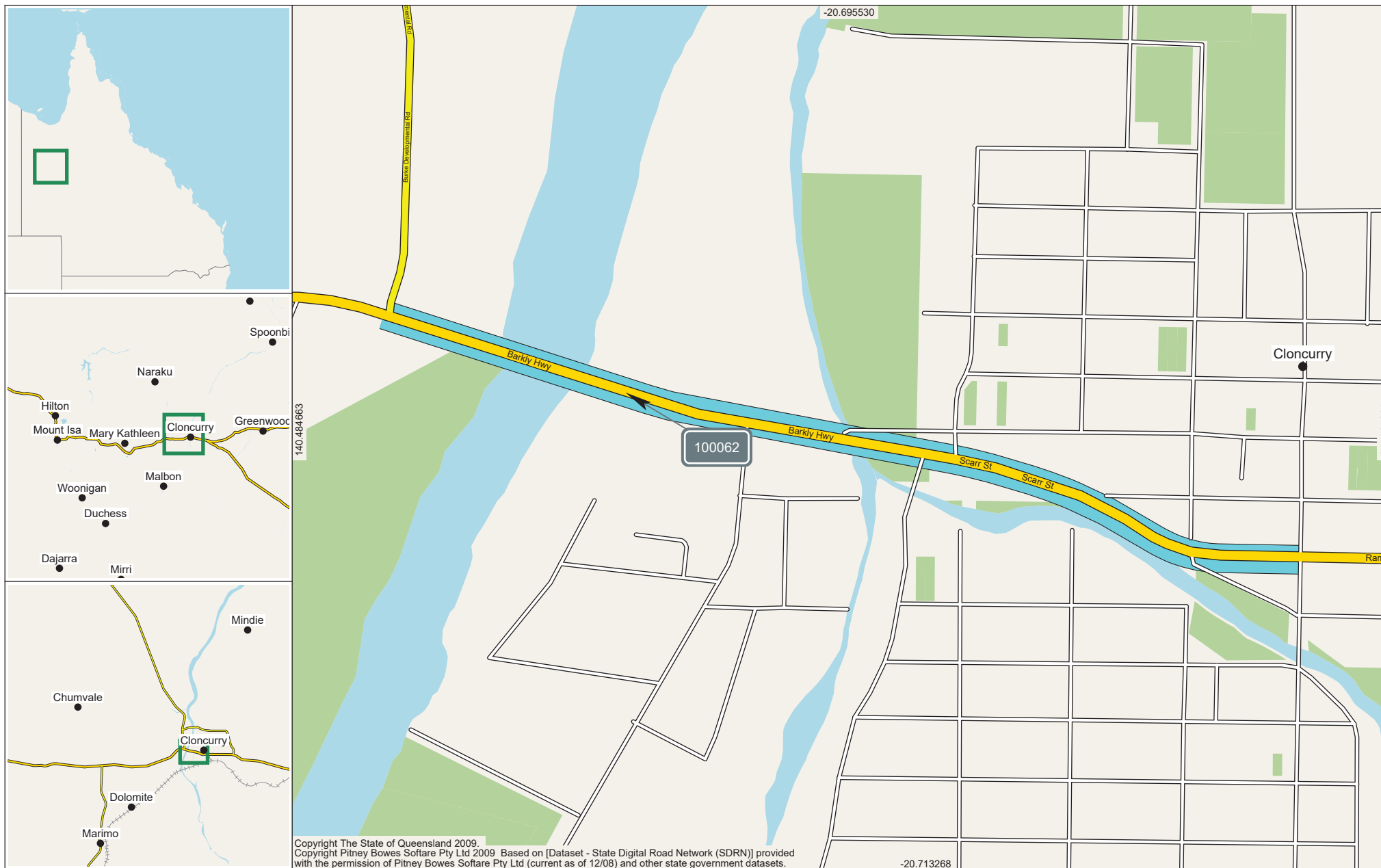
Region	Segment Start Tdist	Segment End Tdist	Site	Site Tdist	Description	HV AADT						HV VKT (Millions)			Data Year	Page
						G		A		B		G	A	B		
						AADT	HV %	AADT	HV %	AADT	HV %					
409	0.000 km	2.050 km	100062	1.500 km	15A Ch 1.5 East abut Cloncurry River Bdg	309	45.71%	99	14.54%	408	30.07%	0.23121	0.07408	0.30529	2019	
409	2.050 km	114.050 km	100021	7.048 km	15A WiM Site Cloncurry Ch 7.048km	184	38.49%	172	36.21%	356	37.36%	7.52192	7.03136	14.55328	2019	
409	114.050 km	120.550 km	100063	117.000 km	15A Ch 117 - 0.5km East Breakaway dr T/O	154	25.84%	171	34.55%	325	29.79%	0.36536	0.40570	0.77106	2019	
											Totals	8.11849	7.51113	15.62963		

AADT Segment Analysis Report (Complete)

Area 409 - North West District

Road Section 15A - BARKLY HIGHWAY (CLONCURRY - MT ISA)

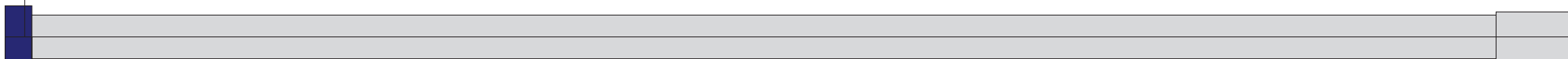
Traffic Year 2019 - Data Collection Year 2019



Site 100062. Point 300000109.
Between Cloncurry River Bridges.

1.50 km

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



0.00 km

Start Point 300000110. Ramsay
and Sheaffe Street Intersection.

2.05 km

End Point 300000030. Intersection of Barkly
Highway and Burke Development Road.

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.

All Vehicles (00)

G	676	100%
A	681	100%
B	1,357	100%

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	3.05%	-4.06%	
A	2.25%	-2.11%	
B	2.65%	-3.14%	

Light Vehicles (0A)

G	367	54.29%
A	582	85.46%
B	949	69.93%

Heavy Vehicles (0B)

G	309	45.71%
A	99	14.54%
B	408	30.07%

Short Vehicles (1A)

G	367	54.29%
A	582	85.46%
B	949	69.93%

Trucks and Buses (1B)

G	231	34.17%
A	52	7.64%
B	283	20.85%

Articulated Vehicles (1C)

G	45	6.66%
A	17	2.50%
B	62	4.57%

Road Trains (1D)

G	33	4.88%
A	30	4.41%
B	63	4.64%

Short 2-Axle
Vehicles (2A)

G	323	47.78%
A	505	74.16%
B	828	61.02%

Short Vehicles
Towing (2B)

G	44	6.51%
A	77	11.31%
B	121	8.92%

2-Axle Trucks
and Buses (2C)

G	218	32.25%
A	38	5.58%
B	256	18.87%

3-Axle Trucks
and Buses (2D)

G	10	1.48%
A	11	1.62%
B	21	1.55%

4-Axle
Trucks (2E)

G	3	0.44%
A	3	0.44%
B	6	0.44%

3-Axle
Articulated (2F)

G	14	2.07%
A	1	0.15%
B	15	1.11%

4-Axle
Articulated (2G)

G	21	3.11%
A	6	0.88%
B	27	1.99%

5-Axle
Articulated (2H)

G	2	0.30%
A	2	0.29%
B	4	0.29%

6-Axle
Articulated (2I)

G	8	1.18%
A	8	1.17%
B	16	1.18%

B Double (2J)

G	3	0.44%
A	3	0.44%
B	6	0.44%

Double Road
Trains (2K)

G	6	0.89%
A	6	0.88%
B	12	0.88%

Triple Road
Trains (2L)

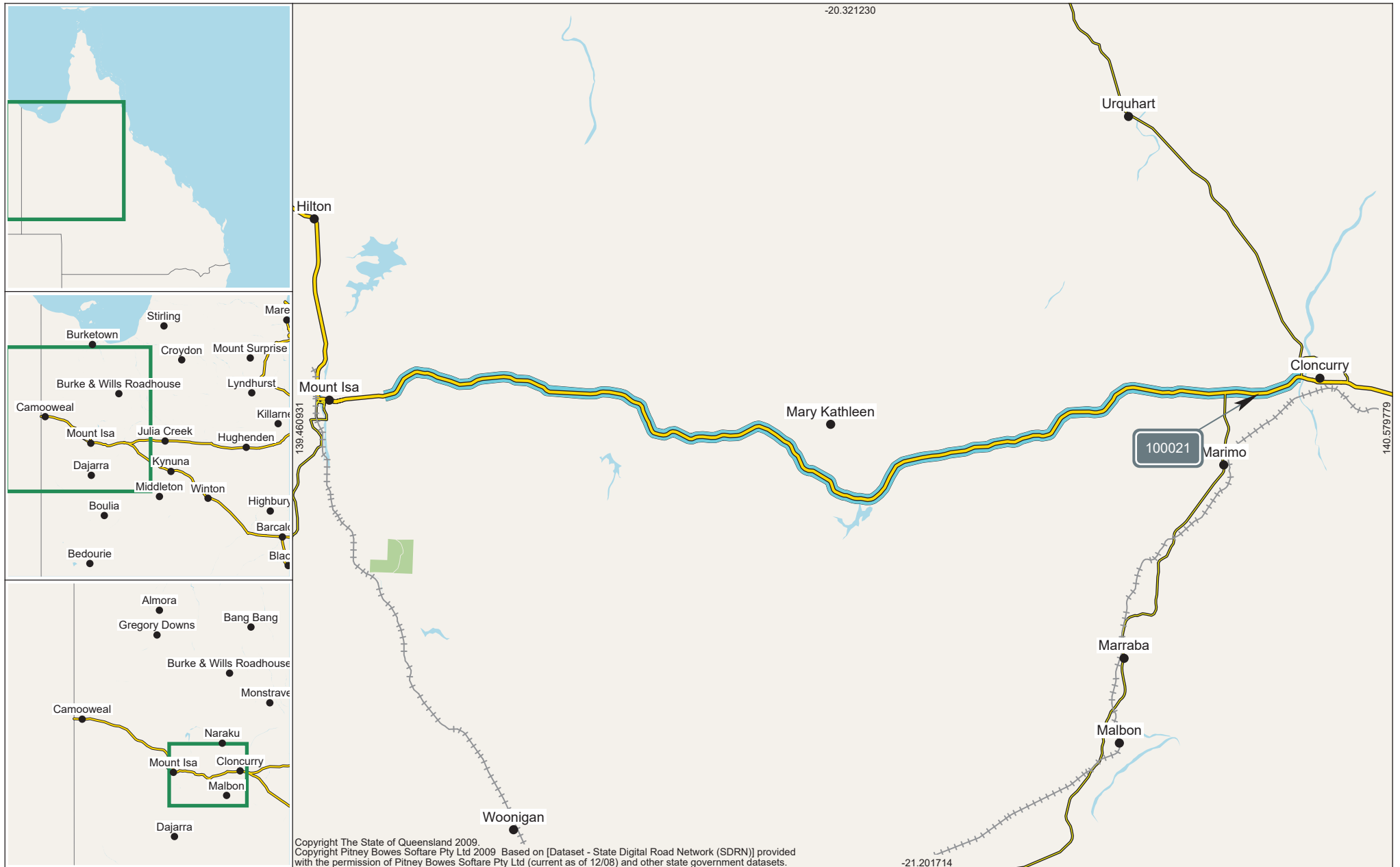
G	24	3.55%
A	21	3.08%
B	45	3.32%

AADT Segment Analysis Report (Complete)

Area 409 - North West District

Road Section 15A - BARKLY HIGHWAY (CLONCURRY - MT ISA)

Traffic Year 2019 - Data Collection Year 2019



Site 100021. Point 300000029.
WIM Site Cloncurry.

7.05 km

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

2.05 km

Start Point 300000030. Intersection of Barkly Highway and Burke Development Road.

114.05 km

End Point 300019702. Telstra Tower T/O.

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.

All Vehicles (00)

G	478	100%
A	475	100%
B	953	100%

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	-1.04%	-0.44%	13.98%
A	-6.50%	-1.06%	12.99%
B	-3.83%	-0.76%	13.47%

Light Vehicles (0A)

G	293	61.30%
A	302	63.58%
B	595	62.43%

Heavy Vehicles (0B)

G	184	38.49%
A	172	36.21%
B	356	37.36%

Short Vehicles (1A)

G	293	61.30%
A	302	63.58%
B	595	62.43%

Trucks and Buses (1B)

G	59	12.34%
A	54	11.37%
B	113	11.86%

Articulated Vehicles (1C)

G	25	5.23%
A	27	5.68%
B	52	5.46%

Road Trains (1D)

G	100	20.92%
A	91	19.16%
B	191	20.04%

Short 2-Axle Vehicles (2A)

G	256	53.56%
A	254	53.47%
B	510	53.52%

Short Vehicles Towing (2B)

G	37	7.74%
A	48	10.11%
B	85	8.92%

2-Axle Trucks and Buses (2C)

G	46	9.62%
A	43	9.05%
B	89	9.34%

3-Axle Trucks and Buses (2D)

G	7	1.46%
A	6	1.26%
B	13	1.36%

4-Axle Trucks (2E)

G	6	1.26%
A	5	1.05%
B	11	1.15%

3-Axle Articulated (2F)

G	3	0.63%
A	4	0.84%
B	7	0.73%

4-Axle Articulated (2G)

G	9	1.88%
A	10	2.11%
B	19	1.99%

5-Axle Articulated (2H)

G	2	0.42%
A	2	0.42%
B	4	0.42%

6-Axle Articulated (2I)

G	11	2.30%
A	11	2.32%
B	22	2.31%

B Double (2J)

G	6	1.26%
A	6	1.26%
B	12	1.26%

Double Road Trains (2K)

G	37	7.74%
A	35	7.37%
B	72	7.56%

Triple Road Trains (2L)

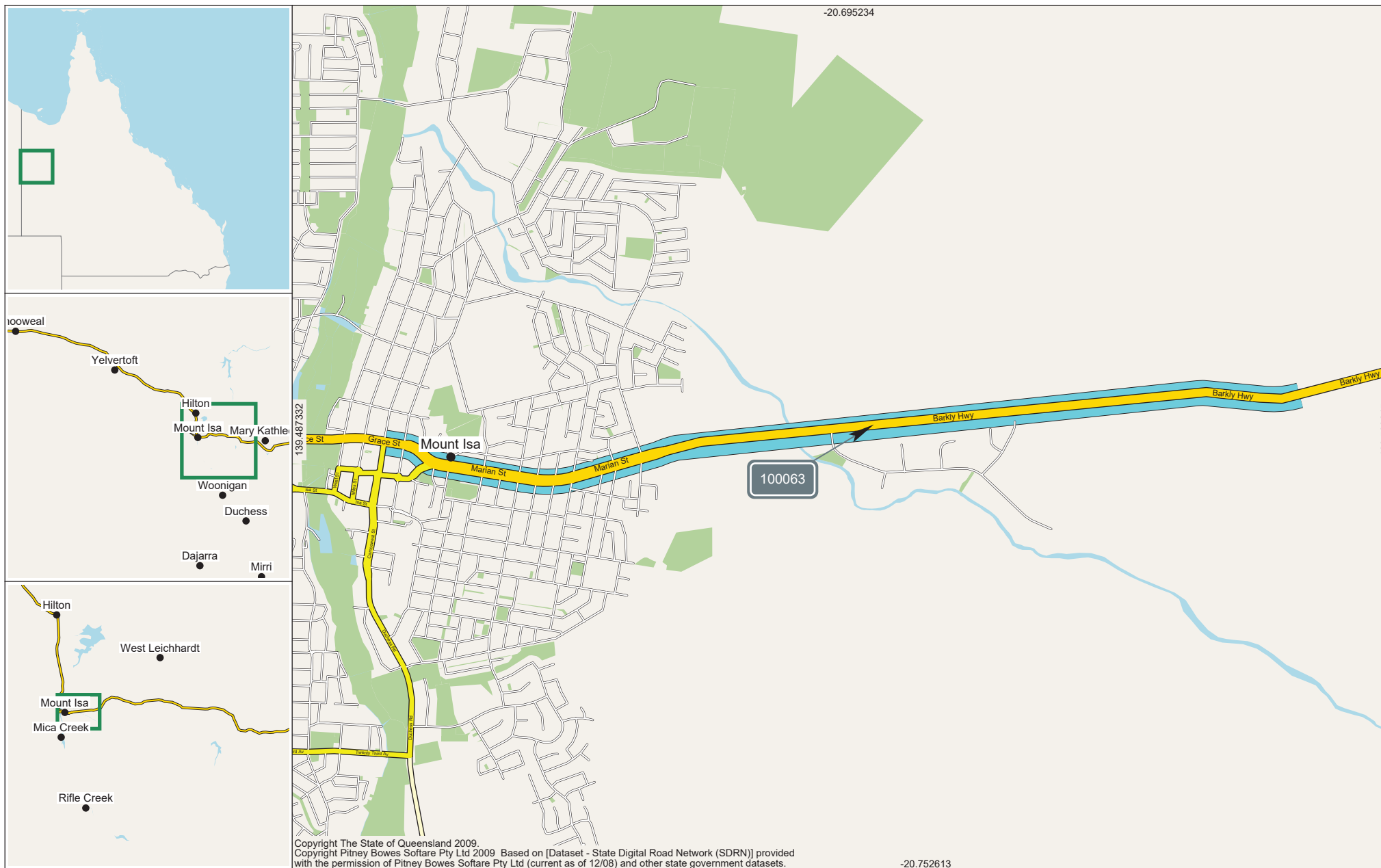
G	57	11.92%
A	50	10.53%
B	107	11.23%

AADT Segment Analysis Report (Complete)

Area 409 - North West District

Road Section 15A - BARKLY HIGHWAY (CLONCURRY - MT ISA)

Traffic Year 2019 - Data Collection Year 2019



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

Site 100063. Point 300019676.
Mt Isa east of urban area.

117.00 km

114.05 km

Start Point 300019702. Telstra Tower T/O.

120.55 km

End Point 300000112. Intersection of
Mairan Street and Camooweal Street.

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.

All Vehicles (00)

G	596	100%
A	495	100%
B	1,091	100%

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	6.62%	0.61%	9.10%
A	-4.99%	-5.94%	5.24%
B	1.02%	-2.75%	7.18%

Light Vehicles (0A)

G	441	73.99%
A	325	65.66%
B	766	70.21%

Heavy Vehicles (0B)

G	154	25.84%
A	171	34.55%
B	325	29.79%

Short Vehicles (1A)

G	441	73.99%
A	325	65.66%
B	766	70.21%

Trucks and Buses (1B)

G	53	8.89%
A	85	17.17%
B	138	12.65%

Articulated Vehicles (1C)

G	21	3.52%
A	24	4.85%
B	45	4.12%

Road Trains (1D)

G	80	13.42%
A	62	12.53%
B	142	13.02%

Short 2-Axle
Vehicles (2A)

G	393	65.94%
A	285	57.58%
B	678	62.14%

Short Vehicles
Towing (2B)

G	48	8.05%
A	40	8.08%
B	88	8.07%

2-Axle Trucks
and Buses (2C)

G	44	7.38%
A	78	15.76%
B	122	11.18%

3-Axle Trucks
and Buses (2D)

G	7	1.17%
A	5	1.01%
B	12	1.10%

4-Axle
Trucks (2E)

G	2	0.34%
A	2	0.40%
B	4	0.37%

3-Axle
Articulated (2F)

G	2	0.34%
A	4	0.81%
B	6	0.55%

4-Axle
Articulated (2G)

G	6	1.01%
A	9	1.82%
B	15	1.37%

5-Axle
Articulated (2H)

G	2	0.34%
A	2	0.40%
B	4	0.37%

6-Axle
Articulated (2I)

G	11	1.85%
A	9	1.82%
B	20	1.83%

B Double (2J)

G	6	1.01%
A	5	1.01%
B	11	1.01%

Double Road
Trains (2K)

G	13	2.18%
A	11	2.22%
B	24	2.20%

Triple Road
Trains (2L)

G	61	10.23%
A	46	9.29%
B	107	9.81%

AADT Segment Report

Provides AADT Segment details for a Road Section together with the traffic flow data collected at the related Site. Traffic data is reported by the start and end Through Distance of the AADT Segments on each section of road. The road segments are represented diagrammatically with AADT data including:

AADT by direction of traffic flow
VKT Vehicle Kilometres Travelled
%VC Percentage Vehicle Class as per the Austroads vehicle classification scheme

Annual Average Daily Traffic (AADT)

Annual Average Daily Traffic (AADT) is the number of vehicles passing a point on a road in a 24 hour period, averaged over a calendar year.

AADT Segment

Is a subdivision of a Road Section. The boundaries of an AADT Segment are its Start Point and End Point (or Start and End Through Distance (TDist)) within the Road Section. These distances are measured in kilometres from the beginning of the Road Section in Gazettal Direction. AADT Segments are determined by the traffic volume, collected at a count Site, located within the limits of each AADT Segment.

Annual Segment Growth (when displayed)

A percentage that represents the increase or decrease in AADT for the AADT Segment, using an exponential fit, calculated over a 1, 5 or 10 year period.

Area

For administration purposes the Department of Transport and Main Roads has divided Queensland into 12 Districts. The Area field in TSDM reports displays the District Name and Number.

District Name	District
Central West District	401
Darling Downs District	402
Far North District	403
Fitzroy District	404
Mackay/Whitsunday District	405
Metropolitan District	406
North Coast District	407
North West District	409
Northern District	408
South Coast District	410
South West District	411
Wide Bay/Burnett District	412

Data Year

The most recent year the traffic data was collected for this AADT Segment.

Gazettal Direction

The Gazettal Direction is the direction of the traffic flow. It can be easily recognised by referring to the name of the road eg. Road Section: 10A Brisbane - Gympie denotes that the gazettal direction is from Brisbane to Gympie.

- G Traffic flowing in Gazettal Direction
- A Traffic flowing against Gazettal Direction
- B The combined traffic flow in both Directions

Road Section

Is the Gazetted road from which the traffic data is collected. Each Road Section is given a code, allocated sequentially in Gazettal Direction. Larger roads are broken down into sections and identified by an ID code with a suffix for easier data collection and reporting (eg. 10A, 10B, 10C). Road Sections are then broken into AADT Segments which are determined by traffic volume.

Site

The physical location of a traffic counting device. Sites are located at a specified Through Distance along a Road Section.

Site TDist

The Through Distance in gazettal direction from the start of the Road Section at which the site is located.

Site Description

The description of the physical location of the traffic counting device.

Start and End Point

The unique identifier for the Through Distance along a Road Section.

Through Distance

The distance, in kilometres, from the beginning of the Road Section in Gazettal Direction.

Traffic Class

Is the 12 Austroads vehicle categories or classes into which vehicles are placed or binned. Traffic classes are formed in a hierarchical format.

Volume or All Vehicles

00 = 0A + 0B

Light Vehicles

0A = 1A

1A = 2A + 2B

Heavy Vehicles

0B = 1B + 1C + 1D

1B = 2C + 2D + 2E

1C = 2F + 2G + 2H + 2I

1D = 2J + 2K + 2L

The following classes are the categories for which data can be captured:

Volume

00 All vehicles.

2-Bin

0A Light vehicles

0B Heavy vehicles

4-Bin

1A Short vehicles

1B Truck or bus

1C Articulated vehicles

1D Road train

12-Bin

2A Short 2 axle vehicles

2B Short vehicles towing

2C 2 axle truck or bus

2D 3 axle truck or bus

2E 4 axle truck

2F 3 axle articulated vehicle

2G 4 axle articulated vehicle

2H 5 axle articulated vehicle

2I 6 axle articulated vehicle

2J B double

2K Double road train

2L Triple road train

Vehicle Kilometres Travelled (VKT)

Daily VKT is a measure of the traffic demand. It is calculated by the length of an AADT Segment in kilometres multiplied by its AADT. The yearly VKT is the daily VKT multiplied by 365 days.

AADT Segment Summary - All Vehicles

The Total VKT can be used to gauge the demand on an entire Road Section.

AADT Segment Summary - Heavy Vehicles only

A blank field indicates that vehicle classification data was not collected for this AADT Segment.

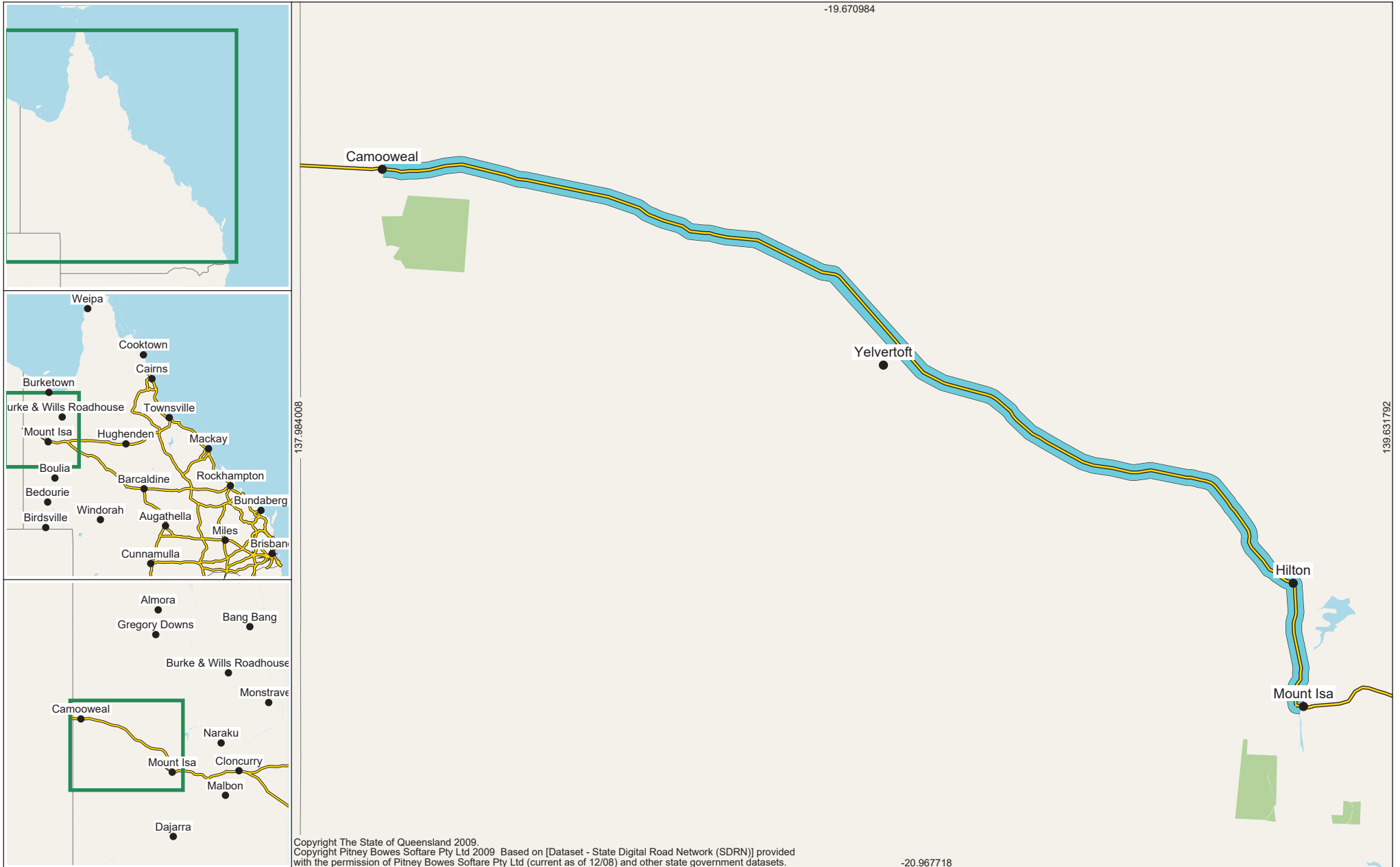
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Traffic Analysis and Reporting System
AADT Segment Analysis Report (Complete)
Road Section 15B - BARKLY HIGHWAY (MT ISA - CAMOOWEAL)
Traffic Year 2019

Road Segments Summary - All Vehicles

Region	Segment Start Tdist	Segment End Tdist	Site	Site Tdist	Description	AADT			VKT (Millions)			Data Year	Page
						G	A	B	G	A	B		
409	0.000 km	0.670 km	100175	0.410 km	15B Ch 0.41 - East Leichardt River Bdge	4,529	4,947	9,476	1.10757	1.20979	2.31736	2019	2
409	0.670 km	7.280 km	100065	6.810 km	15B Ch 6.81 - Mount Isa Airport	1,660	1,638	3,298	4.00500	3.95192	7.95692	2019	3
409	7.280 km	18.500 km	100088	12.250 km	15B Ch 12.25 - WiM Site Mt Isa	686	736	1,422	2.80938	3.01414	5.82352	2019	4
409	18.500 km	99.990 km	100006	50.900 km	15B Ch 50.9km (Wst of Gunpowder Int)	233	244	477	6.93032	7.25750	14.18782	2019	5
409	99.990 km	187.695 km	100067	156.310 km	15B Ch 156.31 - 37km West Thornton T/O	165	174	339	5.28203	5.57014	10.85218	2019	6
409	187.695 km	189.395 km	100179	188.280 km	15B Ch 188.726 - 550m West Int 15B/6801	204	212	416	0.12658	0.13155	0.25813	2019	7
								Totals	20.26087	21.13504	41.39591		

Road Segments Summary - Heavy Vehicles only

VKT totals are calculated only if traffic class data is available for all sites.

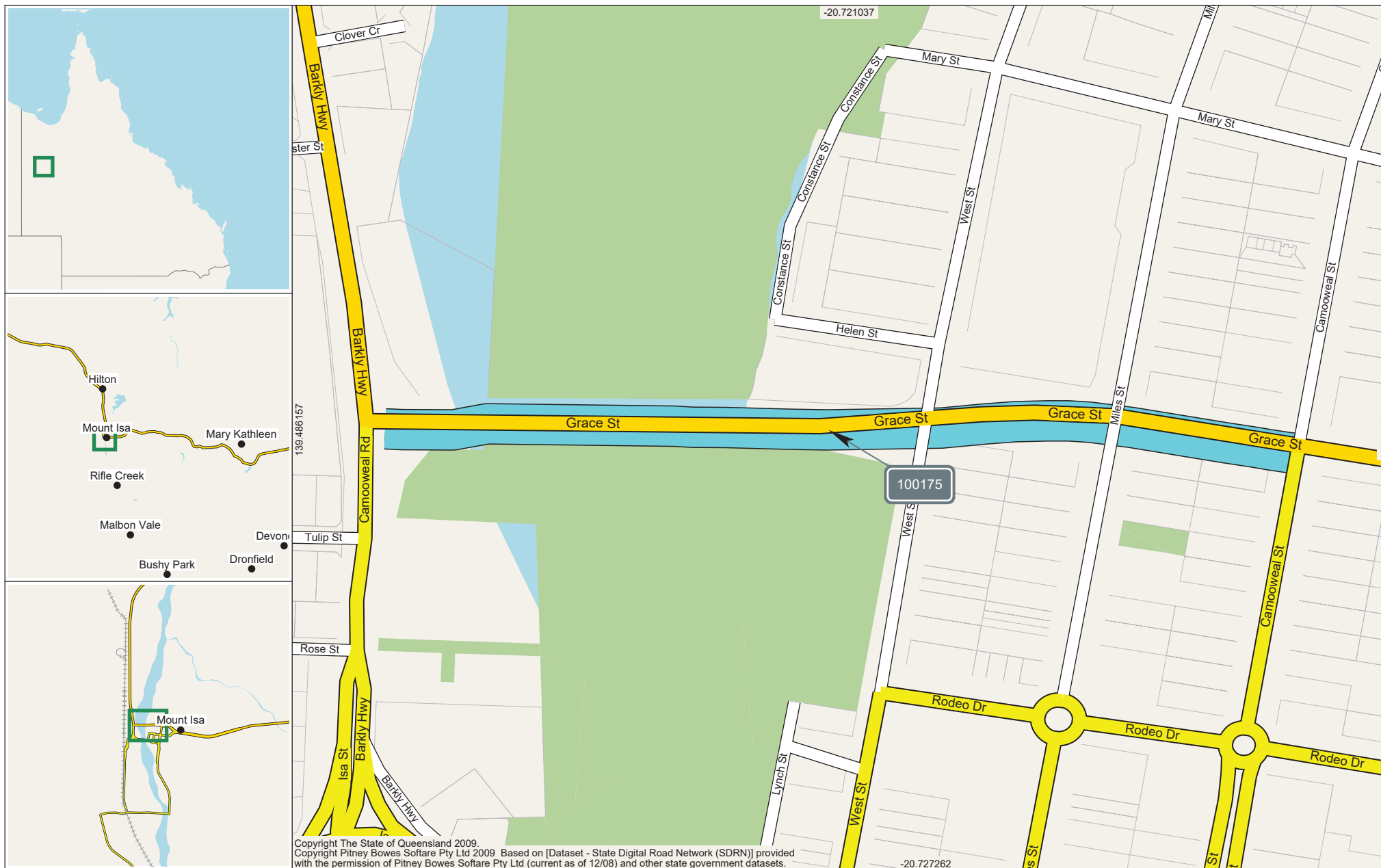
Region	Segment Start Tdist	Segment End Tdist	Site	Site Tdist	Description	HV AADT						HV VKT (Millions)			Data Year	Page
						G		A		B						
						AADT	HV %	AADT	HV %	AADT	HV %	G	A	B		
409	0.000 km	0.670 km	100175	0.410 km	15B Ch 0.41 - East Leichardt River Bdge	1,366	30.16%	807	16.31%	2,173	22.93%	0.33406	0.19735	0.53141	2019	
409	0.670 km	7.280 km	100065	6.810 km	15B Ch 6.81 - Mount Isa Airport	316	19.04%	203	12.39%	519	15.74%	0.76240	0.48977	1.25217	2019	
409	7.280 km	18.500 km	100088	12.250 km	15B Ch 12.25 - WiM Site Mt Isa	153	22.30%	160	21.74%	313	22.01%	0.62658	0.65525	1.28183	2019	
409	18.500 km	99.990 km	100006	50.900 km	15B Ch 50.9km (Wst of Gunpowder Int)	101	43.35%	97	39.75%	198	41.51%	3.00413	2.88515	5.88928	2019	
409	99.990 km	187.695 km	100067	156.310 km	15B Ch 156.31 - 37km West Thornton T/O	64	38.79%	55	31.61%	119	35.10%	2.04879	1.76068	3.80947	2019	
409	187.695 km	189.395 km	100179	188.280 km	15B Ch 188.726 - 550m West Int 15B/6801	51	25.00%	64	30.19%	115	27.64%	0.03165	0.03971	0.07136	2019	
											Totals	6.80760	6.02791	12.83551		

AADT Segment Analysis Report (Complete)

Area 409 - North West District

Road Section 15B - BARKLY HIGHWAY (MT ISA - CAMOOWEAL)

Traffic Year 2019 - Data Collection Year 2019



AADT Segment Analysis Report (Complete)

Area 409 - North West District

Road Section 15B - BARKLY HIGHWAY (MT ISA - CAMOOWEAL)

Traffic Year 2019 - Data Collection Year 2019

Site 100175. Point 300018644.
Leichhardt River Bridge.

0.41 km

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

0.00 km

Start Point 300000064. Intersection
of Marian Street and Grace Street.

0.67 km

End Point 300019703. RP2 - Int of 15B/93F.

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.

All Vehicles (00)

G	4,529	100%
A	4,947	100%
B	9,476	100%

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	108.04%		
A	236.07%		
B	159.69%		

Light Vehicles (0A)

G	3,162	69.82%
A	4,140	83.69%
B	7,302	77.06%

Heavy Vehicles (0B)

G	1,366	30.16%
A	807	16.31%
B	2,173	22.93%

Short Vehicles (1A)

G	3,162	69.82%
A	4,140	83.69%
B	7,302	77.06%

Trucks and Buses (1B)

G	1,232	27.20%
A	677	13.69%
B	1,909	20.15%

Articulated Vehicles (1C)

G	43	0.95%
A	41	0.83%
B	84	0.89%

Road Trains (1D)

G	91	2.01%
A	89	1.80%
B	180	1.90%

Short 2-Axle
Vehicles (2A)

G	3,138	69.29%
A	4,100	82.88%
B	7,238	76.38%

Short Vehicles
Towing (2B)

G	24	0.53%
A	40	0.81%
B	64	0.68%

2-Axle Trucks
and Buses (2C)

G	1,208	26.67%
A	624	12.61%
B	1,832	19.33%

3-Axle Trucks
and Buses (2D)

G	17	0.38%
A	30	0.61%
B	47	0.50%

4-Axle
Trucks (2E)

G	7	0.15%
A	23	0.46%
B	30	0.32%

3-Axle
Articulated (2F)

G	11	0.24%
A	7	0.14%
B	18	0.19%

4-Axle
Articulated (2G)

G	14	0.31%
A	11	0.22%
B	25	0.26%

5-Axle
Articulated (2H)

G	3	0.07%
A	4	0.08%
B	7	0.07%

6-Axle
Articulated (2I)

G	15	0.33%
A	19	0.38%
B	34	0.36%

B Double (2J)

G	8	0.18%
A	14	0.28%
B	22	0.23%

Double Road
Trains (2K)

G	20	0.44%
A	21	0.42%
B	41	0.43%

Triple Road
Trains (2L)

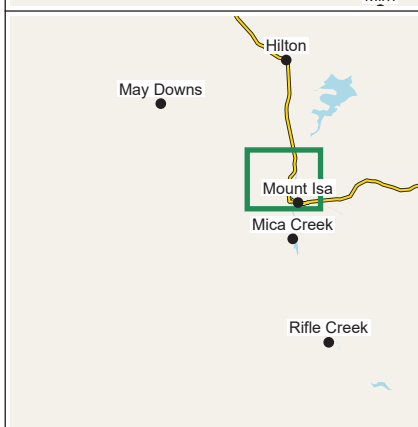
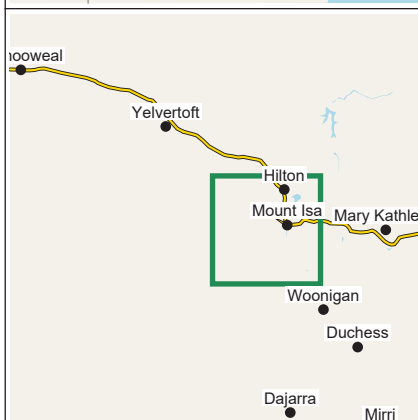
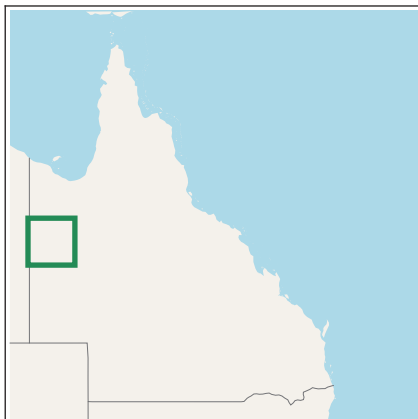
G	63	1.39%
A	54	1.09%
B	117	1.23%

AADT Segment Analysis Report (Complete)

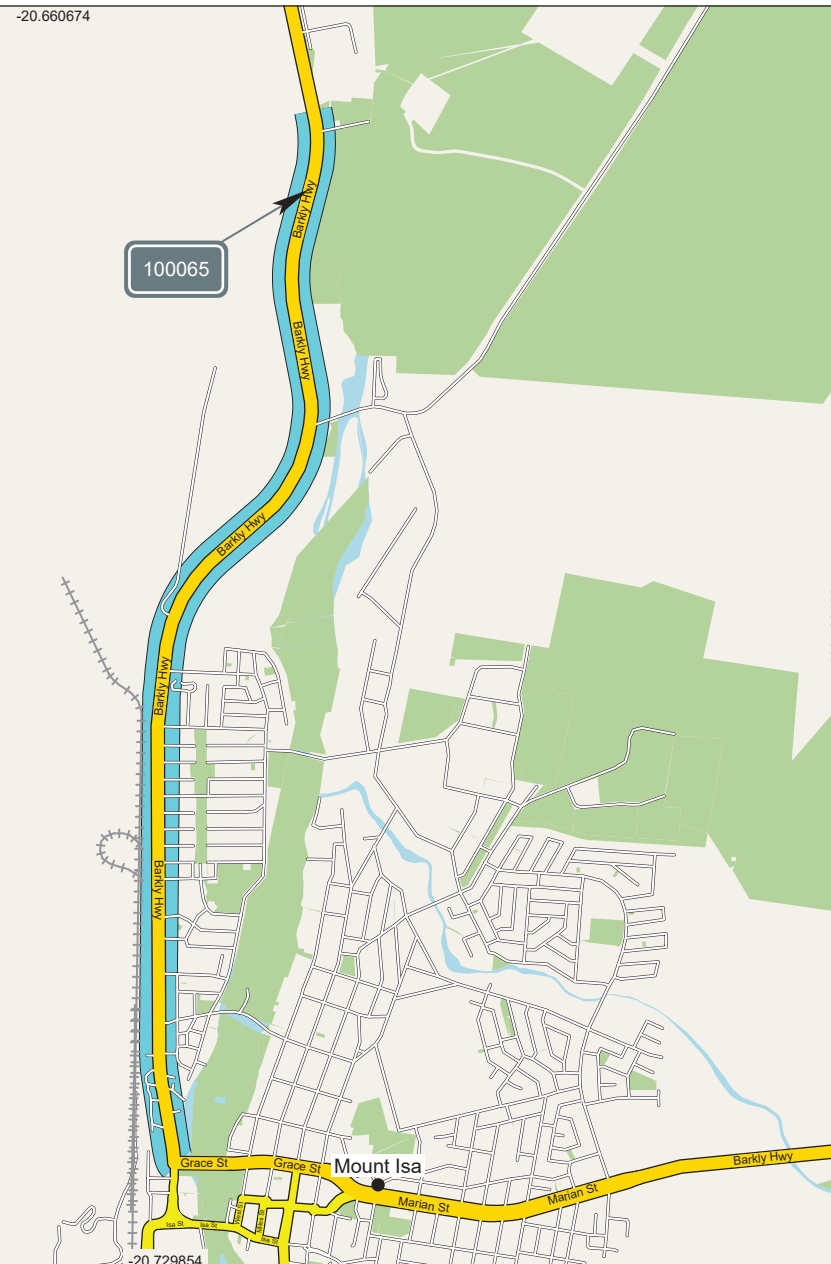
Area 409 - North West District

Road Section 15B - BARKLY HIGHWAY (MT ISA - CAMOOWEAL)

Traffic Year 2019 - Data Collection Year 2019



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AADT Segment Analysis Report (Complete)

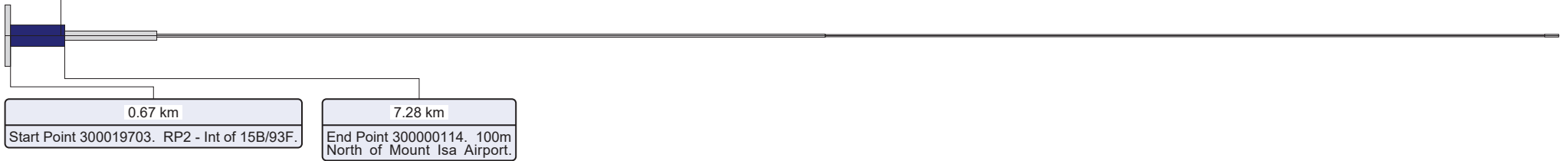
Area 409 - North West District

Road Section 15B - BARKLY HIGHWAY (MT ISA - CAMOOWEAL)

Traffic Year 2019 - Data Collection Year 2019

Site 100065.	Point
300000113.	Mount Isa Airport.
6.81 km	

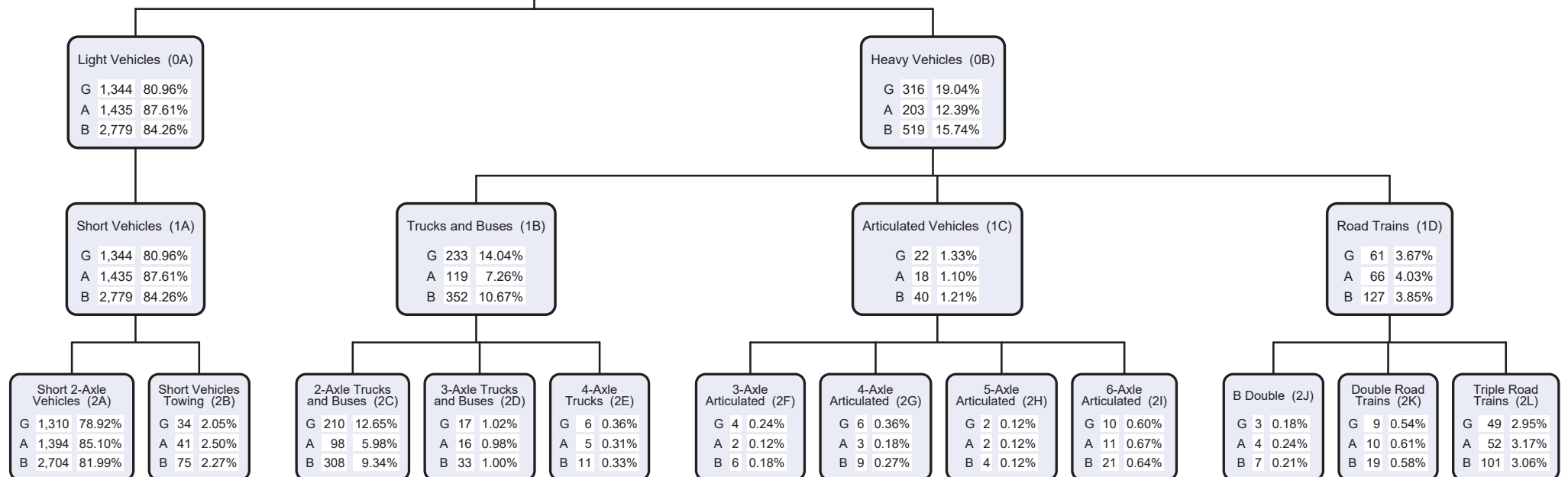
The width of each Road Segment is proportional to its AADT.



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.

All Vehicles (00)		
G	1,660	100%
A	1,638	100%
B	3,298	100%

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	6.14%	1.74%	
A	4.20%	-0.05%	
B	5.17%	0.75%	

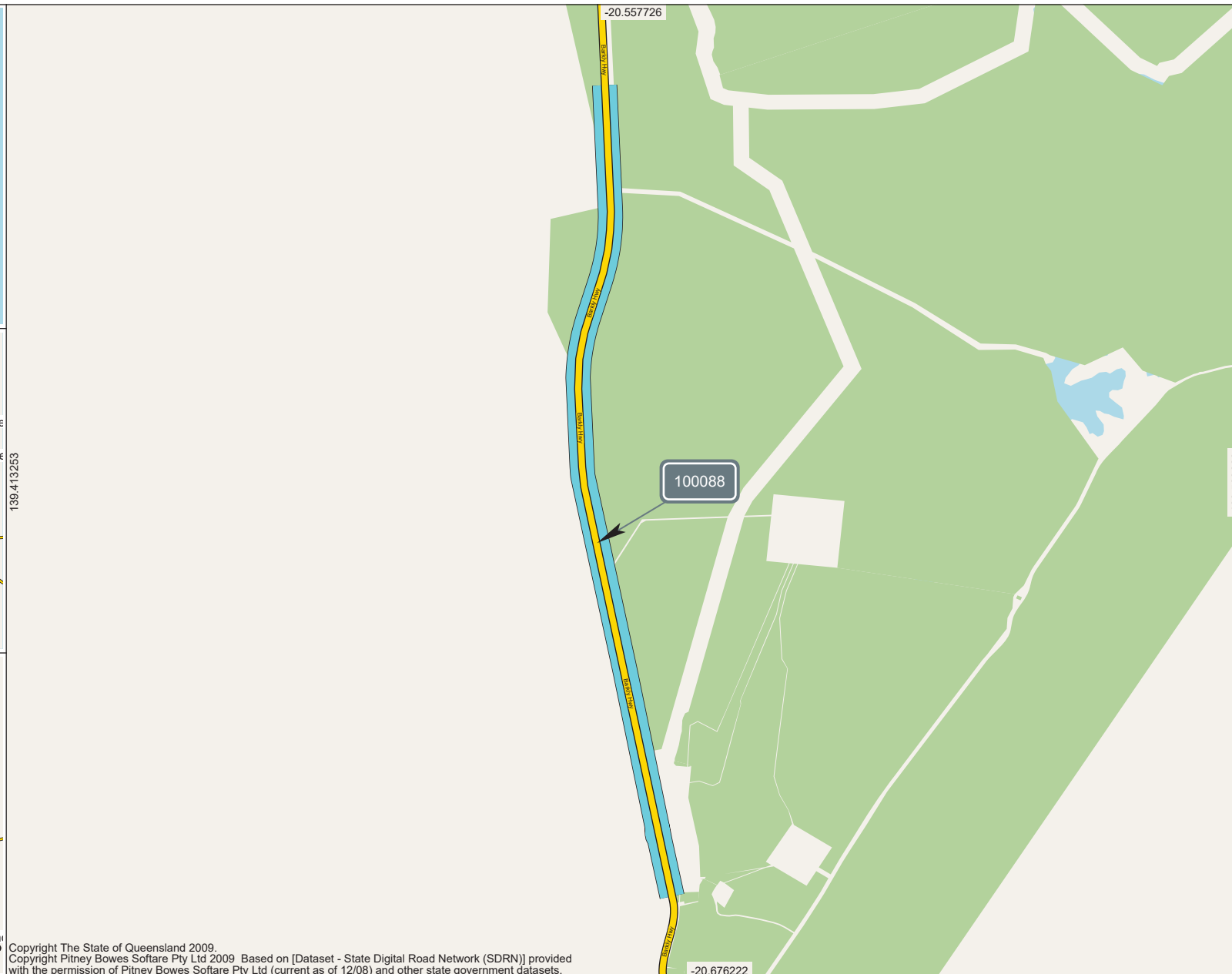
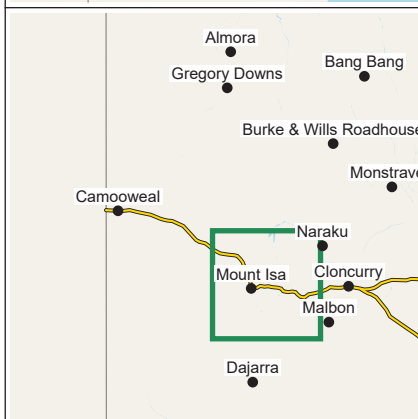
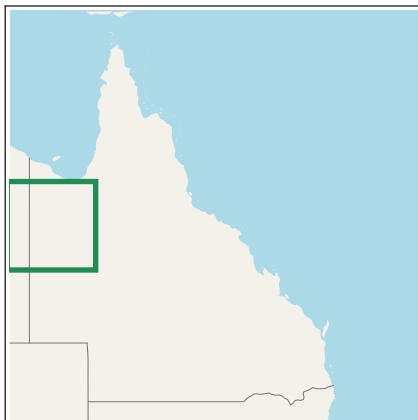


AADT Segment Analysis Report (Complete)

Area 409 - North West District

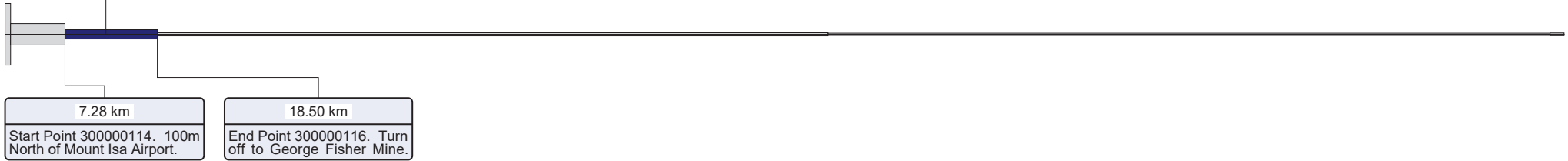
Road Section 15B - BARKLY HIGHWAY (MT ISA - CAMOOWEAL)

Traffic Year 2019 - Data Collection Year 2019



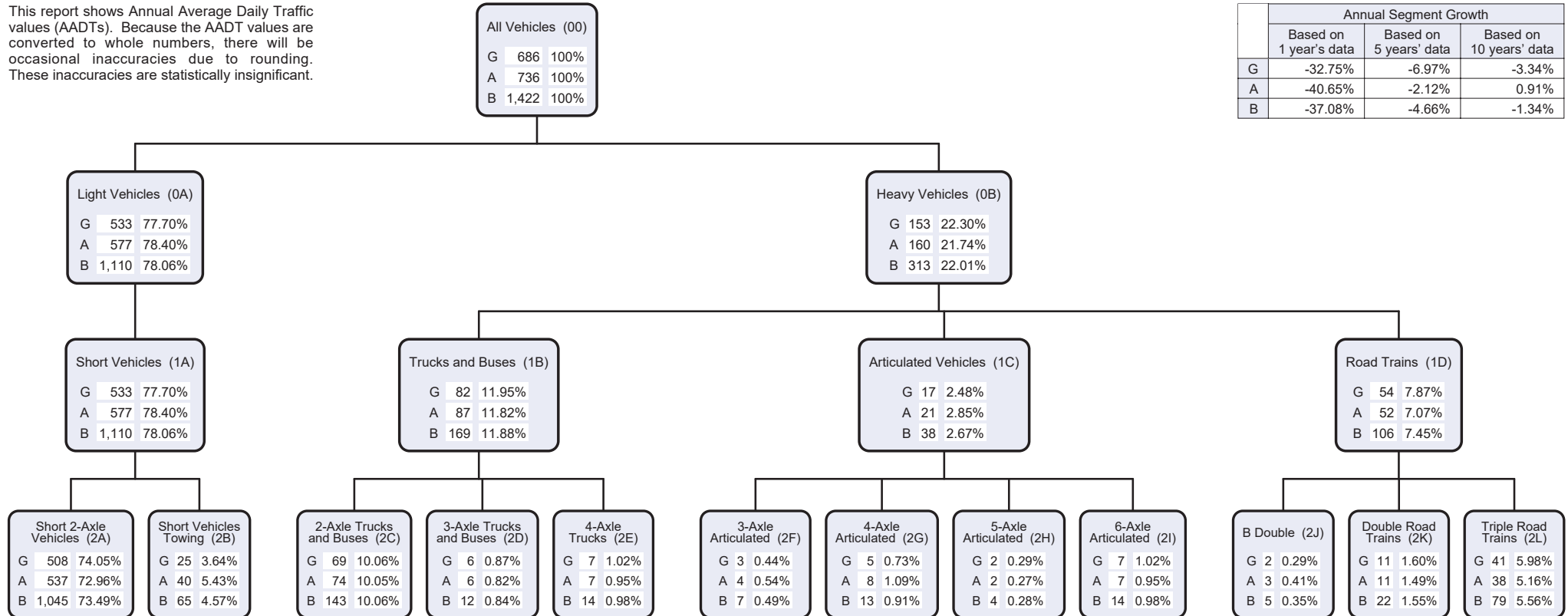
Site 100088.	Point 300000158.
WIM Site Mt Isa.	
12.25 km	

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.

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	-32.75%	-6.97%	-3.34%
A	-40.65%	-2.12%	0.91%
B	-37.08%	-4.66%	-1.34%

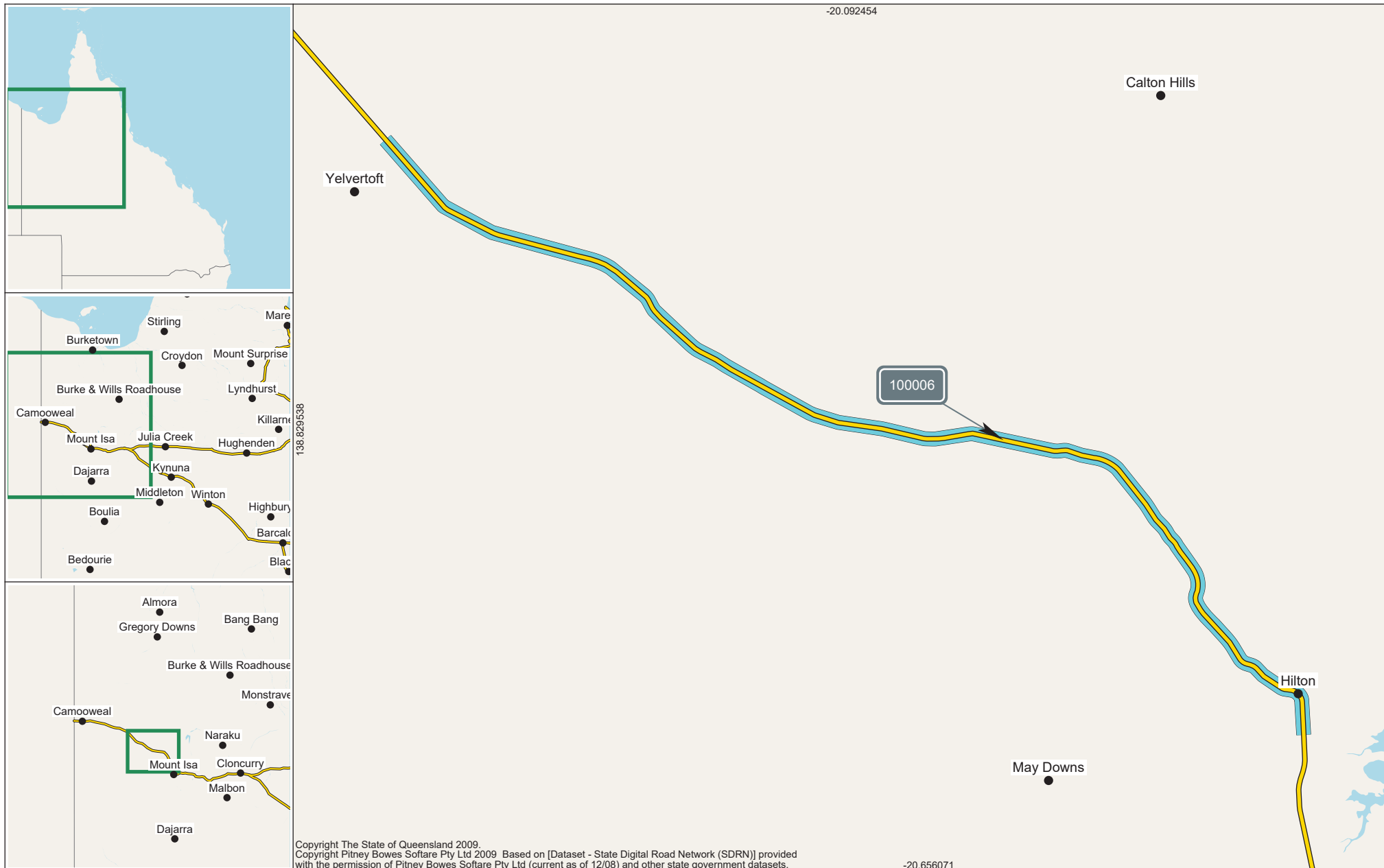


AADT Segment Analysis Report (Complete)

Area 409 - North West District

Road Section 15B - BARKLY HIGHWAY (MT ISA - CAMOOWEAL)

Traffic Year 2019 - Data Collection Year 2019



AADT Segment Analysis Report (Complete)

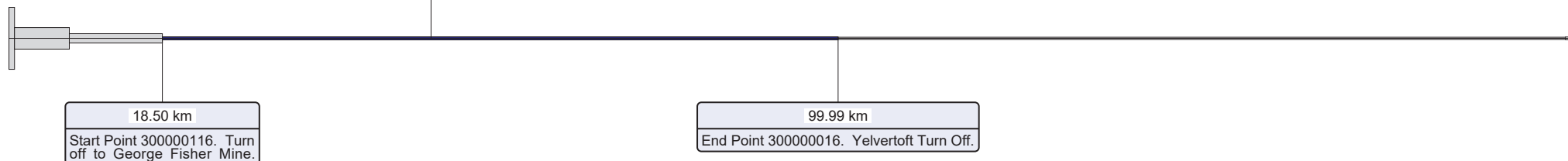
Area 409 - North West District

Road Section 15B - BARKLY HIGHWAY (MT ISA - CAMOOWEAL)

Traffic Year 2019 - Data Collection Year 2019

Site 100006. Point 300000014. 50km
west of Mt Isa (W of Gunpowder Int).
50.90 km

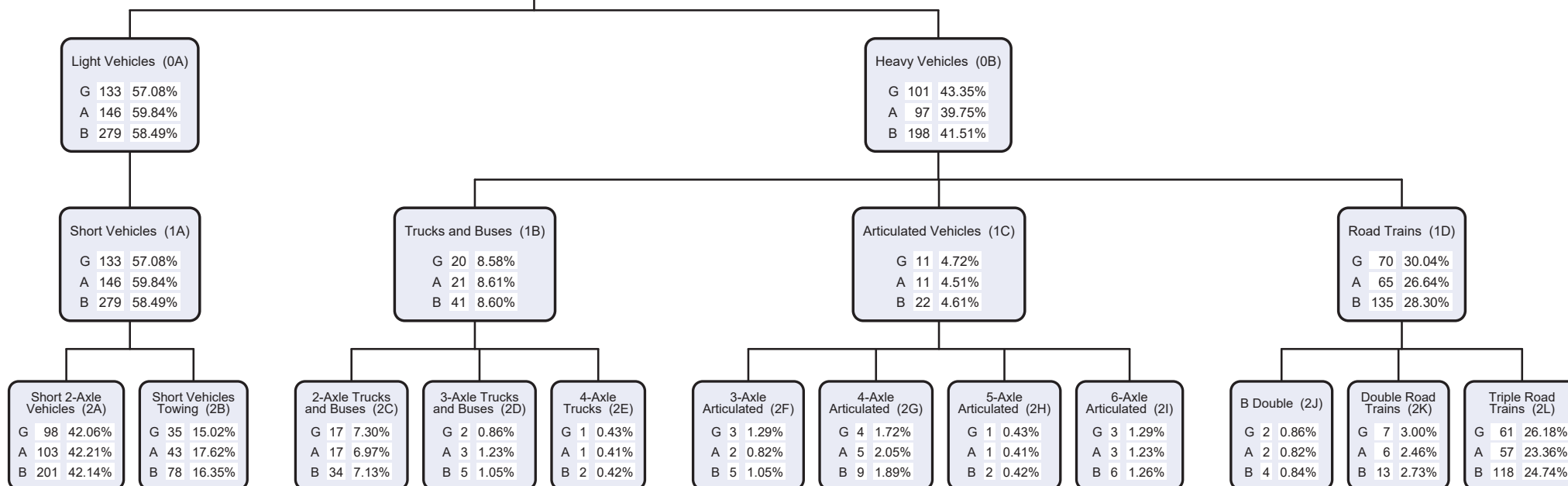
The width of each Road Segment is proportional to its AADT.



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.

All Vehicles (00)		
G	233	100%
A	244	100%
B	477	100%

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	19.49%	-2.13%	4.62%
A	18.45%	-0.99%	5.16%
B	18.95%	-1.55%	4.89%

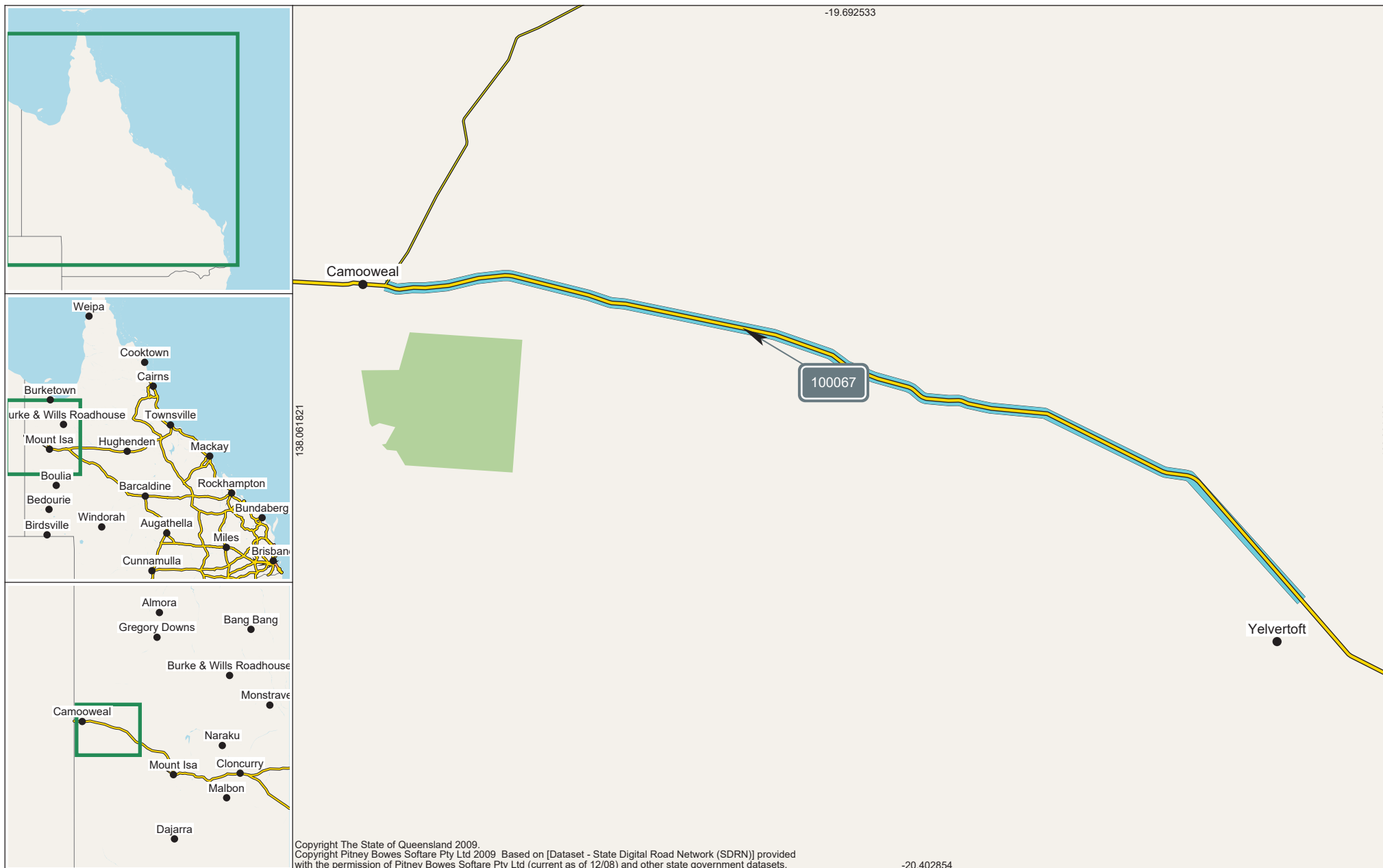


AADT Segment Analysis Report (Complete)

Area 409 - North West District

Road Section 15B - BARKLY HIGHWAY (MT ISA - CAMOOWEAL)

Traffic Year 2019 - Data Collection Year 2019



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

Site 100067. Point 300019359.
37km West of Thornton T/O.

156.31 km

99.99 km

Start Point 300000016. Yelvertoft Turn Off.

187.69 km

End Point 300019704.
RP11A - Int of 15B/6801.

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.

All Vehicles (00)

G	165	100%
A	174	100%
B	339	100%

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	0.61%		
A	-2.25%		
B	-0.88%		

Light Vehicles (0A)

G	102	61.82%
A	119	68.39%
B	221	65.19%

Heavy Vehicles (0B)

G	64	38.79%
A	55	31.61%
B	119	35.10%

Short Vehicles (1A)

G	102	61.82%
A	119	68.39%
B	221	65.19%

Trucks and Buses (1B)

G	20	12.12%
A	14	8.05%
B	34	10.03%

Articulated Vehicles (1C)

G	13	7.88%
A	10	5.75%
B	23	6.78%

Road Trains (1D)

G	31	18.79%
A	31	17.82%
B	62	18.29%

Short 2-Axle Vehicles (2A)

G	70	42.42%
A	79	45.40%
B	149	43.95%

Short Vehicles Towing (2B)

G	32	19.39%
A	40	22.99%
B	72	21.24%

2-Axle Trucks and Buses (2C)

G	17	10.30%
A	12	6.90%
B	29	8.55%

3-Axle Trucks and Buses (2D)

G	2	1.21%
A	2	1.15%
B	4	1.18%

4-Axle Trucks (2E)

G	1	0.61%
A	0	0.00%
B	1	0.29%

3-Axle Articulated (2F)

G	5	3.03%
A	2	1.15%
B	7	2.06%

4-Axle Articulated (2G)

G	5	3.03%
A	4	2.30%
B	9	2.65%

5-Axle Articulated (2H)

G	1	0.61%
A	1	0.57%
B	2	0.59%

6-Axle Articulated (2I)

G	2	1.21%
A	3	1.72%
B	5	1.47%

B Double (2J)

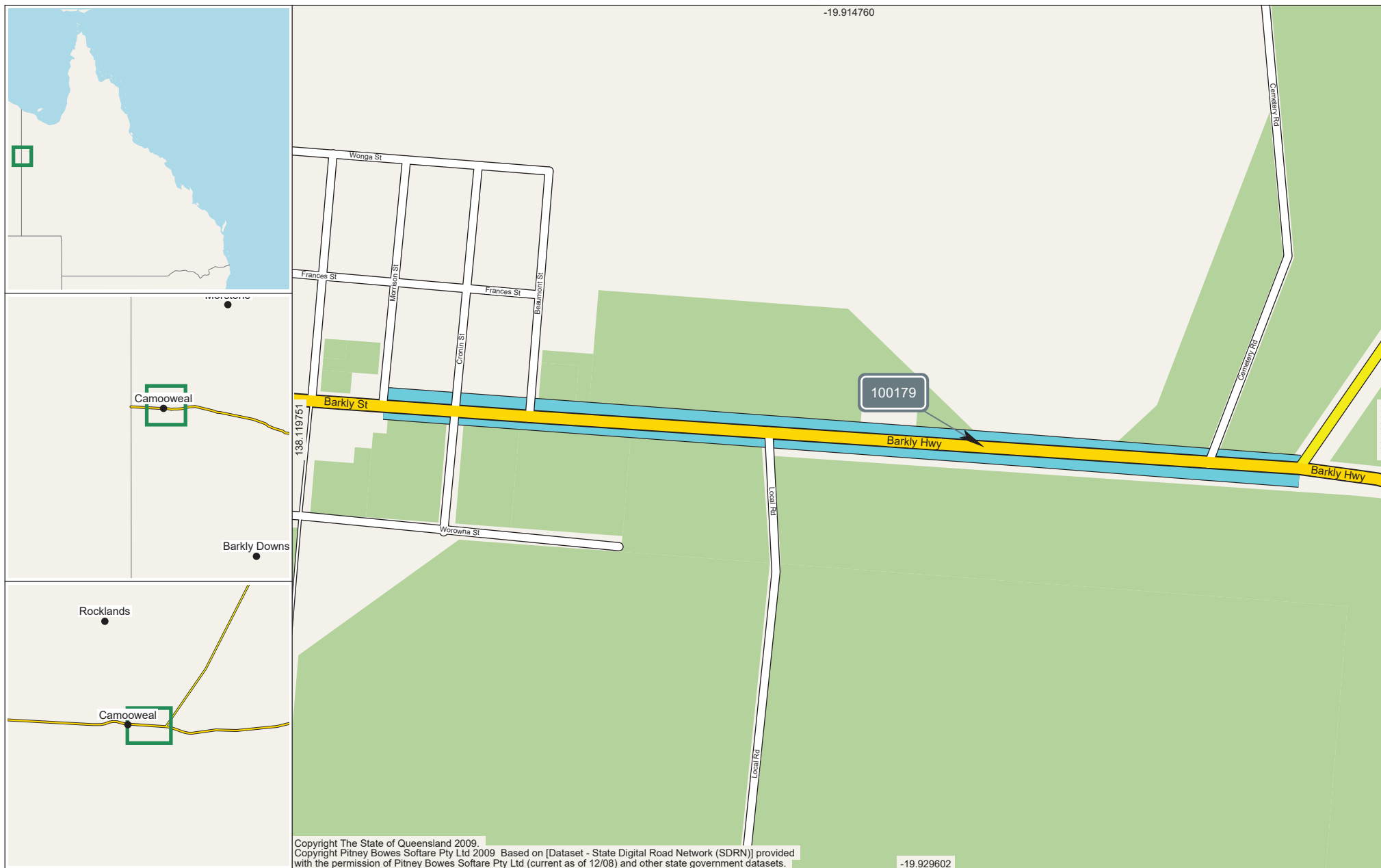
G	2	1.21%
A	2	1.15%
B	4	1.18%

Double Road Trains (2K)

G	5	3.03%
A	6	3.45%
B	11	3.24%

Triple Road Trains (2L)

G	24	14.55%
A	23	13.22%
B	47	13.86%



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

Site 100179. Point 300019677.
550metres west of int 15B/6801.

188.28 km

187.69 km

Start Point 300019704.
RP11A - Int of 15B/6801.

189.40 km

End Point 300000118.

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.

All Vehicles (00)

G	204	100%
A	212	100%
B	416	100%

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	5.70%		
A	4.43%		
B	5.05%		

Light Vehicles (0A)

G	154	75.49%
A	146	68.87%
B	300	72.12%

Heavy Vehicles (0B)

G	51	25.00%
A	64	30.19%
B	115	27.64%

Short Vehicles (1A)

G	154	75.49%
A	146	68.87%
B	300	72.12%

Trucks and Buses (1B)

G	14	6.86%
A	24	11.32%
B	38	9.13%

Articulated Vehicles (1C)

G	7	3.43%
A	11	5.19%
B	18	4.33%

Road Trains (1D)

G	30	14.71%
A	29	13.68%
B	59	14.18%

Short 2-Axle Vehicles (2A)

G	113	55.39%
A	105	49.53%
B	218	52.40%

Short Vehicles Towing (2B)

G	41	20.10%
A	41	19.34%
B	82	19.71%

2-Axle Trucks and Buses (2C)

G	11	5.39%
A	21	9.91%
B	32	7.69%

3-Axle Trucks and Buses (2D)

G	2	0.98%
A	3	1.42%
B	5	1.20%

4-Axle Trucks (2E)

G	1	0.49%
A	0	0.00%
B	1	0.24%

3-Axle Articulated (2F)

G	1	0.49%
A	2	0.94%
B	3	0.72%

4-Axle Articulated (2G)

G	3	1.47%
A	6	2.83%
B	9	2.16%

5-Axle Articulated (2H)

G	1	0.49%
A	1	0.47%
B	2	0.48%

6-Axle Articulated (2I)

G	2	0.98%
A	2	0.94%
B	4	0.96%

B Double (2J)

G	2	0.98%
A	2	0.94%
B	4	0.96%

Double Road Trains (2K)

G	5	2.45%
A	5	2.36%
B	10	2.40%

Triple Road Trains (2L)

G	23	11.27%
A	22	10.38%
B	45	10.82%

AADT Segment Report

Provides AADT Segment details for a Road Section together with the traffic flow data collected at the related Site. Traffic data is reported by the start and end Through Distance of the AADT Segments on each section of road. The road segments are represented diagrammatically with AADT data including:

AADT by direction of traffic flow
VKT Vehicle Kilometres Travelled
%VC Percentage Vehicle Class as per the Austroads vehicle classification scheme

Annual Average Daily Traffic (AADT)

Annual Average Daily Traffic (AADT) is the number of vehicles passing a point on a road in a 24 hour period, averaged over a calendar year.

AADT Segment

Is a subdivision of a Road Section. The boundaries of an AADT Segment are its Start Point and End Point (or Start and End Through Distance (TDist)) within the Road Section. These distances are measured in kilometres from the beginning of the Road Section in Gazettal Direction. AADT Segments are determined by the traffic volume, collected at a count Site, located within the limits of each AADT Segment.

Annual Segment Growth (when displayed)

A percentage that represents the increase or decrease in AADT for the AADT Segment, using an exponential fit, calculated over a 1, 5 or 10 year period.

Area

For administration purposes the Department of Transport and Main Roads has divided Queensland into 12 Districts. The Area field in TSDM reports displays the District Name and Number.

District Name	District
Central West District	401
Darling Downs District	402
Far North District	403
Fitzroy District	404
Mackay/Whitsunday District	405
Metropolitan District	406
North Coast District	407
North West District	409
Northern District	408
South Coast District	410
South West District	411
Wide Bay/Burnett District	412

Data Year

The most recent year the traffic data was collected for this AADT Segment.

Gazettal Direction

The Gazettal Direction is the direction of the traffic flow. It can be easily recognised by referring to the name of the road eg. Road Section: 10A Brisbane - Gympie denotes that the gazettal direction is from Brisbane to Gympie.

- G Traffic flowing in Gazettal Direction
- A Traffic flowing against Gazettal Direction
- B The combined traffic flow in both Directions

Road Section

Is the Gazetted road from which the traffic data is collected. Each Road Section is given a code, allocated sequentially in Gazettal Direction. Larger roads are broken down into sections and identified by an ID code with a suffix for easier data collection and reporting (eg. 10A, 10B, 10C). Road Sections are then broken into AADT Segments which are determined by traffic volume.

Site

The physical location of a traffic counting device. Sites are located at a specified Through Distance along a Road Section.

Site TDist

The Through Distance in gazettal direction from the start of the Road Section at which the site is located.

Site Description

The description of the physical location of the traffic counting device.

Start and End Point

The unique identifier for the Through Distance along a Road Section.

Through Distance

The distance, in kilometres, from the beginning of the Road Section in Gazettal Direction.

Traffic Class

Is the 12 Austroads vehicle categories or classes into which vehicles are placed or binned. Traffic classes are formed in a hierarchical format.

Volume or All Vehicles

00 = 0A + 0B

Light Vehicles

0A = 1A

1A = 2A + 2B

Heavy Vehicles

0B = 1B + 1C + 1D

1B = 2C + 2D + 2E

1C = 2F + 2G + 2H + 2I

1D = 2J + 2K + 2L

The following classes are the categories for which data can be captured:

Volume

00 All vehicles.

2-Bin

0A Light vehicles

0B Heavy vehicles

4-Bin

1A Short vehicles

1B Truck or bus

1C Articulated vehicles

1D Road train

12-Bin

2A Short 2 axle vehicles

2B Short vehicles towing

2C 2 axle truck or bus

2D 3 axle truck or bus

2E 4 axle truck

2F 3 axle articulated vehicle

2G 4 axle articulated vehicle

2H 5 axle articulated vehicle

2I 6 axle articulated vehicle

2J B double

2K Double road train

2L Triple road train

Vehicle Kilometres Travelled (VKT)

Daily VKT is a measure of the traffic demand. It is calculated by the length of an AADT Segment in kilometres multiplied by its AADT. The yearly VKT is the daily VKT multiplied by 365 days.

AADT Segment Summary - All Vehicles

The Total VKT can be used to gauge the demand on an entire Road Section.

AADT Segment Summary - Heavy Vehicles only

A blank field indicates that vehicle classification data was not collected for this AADT Segment.

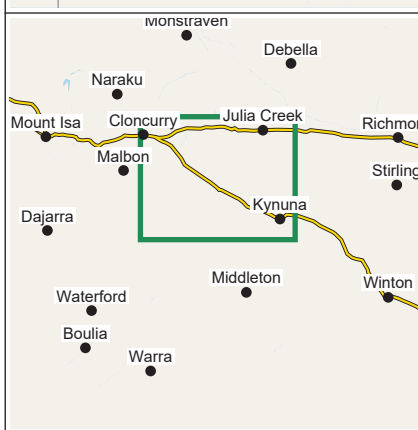
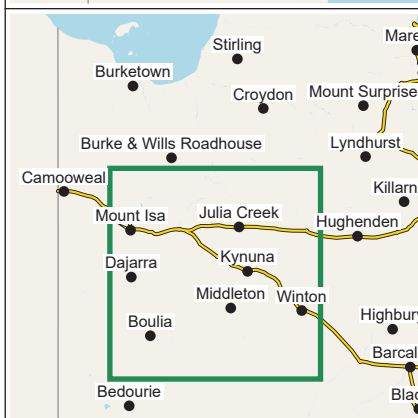
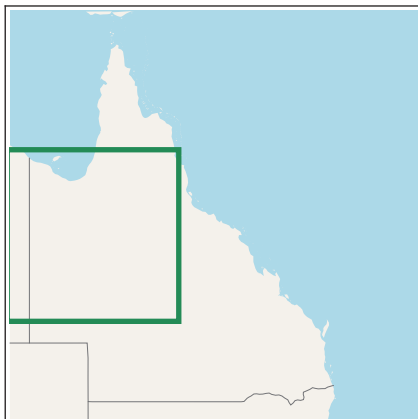
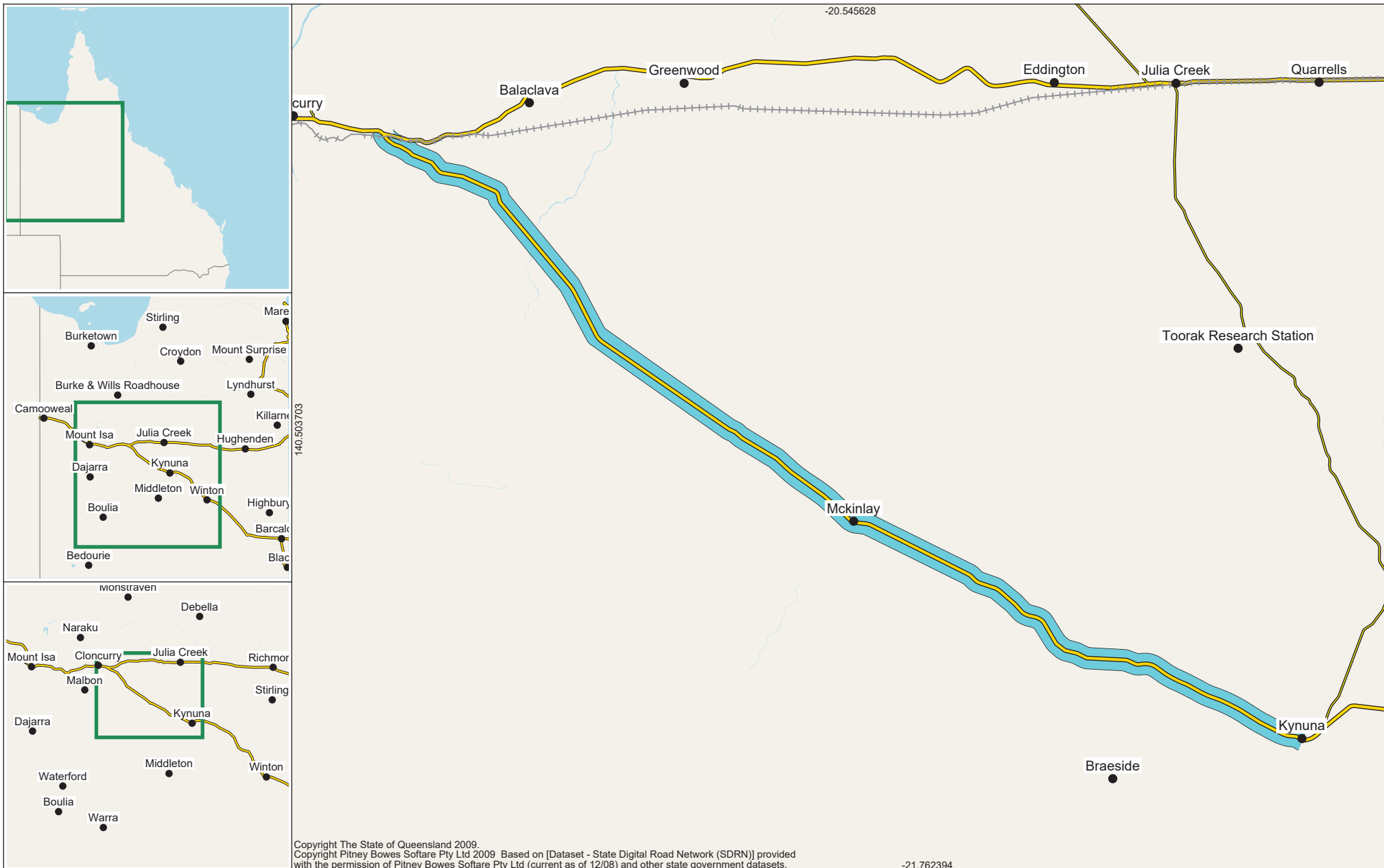
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Traffic Analysis and Reporting System
AADT Segment Analysis Report (Complete)
Road Section 13H - LANDSBOROUGH HIGHWAY (KYNUNA - CLONCURRY)
Traffic Year 2019

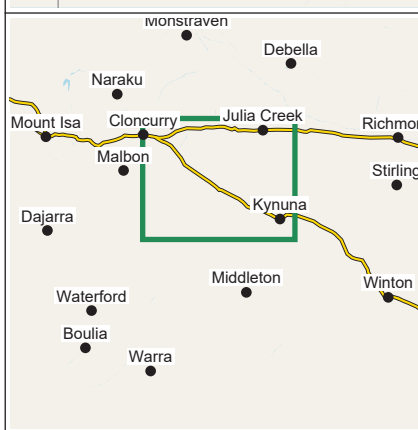
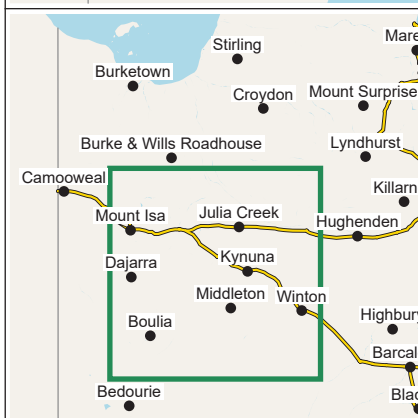
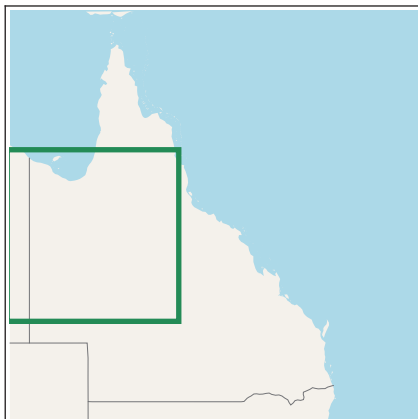
Road Segments Summary - All Vehicles

Region	Segment Start Tdist	Segment End Tdist	Site	Site Tdist	Description	AADT			VKT (Millions)			Data Year	Page
						G	A	B	G	A	B		
409	0.000 km	166.180 km	100053	132.810 km	13H Ch 132.81km - WiM Site Middle Creek	177	166	343	10.73606	10.06885	20.80491	2018	2
409	166.180 km	169.180 km	100047	153.940 km	13H Ch 153.94 - 15.2km Sth int 14E/13H	192	181	373	0.21024	0.19820	0.40843	2019	3
								Totals	10.94630	10.26704	21.21334		

Road Segments Summary - Heavy Vehicles only

VKT totals are calculated only if traffic class data is available for all sites.

Region	Segment Start Tdist	Segment End Tdist	Site	Site Tdist	Description	HV AADT						HV VKT (Millions)			Data Year	Page
						G		A		B						
						AADT	HV %	AADT	HV %	AADT	HV %	G	A	B		
409	0.000 km	166.180 km	100053	132.810 km	13H Ch 132.81km - WiM Site Middle Creek	24	13.56%	71	42.77%	95	27.70%	1.45574	4.30655	5.76229	2018	
409	166.180 km	169.180 km	100047	153.940 km	13H Ch 153.94 - 15.2km Sth int 14E/13H	79	41.15%	73	40.33%	152	40.75%	0.08650	0.07994	0.16644	2019	
											Totals	1.54224	4.38649	5.92873		



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

Site 100053. Point 300000091.
WiM Site Middle Creek.

132.81 km

0.00 km

Start Point 300000009. Kynuna.

166.18 km

End Point 300000076.
Cloncurry Shire Boundry Sign.

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.

All Vehicles (00)

G	177	100%
A	166	100%
B	343	100%

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	0.00%	-6.18%	
A	0.00%	-3.89%	
B	0.00%	-5.25%	

Light Vehicles (0A)

G	153	86.44%
A	96	57.83%
B	249	72.59%

Heavy Vehicles (0B)

G	24	13.56%
A	71	42.77%
B	95	27.70%

Short Vehicles (1A)

G	153	86.44%
A	96	57.83%
B	249	72.59%

Trucks and Buses (1B)

G	5	2.82%
A	17	10.24%
B	22	6.41%

Articulated Vehicles (1C)

G	4	2.26%
A	14	8.43%
B	18	5.25%

Road Trains (1D)

G	15	8.47%
A	40	24.10%
B	55	16.03%

Short 2-Axle Vehicles (2A)

G	147	83.05%
A	64	38.55%
B	211	61.52%

Short Vehicles Towing (2B)

G	6	3.39%
A	32	19.28%
B	38	11.08%

2-Axle Trucks and Buses (2C)

G	4	2.26%
A	14	8.43%
B	18	5.25%

3-Axle Trucks and Buses (2D)

G	1	0.56%
A	2	1.20%
B	3	0.87%

4-Axle Trucks (2E)

G	0	0.00%
A	1	0.60%
B	1	0.29%

3-Axle Articulated (2F)

G	1	0.56%
A	3	1.81%
B	4	1.17%

4-Axle Articulated (2G)

G	1	0.56%
A	6	3.61%
B	7	2.04%

5-Axle Articulated (2H)

G	1	0.56%
A	1	0.60%
B	2	0.58%

6-Axle Articulated (2I)

G	1	0.56%
A	4	2.41%
B	5	1.46%

B Double (2J)

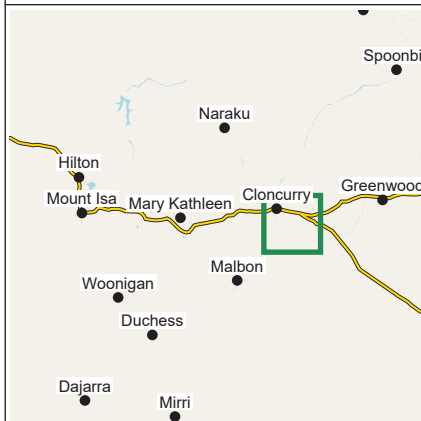
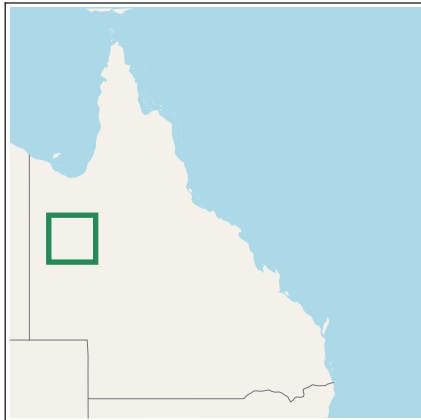
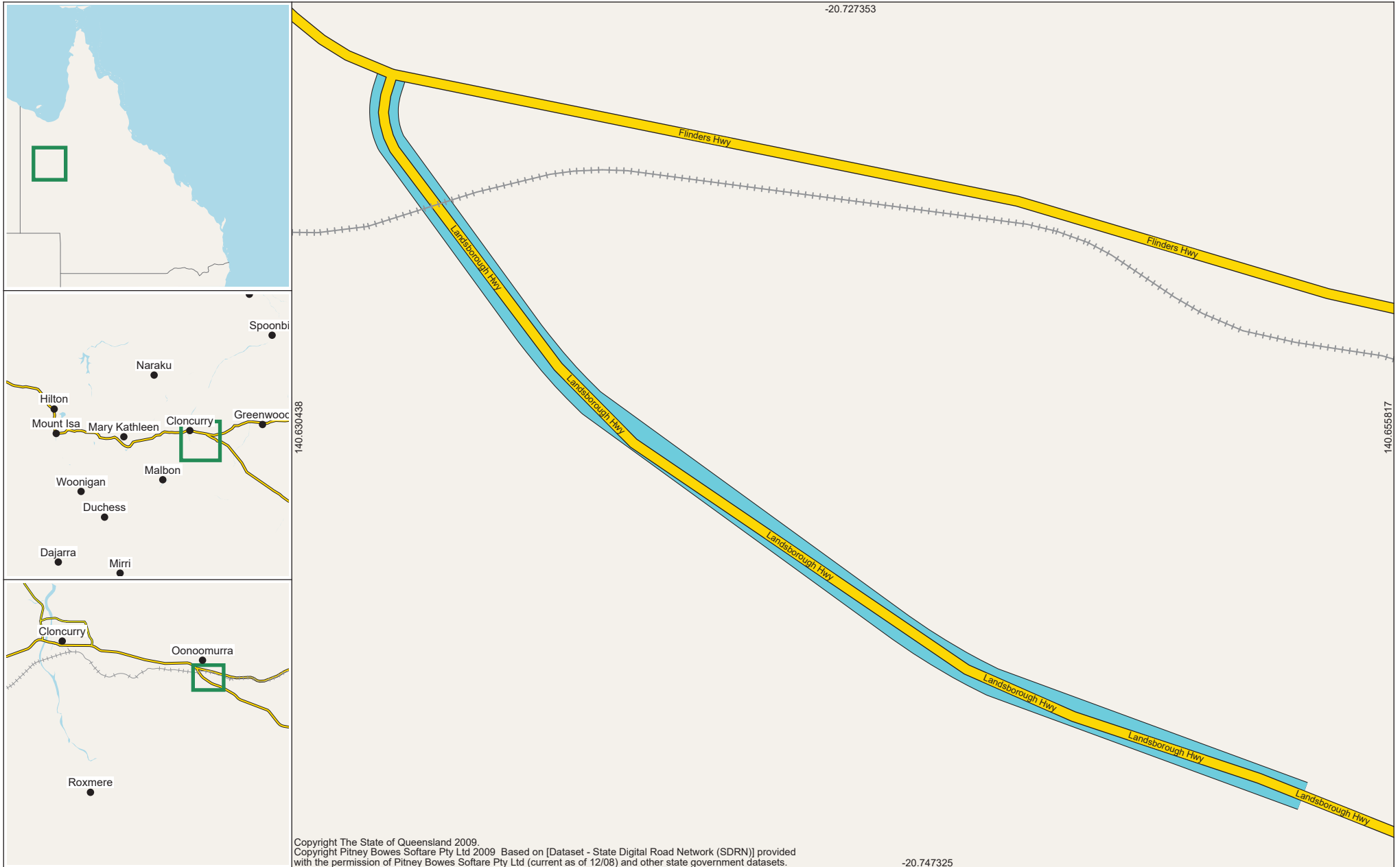
G	1	0.56%
A	3	1.81%
B	4	1.17%

Double Road Trains (2K)

G	3	1.69%
A	9	5.42%
B	12	3.50%

Triple Road Trains (2L)

G	11	6.21%
A	28	16.87%
B	39	11.37%



Traffic Analysis and Reporting System
AADT Segment Analysis Report (Complete)

Area 409 - North West District
Road Section 13H - LANDSBOROUGH HIGHWAY (KYNUNA - CLONCURRY)
Traffic Year 2019 - Data Collection Year 2019

Site 100047. Point 300019358. 15.24km
South of Flinders (14E)/Landsborough
(13H) Hwy intersection.

153.94 km

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

166.18 km

Start Point 300000076.
Cloncurry Shire Boundry Sign.

169.18 km

End Point 300000077. End of 13H.

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.

All Vehicles (00)

G	192	100%
A	181	100%
B	373	100%

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	10.98%	-0.06%	-1.13%
A	9.04%	0.26%	-1.34%
B	10.03%	0.09%	-1.24%

Light Vehicles (0A)

G	112	58.33%
A	107	59.12%
B	219	58.71%

Heavy Vehicles (0B)

G	79	41.15%
A	73	40.33%
B	152	40.75%

Short Vehicles (1A)

G	112	58.33%
A	107	59.12%
B	219	58.71%

Trucks and Buses (1B)

G	20	10.42%
A	18	9.94%
B	38	10.19%

Articulated Vehicles (1C)

G	10	5.21%
A	11	6.08%
B	21	5.63%

Road Trains (1D)

G	49	25.52%
A	44	24.31%
B	93	24.93%

Short 2-Axle
Vehicles (2A)

G	83	43.23%
A	80	44.20%
B	163	43.70%

Short Vehicles
Towing (2B)

G	29	15.10%
A	27	14.92%
B	56	15.01%

2-Axle Trucks
and Buses (2C)

G	16	8.33%
A	15	8.29%
B	31	8.31%

3-Axle Trucks
and Buses (2D)

G	3	1.56%
A	2	1.10%
B	5	1.34%

4-Axle
Trucks (2E)

G	1	0.52%
A	1	0.55%
B	2	0.54%

3-Axle
Articulated (2F)

G	2	1.04%
A	2	1.10%
B	4	1.07%

4-Axle
Articulated (2G)

G	3	1.56%
A	4	2.21%
B	7	1.88%

5-Axle
Articulated (2H)

G	1	0.52%
A	1	0.55%
B	2	0.54%

6-Axle
Articulated (2I)

G	4	2.08%
A	4	2.21%
B	8	2.14%

B Double (2J)

G	4	2.08%
A	3	1.66%
B	7	1.88%

Double Road
Trains (2K)

G	10	5.21%
A	10	5.52%
B	20	5.36%

Triple Road
Trains (2L)

G	35	18.23%
A	31	17.13%
B	66	17.69%

AADT Segment Report

Provides AADT Segment details for a Road Section together with the traffic flow data collected at the related Site. Traffic data is reported by the start and end Through Distance of the AADT Segments on each section of road. The road segments are represented diagrammatically with AADT data including:

AADT by direction of traffic flow
VKT Vehicle Kilometres Travelled
%VC Percentage Vehicle Class as per the Austroads vehicle classification scheme

Annual Average Daily Traffic (AADT)

Annual Average Daily Traffic (AADT) is the number of vehicles passing a point on a road in a 24 hour period, averaged over a calendar year.

AADT Segment

Is a subdivision of a Road Section. The boundaries of an AADT Segment are its Start Point and End Point (or Start and End Through Distance (TDist)) within the Road Section. These distances are measured in kilometres from the beginning of the Road Section in Gazettal Direction. AADT Segments are determined by the traffic volume, collected at a count Site, located within the limits of each AADT Segment.

Annual Segment Growth (when displayed)

A percentage that represents the increase or decrease in AADT for the AADT Segment, using an exponential fit, calculated over a 1, 5 or 10 year period.

Area

For administration purposes the Department of Transport and Main Roads has divided Queensland into 12 Districts. The Area field in TSDM reports displays the District Name and Number.

District Name	District
Central West District	401
Darling Downs District	402
Far North District	403
Fitzroy District	404
Mackay/Whitsunday District	405
Metropolitan District	406
North Coast District	407
North West District	409
Northern District	408
South Coast District	410
South West District	411
Wide Bay/Burnett District	412

Data Year

The most recent year the traffic data was collected for this AADT Segment.

Gazettal Direction

The Gazettal Direction is the direction of the traffic flow. It can be easily recognised by referring to the name of the road eg. Road Section: 10A Brisbane - Gympie denotes that the gazettal direction is from Brisbane to Gympie.

- G Traffic flowing in Gazettal Direction
- A Traffic flowing against Gazettal Direction
- B The combined traffic flow in both Directions

Road Section

Is the Gazetted road from which the traffic data is collected. Each Road Section is given a code, allocated sequentially in Gazettal Direction. Larger roads are broken down into sections and identified by an ID code with a suffix for easier data collection and reporting (eg. 10A, 10B, 10C). Road Sections are then broken into AADT Segments which are determined by traffic volume.

Site

The physical location of a traffic counting device. Sites are located at a specified Through Distance along a Road Section.

Site TDist

The Through Distance in gazettal direction from the start of the Road Section at which the site is located.

Site Description

The description of the physical location of the traffic counting device.

Start and End Point

The unique identifier for the Through Distance along a Road Section.

Through Distance

The distance, in kilometres, from the beginning of the Road Section in Gazettal Direction.

Traffic Class

Is the 12 Austroads vehicle categories or classes into which vehicles are placed or binned. Traffic classes are formed in a hierarchical format.

Volume or All Vehicles

00 = 0A + 0B

Light Vehicles

0A = 1A

1A = 2A + 2B

Heavy Vehicles

0B = 1B + 1C + 1D

1B = 2C + 2D + 2E

1C = 2F + 2G + 2H + 2I

1D = 2J + 2K + 2L

The following classes are the categories for which data can be captured:

Volume

00 All vehicles.

2-Bin

0A Light vehicles

0B Heavy vehicles

4-Bin

1A Short vehicles

1B Truck or bus

1C Articulated vehicles

1D Road train

12-Bin

2A Short 2 axle vehicles

2B Short vehicles towing

2C 2 axle truck or bus

2D 3 axle truck or bus

2E 4 axle truck

2F 3 axle articulated vehicle

2G 4 axle articulated vehicle

2H 5 axle articulated vehicle

2I 6 axle articulated vehicle

2J B double

2K Double road train

2L Triple road train

Vehicle Kilometres Travelled (VKT)

Daily VKT is a measure of the traffic demand. It is calculated by the length of an AADT Segment in kilometres multiplied by its AADT. The yearly VKT is the daily VKT multiplied by 365 days.

AADT Segment Summary - All Vehicles

The Total VKT can be used to gauge the demand on an entire Road Section.

AADT Segment Summary - Heavy Vehicles only

A blank field indicates that vehicle classification data was not collected for this AADT Segment.

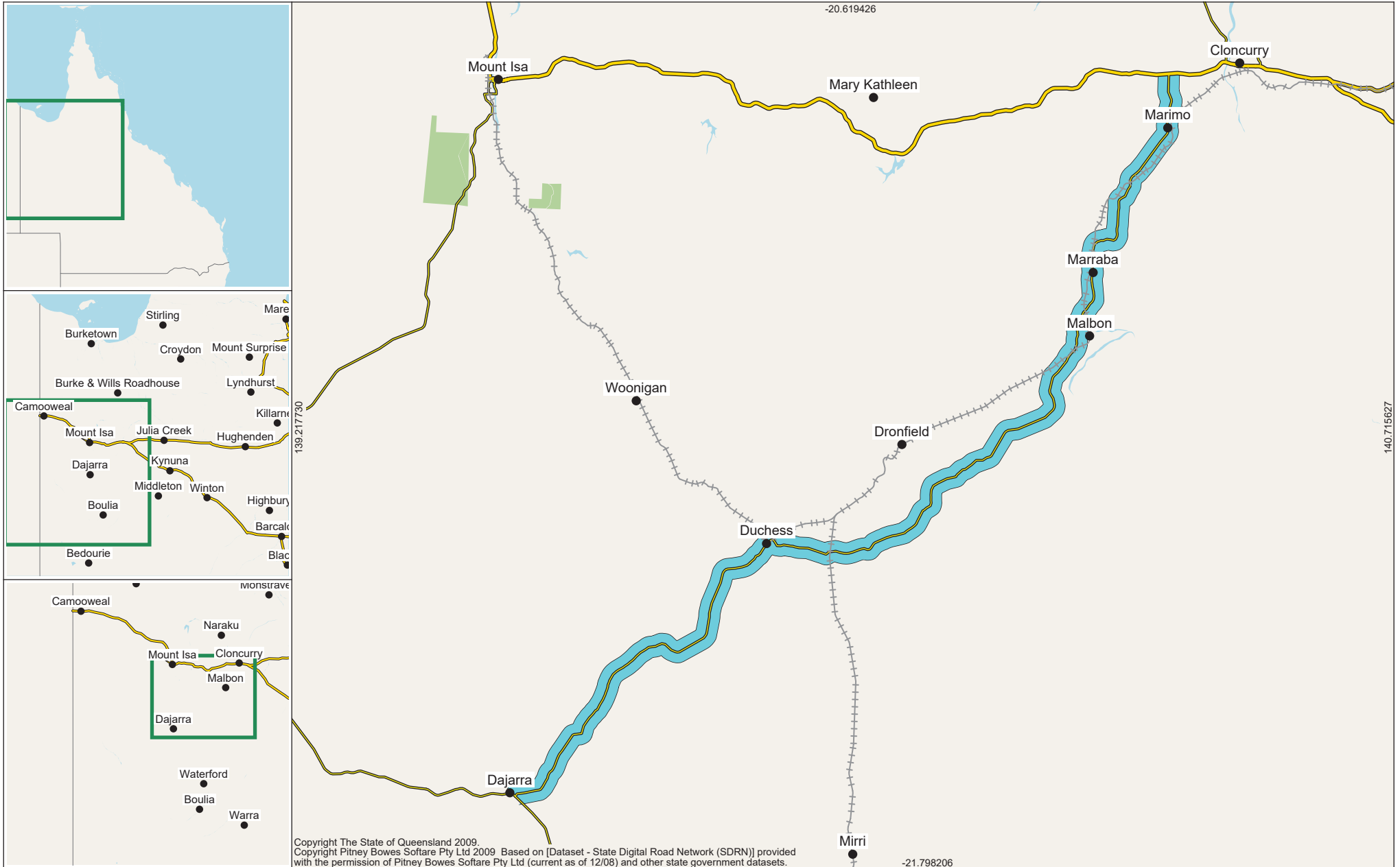
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Traffic Analysis and Reporting System
AADT Segment Analysis Report (Complete)
 Road Section 7708 - CLONCURRENCY - DAJARRA ROAD
 Traffic Year 2019

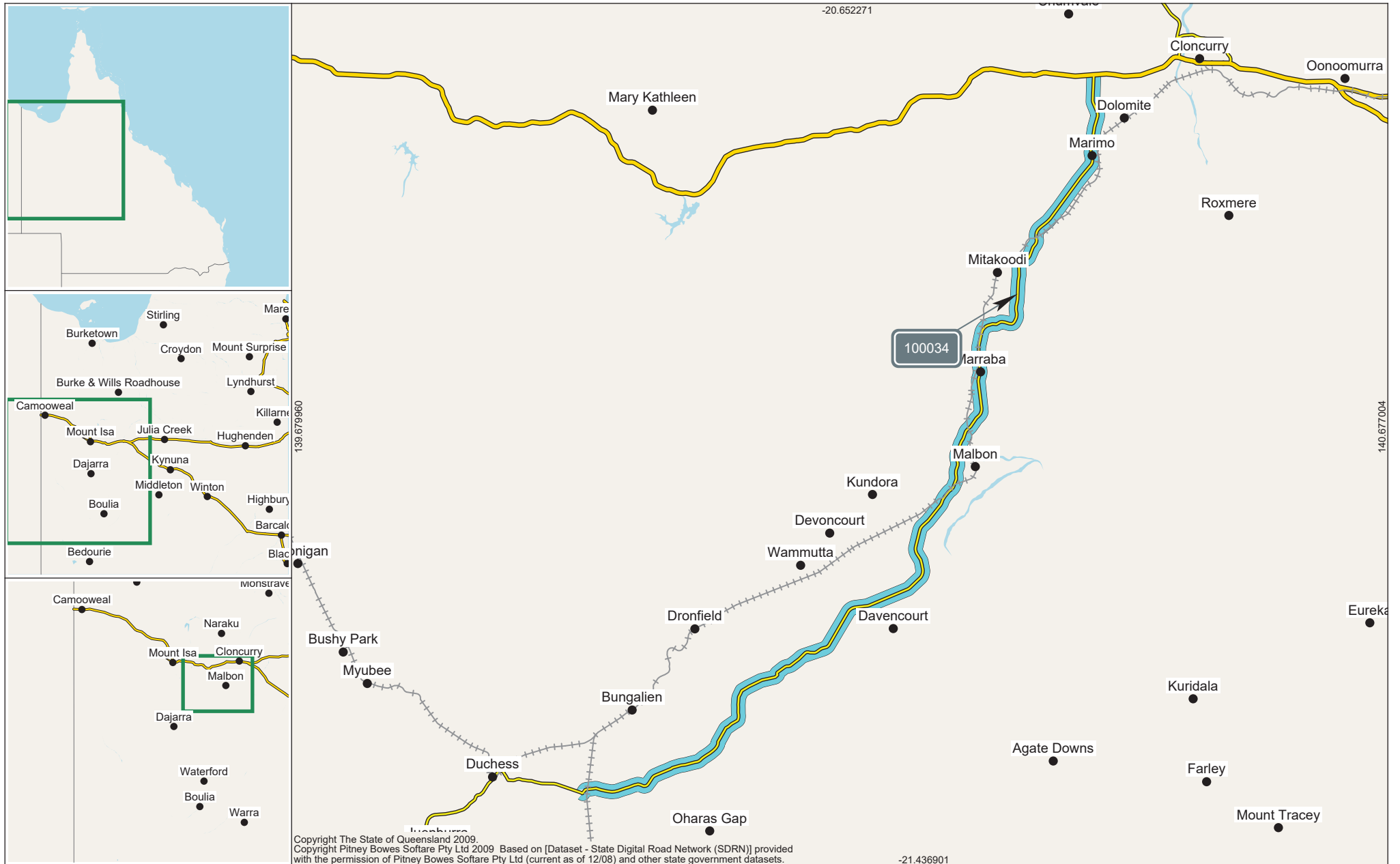
Road Segments Summary - All Vehicles

Region	Segment Start Tdist	Segment End Tdist	Site	Site Tdist	Description	AADT			VKT (Millions)			Data Year	Page
						G	A	B	G	A	B		
409	0.000 km	100.600 km	100034	24.850 km	7708 Ch 24.85 - south of Int 15A/7708	34	35	69	1.24845	1.28516	2.53361	2019	2
409	100.600 km	169.080 km	100180	109.600 km	7708 Ch 109.6 - 300m Nth Duchess railway	9	9	18	0.22496	0.22496	0.44991	2019	3
								Totals	1.47340	1.51012	2.98352		

Road Segments Summary - Heavy Vehicles only

VKT totals are calculated only if traffic class data is available for all sites.

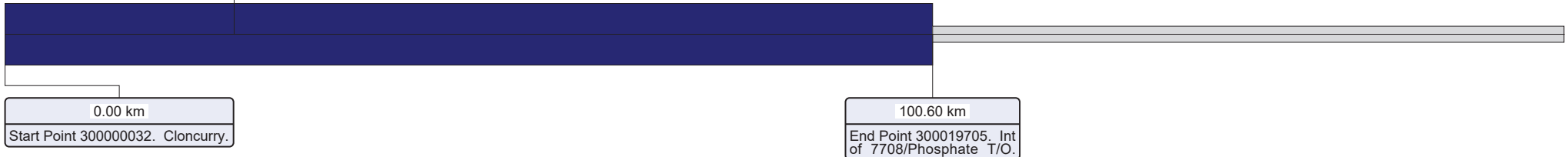
Region	Segment Start Tdist	Segment End Tdist	Site	Site Tdist	Description	HV AADT						HV VKT (Millions)			Data Year	Page
						G		A		B		G	A	B		
						AADT	HV %	AADT	HV %	AADT	HV %					
409	0.000 km	100.600 km	100034	24.850 km	7708 Ch 24.85 - south of Int 15A/7708	16	47.06%	13	37.14%	29	42.03%	0.58750	0.47735	1.06485	2019	
409	100.600 km	169.080 km	100180	109.600 km	7708 Ch 109.6 - 300m Nth Duchess railway	3	33.33%	1	11.11%	4	22.22%	0.07499	0.02500	0.09998	2019	
											Totals	0.66249	0.50234	1.16483		



Site 100034. Point 300019357.
24.85km north of Int 15A/7708.

24.85 km

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.

All Vehicles (00)

G	34	100%
A	35	100%
B	69	100%

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	6.25%	7.47%	2.44%
A	9.38%	8.08%	3.07%
B	7.81%	7.78%	2.75%

Light Vehicles (0A)

G	18	52.94%
A	23	65.71%
B	41	59.42%

Heavy Vehicles (0B)

G	16	47.06%
A	13	37.14%
B	29	42.03%

Short Vehicles (1A)

G	18	52.94%
A	23	65.71%
B	41	59.42%

Trucks and Buses (1B)

G	9	26.47%
A	5	14.29%
B	14	20.29%

Articulated Vehicles (1C)

G	2	5.88%
A	1	2.86%
B	3	4.35%

Road Trains (1D)

G	5	14.71%
A	7	20.00%
B	12	17.39%

Short 2-Axle Vehicles (2A)

G	17	50.00%
A	22	62.86%
B	39	56.52%

Short Vehicles Towing (2B)

G	1	2.94%
A	1	2.86%
B	2	2.90%

2-Axle Trucks and Buses (2C)

G	8	23.53%
A	4	11.43%
B	12	17.39%

3-Axle Trucks and Buses (2D)

G	1	2.94%
A	1	2.86%
B	2	2.90%

4-Axle Trucks (2E)

G	0	0%
A	0	0%
B	0	0%

3-Axle Articulated (2F)

G	0	0%
A	0	0%
B	0	0%

4-Axle Articulated (2G)

G	1	2.94%
A	0	0.00%
B	1	1.45%

5-Axle Articulated (2H)

G	0	0%
A	0	0%
B	0	0%

6-Axle Articulated (2I)

G	1	2.94%
A	1	2.86%
B	2	2.90%

B Double (2J)

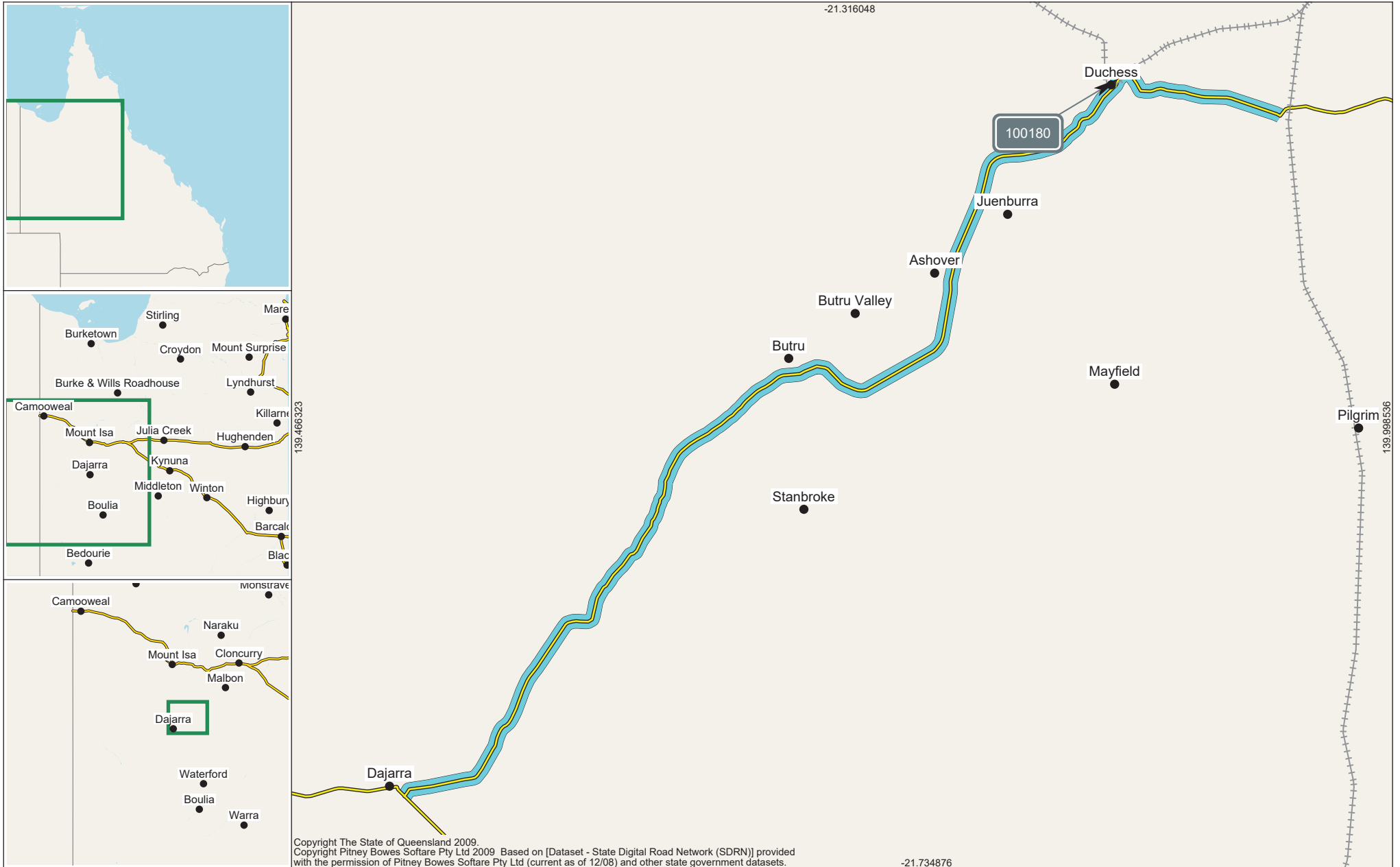
G	1	2.94%
A	1	2.86%
B	2	2.90%

Double Road Trains (2K)

G	2	5.88%
A	3	8.57%
B	5	7.25%

Triple Road Trains (2L)

G	2	5.88%
A	3	8.57%
B	5	7.25%



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

Site 100180. Point 300019682.
300metres north of Duchess railway track.

109.60 km

100.60 km

Start Point 300019705. Int
of 7708/Phosphate T/O.

169.08 km

End Point 300000059. Dajarra.

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.

All Vehicles (00)

G	9	100%
A	9	100%
B	18	100%

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	0.00%	-23.46%	-15.60%
A	0.00%	-23.63%	-15.38%
B	0.00%	-23.55%	-15.49%

Light Vehicles (0A)

G	4	44.44%
A	7	77.78%
B	11	61.11%

Heavy Vehicles (0B)

G	3	33.33%
A	1	11.11%
B	4	22.22%

Short Vehicles (1A)

G	4	44.44%
A	7	77.78%
B	11	61.11%

Trucks and Buses (1B)

G	3	33.33%
A	1	11.11%
B	4	22.22%

Articulated Vehicles (1C)

G	0	0%
A	0	0%
B	0	0%

Road Trains (1D)

G	0	0%
A	0	0%
B	0	0%

Short 2-Axle
Vehicles (2A)

G	4	44.44%
A	6	66.67%
B	10	55.56%

Short Vehicles
Towing (2B)

G	0	0.00%
A	1	11.11%
B	1	5.56%

2-Axle Trucks
and Buses (2C)

G	3	33.33%
A	1	11.11%
B	4	22.22%

3-Axle Trucks
and Buses (2D)

G	0	0%
A	0	0%
B	0	0%

4-Axle
Trucks (2E)

G	0	0%
A	0	0%
B	0	0%

3-Axle
Articulated (2F)

G	0	0%
A	0	0%
B	0	0%

4-Axle
Articulated (2G)

G	0	0%
A	0	0%
B	0	0%

5-Axle
Articulated (2H)

G	0	0%
A	0	0%
B	0	0%

6-Axle
Articulated (2I)

G	0	0%
A	0	0%
B	0	0%

B Double (2J)

G	0	0%
A	0	0%
B	0	0%

Double Road
Trains (2K)

G	0	0%
A	0	0%
B	0	0%

Triple Road
Trains (2L)

G	0	0%
A	0	0%
B	0	0%

AADT Segment Report

Provides AADT Segment details for a Road Section together with the traffic flow data collected at the related Site. Traffic data is reported by the start and end Through Distance of the AADT Segments on each section of road. The road segments are represented diagrammatically with AADT data including:

AADT by direction of traffic flow
VKT Vehicle Kilometres Travelled
%VC Percentage Vehicle Class as per the Austroads vehicle classification scheme

Annual Average Daily Traffic (AADT)

Annual Average Daily Traffic (AADT) is the number of vehicles passing a point on a road in a 24 hour period, averaged over a calendar year.

AADT Segment

Is a subdivision of a Road Section. The boundaries of an AADT Segment are its Start Point and End Point (or Start and End Through Distance (TDist)) within the Road Section. These distances are measured in kilometres from the beginning of the Road Section in Gazettal Direction. AADT Segments are determined by the traffic volume, collected at a count Site, located within the limits of each AADT Segment.

Annual Segment Growth (when displayed)

A percentage that represents the increase or decrease in AADT for the AADT Segment, using an exponential fit, calculated over a 1, 5 or 10 year period.

Area

For administration purposes the Department of Transport and Main Roads has divided Queensland into 12 Districts. The Area field in TSDM reports displays the District Name and Number.

District Name	District
Central West District	401
Darling Downs District	402
Far North District	403
Fitzroy District	404
Mackay/Whitsunday District	405
Metropolitan District	406
North Coast District	407
North West District	409
Northern District	408
South Coast District	410
South West District	411
Wide Bay/Burnett District	412

Data Year

The most recent year the traffic data was collected for this AADT Segment.

Gazettal Direction

The Gazettal Direction is the direction of the traffic flow. It can be easily recognised by referring to the name of the road eg. Road Section: 10A Brisbane - Gympie denotes that the gazettal direction is from Brisbane to Gympie.

- G Traffic flowing in Gazettal Direction
- A Traffic flowing against Gazettal Direction
- B The combined traffic flow in both Directions

Road Section

Is the Gazetted road from which the traffic data is collected. Each Road Section is given a code, allocated sequentially in Gazettal Direction. Larger roads are broken down into sections and identified by an ID code with a suffix for easier data collection and reporting (eg. 10A, 10B, 10C). Road Sections are then broken into AADT Segments which are determined by traffic volume.

Site

The physical location of a traffic counting device. Sites are located at a specified Through Distance along a Road Section.

Site TDist

The Through Distance in gazettal direction from the start of the Road Section at which the site is located.

Site Description

The description of the physical location of the traffic counting device.

Start and End Point

The unique identifier for the Through Distance along a Road Section.

Through Distance

The distance, in kilometres, from the beginning of the Road Section in Gazettal Direction.

Traffic Class

Is the 12 Austroads vehicle categories or classes into which vehicles are placed or binned. Traffic classes are formed in a hierarchical format.

Volume or All Vehicles

00 = 0A + 0B

Light Vehicles

0A = 1A

1A = 2A + 2B

Heavy Vehicles

0B = 1B + 1C + 1D

1B = 2C + 2D + 2E

1C = 2F + 2G + 2H + 2I

1D = 2J + 2K + 2L

The following classes are the categories for which data can be captured:

Volume

00 All vehicles.

2-Bin

0A Light vehicles

0B Heavy vehicles

4-Bin

1A Short vehicles

1B Truck or bus

1C Articulated vehicles

1D Road train

12-Bin

2A Short 2 axle vehicles

2B Short vehicles towing

2C 2 axle truck or bus

2D 3 axle truck or bus

2E 4 axle truck

2F 3 axle articulated vehicle

2G 4 axle articulated vehicle

2H 5 axle articulated vehicle

2I 6 axle articulated vehicle

2J B double

2K Double road train

2L Triple road train

Vehicle Kilometres Travelled (VKT)

Daily VKT is a measure of the traffic demand. It is calculated by the length of an AADT Segment in kilometres multiplied by its AADT. The yearly VKT is the daily VKT multiplied by 365 days.

AADT Segment Summary - All Vehicles

The Total VKT can be used to gauge the demand on an entire Road Section.

AADT Segment Summary - Heavy Vehicles only

A blank field indicates that vehicle classification data was not collected for this AADT Segment.

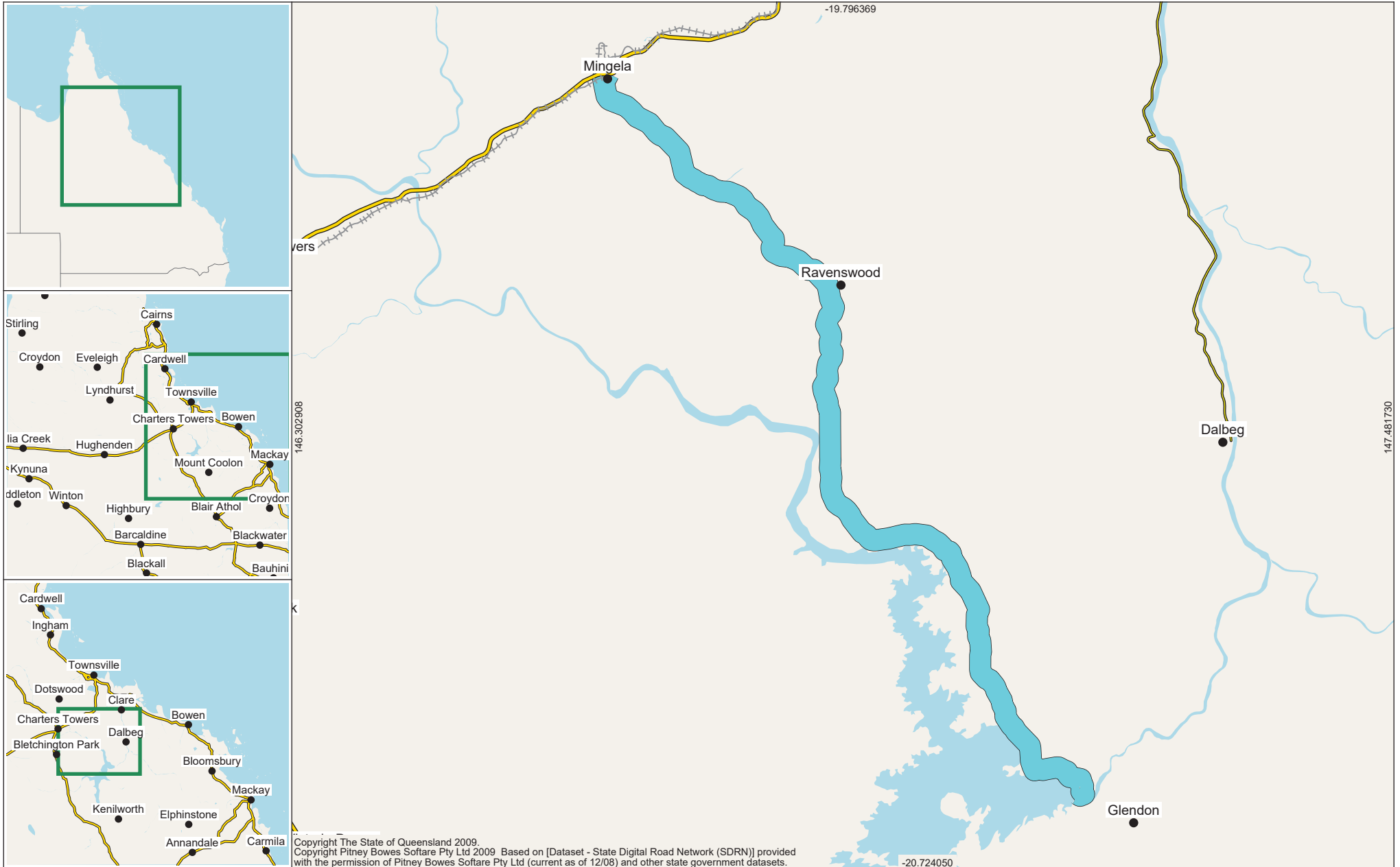
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Traffic Analysis and Reporting System
AADT Segment Analysis Report (Complete)
Road Section 5407 - BURDEKIN FALLS DAM ROAD
Traffic Year 2019

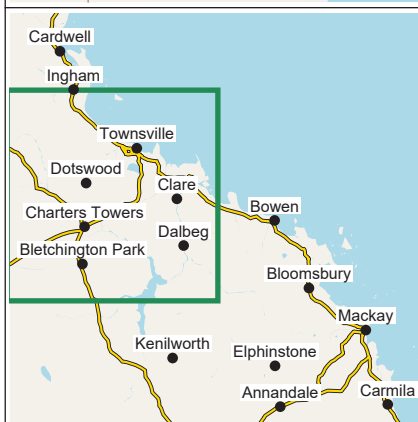
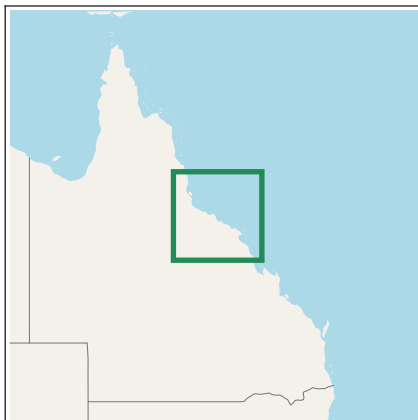
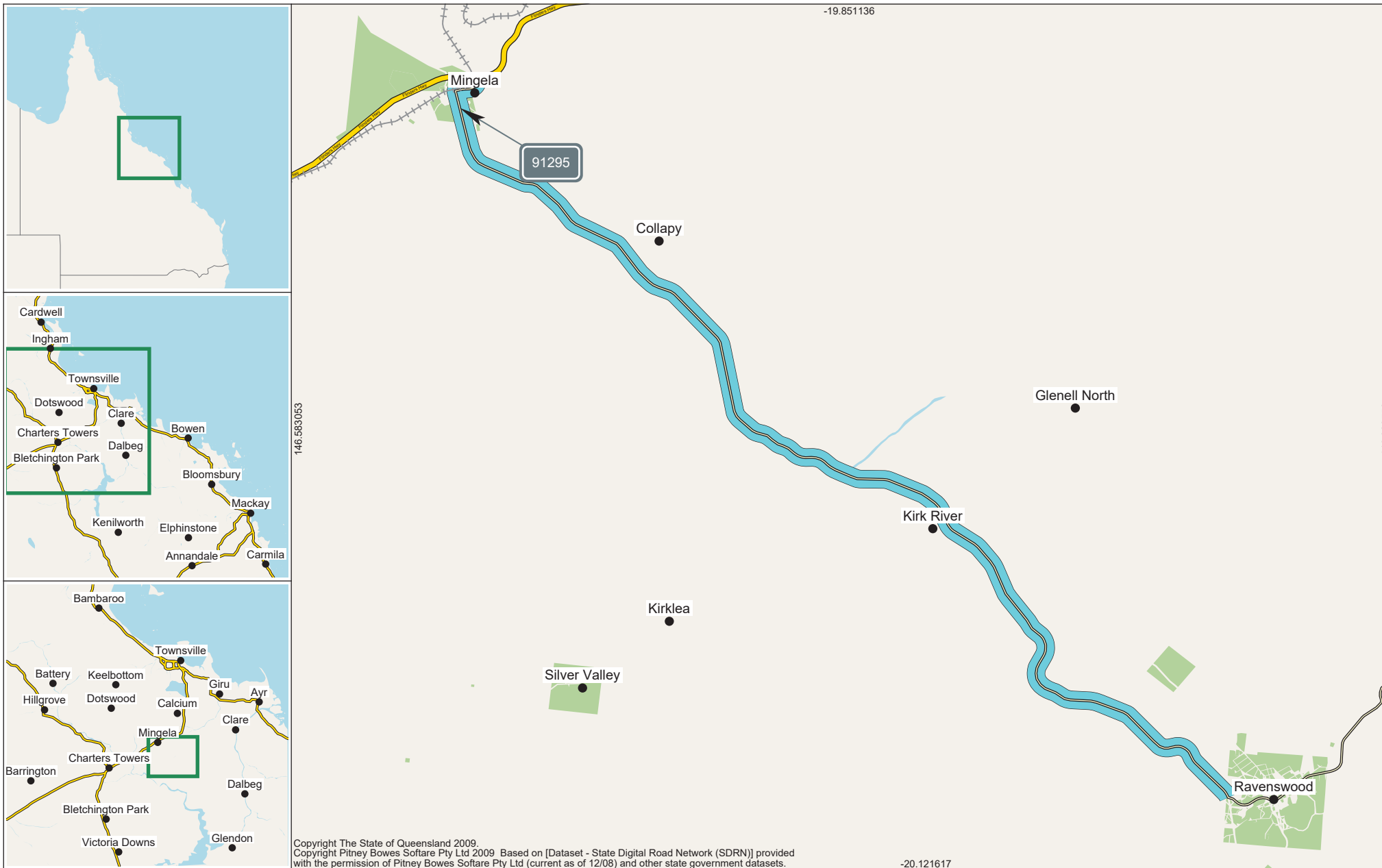
Road Segments Summary - All Vehicles

Region	Segment Start Tdist	Segment End Tdist	Site	Site Tdist	Description	AADT			VKT (Millions)			Data Year	Page
						G	A	B	G	A	B		
408	0.000 km	39.350 km	91295	1.650 km	Near mingela 1.65km from flinders h/way	91	106	197	1.30701	1.52245	2.82946	2019	2
408	39.350 km	121.060 km	91296	42.830 km	Near r'wood 3.48km sth ayr-r'wood rd	30	31	61	0.89472	0.92455	1.81927	2019	3
								Totals	2.20173	2.44700	4.64873		

Road Segments Summary - Heavy Vehicles only

VKT totals are calculated only if traffic class data is available for all sites.

Region	Segment Start Tdist	Segment End Tdist	Site	Site Tdist	Description	HV AADT						HV VKT (Millions)			Data Year	Page
						G		A		B						
						AADT	HV %	AADT	HV %	AADT	HV %	G	A	B		
408	0.000 km	39.350 km	91295	1.650 km	Near mingela 1.65km from flinders h/way	23	25.27%	24	22.64%	47	23.86%	0.33034	0.34471	0.67505	2019	
408	39.350 km	121.060 km	91296	42.830 km	Near r'wood 3.48km sth ayr-r'wood rd	5	16.67%	6	19.35%	11	18.03%	0.14912	0.17894	0.32807	2019	
											Totals	0.47946	0.52365	1.00311		



Site 91295. Point 290000725. Near mingela 1.65km from flinders h/way.

1.65 km

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



0.00 km

Start Point 290000204. Burdekin Falls Dam Rd 5407 @ Flinders Hwy.

39.35 km

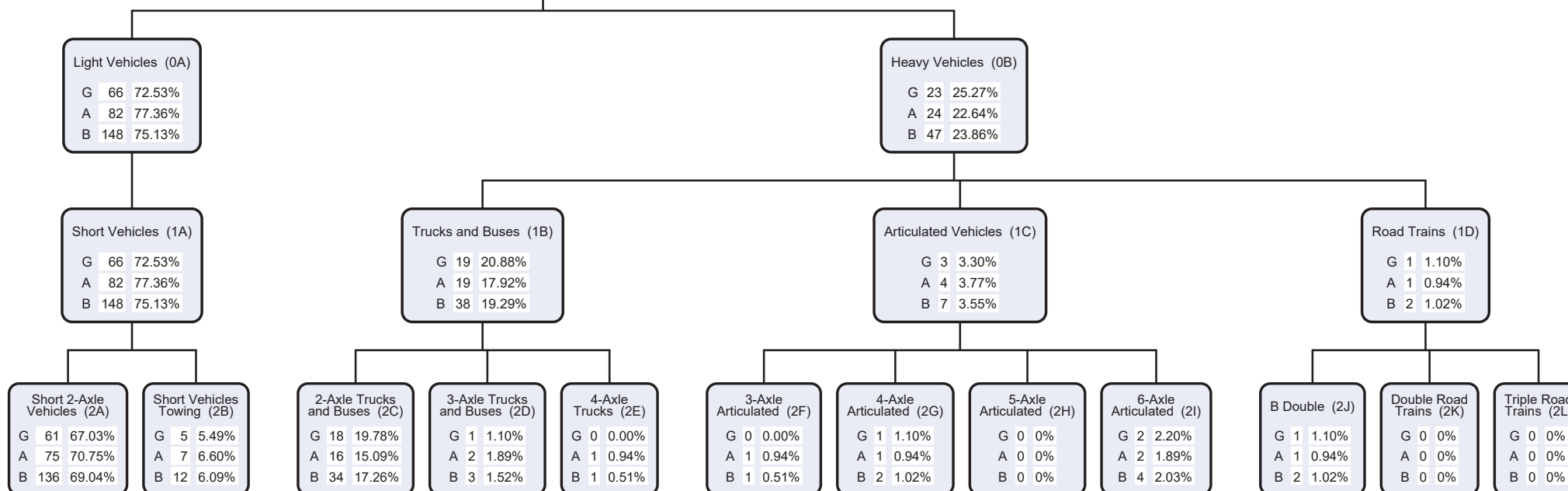
End Point 290000726. Burdekin Falls Dam Rd 5407 Int Ayr-Ravenswood Rd 5472.

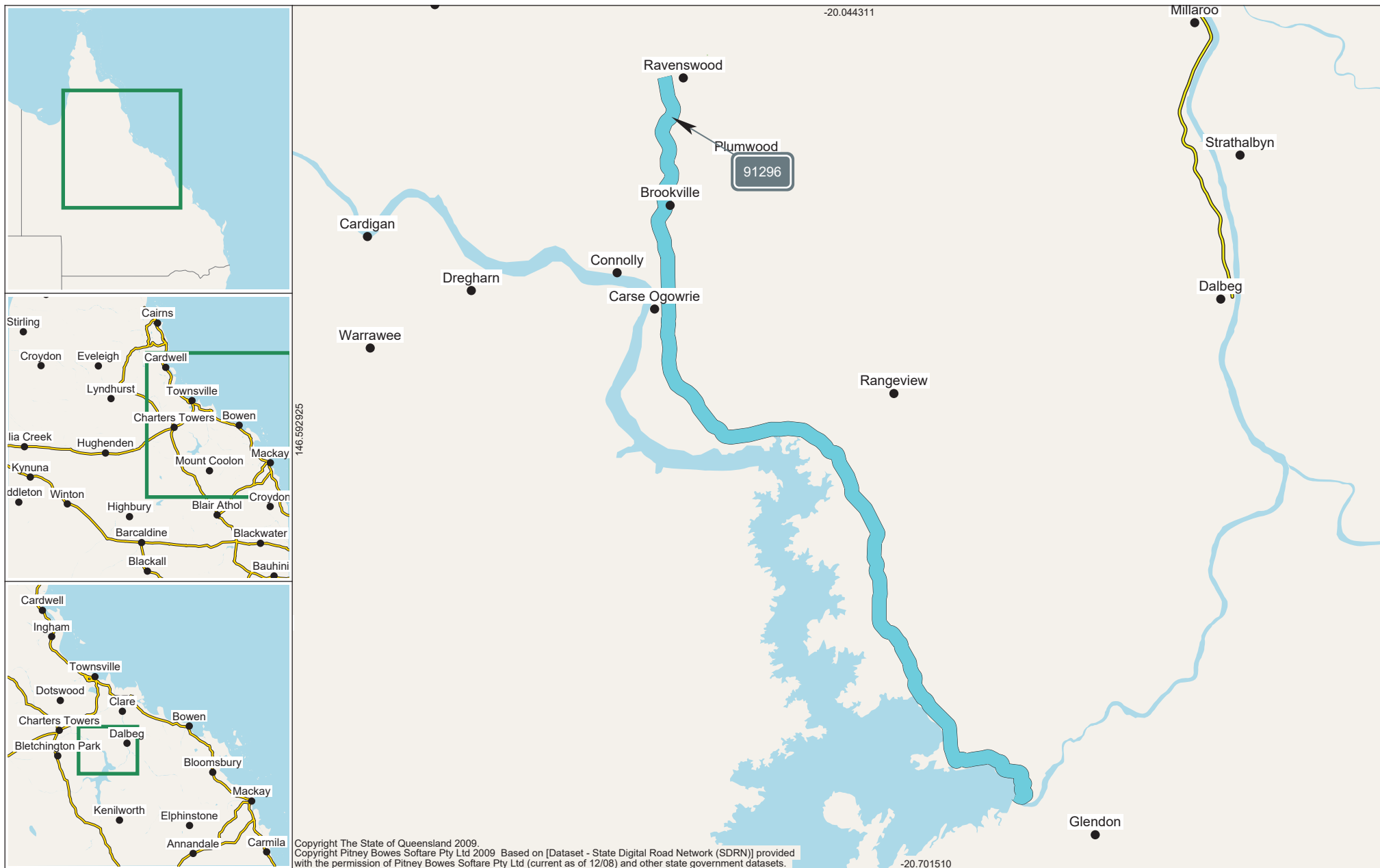
This report shows Annual Average Daily Traffic values (AADTs). Because the AADT values are converted to whole numbers, there will be occasional inaccuracies due to rounding. These inaccuracies are statistically insignificant.

All Vehicles (00)

G	91	100%
A	106	100%
B	197	100%

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	-20.18%	-7.00%	
A	-0.93%	-2.24%	
B	-10.86%	-4.58%	





Site 91296. Point 290000727. Near
r'wood 3.48km sth ayr-r'wood rd.

42.83 km

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

39.35 km

Start Point 290000726. Burdekin Falls Dam
Rd 5407 Int Ayr-Ravenswood Rd 5472.

121.06 km

End Point 290000728. End
of Road @ Culvert Dam Wall.

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.

All Vehicles (00)

G 30 100%
A 31 100%
B 61 100%

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	-26.83%	-2.81%	
A	-26.19%	-2.20%	
B	-26.51%	-2.50%	

Light Vehicles (0A)

G 23 76.67%
A 24 77.42%
B 47 77.05%

Heavy Vehicles (0B)

G 5 16.67%
A 6 19.35%
B 11 18.03%

Short Vehicles (1A)

G 23 76.67%
A 24 77.42%
B 47 77.05%

Trucks and Buses (1B)

G 5 16.67%
A 4 12.90%
B 9 14.75%

Articulated Vehicles (1C)

G 0 0.00%
A 2 6.45%
B 2 3.28%

Road Trains (1D)

G 0 0%
A 0 0%
B 0 0%

Short 2-Axle
Vehicles (2A)

G 20 66.67%
A 21 67.74%
B 41 67.21%

Short Vehicles
Towing (2B)

G 3 10.00%
A 3 9.68%
B 6 9.84%

2-Axle Trucks
and Buses (2C)

G 5 16.67%
A 4 12.90%
B 9 14.75%

3-Axle Trucks
and Buses (2D)

G 0 0%
A 0 0%
B 0 0%

4-Axle
Trucks (2E)

G 0 0%
A 0 0%
B 0 0%

3-Axle
Articulated (2F)

G 0 0%
A 0 0%
B 0 0%

4-Axle
Articulated (2G)

G 0 0.00%
A 1 3.23%
B 1 1.64%

5-Axle
Articulated (2H)

G 0 0%
A 0 0%
B 0 0%

6-Axle
Articulated (2I)

G 0 0.00%
A 1 3.23%
B 1 1.64%

B Double (2J)

G 0 0%
A 0 0%
B 0 0%

Double Road
Trains (2K)

G 0 0%
A 0 0%
B 0 0%

Triple Road
Trains (2L)

G 0 0%
A 0 0%
B 0 0%

AADT Segment Report

Provides AADT Segment details for a Road Section together with the traffic flow data collected at the related Site. Traffic data is reported by the start and end Through Distance of the AADT Segments on each section of road. The road segments are represented diagrammatically with AADT data including:

AADT by direction of traffic flow
VKT Vehicle Kilometres Travelled
%VC Percentage Vehicle Class as per the Austroads vehicle classification scheme

Annual Average Daily Traffic (AADT)

Annual Average Daily Traffic (AADT) is the number of vehicles passing a point on a road in a 24 hour period, averaged over a calendar year.

AADT Segment

Is a subdivision of a Road Section. The boundaries of an AADT Segment are its Start Point and End Point (or Start and End Through Distance (TDist)) within the Road Section. These distances are measured in kilometres from the beginning of the Road Section in Gazettal Direction. AADT Segments are determined by the traffic volume, collected at a count Site, located within the limits of each AADT Segment.

Annual Segment Growth (when displayed)

A percentage that represents the increase or decrease in AADT for the AADT Segment, using an exponential fit, calculated over a 1, 5 or 10 year period.

Area

For administration purposes the Department of Transport and Main Roads has divided Queensland into 12 Districts. The Area field in TSDM reports displays the District Name and Number.

District Name	District
Central West District	401
Darling Downs District	402
Far North District	403
Fitzroy District	404
Mackay/Whitsunday District	405
Metropolitan District	406
North Coast District	407
North West District	409
Northern District	408
South Coast District	410
South West District	411
Wide Bay/Burnett District	412

Data Year

The most recent year the traffic data was collected for this AADT Segment.

Gazettal Direction

The Gazettal Direction is the direction of the traffic flow. It can be easily recognised by referring to the name of the road eg. Road Section: 10A Brisbane - Gympie denotes that the gazettal direction is from Brisbane to Gympie.

- G Traffic flowing in Gazettal Direction
- A Traffic flowing against Gazettal Direction
- B The combined traffic flow in both Directions

Road Section

Is the Gazetted road from which the traffic data is collected. Each Road Section is given a code, allocated sequentially in Gazettal Direction. Larger roads are broken down into sections and identified by an ID code with a suffix for easier data collection and reporting (eg. 10A, 10B, 10C). Road Sections are then broken into AADT Segments which are determined by traffic volume.

Site

The physical location of a traffic counting device. Sites are located at a specified Through Distance along a Road Section.

Site TDist

The Through Distance in gazettal direction from the start of the Road Section at which the site is located.

Site Description

The description of the physical location of the traffic counting device.

Start and End Point

The unique identifier for the Through Distance along a Road Section.

Through Distance

The distance, in kilometres, from the beginning of the Road Section in Gazettal Direction.

Traffic Class

Is the 12 Austroads vehicle categories or classes into which vehicles are placed or binned. Traffic classes are formed in a hierarchical format.

Volume or All Vehicles

00 = 0A + 0B

Light Vehicles

0A = 1A

1A = 2A + 2B

Heavy Vehicles

0B = 1B + 1C + 1D

1B = 2C + 2D + 2E

1C = 2F + 2G + 2H + 2I

1D = 2J + 2K + 2L

The following classes are the categories for which data can be captured:

Volume

00 All vehicles.

2-Bin

0A Light vehicles

0B Heavy vehicles

4-Bin

1A Short vehicles

1B Truck or bus

1C Articulated vehicles

1D Road train

12-Bin

2A Short 2 axle vehicles

2B Short vehicles towing

2C 2 axle truck or bus

2D 3 axle truck or bus

2E 4 axle truck

2F 3 axle articulated vehicle

2G 4 axle articulated vehicle

2H 5 axle articulated vehicle

2I 6 axle articulated vehicle

2J B double

2K Double road train

2L Triple road train

Vehicle Kilometres Travelled (VKT)

Daily VKT is a measure of the traffic demand. It is calculated by the length of an AADT Segment in kilometres multiplied by its AADT. The yearly VKT is the daily VKT multiplied by 365 days.

AADT Segment Summary - All Vehicles

The Total VKT can be used to gauge the demand on an entire Road Section.

AADT Segment Summary - Heavy Vehicles only

A blank field indicates that vehicle classification data was not collected for this AADT Segment.

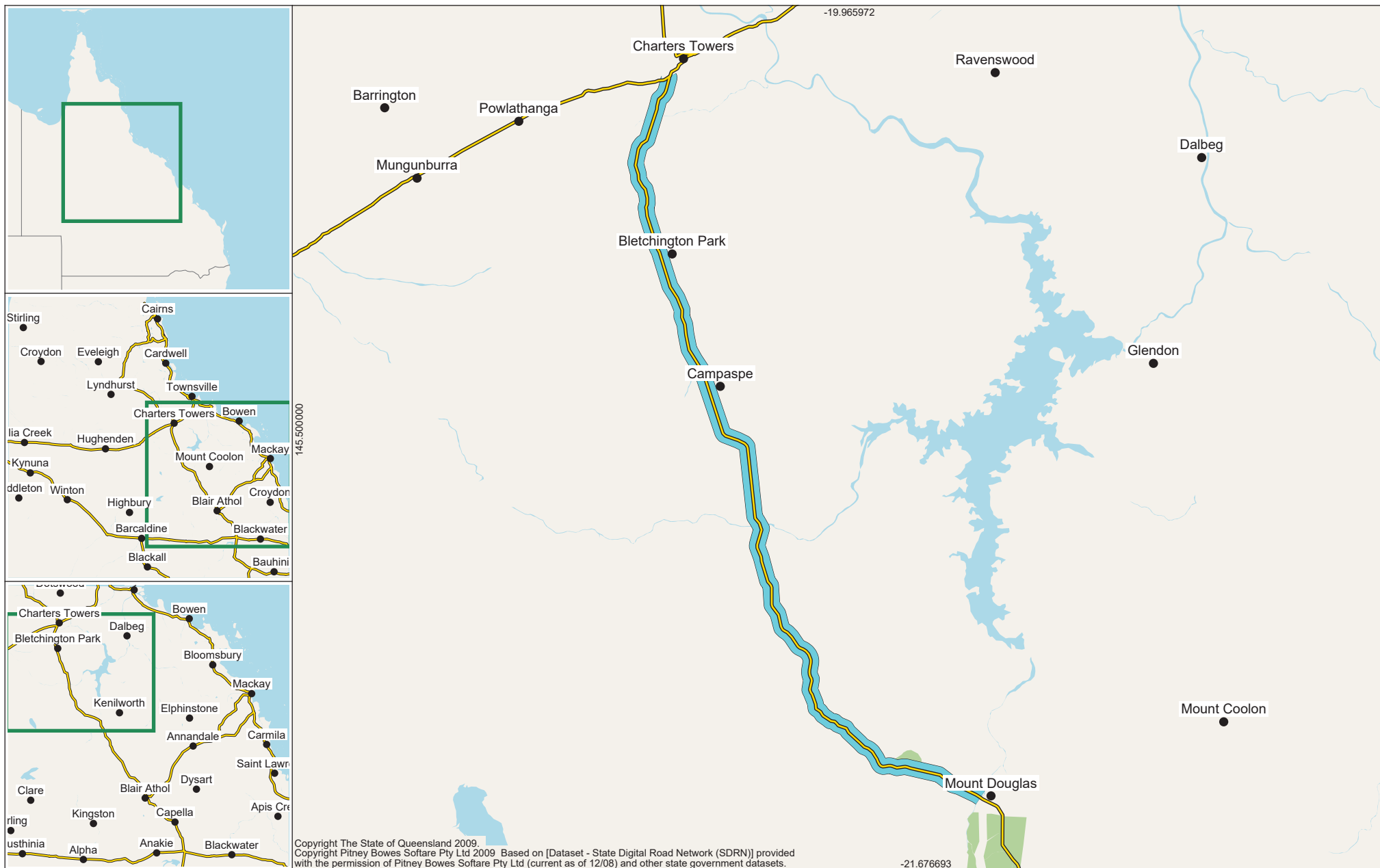
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Traffic Analysis and Reporting System
AADT Segment Analysis Report (Complete)
Road Section 98B - GREGORY DEVELOPMENTAL ROAD (BELYANDO CROSSING - CHARTERS TOWERS)
Traffic Year 2019

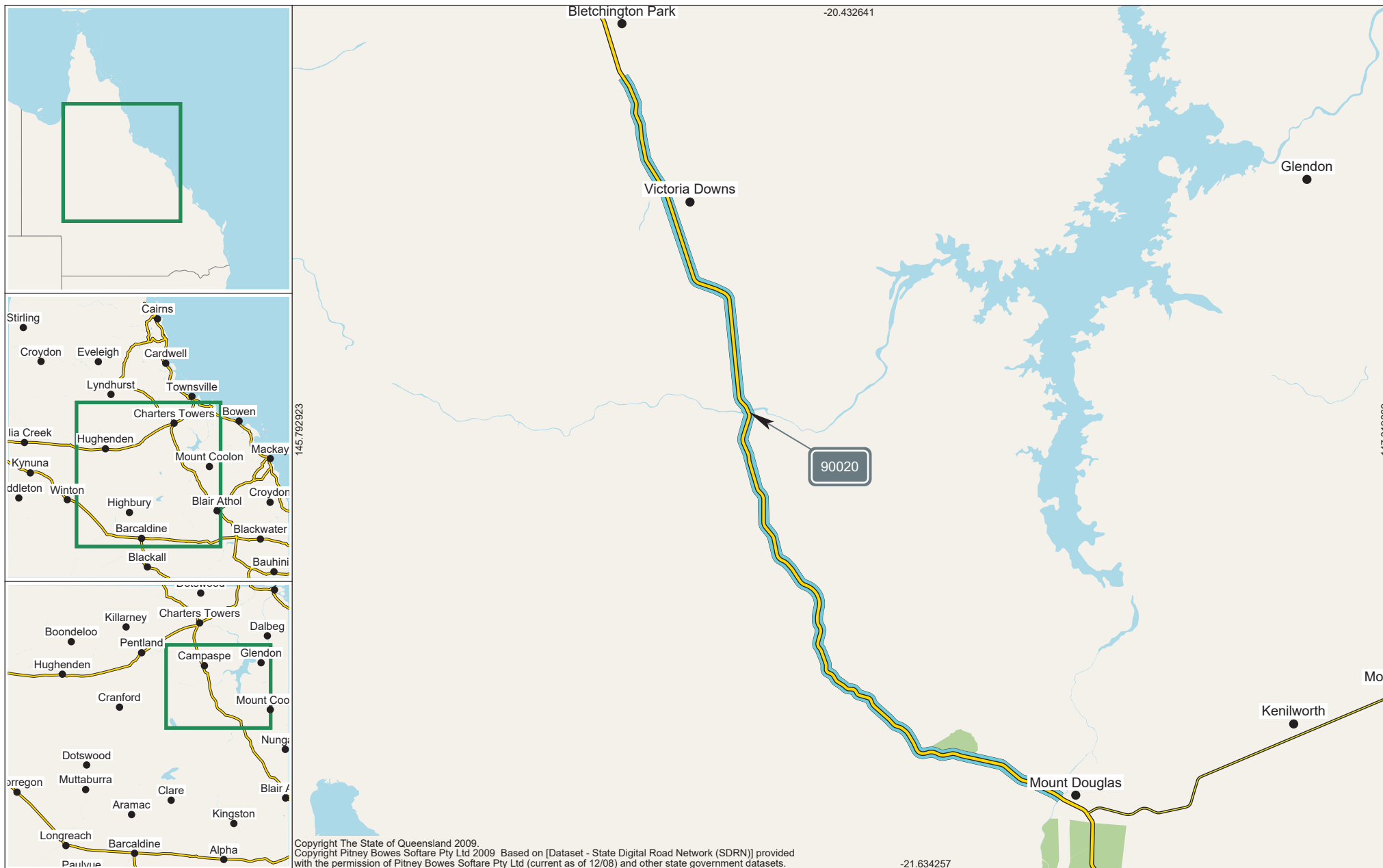
Road Segments Summary - All Vehicles

Region	Segment Start Tdist	Segment End Tdist	Site	Site Tdist	Description	AADT			VKT (Millions)			Data Year	Page
						G	A	B	G	A	B		
408	0.000 km	142.782 km	90020	85.640 km	Cape River (107km South of C.Towers)	265	251	516	13.81059	13.08097	26.89156	2019	2
408	142.782 km	193.188 km	91701	191.128 km	WiM Site Mt Leyshon	385	377	762	7.08330	6.93612	14.01942	2018	3
								Totals	20.89389	20.01709	40.91098		

Road Segments Summary - Heavy Vehicles only

VKT totals are calculated only if traffic class data is available for all sites.

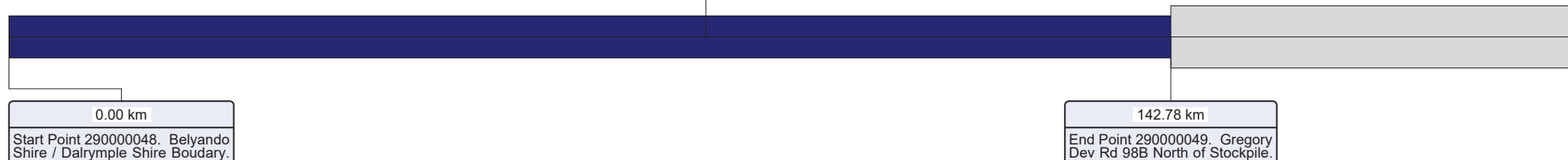
Region	Segment Start Tdist	Segment End Tdist	Site	Site Tdist	Description	HV AADT						HV VKT (Millions)			Data Year	Page
						G		A		B						
						AADT	HV %	AADT	HV %	AADT	HV %	G	A	B		
408	0.000 km	142.782 km	90020	85.640 km	Cape River (107km South of C.Towers)	71	26.79%	104	41.43%	175	33.91%	3.70020	5.42000	9.12020	2019	
408	142.782 km	193.188 km	91701	191.128 km	WiM Site Mt Leyshon	84	21.82%					1.54545			2018	
											Totals	5.24564				



Site 90020. Point 290022110. Cape River (107km South of C.Towers).

85.64 km

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

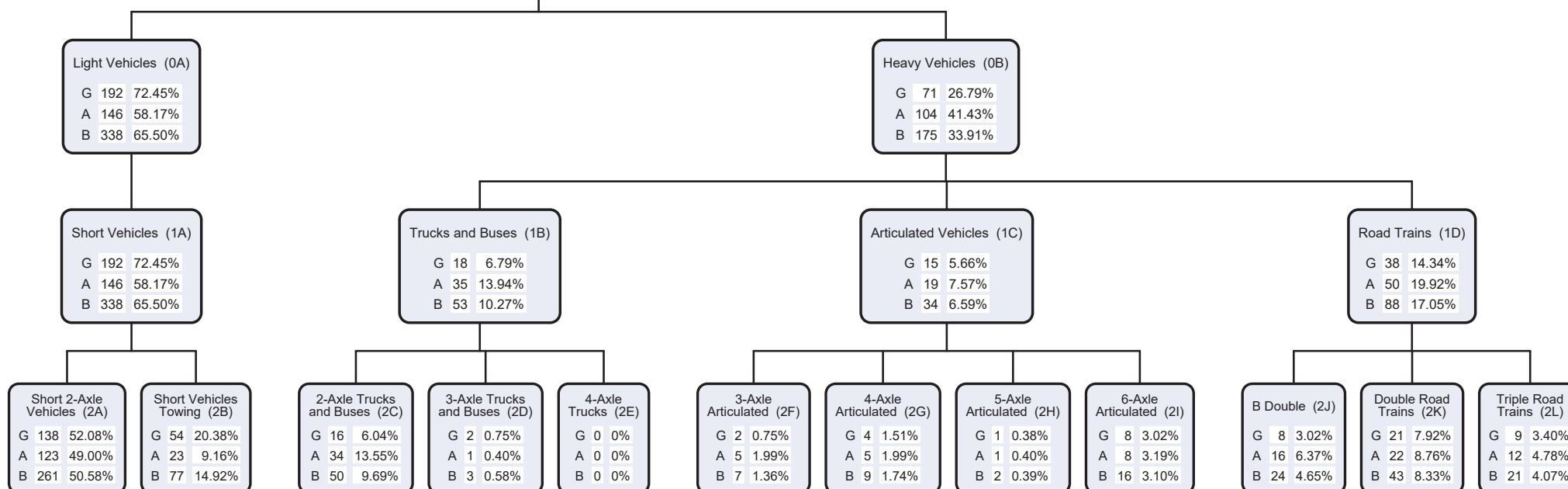


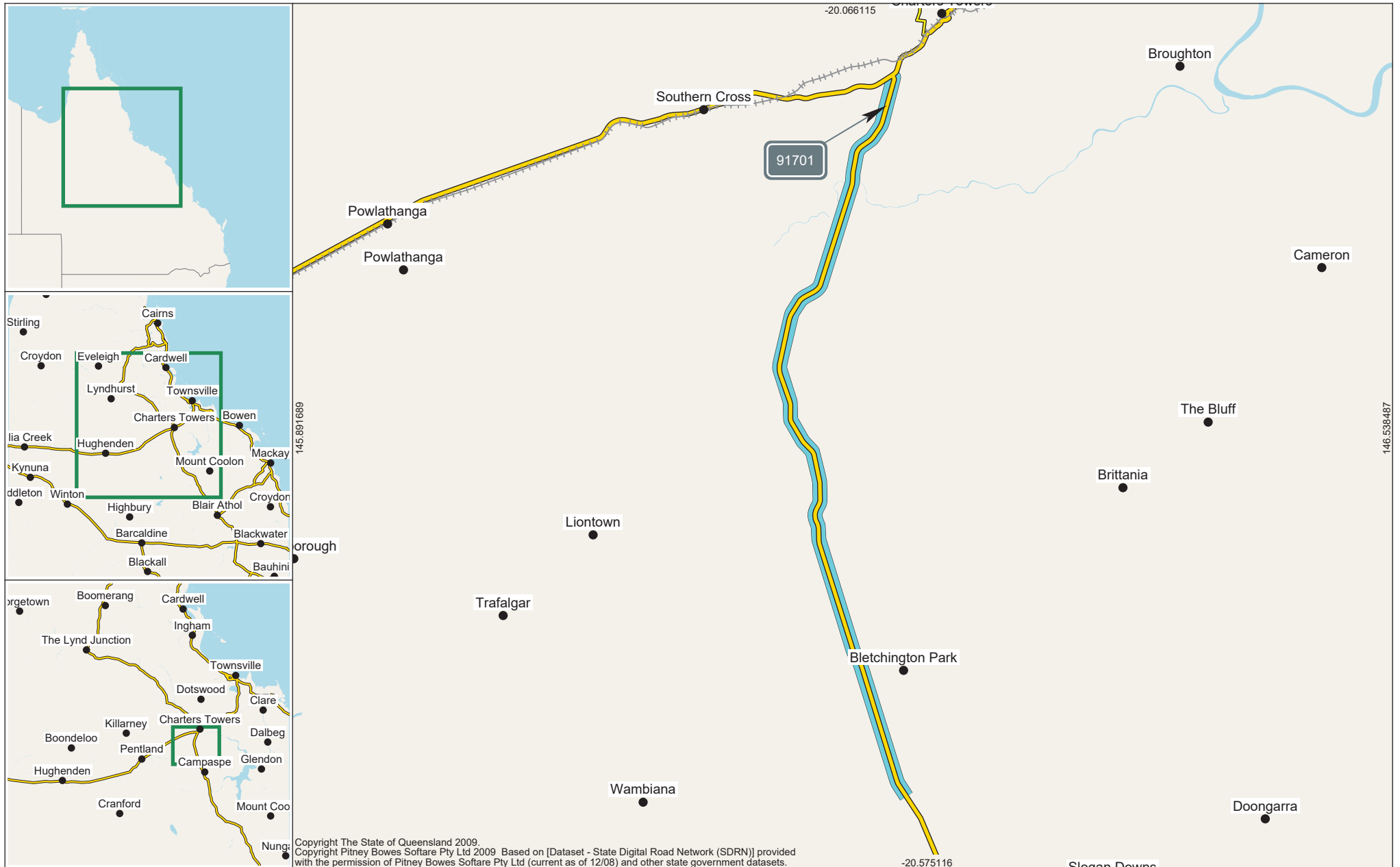
This report shows Annual Average Daily Traffic values (AADTs). Because the AADT values are converted to whole numbers, there will be occasional inaccuracies due to rounding. These inaccuracies are statistically insignificant.

All Vehicles (00)

G	265	100%
A	251	100%
B	516	100%

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	53.18%	10.60%	8.13%
A	67.33%	10.61%	5.66%
B	59.75%	10.57%	6.80%





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

Site 91701. Point 290001054.
WIM Site Leyshon.

191.13 km

142.78 km

Start Point 290000049. Gregory
Dev Rd 98B North of Stockpile.

193.19 km

End Point 290000150. Gregory Dev
Rd 98B @ Flinders Highway 14B.

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.

All Vehicles (00)

G	385	100%
A	377	100%
B	762	100%

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	0.00%	4.88%	2.04%
A	0.00%	3.67%	1.47%
B	0.00%	4.27%	1.75%

Light Vehicles (0A)

G	303	78.70%
A	376	99.73%
B	679	89.11%

Short Vehicles (1A)

G	303	78.70%
A	376	99.73%
B	679	89.11%

Heavy Vehicles (0B)

G	84	21.82%
A	0	0.00%
B	84	11.02%

Trucks and Buses (1B)

G	36	9.35%
A	0	0.00%
B	36	4.72%

Articulated Vehicles (1C)

G	14	3.64%
A	0	0.00%
B	14	1.84%

Road Trains (1D)

G	34	8.83%
A	0	0.00%
B	34	4.46%

Short 2-Axle
Vehicles (2A)

G	258	67.01%
A	376	99.73%
B	634	83.20%

Short Vehicles
Towing (2B)

G	45	11.69%
A	0	0.00%
B	45	5.91%

2-Axle Trucks
and Buses (2C)

G	31	8.05%
A	0	0.00%
B	31	4.07%

3-Axle Trucks
and Buses (2D)

G	3	0.78%
A	0	0.00%
B	3	0.39%

4-Axle
Trucks (2E)

G	2	0.52%
A	0	0.00%
B	2	0.26%

3-Axle
Articulated (2F)

G	3	0.78%
A	0	0.00%
B	3	0.39%

4-Axle
Articulated (2G)

G	2	0.52%
A	0	0.00%
B	2	0.26%

5-Axle
Articulated (2H)

G	1	0.26%
A	0	0.00%
B	1	0.13%

6-Axle
Articulated (2I)

G	8	2.08%
A	0	0.00%
B	8	1.05%

B Double (2J)

G	7	1.82%
A	0	0.00%
B	7	0.92%

Double Road
Trains (2K)

G	20	5.19%
A	0	0.00%
B	20	2.62%

Triple Road
Trains (2L)

G	7	1.82%
A	0	0.00%
B	7	0.92%

AADT Segment Report

Provides AADT Segment details for a Road Section together with the traffic flow data collected at the related Site. Traffic data is reported by the start and end Through Distance of the AADT Segments on each section of road. The road segments are represented diagrammatically with AADT data including:

AADT by direction of traffic flow
VKT Vehicle Kilometres Travelled
%VC Percentage Vehicle Class as per the Austroads vehicle classification scheme

Annual Average Daily Traffic (AADT)

Annual Average Daily Traffic (AADT) is the number of vehicles passing a point on a road in a 24 hour period, averaged over a calendar year.

AADT Segment

Is a subdivision of a Road Section. The boundaries of an AADT Segment are its Start Point and End Point (or Start and End Through Distance (TDist)) within the Road Section. These distances are measured in kilometres from the beginning of the Road Section in Gazettal Direction. AADT Segments are determined by the traffic volume, collected at a count Site, located within the limits of each AADT Segment.

Annual Segment Growth (when displayed)

A percentage that represents the increase or decrease in AADT for the AADT Segment, using an exponential fit, calculated over a 1, 5 or 10 year period.

Area

For administration purposes the Department of Transport and Main Roads has divided Queensland into 12 Districts. The Area field in TSDM reports displays the District Name and Number.

District Name	District
Central West District	401
Darling Downs District	402
Far North District	403
Fitzroy District	404
Mackay/Whitsunday District	405
Metropolitan District	406
North Coast District	407
North West District	409
Northern District	408
South Coast District	410
South West District	411
Wide Bay/Burnett District	412

Data Year

The most recent year the traffic data was collected for this AADT Segment.

Gazettal Direction

The Gazettal Direction is the direction of the traffic flow. It can be easily recognised by referring to the name of the road eg. Road Section: 10A Brisbane - Gympie denotes that the gazettal direction is from Brisbane to Gympie.

- G Traffic flowing in Gazettal Direction
- A Traffic flowing against Gazettal Direction
- B The combined traffic flow in both Directions

Road Section

Is the Gazetted road from which the traffic data is collected. Each Road Section is given a code, allocated sequentially in Gazettal Direction. Larger roads are broken down into sections and identified by an ID code with a suffix for easier data collection and reporting (eg. 10A, 10B, 10C). Road Sections are then broken into AADT Segments which are determined by traffic volume.

Site

The physical location of a traffic counting device. Sites are located at a specified Through Distance along a Road Section.

Site TDist

The Through Distance in gazettal direction from the start of the Road Section at which the site is located.

Site Description

The description of the physical location of the traffic counting device.

Start and End Point

The unique identifier for the Through Distance along a Road Section.

Through Distance

The distance, in kilometres, from the beginning of the Road Section in Gazettal Direction.

Traffic Class

Is the 12 Austroads vehicle categories or classes into which vehicles are placed or binned. Traffic classes are formed in a hierarchical format.

Volume or All Vehicles

00 = 0A + 0B

Light Vehicles

0A = 1A

1A = 2A + 2B

Heavy Vehicles

0B = 1B + 1C + 1D

1B = 2C + 2D + 2E

1C = 2F + 2G + 2H + 2I

1D = 2J + 2K + 2L

The following classes are the categories for which data can be captured:

Volume

00 All vehicles.

2-Bin

0A Light vehicles

0B Heavy vehicles

4-Bin

1A Short vehicles

1B Truck or bus

1C Articulated vehicles

1D Road train

12-Bin

2A Short 2 axle vehicles

2B Short vehicles towing

2C 2 axle truck or bus

2D 3 axle truck or bus

2E 4 axle truck

2F 3 axle articulated vehicle

2G 4 axle articulated vehicle

2H 5 axle articulated vehicle

2I 6 axle articulated vehicle

2J B double

2K Double road train

2L Triple road train

Vehicle Kilometres Travelled (VKT)

Daily VKT is a measure of the traffic demand. It is calculated by the length of an AADT Segment in kilometres multiplied by its AADT. The yearly VKT is the daily VKT multiplied by 365 days.

AADT Segment Summary - All Vehicles

The Total VKT can be used to gauge the demand on an entire Road Section.

AADT Segment Summary - Heavy Vehicles only

A blank field indicates that vehicle classification data was not collected for this AADT Segment.

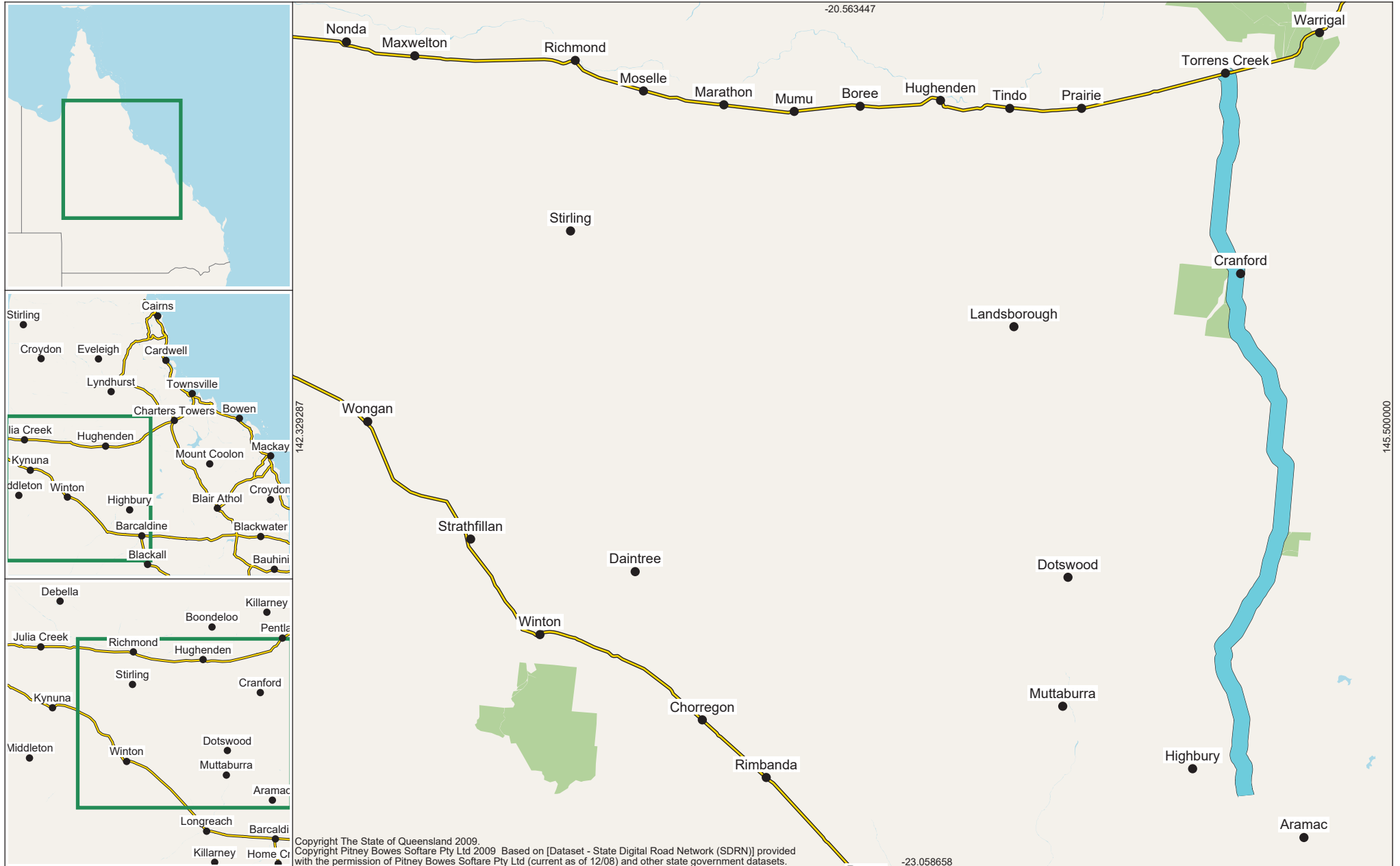
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Traffic Analysis and Reporting System
ADT Segment Analysis Report (Complete)
Road Section 5703 - ARAMAC - TORRENS CREEK ROAD
Traffic Year 2019

Road Segments Summary - All Vehicles

Region	Segment Start Tdist	Segment End Tdist	Site	Site Tdist	Description	AADT			VKT (Millions)			Data Year	Page
						G	A	B	G	A	B		
401	0.000 km	124.860 km	70009	6.980 km	6.98km north of Aramac-Muttaborra Rd	24	25	49	1.09377	1.13935	2.23312	2019	2
409	124.860 km	246.760 km	100048	211.240 km	5703 Ch211.24 - 35km Sth of Int 14B/5703	26	31	57	1.15683	1.37930	2.53613	2019	3
								Totals	2.25060	2.51865	4.76925		

Road Segments Summary - Heavy Vehicles only

VKT totals are calculated only if traffic class data is available for all sites.

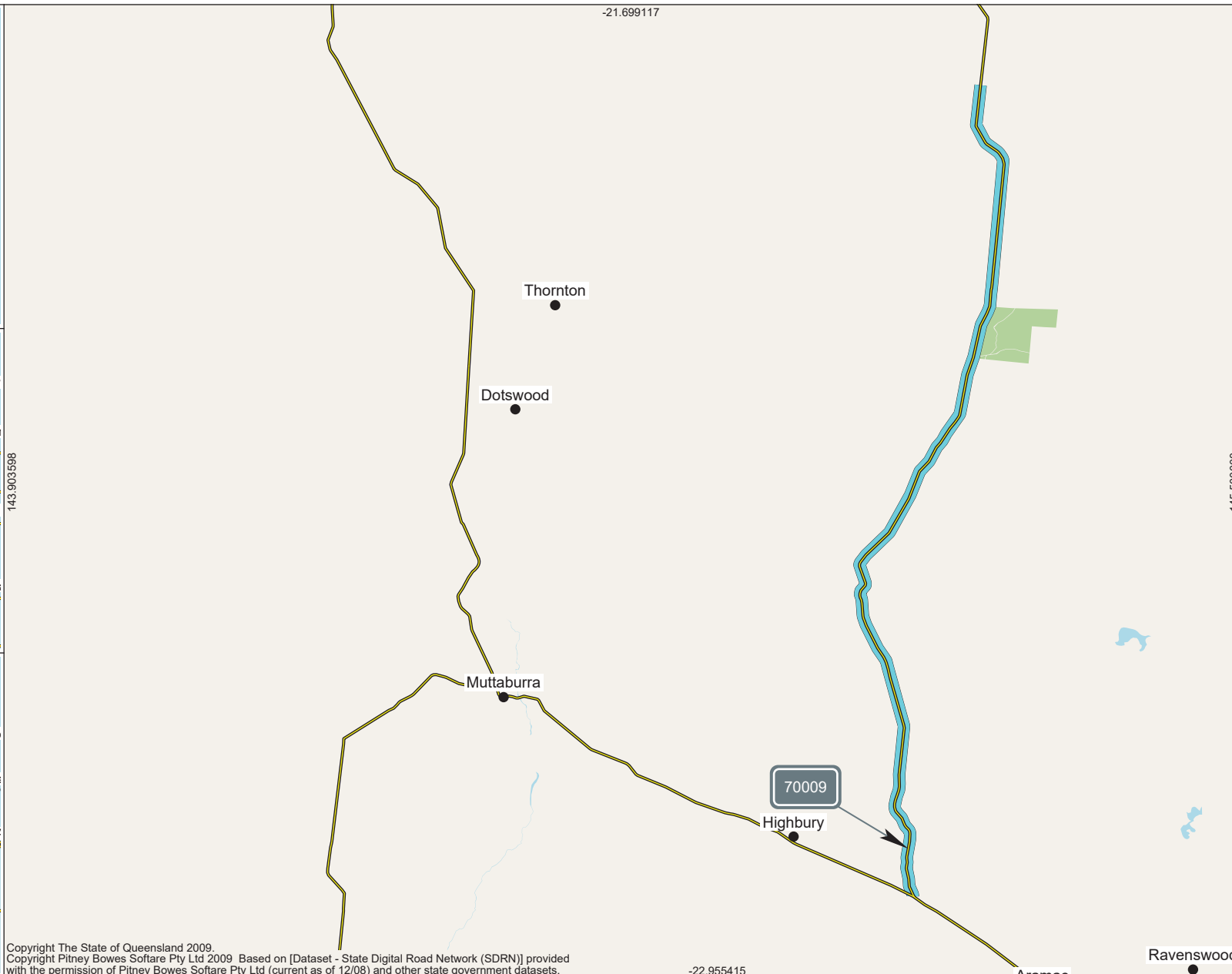
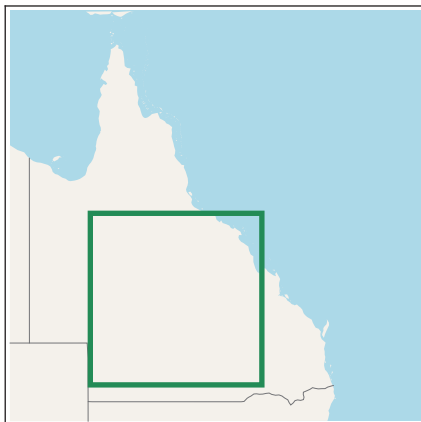
Region	Segment Start Tdist	Segment End Tdist	Site	Site Tdist	Description	HV AADT						HV VKT (Millions)			Data Year	Page
						G		A		B						
						AADT	HV %	AADT	HV %	AADT	HV %	G	A	B		
401	0.000 km	124.860 km	70009	6.980 km	6.98km north of Aramac-Muttaborra Rd	6	25.00%	7	28.00%	13	26.53%	0.27344	0.31902	0.59246	2019	
409	124.860 km	246.760 km	100048	211.240 km	5703 Ch211.24 - 35km Sth of Int 14B/5703	16	61.54%	10	32.26%	26	45.61%	0.71190	0.44494	1.15683	2019	
											Totals	0.98534	0.76395	1.74929		

AADT Segment Analysis Report (Complete)

Area 401 - Central West District

Road Section 5703 - ARAMAC - TORRENS CREEK ROAD

Traffic Year 2019 - Data Collection Year 2019



Site 70009. Point 270000361. 6.98km north of Aramac-Muttaburra Rd (Site ID 70009).

6.98 km

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



0.00 km

Start Point 270000360. Start of Aramac-Torrens Ck Rd & 5703/572 Inter.

124.86 km

End Point 270000362. Barcaldine 201 & Flinder 209 Region Boundary.

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.

All Vehicles (00)

G	24	100%
A	25	100%
B	49	100%

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	9.09%	-5.98%	-2.12%
A	0.00%	-1.99%	-0.12%
B	4.26%	-4.20%	-1.18%

Light Vehicles (0A)

G	18	75.00%
A	17	68.00%
B	35	71.43%

Heavy Vehicles (0B)

G	6	25.00%
A	7	28.00%
B	13	26.53%

Short Vehicles (1A)

G	18	75.00%
A	17	68.00%
B	35	71.43%

Trucks and Buses (1B)

G	1	4.17%
A	1	4.00%
B	2	4.08%

Articulated Vehicles (1C)

G	1	4.17%
A	1	4.00%
B	2	4.08%

Road Trains (1D)

G	4	16.67%
A	5	20.00%
B	9	18.37%

Short 2-Axle Vehicles (2A)

G	15	62.50%
A	14	56.00%
B	29	59.18%

Short Vehicles Towing (2B)

G	3	12.50%
A	3	12.00%
B	6	12.24%

2-Axle Trucks and Buses (2C)

G	1	4.17%
A	1	4.00%
B	2	4.08%

3-Axle Trucks and Buses (2D)

G	0	0%
A	0	0%
B	0	0%

4-Axle Trucks (2E)

G	0	0%
A	0	0%
B	0	0%

3-Axle Articulated (2F)

G	0	0%
A	0	0%
B	0	0%

4-Axle Articulated (2G)

G	0	0%
A	0	0%
B	0	0%

5-Axle Articulated (2H)

G	0	0%
A	0	0%
B	0	0%

6-Axle Articulated (2I)

G	1	4.17%
A	1	4.00%
B	2	4.08%

B Double (2J)

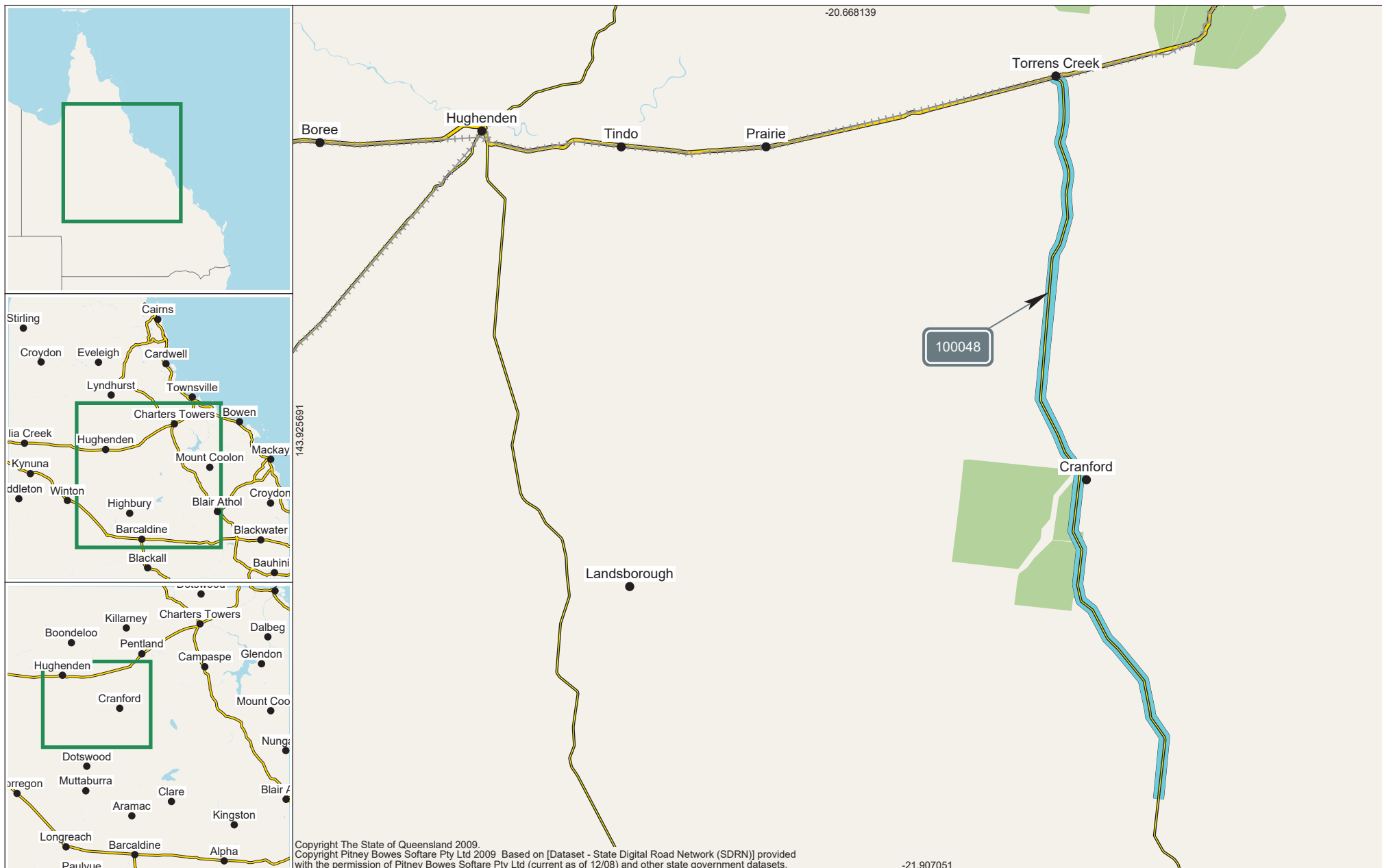
G	1	4.17%
A	2	8.00%
B	3	6.12%

Double Road Trains (2K)

G	2	8.33%
A	2	8.00%
B	4	8.16%

Triple Road Trains (2L)

G	1	4.17%
A	1	4.00%
B	2	4.08%



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

Site 100048. Point 300019679.
35.3km south of Int 14B/5703.

211.24 km

124.86 km

Start Point 300000280. Barcaldine
/Flinders Shire Boundry Sign.

246.76 km

End Point 300000281. Torrens Creek.

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.

All Vehicles (00)

G	26	100%
A	31	100%
B	57	100%

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G			
A			
B			

Light Vehicles (0A)

G	10	38.46%
A	22	70.97%
B	32	56.14%

Heavy Vehicles (0B)

G	16	61.54%
A	10	32.26%
B	26	45.61%

Short Vehicles (1A)

G	10	38.46%
A	22	70.97%
B	32	56.14%

Trucks and Buses (1B)

G	9	34.62%
A	3	9.68%
B	12	21.05%

Articulated Vehicles (1C)

G	2	7.69%
A	1	3.23%
B	3	5.26%

Road Trains (1D)

G	5	19.23%
A	6	19.35%
B	11	19.30%

Short 2-Axle
Vehicles (2A)

G	9	34.62%
A	18	58.06%
B	27	47.37%

Short Vehicles
Towing (2B)

G	1	3.85%
A	4	12.90%
B	5	8.77%

2-Axle Trucks
and Buses (2C)

G	9	34.62%
A	2	6.45%
B	11	19.30%

3-Axle Trucks
and Buses (2D)

G	0	0.00%
A	1	3.23%
B	1	1.75%

4-Axle
Trucks (2E)

G	0	0%
A	0	0%
B	0	0%

3-Axle
Articulated (2F)

G	1	3.85%
A	0	0.00%
B	1	1.75%

4-Axle
Articulated (2G)

G	0	0%
A	0	0%
B	0	0%

5-Axle
Articulated (2H)

G	0	0%
A	0	0%
B	0	0%

6-Axle
Articulated (2I)

G	1	3.85%
A	1	3.23%
B	2	3.51%

B Double (2J)

G	1	3.85%
A	2	6.45%
B	3	5.26%

Double Road
Trains (2K)

G	2	7.69%
A	2	6.45%
B	4	7.02%

Triple Road
Trains (2L)

G	2	7.69%
A	2	6.45%
B	4	7.02%

AADT Segment Report

Provides AADT Segment details for a Road Section together with the traffic flow data collected at the related Site. Traffic data is reported by the start and end Through Distance of the AADT Segments on each section of road. The road segments are represented diagrammatically with AADT data including:

AADT by direction of traffic flow
VKT Vehicle Kilometres Travelled
%VC Percentage Vehicle Class as per the Austroads vehicle classification scheme

Annual Average Daily Traffic (AADT)

Annual Average Daily Traffic (AADT) is the number of vehicles passing a point on a road in a 24 hour period, averaged over a calendar year.

AADT Segment

Is a subdivision of a Road Section. The boundaries of an AADT Segment are its Start Point and End Point (or Start and End Through Distance (TDist)) within the Road Section. These distances are measured in kilometres from the beginning of the Road Section in Gazettal Direction. AADT Segments are determined by the traffic volume, collected at a count Site, located within the limits of each AADT Segment.

Annual Segment Growth (when displayed)

A percentage that represents the increase or decrease in AADT for the AADT Segment, using an exponential fit, calculated over a 1, 5 or 10 year period.

Area

For administration purposes the Department of Transport and Main Roads has divided Queensland into 12 Districts. The Area field in TSDM reports displays the District Name and Number.

District Name	District
Central West District	401
Darling Downs District	402
Far North District	403
Fitzroy District	404
Mackay/Whitsunday District	405
Metropolitan District	406
North Coast District	407
North West District	409
Northern District	408
South Coast District	410
South West District	411
Wide Bay/Burnett District	412

Data Year

The most recent year the traffic data was collected for this AADT Segment.

Gazettal Direction

The Gazettal Direction is the direction of the traffic flow. It can be easily recognised by referring to the name of the road eg. Road Section: 10A Brisbane - Gympie denotes that the gazettal direction is from Brisbane to Gympie.

- G Traffic flowing in Gazettal Direction
- A Traffic flowing against Gazettal Direction
- B The combined traffic flow in both Directions

Road Section

Is the Gazetted road from which the traffic data is collected. Each Road Section is given a code, allocated sequentially in Gazettal Direction. Larger roads are broken down into sections and identified by an ID code with a suffix for easier data collection and reporting (eg. 10A, 10B, 10C). Road Sections are then broken into AADT Segments which are determined by traffic volume.

Site

The physical location of a traffic counting device. Sites are located at a specified Through Distance along a Road Section.

Site TDist

The Through Distance in gazettal direction from the start of the Road Section at which the site is located.

Site Description

The description of the physical location of the traffic counting device.

Start and End Point

The unique identifier for the Through Distance along a Road Section.

Through Distance

The distance, in kilometres, from the beginning of the Road Section in Gazettal Direction.

Traffic Class

Is the 12 Austroads vehicle categories or classes into which vehicles are placed or binned. Traffic classes are formed in a hierarchical format.

Volume or All Vehicles

00 = 0A + 0B

Light Vehicles

0A = 1A

1A = 2A + 2B

Heavy Vehicles

0B = 1B + 1C + 1D

1B = 2C + 2D + 2E

1C = 2F + 2G + 2H + 2I

1D = 2J + 2K + 2L

The following classes are the categories for which data can be captured:

Volume

00 All vehicles.

2-Bin

0A Light vehicles

0B Heavy vehicles

4-Bin

1A Short vehicles

1B Truck or bus

1C Articulated vehicles

1D Road train

12-Bin

2A Short 2 axle vehicles

2B Short vehicles towing

2C 2 axle truck or bus

2D 3 axle truck or bus

2E 4 axle truck

2F 3 axle articulated vehicle

2G 4 axle articulated vehicle

2H 5 axle articulated vehicle

2I 6 axle articulated vehicle

2J B double

2K Double road train

2L Triple road train

Vehicle Kilometres Travelled (VKT)

Daily VKT is a measure of the traffic demand. It is calculated by the length of an AADT Segment in kilometres multiplied by its AADT. The yearly VKT is the daily VKT multiplied by 365 days.

AADT Segment Summary - All Vehicles

The Total VKT can be used to gauge the demand on an entire Road Section.

AADT Segment Summary - Heavy Vehicles only

A blank field indicates that vehicle classification data was not collected for this AADT Segment.

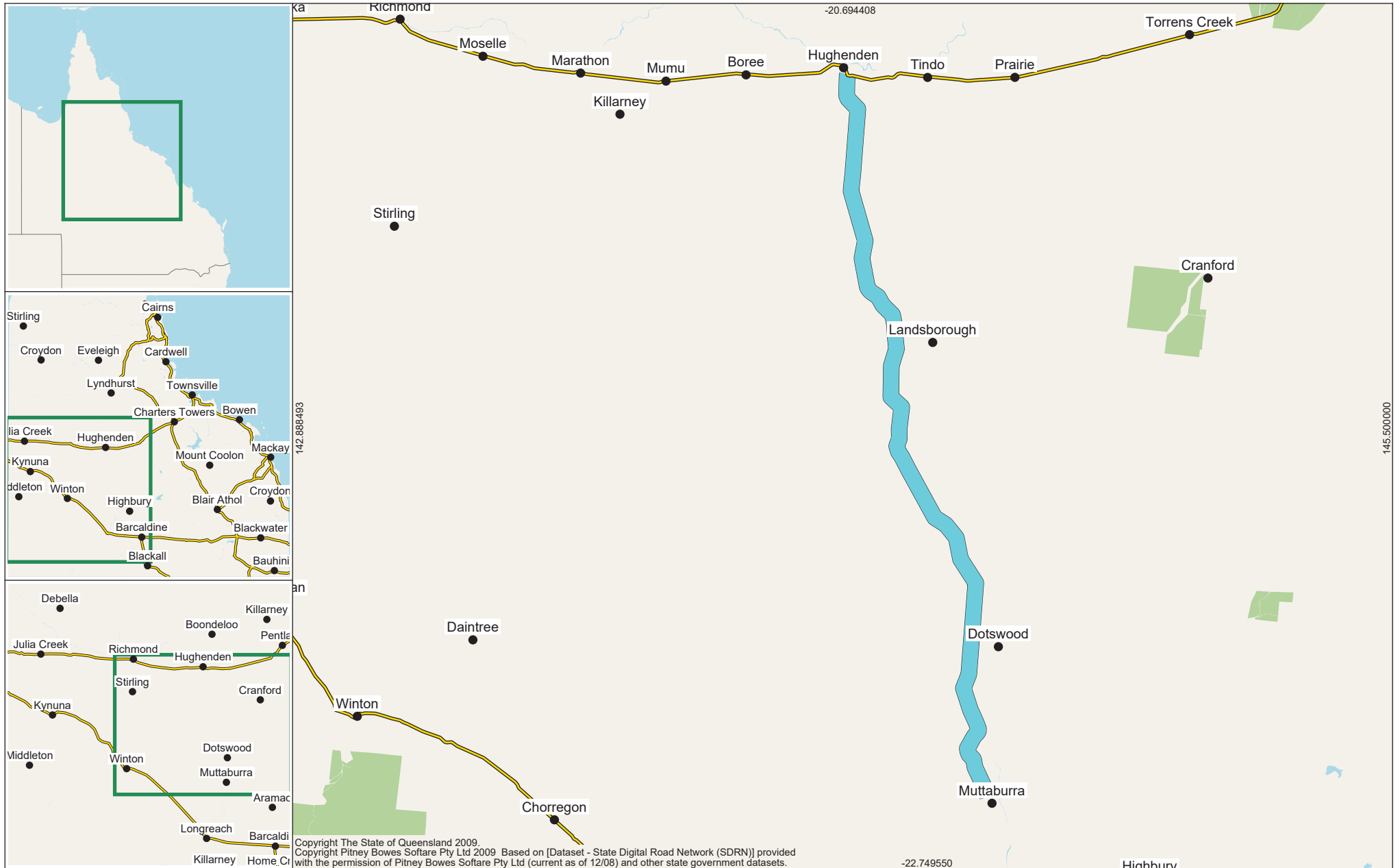
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Traffic Analysis and Reporting System
AADT Segment Analysis Report (Complete)
Road Section 5701 - HUGHENDEN - MUTTABURRA ROAD
Traffic Year 2019

Road Segments Summary - All Vehicles

Region	Segment Start Tdist	Segment End Tdist	Site	Site Tdist	Description	AADT			VKT (Millions)			Data Year	Page
						G	A	B	G	A	B		
409	0.000 km	158.530 km	100031	7.860 km	5701 Ch 7.86 - Sth of 14B/5701 Int	32	33	65	1.85163	1.90949	3.76112	2019	2
401	158.530 km	204.980 km	70067	204.270 km	approx 700m north of Muttaborra	18	18	36	0.30518	0.30518	0.61035	2019	3
								Totals	2.15681	2.21467	4.37148		

Road Segments Summary - Heavy Vehicles only

VKT totals are calculated only if traffic class data is available for all sites.

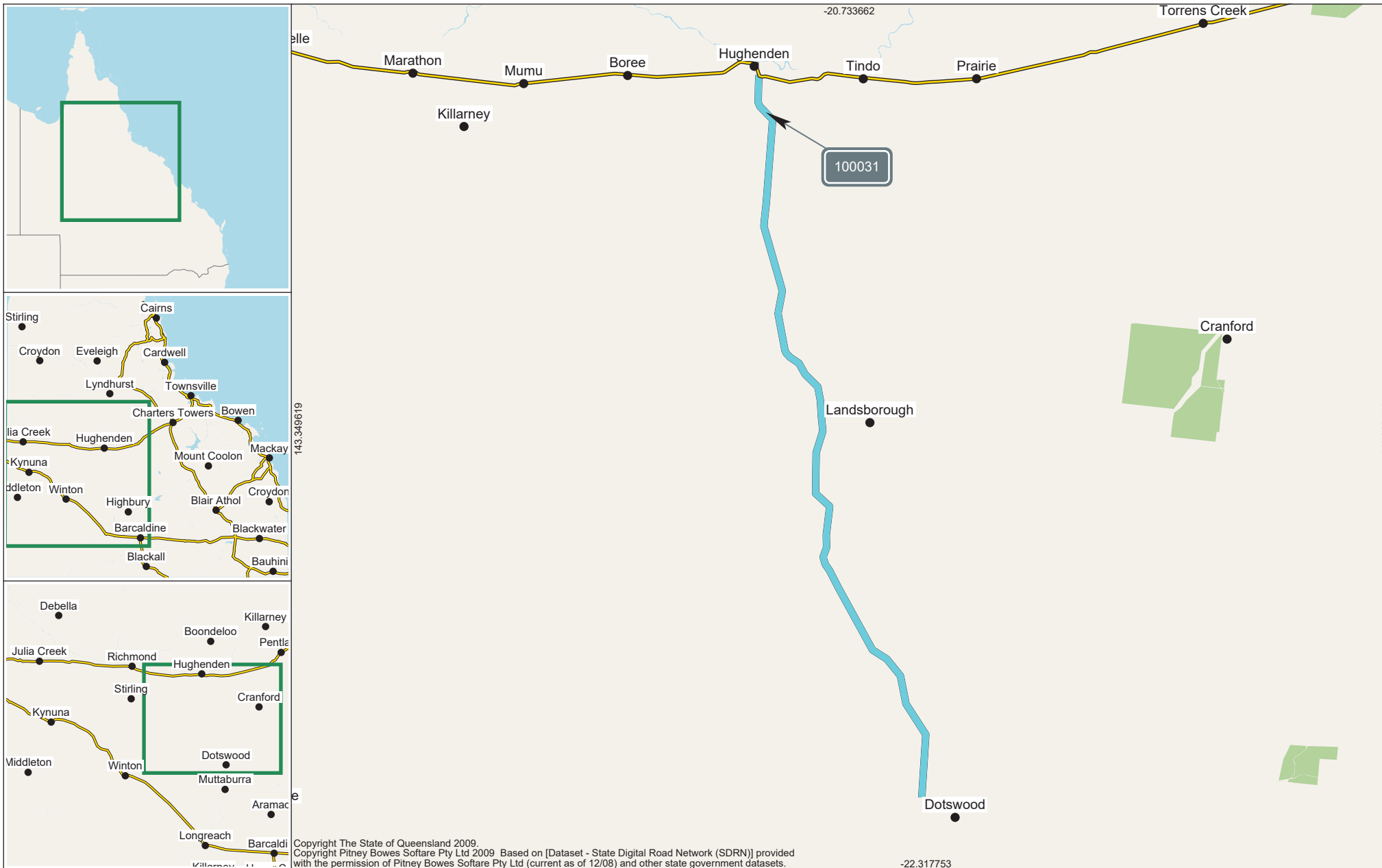
Region	Segment Start Tdist	Segment End Tdist	Site	Site Tdist	Description	HV AADT						HV VKT (Millions)			Data Year	Page
						G		A		B		G	A	B		
						AADT	HV %	AADT	HV %	AADT	HV %					
409	0.000 km	158.530 km	100031	7.860 km	5701 Ch 7.86 - Sth of 14B/5701 Int	5	15.62%	8	24.24%	13	20.00%	0.28932	0.46291	0.75222	2019	
401	158.530 km	204.980 km	70067	204.270 km	approx 700m north of Muttaborra	2	11.11%	3	16.67%	5	13.89%	0.03391	0.05086	0.08477	2019	
											Totals	0.32323	0.51377	0.83700		

AADT Segment Analysis Report (Complete)

Area 409 - North West District

Road Section 5701 - HUGHENDEN - MUTTABURRA ROAD

Traffic Year 2019 - Data Collection Year 2019



Site 100031. Point 300019715.
7.86km south of Flinders Hwy.

7.86 km

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

0.00 km

Start Point 300000050. Hughenden.

158.53 km

End Point 300000051. Flinders/
Bairdline Shire Boundry Sign.

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.

All Vehicles (00)

G	32	100%
A	33	100%
B	65	100%

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	-11.11%	5.38%	1.22%
A	-5.71%	5.03%	1.52%
B	-8.45%	5.19%	1.36%

Light Vehicles (0A)

G	25	78.12%
A	23	69.70%
B	48	73.85%

Heavy Vehicles (0B)

G	5	15.62%
A	8	24.24%
B	13	20.00%

Short Vehicles (1A)

G	25	78.12%
A	23	69.70%
B	48	73.85%

Trucks and Buses (1B)

G	5	15.62%
A	8	24.24%
B	13	20.00%

Articulated Vehicles (1C)

G	0	0%
A	0	0%
B	0	0%

Road Trains (1D)

G	0	0%
A	0	0%
B	0	0%

Short 2-Axle
Vehicles (2A)

G	24	75.00%
A	22	66.67%
B	46	70.77%

Short Vehicles
Towing (2B)

G	1	3.12%
A	1	3.03%
B	2	3.08%

2-Axle Trucks
and Buses (2C)

G	5	15.62%
A	8	24.24%
B	13	20.00%

3-Axle Trucks
and Buses (2D)

G	0	0%
A	0	0%
B	0	0%

4-Axle
Trucks (2E)

G	0	0%
A	0	0%
B	0	0%

3-Axle
Articulated (2F)

G	0	0%
A	0	0%
B	0	0%

4-Axle
Articulated (2G)

G	0	0%
A	0	0%
B	0	0%

5-Axle
Articulated (2H)

G	0	0%
A	0	0%
B	0	0%

6-Axle
Articulated (2I)

G	0	0%
A	0	0%
B	0	0%

B Double (2J)

G	0	0%
A	0	0%
B	0	0%

Double Road
Trains (2K)

G	0	0%
A	0	0%
B	0	0%

Triple Road
Trains (2L)

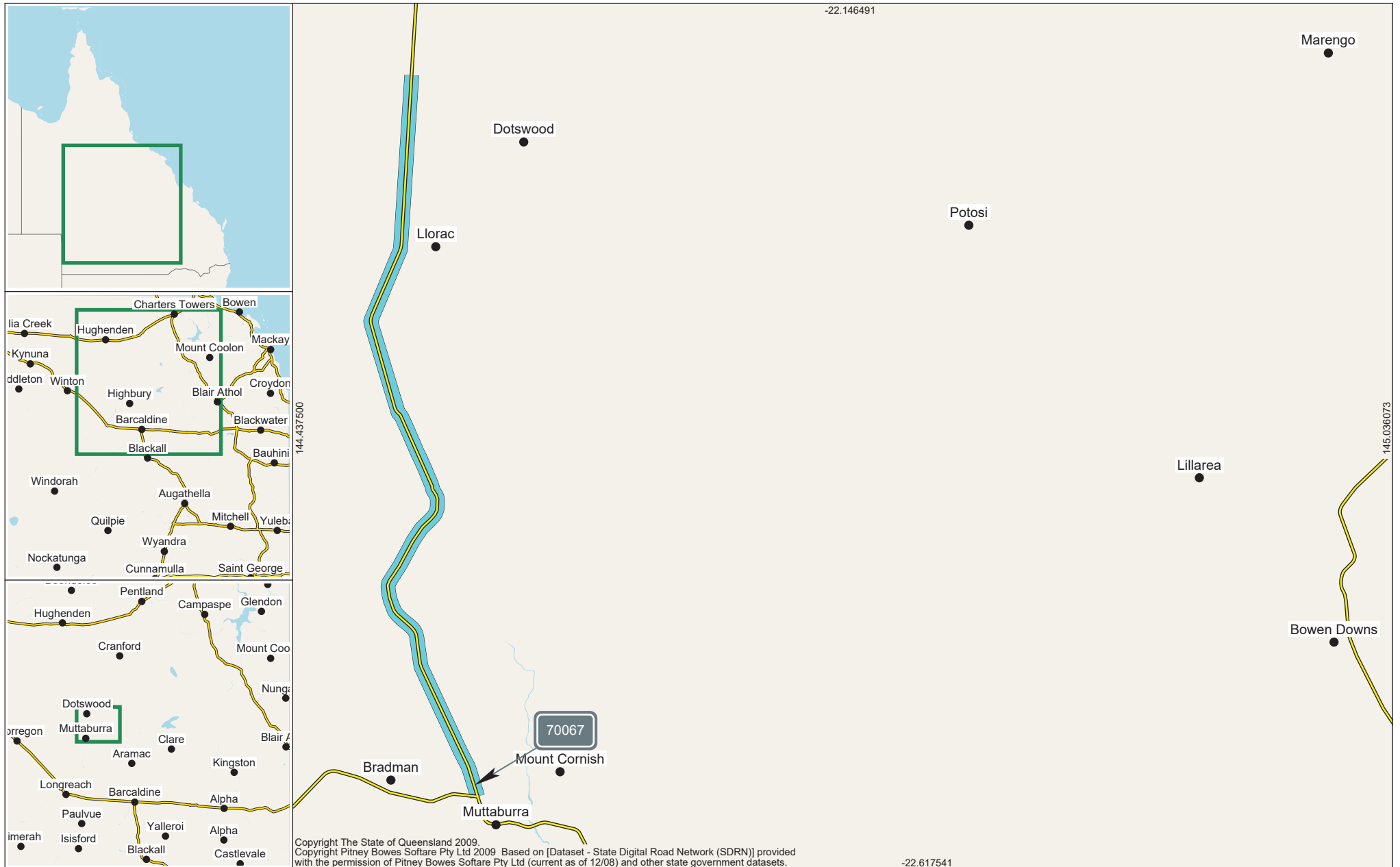
G	0	0%
A	0	0%
B	0	0%

AADT Segment Analysis Report (Complete)

Area 401 - Central West District

Road Section 5701 - HUGHENDEN - MUTTABURRA ROAD

Traffic Year 2019 - Data Collection Year 2019



Traffic Analysis and Reporting System
AADT Segment Analysis Report (Complete)

Area 401 - Central West District Road Section 5701 - HUGHENDEN - MUTTABURRA ROAD
Traffic Year 2019 - Data Collection Year 2019

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

Site 70067. Point 270000082. 700m north of Muttaborra (Site ID 70067).

204.27 km

158.53 km

Start Point 270000083. Flinders / Barcaldine Region Boundary.

204.98 km

End Point 270000084. 5701 / 5705 Inter.

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.

All Vehicles (00)

G	18	100%
A	18	100%
B	36	100%

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	5.88%	-7.45%	-5.30%
A	-5.26%	-8.43%	-5.80%
B	0.00%	-7.95%	-5.55%

Light Vehicles (0A)

G	15	83.33%
A	12	66.67%
B	27	75.00%

Heavy Vehicles (0B)

G	2	11.11%
A	3	16.67%
B	5	13.89%

Short Vehicles (1A)

G	15	83.33%
A	12	66.67%
B	27	75.00%

Trucks and Buses (1B)

G	2	11.11%
A	3	16.67%
B	5	13.89%

Articulated Vehicles (1C)

G	0	0%
A	0	0%
B	0	0%

Road Trains (1D)

G	0	0%
A	0	0%
B	0	0%

Short 2-Axle Vehicles (2A)

G	13	72.22%
A	11	61.11%
B	24	66.67%

Short Vehicles Towing (2B)

G	2	11.11%
A	1	5.56%
B	3	8.33%

2-Axle Trucks and Buses (2C)

G	2	11.11%
A	3	16.67%
B	5	13.89%

3-Axle Trucks and Buses (2D)

G	0	0%
A	0	0%
B	0	0%

4-Axle Trucks (2E)

G	0	0%
A	0	0%
B	0	0%

3-Axle Articulated (2F)

G	0	0%
A	0	0%
B	0	0%

4-Axle Articulated (2G)

G	0	0%
A	0	0%
B	0	0%

5-Axle Articulated (2H)

G	0	0%
A	0	0%
B	0	0%

6-Axle Articulated (2I)

G	0	0%
A	0	0%
B	0	0%

B Double (2J)

G	0	0%
A	0	0%
B	0	0%

Double Road Trains (2K)

G	0	0%
A	0	0%
B	0	0%

Triple Road Trains (2L)

G	0	0%
A	0	0%
B	0	0%

AADT Segment Report

Provides AADT Segment details for a Road Section together with the traffic flow data collected at the related Site. Traffic data is reported by the start and end Through Distance of the AADT Segments on each section of road. The road segments are represented diagrammatically with AADT data including:

AADT by direction of traffic flow
VKT Vehicle Kilometres Travelled
%VC Percentage Vehicle Class as per the Austroads vehicle classification scheme

Annual Average Daily Traffic (AADT)

Annual Average Daily Traffic (AADT) is the number of vehicles passing a point on a road in a 24 hour period, averaged over a calendar year.

AADT Segment

Is a subdivision of a Road Section. The boundaries of an AADT Segment are its Start Point and End Point (or Start and End Through Distance (TDist)) within the Road Section. These distances are measured in kilometres from the beginning of the Road Section in Gazettal Direction. AADT Segments are determined by the traffic volume, collected at a count Site, located within the limits of each AADT Segment.

Annual Segment Growth (when displayed)

A percentage that represents the increase or decrease in AADT for the AADT Segment, using an exponential fit, calculated over a 1, 5 or 10 year period.

Area

For administration purposes the Department of Transport and Main Roads has divided Queensland into 12 Districts. The Area field in TSDM reports displays the District Name and Number.

District Name	District
Central West District	401
Darling Downs District	402
Far North District	403
Fitzroy District	404
Mackay/Whitsunday District	405
Metropolitan District	406
North Coast District	407
North West District	409
Northern District	408
South Coast District	410
South West District	411
Wide Bay/Burnett District	412

Data Year

The most recent year the traffic data was collected for this AADT Segment.

Gazettal Direction

The Gazettal Direction is the direction of the traffic flow. It can be easily recognised by referring to the name of the road eg. Road Section: 10A Brisbane - Gympie denotes that the gazettal direction is from Brisbane to Gympie.

- G Traffic flowing in Gazettal Direction
- A Traffic flowing against Gazettal Direction
- B The combined traffic flow in both Directions

Road Section

Is the Gazetted road from which the traffic data is collected. Each Road Section is given a code, allocated sequentially in Gazettal Direction. Larger roads are broken down into sections and identified by an ID code with a suffix for easier data collection and reporting (eg. 10A, 10B, 10C). Road Sections are then broken into AADT Segments which are determined by traffic volume.

Site

The physical location of a traffic counting device. Sites are located at a specified Through Distance along a Road Section.

Site TDist

The Through Distance in gazettal direction from the start of the Road Section at which the site is located.

Site Description

The description of the physical location of the traffic counting device.

Start and End Point

The unique identifier for the Through Distance along a Road Section.

Through Distance

The distance, in kilometres, from the beginning of the Road Section in Gazettal Direction.

Traffic Class

Is the 12 Austroads vehicle categories or classes into which vehicles are placed or binned. Traffic classes are formed in a hierarchical format.

Volume or All Vehicles

00 = 0A + 0B

Light Vehicles

0A = 1A

1A = 2A + 2B

Heavy Vehicles

0B = 1B + 1C + 1D

1B = 2C + 2D + 2E

1C = 2F + 2G + 2H + 2I

1D = 2J + 2K + 2L

The following classes are the categories for which data can be captured:

Volume

00 All vehicles.

2-Bin

0A Light vehicles

0B Heavy vehicles

4-Bin

1A Short vehicles

1B Truck or bus

1C Articulated vehicles

1D Road train

12-Bin

2A Short 2 axle vehicles

2B Short vehicles towing

2C 2 axle truck or bus

2D 3 axle truck or bus

2E 4 axle truck

2F 3 axle articulated vehicle

2G 4 axle articulated vehicle

2H 5 axle articulated vehicle

2I 6 axle articulated vehicle

2J B double

2K Double road train

2L Triple road train

Vehicle Kilometres Travelled (VKT)

Daily VKT is a measure of the traffic demand. It is calculated by the length of an AADT Segment in kilometres multiplied by its AADT. The yearly VKT is the daily VKT multiplied by 365 days.

AADT Segment Summary - All Vehicles

The Total VKT can be used to gauge the demand on an entire Road Section.

AADT Segment Summary - Heavy Vehicles only

A blank field indicates that vehicle classification data was not collected for this AADT Segment.

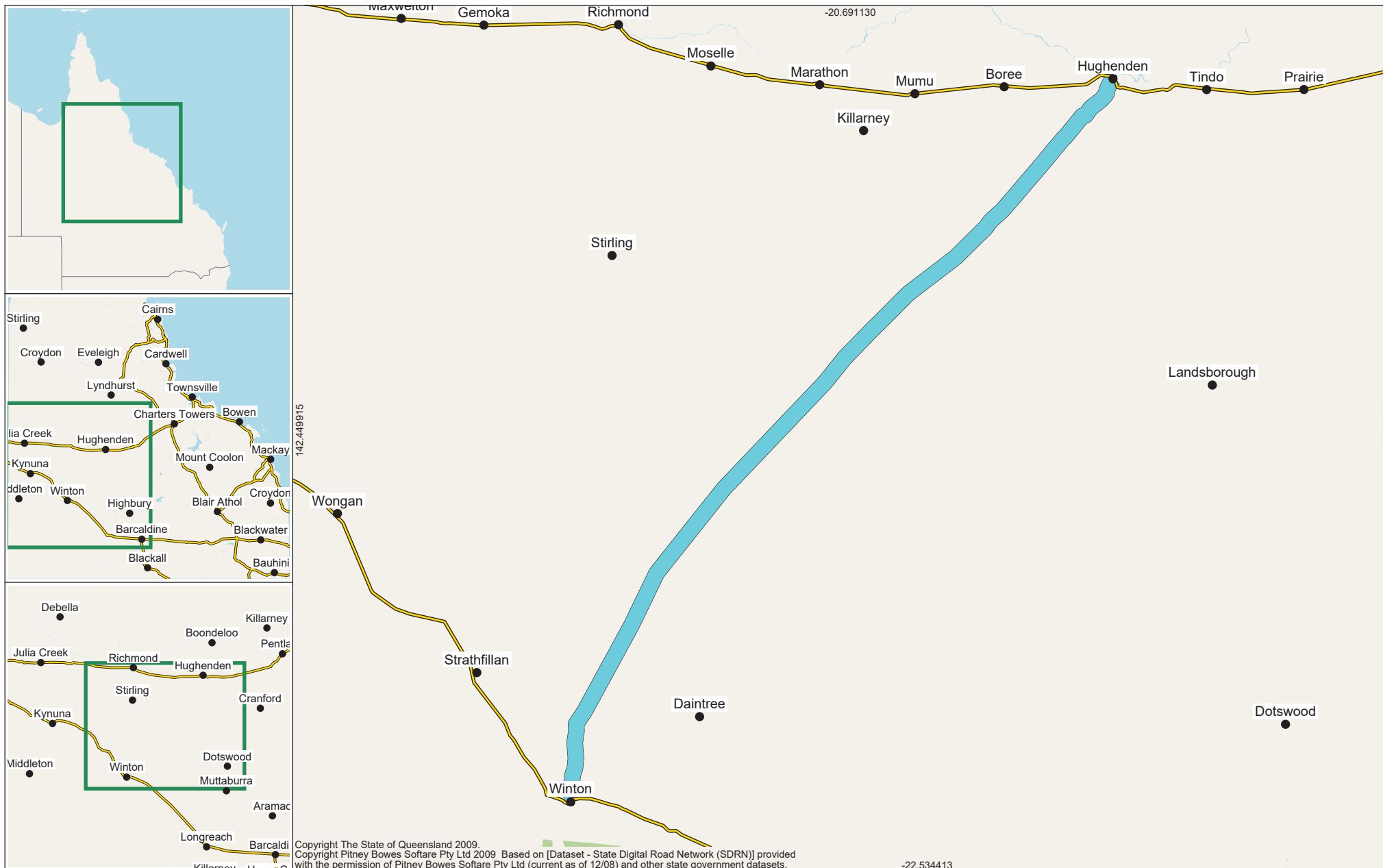
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Traffic Analysis and Reporting System
AADT Segment Analysis Report (Complete)
 Road Section 99C - KENNEDY DEV ROAD (HUGHENDEN - WINTON)
 Traffic Year 2019

Road Segments Summary - All Vehicles

Region	Segment Start Tdist	Segment End Tdist	Site	Site Tdist	Description	AADT			VKT (Millions)			Data Year	Page
						G	A	B	G	A	B		
409	0.000 km	2.440 km	100080	0.560 km	99C Ch 0.5 - Sth Hughenden at van park	388	401	789	0.34555	0.35713	0.70268	2019	2
409	2.440 km	117.060 km	100033	18.000 km	99C Ch18.0 - South of Hughenden	77	78	155	3.22140	3.26323	6.48463	2019	3
401	117.060 km	214.640 km	70017	209.340 km	5.3km north of Winton	77	77	154	2.74249	2.74249	5.48497	2019	4
								Totals	6.30943	6.36285	12.67228		

Road Segments Summary - Heavy Vehicles only

VKT totals are calculated only if traffic class data is available for all sites.

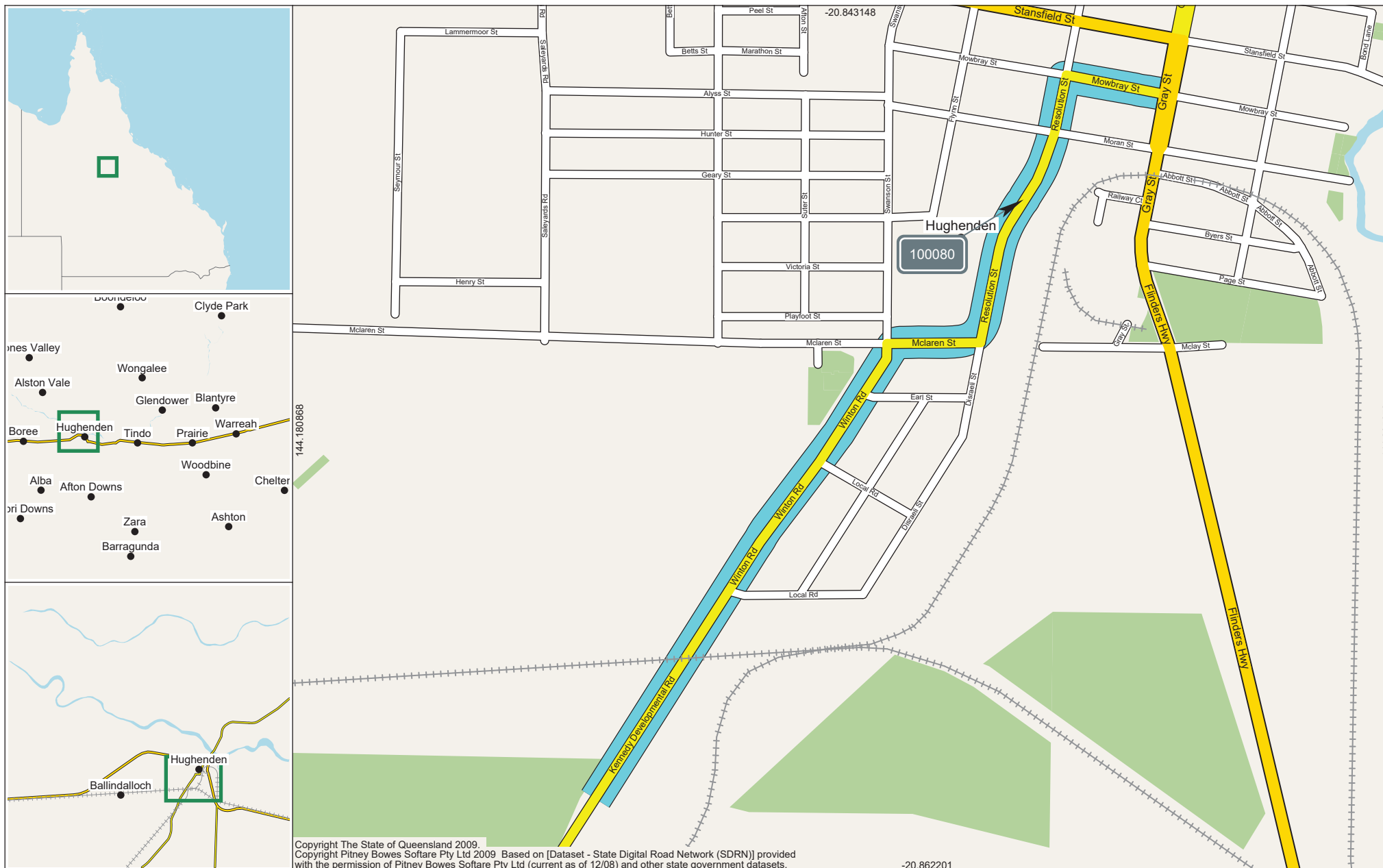
Region	Segment Start Tdist	Segment End Tdist	Site	Site Tdist	Description	HV AADT						HV VKT (Millions)			Data Year	Page
						G		A		B						
						AADT	HV %	AADT	HV %	AADT	HV %	G	A	B		
409	0.000 km	2.440 km	100080	0.560 km	99C Ch 0.5 - Sth Hughenden at van park	56	14.43%	58	14.46%	114	14.45%	0.04987	0.05165	0.10153	2019	
409	2.440 km	117.060 km	100033	18.000 km	99C Ch18.0 - South of Hughenden	28	36.36%	21	26.92%	49	31.61%	1.17142	0.87856	2.04998	2019	
401	117.060 km	214.640 km	70017	209.340 km	5.3km north of Winton	22	28.57%	29	37.66%	51	33.12%	0.78357	1.03288	1.81645	2019	
											Totals	2.00486	1.96310	3.96796		

AADT Segment Analysis Report (Complete)

Area 409 - North West District

Road Section 99C - KENNEDY DEV ROAD (HUGHENDEN - WINTON)

Traffic Year 2019 - Data Collection Year 2019



AADT Segment Analysis Report (Complete)

Area 409 - North West District

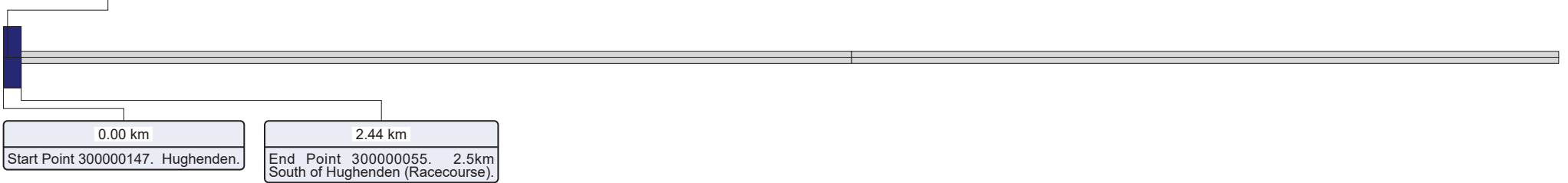
Road Section 99C - KENNEDY DEV ROAD (HUGHENDEN - WINTON)

Traffic Year 2019 - Data Collection Year 2019

Site 100080. Point 300019698.
0.56km south of Int 99C/14C.

0.56 km

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.

All Vehicles (00)

G	388	100%
A	401	100%
B	789	100%

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	-5.37%	33.14%	35.00%
A	-2.91%	36.47%	35.98%
B	-4.13%	34.78%	35.49%

Light Vehicles (0A)

G	332	85.57%
A	343	85.54%
B	675	85.55%

Heavy Vehicles (0B)

G	56	14.43%
A	58	14.46%
B	114	14.45%

Short Vehicles (1A)

G	332	85.57%
A	343	85.54%
B	675	85.55%

Trucks and Buses (1B)

G	42	10.82%
A	44	10.97%
B	86	10.90%

Articulated Vehicles (1C)

G	6	1.55%
A	6	1.50%
B	12	1.52%

Road Trains (1D)

G	8	2.06%
A	8	2.00%
B	16	2.03%

Short 2-Axle Vehicles (2A)

G	311	80.15%
A	321	80.05%
B	632	80.10%

Short Vehicles Towing (2B)

G	21	5.41%
A	22	5.49%
B	43	5.45%

2-Axle Trucks and Buses (2C)

G	39	10.05%
A	41	10.22%
B	80	10.14%

3-Axle Trucks and Buses (2D)

G	3	0.77%
A	3	0.75%
B	6	0.76%

4-Axle Trucks (2E)

G	0	0%
A	0	0%
B	0	0%

3-Axle Articulated (2F)

G	1	0.26%
A	1	0.25%
B	2	0.25%

4-Axle Articulated (2G)

G	3	0.77%
A	3	0.75%
B	6	0.76%

5-Axle Articulated (2H)

G	0	0%
A	0	0%
B	0	0%

6-Axle Articulated (2I)

G	2	0.52%
A	2	0.50%
B	4	0.51%

B Double (2J)

G	1	0.26%
A	1	0.25%
B	2	0.25%

Double Road Trains (2K)

G	3	0.77%
A	3	0.75%
B	6	0.76%

Triple Road Trains (2L)

G	4	1.03%
A	4	1.00%
B	8	1.01%

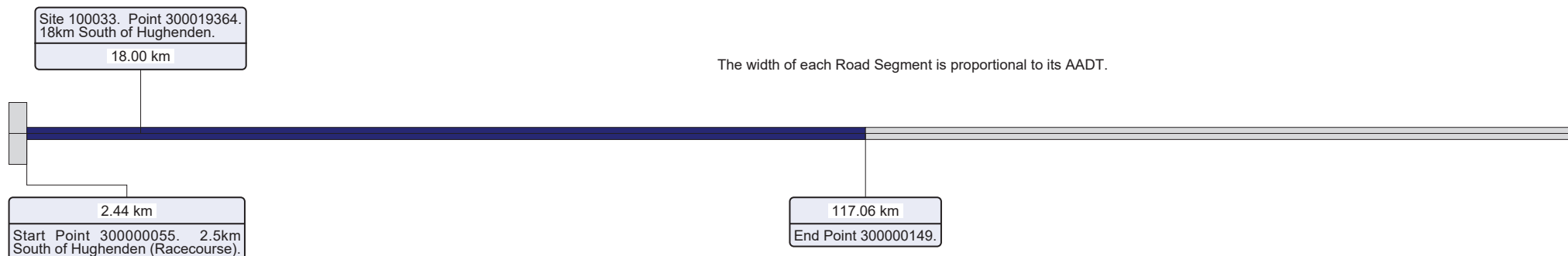
AADT Segment Analysis Report (Complete)

Area 409 - North West District

Road Section 99C - KENNEDY DEV ROAD (HUGHENDEN - WINTON)

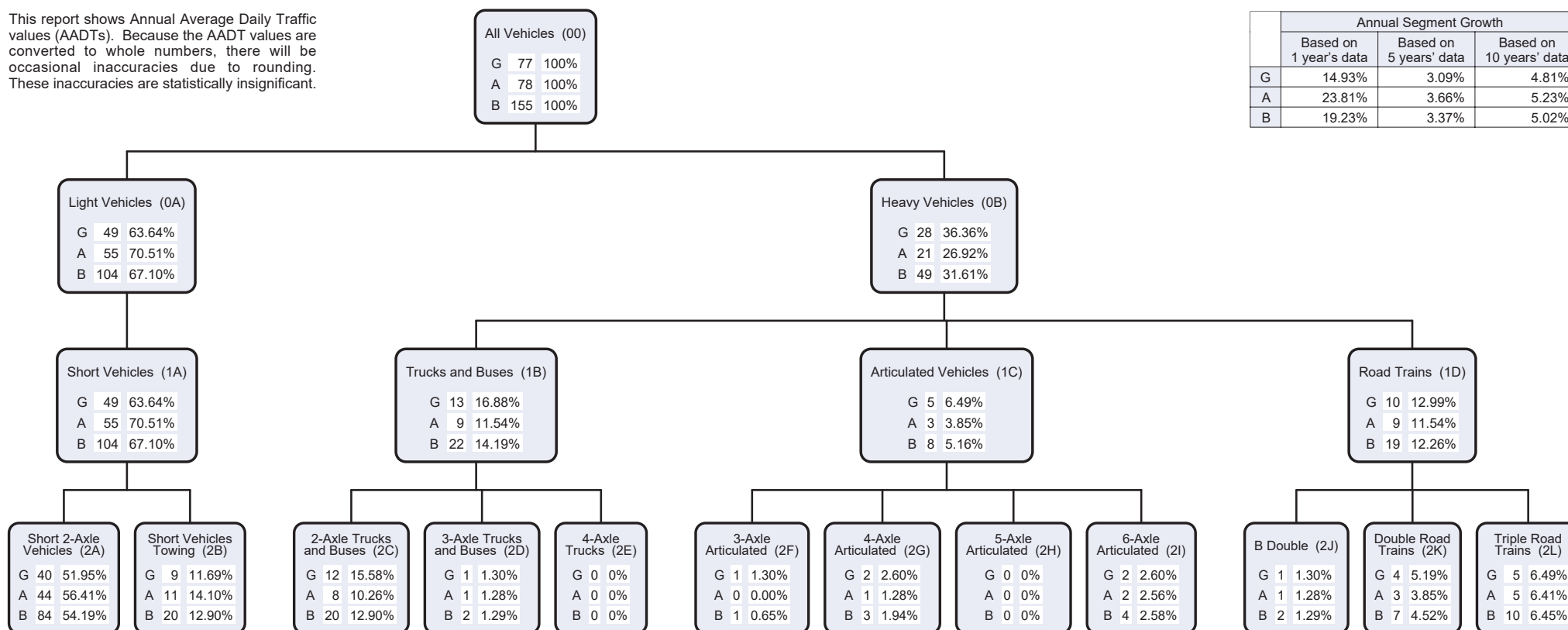
Traffic Year 2019 - Data Collection Year 2019





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.

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	14.93%	3.09%	4.81%
A	23.81%	3.66%	5.23%
B	19.23%	3.37%	5.02%



AADT Segment Analysis Report (Complete)

Area 401 - Central West District

Road Section 99C - KENNEDY DEV ROAD (HUGHENDEN - WINTON)

Traffic Year 2019 - Data Collection Year 2019



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

Site 70017. Point 270000280. approx 5.3km north of Winton (Site ID 70017).

209.34 km

117.06 km

Start Point 270000036. Flinders / Winton Shire Boundary.

214.64 km

End Point 270000037. Chirnside & Manifold St Intersection.

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.

All Vehicles (00)

G	77	100%
A	77	100%
B	154	100%

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	11.59%	4.26%	1.82%
A	10.00%	4.13%	1.78%
B	10.79%	4.19%	1.80%

Light Vehicles (0A)

G	55	71.43%
A	46	59.74%
B	101	65.58%

Heavy Vehicles (0B)

G	22	28.57%
A	29	37.66%
B	51	33.12%

Short Vehicles (1A)

G	55	71.43%
A	46	59.74%
B	101	65.58%

Trucks and Buses (1B)

G	8	10.39%
A	14	18.18%
B	22	14.29%

Articulated Vehicles (1C)

G	3	3.90%
A	5	6.49%
B	8	5.19%

Road Trains (1D)

G	11	14.29%
A	10	12.99%
B	21	13.64%

Short 2-Axle Vehicles (2A)

G	44	57.14%
A	36	46.75%
B	80	51.95%

Short Vehicles Towing (2B)

G	11	14.29%
A	10	12.99%
B	21	13.64%

2-Axle Trucks and Buses (2C)

G	7	9.09%
A	13	16.88%
B	20	12.99%

3-Axle Trucks and Buses (2D)

G	1	1.30%
A	1	1.30%
B	2	1.30%

4-Axle Trucks (2E)

G	0	0%
A	0	0%
B	0	0%

3-Axle Articulated (2F)

G	1	1.30%
A	1	1.30%
B	2	1.30%

4-Axle Articulated (2G)

G	1	1.30%
A	3	3.90%
B	4	2.60%

5-Axle Articulated (2H)

G	0	0%
A	0	0%
B	0	0%

6-Axle Articulated (2I)

G	1	1.30%
A	1	1.30%
B	2	1.30%

B Double (2J)

G	1	1.30%
A	1	1.30%
B	2	1.30%

Double Road Trains (2K)

G	4	5.19%
A	3	3.90%
B	7	4.55%

Triple Road Trains (2L)

G	6	7.79%
A	6	7.79%
B	12	7.79%

AADT Segment Report

Provides AADT Segment details for a Road Section together with the traffic flow data collected at the related Site. Traffic data is reported by the start and end Through Distance of the AADT Segments on each section of road. The road segments are represented diagrammatically with AADT data including:

AADT by direction of traffic flow
VKT Vehicle Kilometres Travelled
%VC Percentage Vehicle Class as per the Austroads vehicle classification scheme

Annual Average Daily Traffic (AADT)

Annual Average Daily Traffic (AADT) is the number of vehicles passing a point on a road in a 24 hour period, averaged over a calendar year.

AADT Segment

Is a subdivision of a Road Section. The boundaries of an AADT Segment are its Start Point and End Point (or Start and End Through Distance (TDist)) within the Road Section. These distances are measured in kilometres from the beginning of the Road Section in Gazettal Direction. AADT Segments are determined by the traffic volume, collected at a count Site, located within the limits of each AADT Segment.

Annual Segment Growth (when displayed)

A percentage that represents the increase or decrease in AADT for the AADT Segment, using an exponential fit, calculated over a 1, 5 or 10 year period.

Area

For administration purposes the Department of Transport and Main Roads has divided Queensland into 12 Districts. The Area field in TSDM reports displays the District Name and Number.

District Name	District
Central West District	401
Darling Downs District	402
Far North District	403
Fitzroy District	404
Mackay/Whitsunday District	405
Metropolitan District	406
North Coast District	407
North West District	409
Northern District	408
South Coast District	410
South West District	411
Wide Bay/Burnett District	412

Data Year

The most recent year the traffic data was collected for this AADT Segment.

Gazettal Direction

The Gazettal Direction is the direction of the traffic flow. It can be easily recognised by referring to the name of the road eg. Road Section: 10A Brisbane - Gympie denotes that the gazettal direction is from Brisbane to Gympie.

- G Traffic flowing in Gazettal Direction
- A Traffic flowing against Gazettal Direction
- B The combined traffic flow in both Directions

Road Section

Is the Gazetted road from which the traffic data is collected. Each Road Section is given a code, allocated sequentially in Gazettal Direction. Larger roads are broken down into sections and identified by an ID code with a suffix for easier data collection and reporting (eg. 10A, 10B, 10C). Road Sections are then broken into AADT Segments which are determined by traffic volume.

Site

The physical location of a traffic counting device. Sites are located at a specified Through Distance along a Road Section.

Site TDist

The Through Distance in gazettal direction from the start of the Road Section at which the site is located.

Site Description

The description of the physical location of the traffic counting device.

Start and End Point

The unique identifier for the Through Distance along a Road Section.

Through Distance

The distance, in kilometres, from the beginning of the Road Section in Gazettal Direction.

Traffic Class

Is the 12 Austroads vehicle categories or classes into which vehicles are placed or binned. Traffic classes are formed in a hierarchical format.

Volume or All Vehicles

00 = 0A + 0B

Light Vehicles

0A = 1A

1A = 2A + 2B

Heavy Vehicles

0B = 1B + 1C + 1D

1B = 2C + 2D + 2E

1C = 2F + 2G + 2H + 2I

1D = 2J + 2K + 2L

The following classes are the categories for which data can be captured:

Volume

00 All vehicles.

2-Bin

0A Light vehicles

0B Heavy vehicles

4-Bin

1A Short vehicles

1B Truck or bus

1C Articulated vehicles

1D Road train

12-Bin

2A Short 2 axle vehicles

2B Short vehicles towing

2C 2 axle truck or bus

2D 3 axle truck or bus

2E 4 axle truck

2F 3 axle articulated vehicle

2G 4 axle articulated vehicle

2H 5 axle articulated vehicle

2I 6 axle articulated vehicle

2J B double

2K Double road train

2L Triple road train

Vehicle Kilometres Travelled (VKT)

Daily VKT is a measure of the traffic demand. It is calculated by the length of an AADT Segment in kilometres multiplied by its AADT. The yearly VKT is the daily VKT multiplied by 365 days.

AADT Segment Summary - All Vehicles

The Total VKT can be used to gauge the demand on an entire Road Section.

AADT Segment Summary - Heavy Vehicles only

A blank field indicates that vehicle classification data was not collected for this AADT Segment.

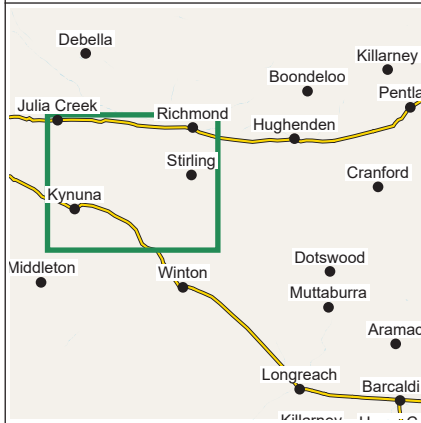
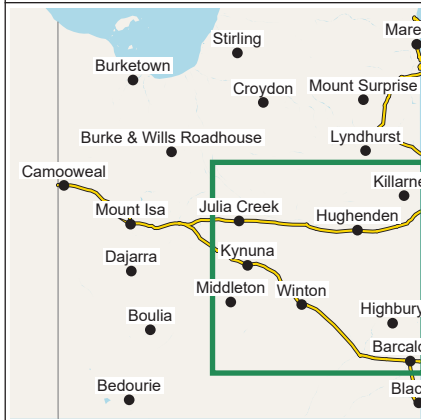
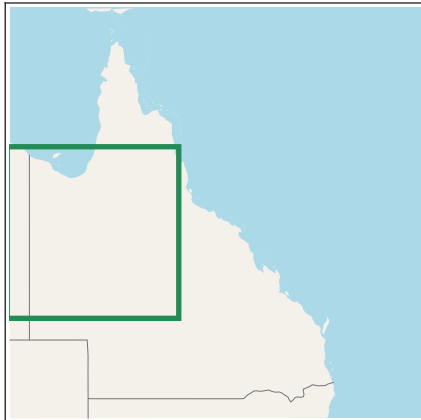
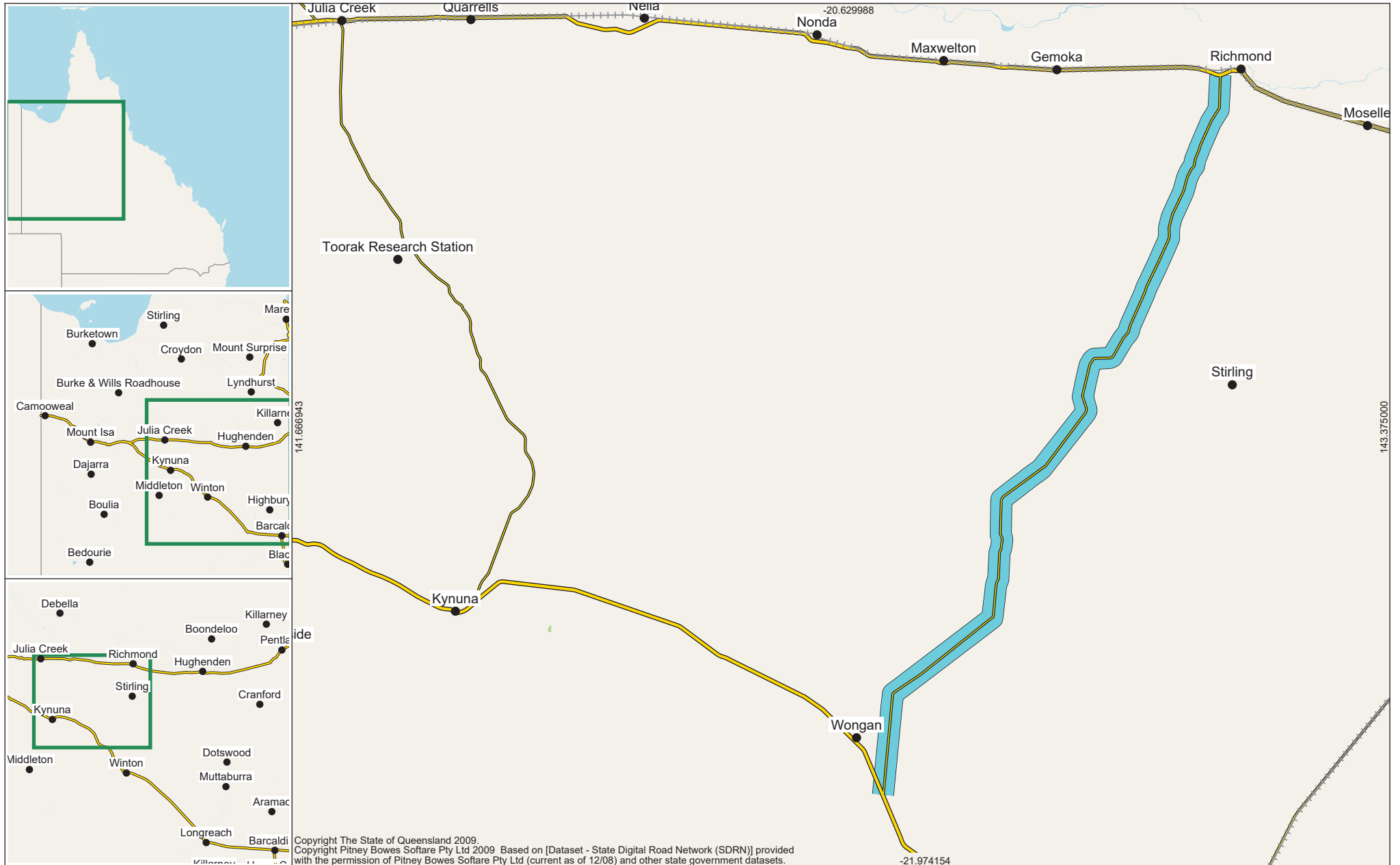
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Traffic Analysis and Reporting System
AADT Segment Analysis Report (Complete)
Road Section 5803 - RICHMOND - WINTON ROAD
Traffic Year 2019

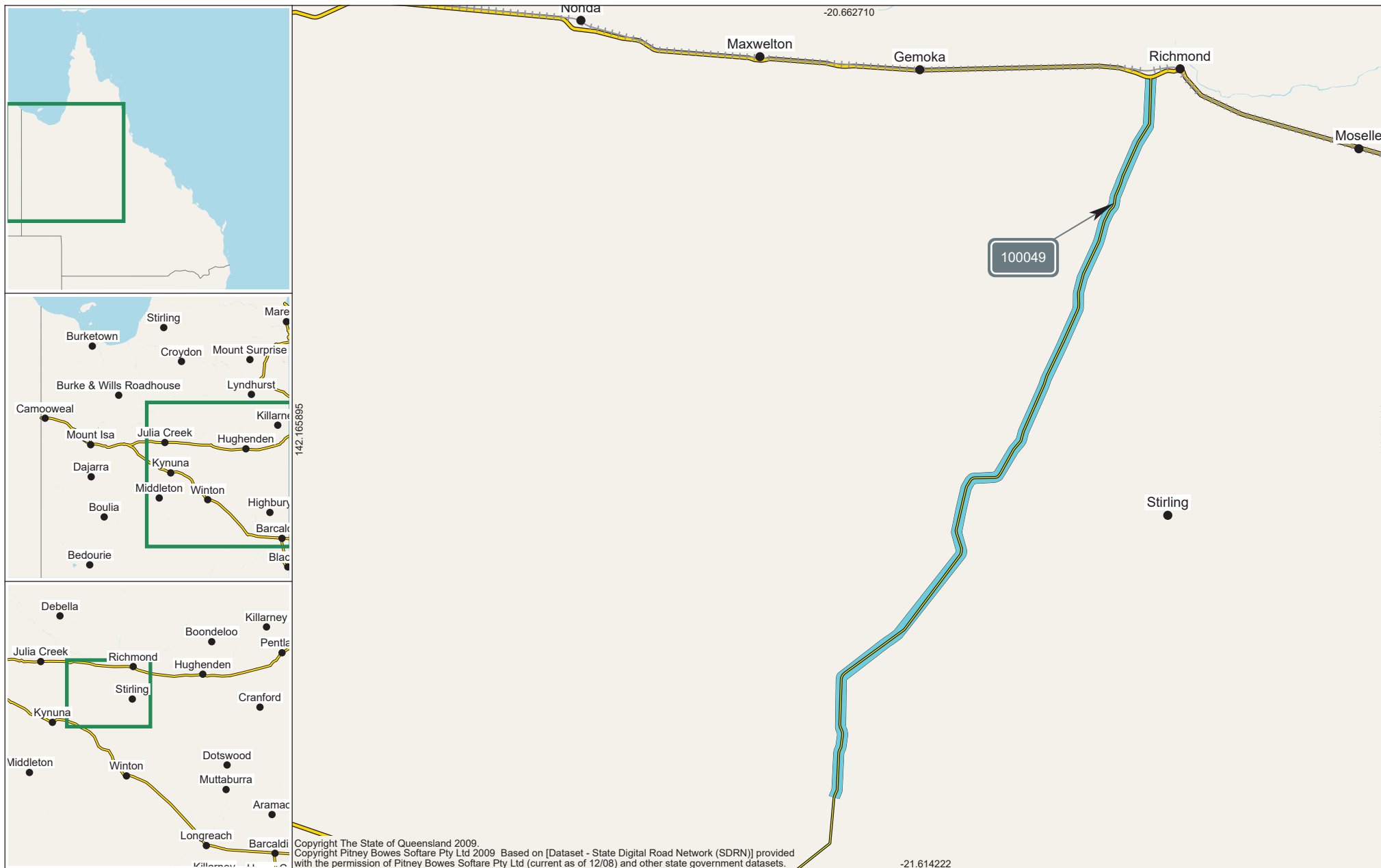
Road Segments Summary - All Vehicles

Region	Segment Start Tdist	Segment End Tdist	Site	Site Tdist	Description	AADT			VKT (Millions)			Data Year	Page
						G	A	B	G	A	B		
409	0.000 km	100.320 km	100049	16.200 km	5803 Ch 16.2 - South of Int 14D/5803	26	26	52	0.95204	0.95204	1.90407	2019	2
401	100.320 km	144.520 km	70161	112.700 km	31.82km north of intersection with 13G	7	6	13	0.11293	0.09680	0.20973	2019	3
								Totals	1.06497	1.04883	2.11380		

Road Segments Summary - Heavy Vehicles only

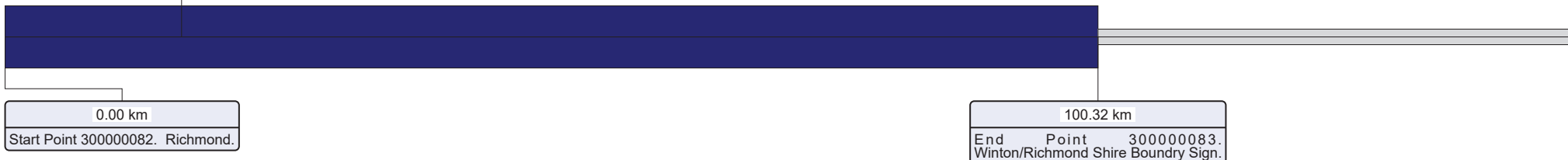
VKT totals are calculated only if traffic class data is available for all sites.

Region	Segment Start Tdist	Segment End Tdist	Site	Site Tdist	Description	HV AADT						HV VKT (Millions)			Data Year	Page
						G		A		B						
						AADT	HV %	AADT	HV %	AADT	HV %	G	A	B		
409	0.000 km	100.320 km	100049	16.200 km	5803 Ch 16.2 - South of Int 14D/5803	9	34.62%	10	38.46%	19	36.54%	0.32955	0.36617	0.69572	2019	2
401	100.320 km	144.520 km	70161	112.700 km	31.82km north of intersection with 13G	3	42.86%	1	16.67%	4	30.77%	0.04840	0.01613	0.06453	2019	3
											Totals	0.37795	0.38230	0.76025		



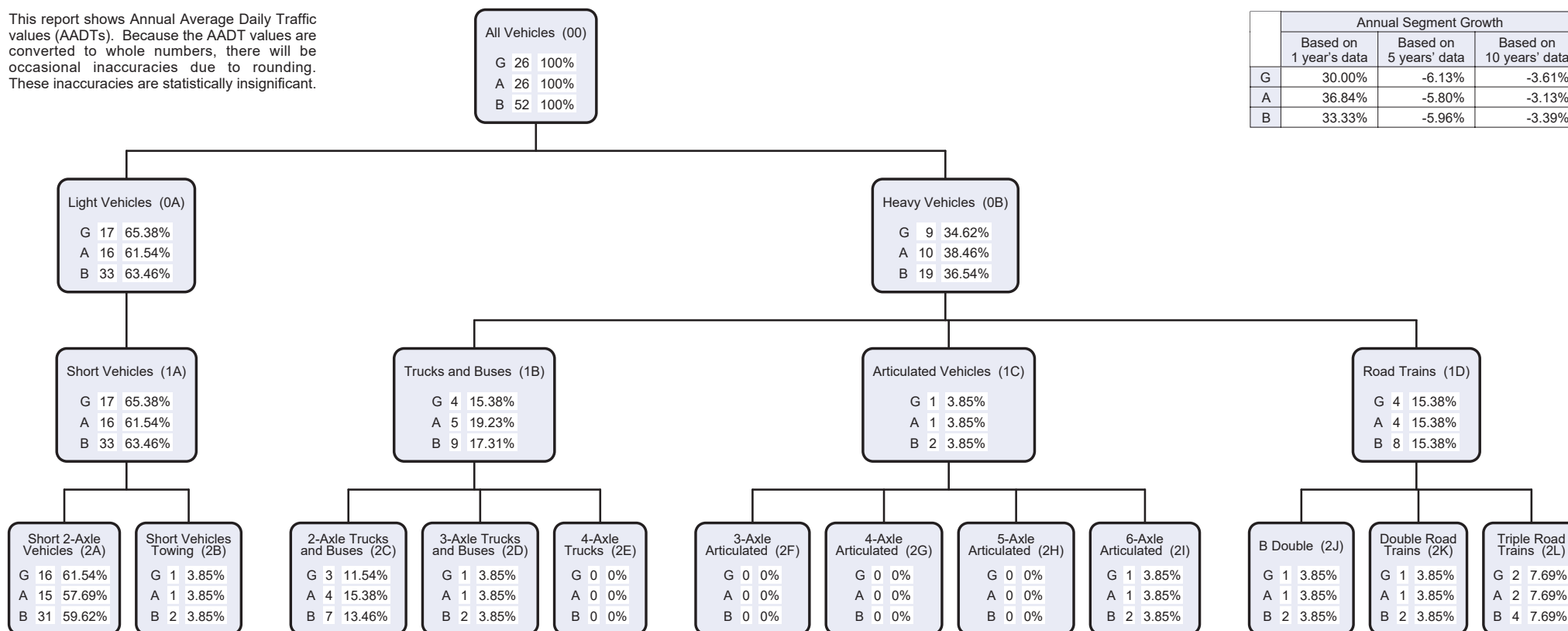
Site 100049. Point 300019680.
16.2km south of Int 14D/5803.
16.20 km

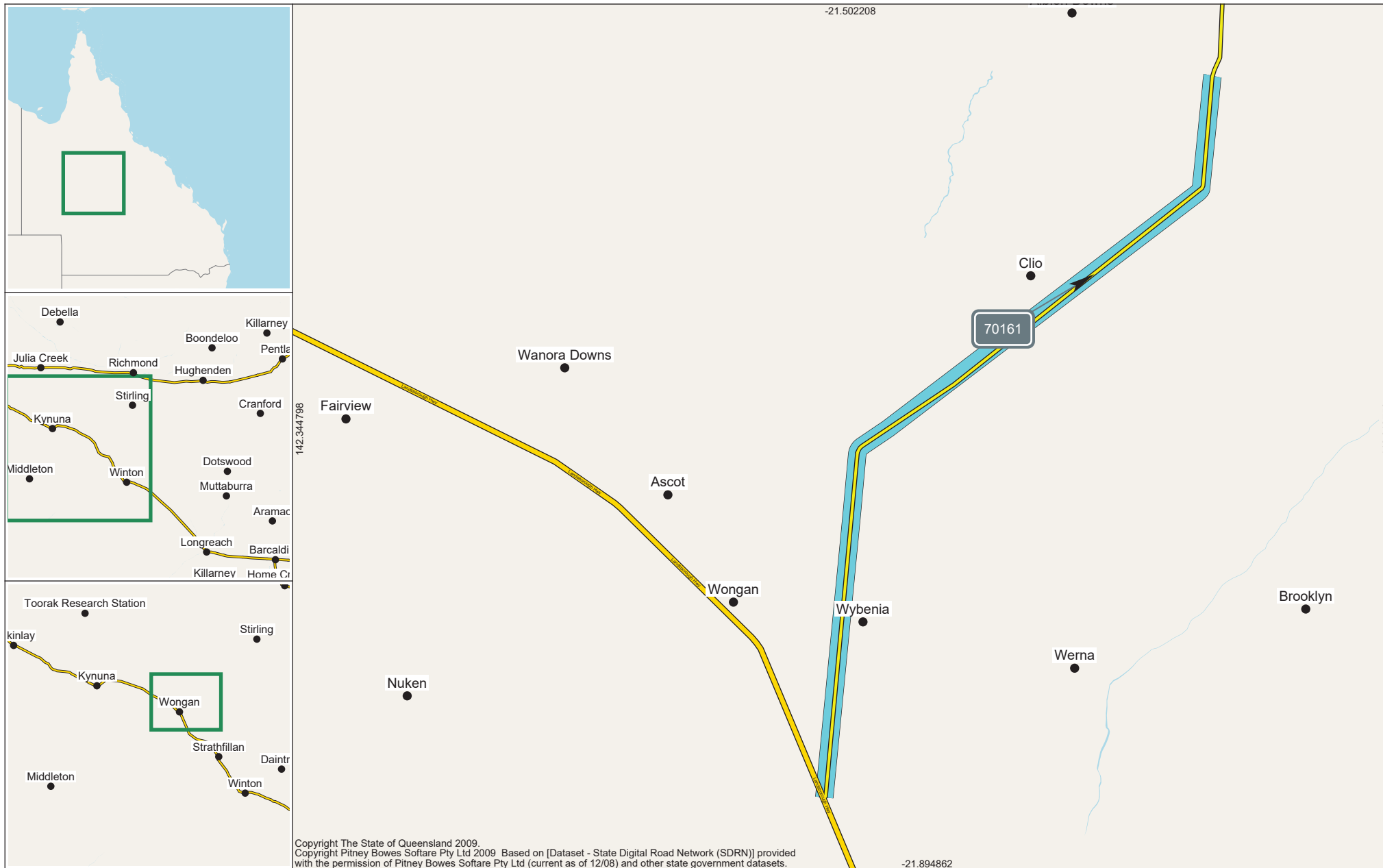
The width of each Road Segment is proportional to its AADT.



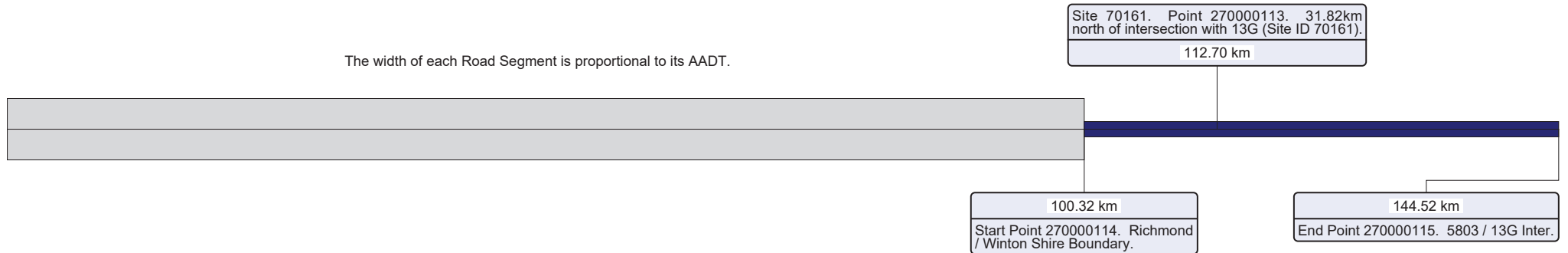
This report shows Annual Average Daily Traffic values (AADTs). Because the AADT values are converted to whole numbers, there will be occasional inaccuracies due to rounding. These inaccuracies are statistically insignificant.

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	30.00%	-6.13%	-3.61%
A	36.84%	-5.80%	-3.13%
B	33.33%	-5.96%	-3.39%



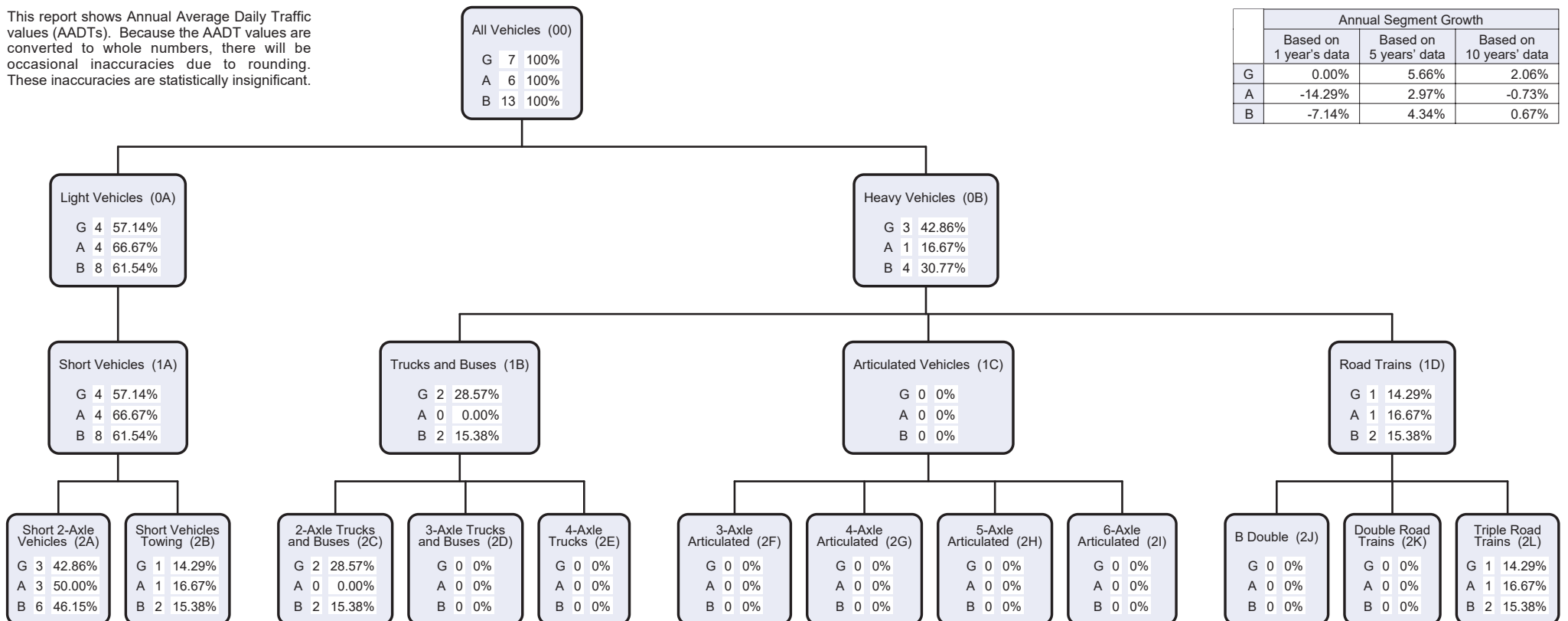


The width of each Road Segment is proportional to its AADT.



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.

Annual Segment Growth			
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	0.00%	5.66%	2.06%
A	-14.29%	2.97%	-0.73%
B	-7.14%	4.34%	0.67%



AADT Segment Report

Provides AADT Segment details for a Road Section together with the traffic flow data collected at the related Site. Traffic data is reported by the start and end Through Distance of the AADT Segments on each section of road. The road segments are represented diagrammatically with AADT data including:

AADT by direction of traffic flow
VKT Vehicle Kilometres Travelled
%VC Percentage Vehicle Class as per the Austroads vehicle classification scheme

Annual Average Daily Traffic (AADT)

Annual Average Daily Traffic (AADT) is the number of vehicles passing a point on a road in a 24 hour period, averaged over a calendar year.

AADT Segment

Is a subdivision of a Road Section. The boundaries of an AADT Segment are its Start Point and End Point (or Start and End Through Distance (TDist)) within the Road Section. These distances are measured in kilometres from the beginning of the Road Section in Gazettal Direction. AADT Segments are determined by the traffic volume, collected at a count Site, located within the limits of each AADT Segment.

Annual Segment Growth (when displayed)

A percentage that represents the increase or decrease in AADT for the AADT Segment, using an exponential fit, calculated over a 1, 5 or 10 year period.

Area

For administration purposes the Department of Transport and Main Roads has divided Queensland into 12 Districts. The Area field in TSDM reports displays the District Name and Number.

District Name	District
Central West District	401
Darling Downs District	402
Far North District	403
Fitzroy District	404
Mackay/Whitsunday District	405
Metropolitan District	406
North Coast District	407
North West District	409
Northern District	408
South Coast District	410
South West District	411
Wide Bay/Burnett District	412

Data Year

The most recent year the traffic data was collected for this AADT Segment.

Gazettal Direction

The Gazettal Direction is the direction of the traffic flow. It can be easily recognised by referring to the name of the road eg. Road Section: 10A Brisbane - Gympie denotes that the gazettal direction is from Brisbane to Gympie.

- G Traffic flowing in Gazettal Direction
- A Traffic flowing against Gazettal Direction
- B The combined traffic flow in both Directions

Road Section

Is the Gazetted road from which the traffic data is collected. Each Road Section is given a code, allocated sequentially in Gazettal Direction. Larger roads are broken down into sections and identified by an ID code with a suffix for easier data collection and reporting (eg. 10A, 10B, 10C). Road Sections are then broken into AADT Segments which are determined by traffic volume.

Site

The physical location of a traffic counting device. Sites are located at a specified Through Distance along a Road Section.

Site TDist

The Through Distance in gazettal direction from the start of the Road Section at which the site is located.

Site Description

The description of the physical location of the traffic counting device.

Start and End Point

The unique identifier for the Through Distance along a Road Section.

Through Distance

The distance, in kilometres, from the beginning of the Road Section in Gazettal Direction.

Traffic Class

Is the 12 Austroads vehicle categories or classes into which vehicles are placed or binned. Traffic classes are formed in a hierarchical format.

Volume or All Vehicles

00 = 0A + 0B

Light Vehicles

0A = 1A

1A = 2A + 2B

Heavy Vehicles

0B = 1B + 1C + 1D

1B = 2C + 2D + 2E

1C = 2F + 2G + 2H + 2I

1D = 2J + 2K + 2L

The following classes are the categories for which data can be captured:

Volume

00 All vehicles.

2-Bin

0A Light vehicles

0B Heavy vehicles

4-Bin

1A Short vehicles

1B Truck or bus

1C Articulated vehicles

1D Road train

12-Bin

2A Short 2 axle vehicles

2B Short vehicles towing

2C 2 axle truck or bus

2D 3 axle truck or bus

2E 4 axle truck

2F 3 axle articulated vehicle

2G 4 axle articulated vehicle

2H 5 axle articulated vehicle

2I 6 axle articulated vehicle

2J B double

2K Double road train

2L Triple road train

Vehicle Kilometres Travelled (VKT)

Daily VKT is a measure of the traffic demand. It is calculated by the length of an AADT Segment in kilometres multiplied by its AADT. The yearly VKT is the daily VKT multiplied by 365 days.

AADT Segment Summary - All Vehicles

The Total VKT can be used to gauge the demand on an entire Road Section.

AADT Segment Summary - Heavy Vehicles only

A blank field indicates that vehicle classification data was not collected for this AADT Segment.

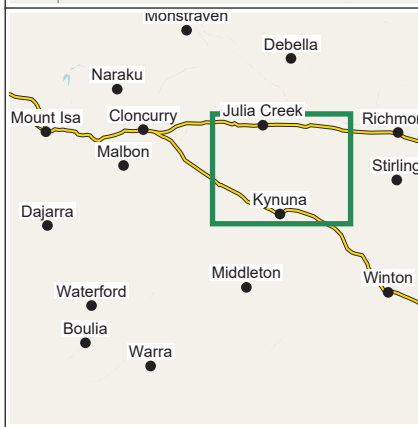
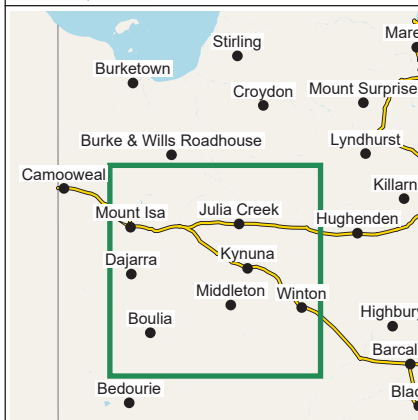
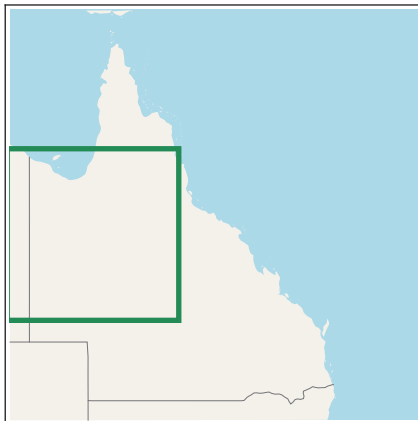
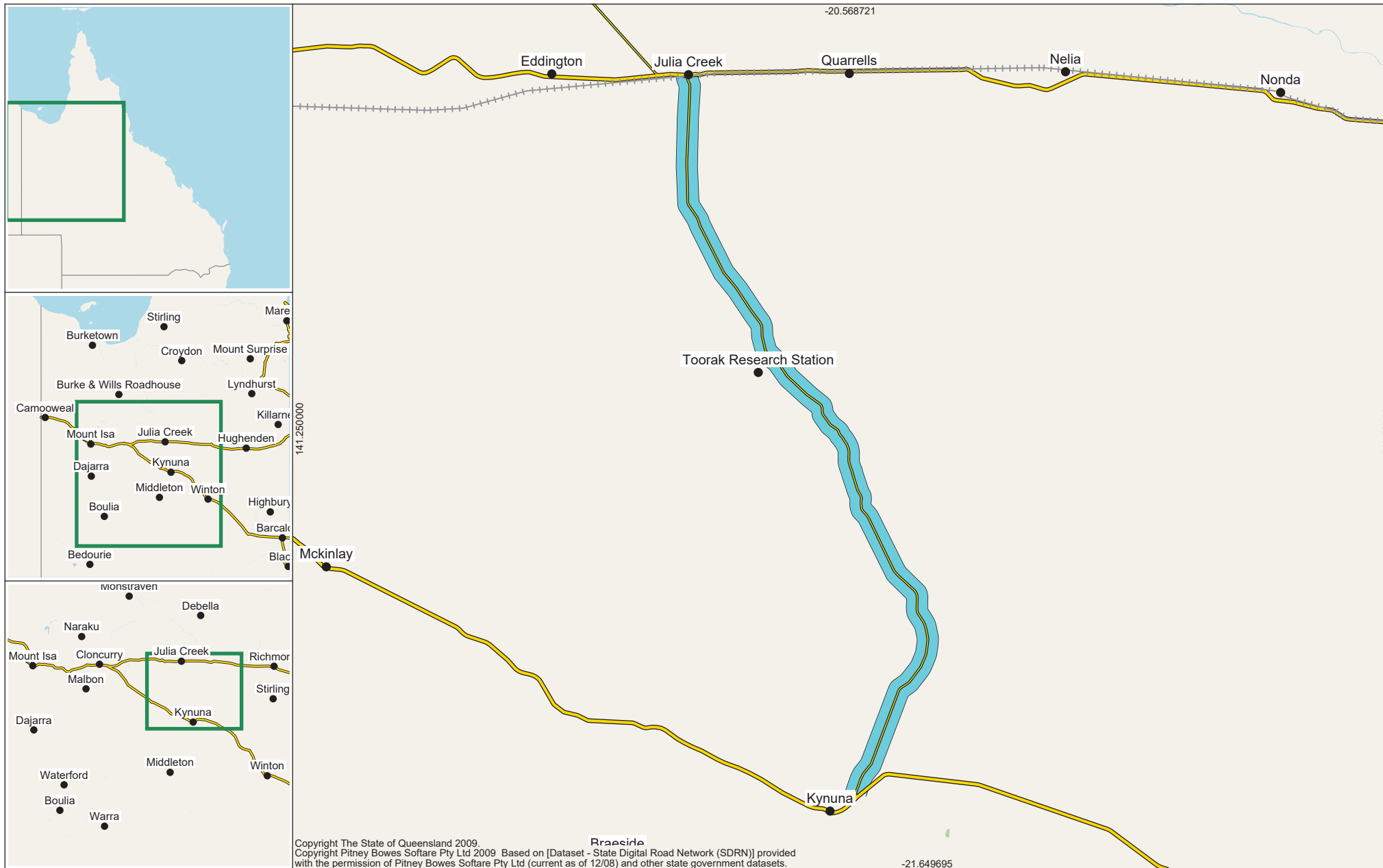
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Traffic Analysis and Reporting System
AADT Segment Analysis Report (Complete)
Road Section 5807 - JULIA CREEK - KYNUNA ROAD
Traffic Year 2019

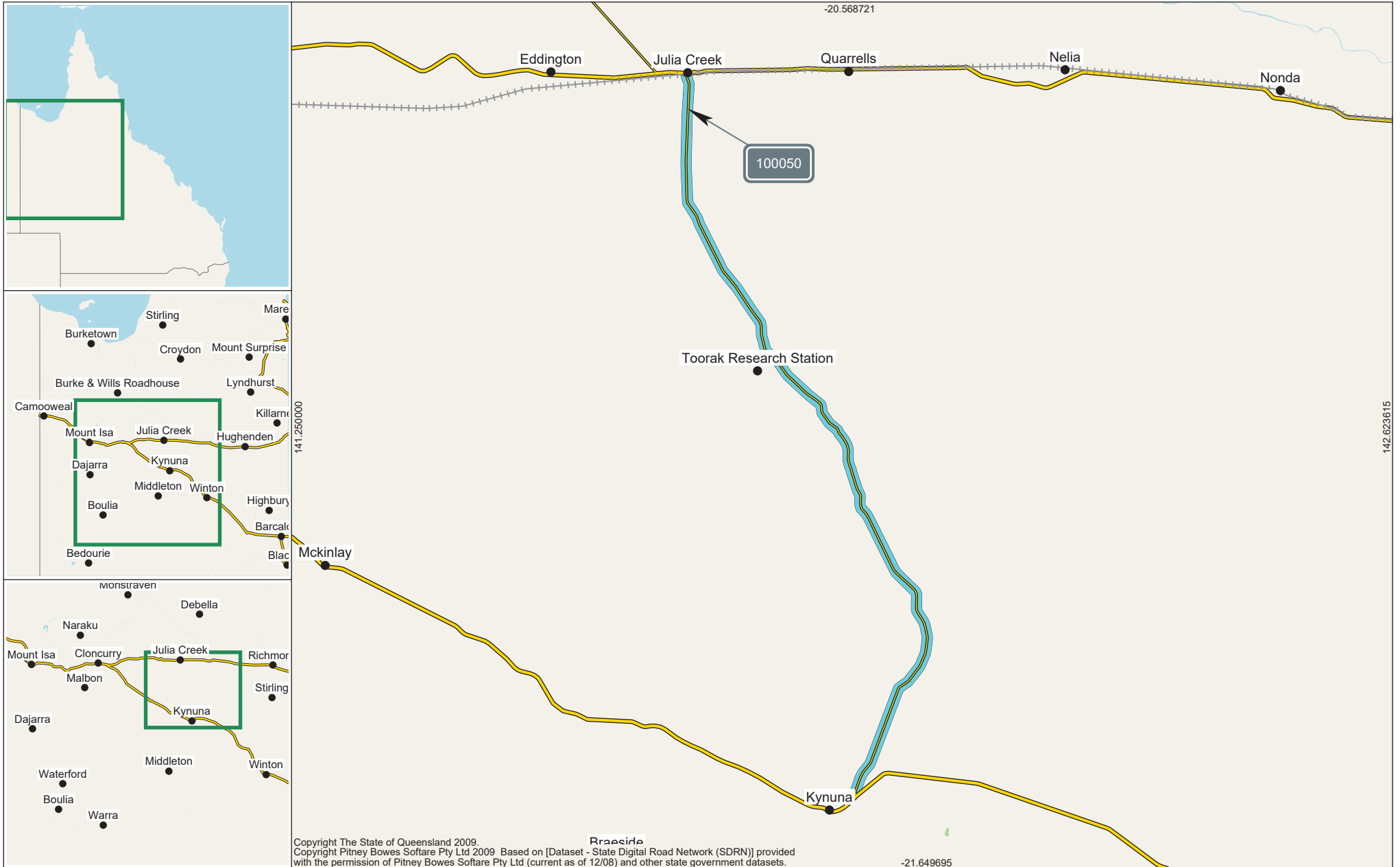
Road Segments Summary - All Vehicles

Region	Segment Start Tdist	Segment End Tdist	Site	Site Tdist	Description	AADT			VKT (Millions)			Data Year	Page
						G	A	B	G	A	B		
409	0.000 km	112.370 km	100050	4.880 km	5807 Ch 4.88km - South of Julia Creek	17	17	34	0.69726	0.69726	1.39451	2019	2
								Totals	0.69726	0.69726	1.39451		

Road Segments Summary - Heavy Vehicles only

VKT totals are calculated only if traffic class data is available for all sites.

Region	Segment Start Tdist	Segment End Tdist	Site	Site Tdist	Description	HV AADT						HV VKT (Millions)			Data Year	Page
						G		A		B		G	A	B		
						AADT	HV %	AADT	HV %	AADT	HV %					
409	0.000 km	112.370 km	100050	4.880 km	5807 Ch 4.88km - South of Julia Creek	6	35.29%	7	41.18%	13	38.24%	0.24609	0.28711	0.53320	2019	
											Totals	0.24609	0.28711	0.53320		



Site 100050. Point 300000084.
Grid 5km South of Julia Creek.

4.88 km

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

0.00 km

Start Point 300000085. Julia Creek.

112.37 km

End Point 300000220. Richmond
/ Winton Shire Boundry Sign.

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.

All Vehicles (00)

G	17	100%
A	17	100%
B	34	100%

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	6.25%	-0.57%	-2.68%
A	6.25%	-0.57%	-3.56%
B	6.25%	-0.57%	-3.13%

Light Vehicles (0A)

G	10	58.82%
A	10	58.82%
B	20	58.82%

Heavy Vehicles (0B)

G	6	35.29%
A	7	41.18%
B	13	38.24%

Short Vehicles (1A)

G	10	58.82%
A	10	58.82%
B	20	58.82%

Trucks and Buses (1B)

G	3	17.65%
A	3	17.65%
B	6	17.65%

Articulated Vehicles (1C)

G	2	11.76%
A	2	11.76%
B	4	11.76%

Road Trains (1D)

G	1	5.88%
A	2	11.76%
B	3	8.82%

Short 2-Axle
Vehicles (2A)

G	9	52.94%
A	9	52.94%
B	18	52.94%

Short Vehicles
Towing (2B)

G	1	5.88%
A	1	5.88%
B	2	5.88%

2-Axle Trucks
and Buses (2C)

G	3	17.65%
A	3	17.65%
B	6	17.65%

3-Axle Trucks
and Buses (2D)

G	0	0%
A	0	0%
B	0	0%

4-Axle
Trucks (2E)

G	0	0%
A	0	0%
B	0	0%

3-Axle
Articulated (2F)

G	0	0%
A	0	0%
B	0	0%

4-Axle
Articulated (2G)

G	1	5.88%
A	1	5.88%
B	2	5.88%

5-Axle
Articulated (2H)

G	0	0%
A	0	0%
B	0	0%

6-Axle
Articulated (2I)

G	1	5.88%
A	1	5.88%
B	2	5.88%

B Double (2J)

G	0	0%
A	0	0%
B	0	0%

Double Road
Trains (2K)

G	0	0.00%
A	1	5.88%
B	1	2.94%

Triple Road
Trains (2L)

G	1	5.88%
A	1	5.88%
B	2	5.88%

AADT Segment Report

Provides AADT Segment details for a Road Section together with the traffic flow data collected at the related Site. Traffic data is reported by the start and end Through Distance of the AADT Segments on each section of road. The road segments are represented diagrammatically with AADT data including:

AADT by direction of traffic flow
VKT Vehicle Kilometres Travelled
%VC Percentage Vehicle Class as per the Austroads vehicle classification scheme

Annual Average Daily Traffic (AADT)

Annual Average Daily Traffic (AADT) is the number of vehicles passing a point on a road in a 24 hour period, averaged over a calendar year.

AADT Segment

Is a subdivision of a Road Section. The boundaries of an AADT Segment are its Start Point and End Point (or Start and End Through Distance (TDist)) within the Road Section. These distances are measured in kilometres from the beginning of the Road Section in Gazettal Direction. AADT Segments are determined by the traffic volume, collected at a count Site, located within the limits of each AADT Segment.

Annual Segment Growth (when displayed)

A percentage that represents the increase or decrease in AADT for the AADT Segment, using an exponential fit, calculated over a 1, 5 or 10 year period.

Area

For administration purposes the Department of Transport and Main Roads has divided Queensland into 12 Districts. The Area field in TSDM reports displays the District Name and Number.

District Name	District
Central West District	401
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Metropolitan District	406
North Coast District	407
North West District	409
Northern District	408
South Coast District	410
South West District	411
Wide Bay/Burnett District	412

Data Year

The most recent year the traffic data was collected for this AADT Segment.

Gazettal Direction

The Gazettal Direction is the direction of the traffic flow. It can be easily recognised by referring to the name of the road eg. Road Section: 10A Brisbane - Gympie denotes that the gazettal direction is from Brisbane to Gympie.

- G Traffic flowing in Gazettal Direction
- A Traffic flowing against Gazettal Direction
- B The combined traffic flow in both Directions

Road Section

Is the Gazetted road from which the traffic data is collected. Each Road Section is given a code, allocated sequentially in Gazettal Direction. Larger roads are broken down into sections and identified by an ID code with a suffix for easier data collection and reporting (eg. 10A, 10B, 10C). Road Sections are then broken into AADT Segments which are determined by traffic volume.

Site

The physical location of a traffic counting device. Sites are located at a specified Through Distance along a Road Section.

Site TDist

The Through Distance in gazettal direction from the start of the Road Section at which the site is located.

Site Description

The description of the physical location of the traffic counting device.

Start and End Point

The unique identifier for the Through Distance along a Road Section.

Through Distance

The distance, in kilometres, from the beginning of the Road Section in Gazettal Direction.

Traffic Class

Is the 12 Austroads vehicle categories or classes into which vehicles are placed or binned. Traffic classes are formed in a hierarchical format.

Volume or All Vehicles

00 = 0A + 0B

Light Vehicles

0A = 1A

1A = 2A + 2B

Heavy Vehicles

0B = 1B + 1C + 1D

1B = 2C + 2D + 2E

1C = 2F + 2G + 2H + 2I

1D = 2J + 2K + 2L

The following classes are the categories for which data can be captured:

Volume

00 All vehicles.

2-Bin

0A Light vehicles

0B Heavy vehicles

4-Bin

1A Short vehicles

1B Truck or bus

1C Articulated vehicles

1D Road train

12-Bin

2A Short 2 axle vehicles

2B Short vehicles towing

2C 2 axle truck or bus

2D 3 axle truck or bus

2E 4 axle truck

2F 3 axle articulated vehicle

2G 4 axle articulated vehicle

2H 5 axle articulated vehicle

2I 6 axle articulated vehicle

2J B double

2K Double road train

2L Triple road train

Vehicle Kilometres Travelled (VKT)

Daily VKT is a measure of the traffic demand. It is calculated by the length of an AADT Segment in kilometres multiplied by its AADT. The yearly VKT is the daily VKT multiplied by 365 days.

AADT Segment Summary - All Vehicles

The Total VKT can be used to gauge the demand on an entire Road Section.

AADT Segment Summary - Heavy Vehicles only

A blank field indicates that vehicle classification data was not collected for this AADT Segment.

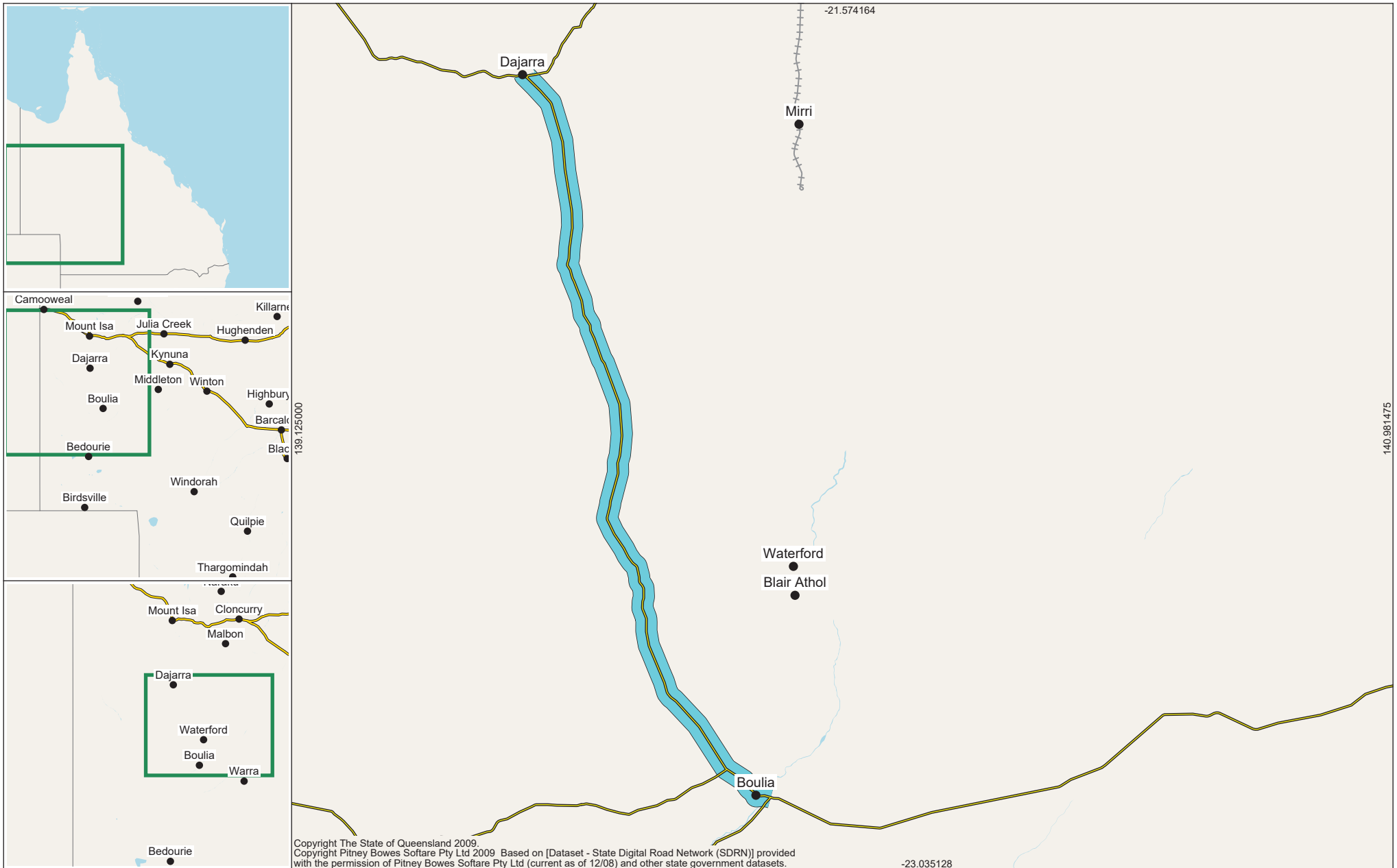
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Traffic Analysis and Reporting System
AADT Segment Analysis Report (Complete)
Road Section 93E - DIAMANTINA DEV ROAD (BOULIA - DAJARRA)
Traffic Year 2019

Road Segments Summary - All Vehicles

Region	Segment Start Tdist	Segment End Tdist	Site	Site Tdist	Description	AADT			VKT (Millions)			Data Year	Page
						G	A	B	G	A	B		
401	0.000 km	87.560 km	70058	9.400 km	9.3km north from Boulia	52	51	103	1.66189	1.62993	3.29182	2019	2
409	87.560 km	146.490 km	100182	137.780 km	93F Ch 137.78 - 4km North Int 7708/93E	33	32	65	0.70981	0.68830	1.39811	2019	3
409	146.490 km	146.890 km	100073	146.490 km	93E Ch 146.49 - Grid 0.5km Sth Dajarra	41	41	82	0.00599	0.00599	0.01197	2019	4
								Totals	2.37769	2.32422	4.70190		

Road Segments Summary - Heavy Vehicles only

VKT totals are calculated only if traffic class data is available for all sites.

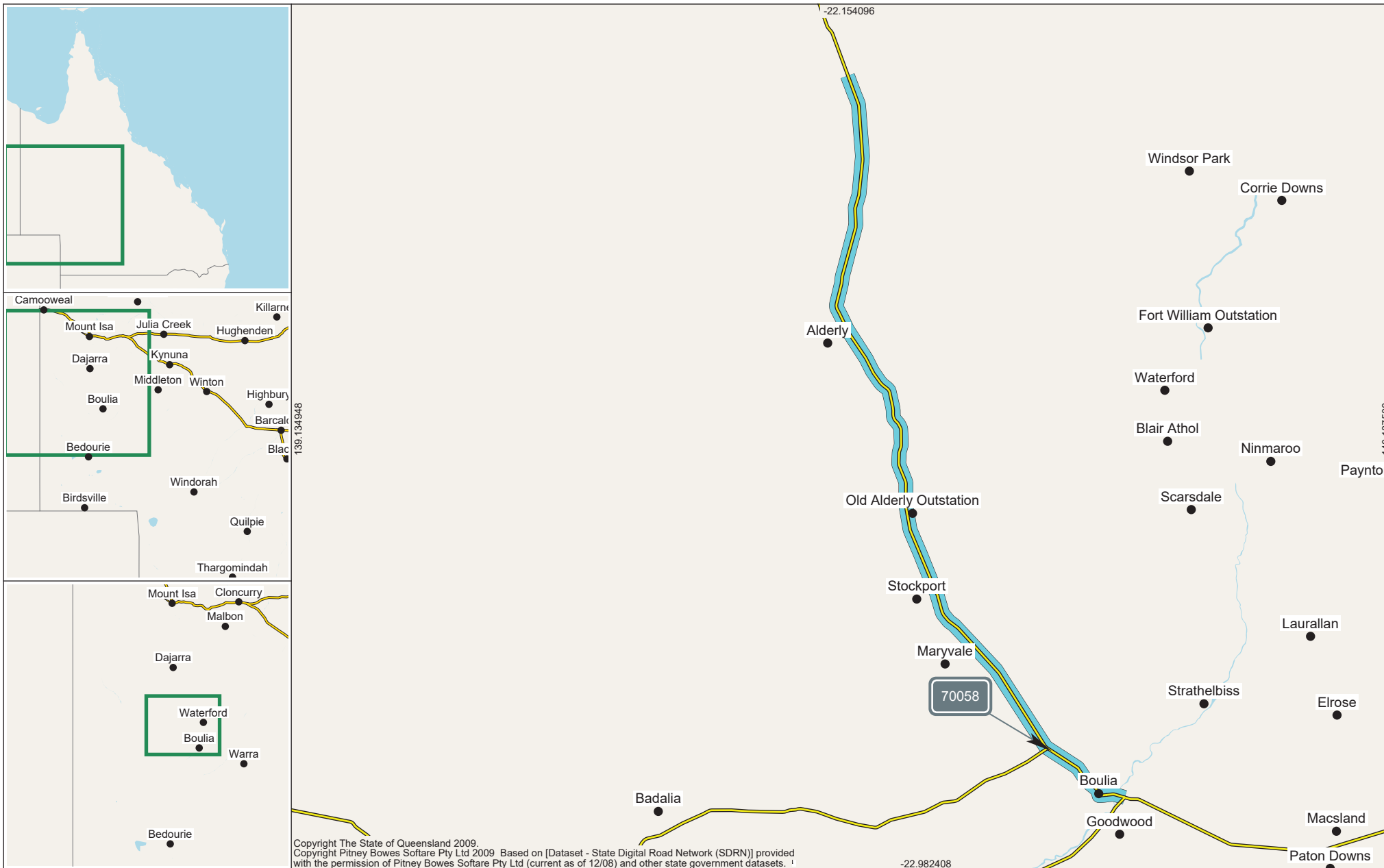
Region	Segment Start Tdist	Segment End Tdist	Site	Site Tdist	Description	HV AADT						HV VKT (Millions)			Data Year	Page
						G		A		B		G	A	B		
						AADT	HV %	AADT	HV %	AADT	HV %					
401	0.000 km	87.560 km	70058	9.400 km	9.3km north from Boulia	12	23.08%	19	37.25%	31	30.10%	0.38351	0.60723	0.99074	2019	
409	87.560 km	146.490 km	100182	137.780 km	93F Ch 137.78 - 4km North Int 7708/93E	6	18.18%	10	31.25%	16	24.62%	0.12906	0.21509	0.34415	2019	
409	146.490 km	146.890 km	100073	146.490 km	93E Ch 146.49 - Grid 0.5km Sth Dajarra	12	29.27%	9	21.95%	21	25.61%	0.00175	0.00131	0.00307	2019	
											Totals	0.51432	0.82364	1.33796		

AADT Segment Analysis Report (Complete)

Area 401 - Central West District

Road Section 93E - DIAMANTINA DEV ROAD (BOULIA - DAJARRA)

Traffic Year 2019 - Data Collection Year 2019



AADT Segment Analysis Report (Complete)

Area 401 - Central West District

Road Section 93E - DIAMANTINA DEV ROAD (BOULIA - DAJARRA)

Traffic Year 2019 - Data Collection Year 2019

Site 70058. Point 270000060. 9.3km
north from Boulia (Site ID 70058).

9.40 km

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

0.00 km

Start Point 270000112. 93E / 93D / 99D Inter.

87.56 km

End Point 270000111. 93E Data collected
from Cloncurry Dist (Site ID 70160).

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.

All Vehicles (00)

G	52	100%
A	51	100%
B	103	100%

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	13.04%	3.86%	1.82%
A	15.91%	4.37%	2.13%
B	14.44%	4.11%	1.97%

Light Vehicles (0A)

G	39	75.00%
A	32	62.75%
B	71	68.93%

Heavy Vehicles (0B)

G	12	23.08%
A	19	37.25%
B	31	30.10%

Short Vehicles (1A)

G	39	75.00%
A	32	62.75%
B	71	68.93%

Trucks and Buses (1B)

G	9	17.31%
A	15	29.41%
B	24	23.30%

Articulated Vehicles (1C)

G	1	1.92%
A	2	3.92%
B	3	2.91%

Road Trains (1D)

G	2	3.85%
A	2	3.92%
B	4	3.88%

Short 2-Axle Vehicles (2A)

G	37	71.15%
A	31	60.78%
B	68	66.02%

Short Vehicles Towing (2B)

G	2	3.85%
A	1	1.96%
B	3	2.91%

2-Axle Trucks and Buses (2C)

G	7	13.46%
A	13	25.49%
B	20	19.42%

3-Axle Trucks and Buses (2D)

G	1	1.92%
A	1	1.96%
B	2	1.94%

4-Axle Trucks (2E)

G	1	1.92%
A	1	1.96%
B	2	1.94%

3-Axle Articulated (2F)

G	0	0%
A	0	0%
B	0	0%

4-Axle Articulated (2G)

G	0	0.00%
A	1	1.96%
B	1	0.97%

5-Axle Articulated (2H)

G	0	0%
A	0	0%
B	0	0%

6-Axle Articulated (2I)

G	1	1.92%
A	1	1.96%
B	2	1.94%

B Double (2J)

G	0	0%
A	0	0%
B	0	0%

Double Road Trains (2K)

G	1	1.92%
A	1	1.96%
B	2	1.94%

Triple Road Trains (2L)

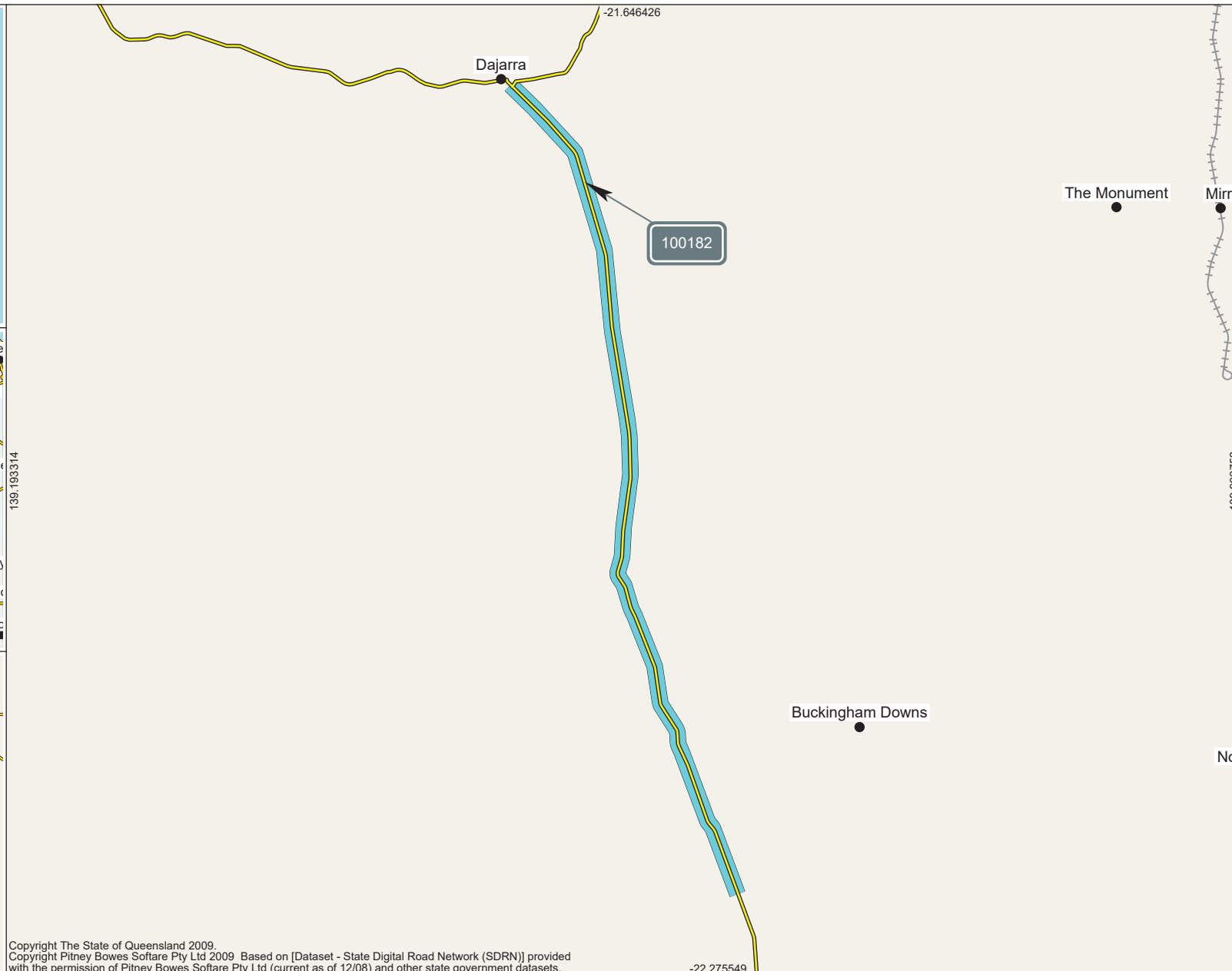
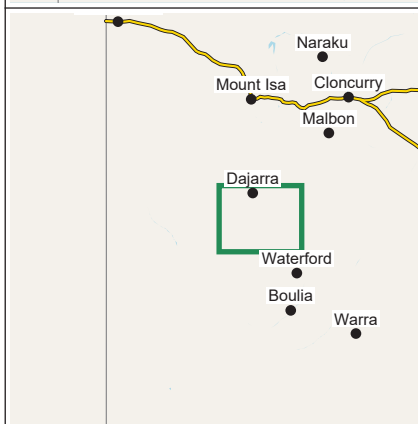
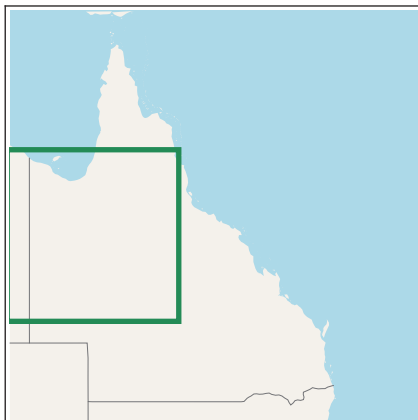
G	1	1.92%
A	1	1.96%
B	2	1.94%

AADT Segment Analysis Report (Complete)

Area 409 - North West District

Road Section 93E - DIAMANTINA DEV ROAD (BOULIA - DAJARRA)

Traffic Year 2019 - Data Collection Year 2019



AADT Segment Analysis Report (Complete)

Area 409 - North West District

Road Section 93E - DIAMANTINA DEV ROAD (BOULIA - DAJARRA)

Traffic Year 2019 - Data Collection Year 2019

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

Site 100182. Point 300019693.
4km north of Int 7708/93E.

137.78 km

87.56 km

Start Point 300000131.
Cloncurry/Bouila Shire Boundry.

146.49 km

End Point 300000130. Grid
0.5km south of Dajarra.

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.

All Vehicles (00)

G	33	100%
A	32	100%
B	65	100%

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	3.12%	-5.70%	-3.28%
A	3.23%	-6.41%	-3.59%
B	3.17%	-6.06%	-3.44%

Light Vehicles (0A)

G	26	78.79%
A	21	65.62%
B	47	72.31%

Heavy Vehicles (0B)

G	6	18.18%
A	10	31.25%
B	16	24.62%

Short Vehicles (1A)

G	26	78.79%
A	21	65.62%
B	47	72.31%

Trucks and Buses (1B)

G	3	9.09%
A	6	18.75%
B	9	13.85%

Articulated Vehicles (1C)

G	1	3.03%
A	2	6.25%
B	3	4.62%

Road Trains (1D)

G	2	6.06%
A	2	6.25%
B	4	6.15%

Short 2-Axle
Vehicles (2A)

G	21	63.64%
A	17	53.12%
B	38	58.46%

Short Vehicles
Towing (2B)

G	5	15.15%
A	4	12.50%
B	9	13.85%

2-Axle Trucks
and Buses (2C)

G	3	9.09%
A	6	18.75%
B	9	13.85%

3-Axle Trucks
and Buses (2D)

G	0	0%
A	0	0%
B	0	0%

4-Axle
Trucks (2E)

G	0	0%
A	0	0%
B	0	0%

3-Axle
Articulated (2F)

G	0	0.00%
A	1	3.12%
B	1	1.54%

4-Axle
Articulated (2G)

G	1	3.03%
A	1	3.12%
B	2	3.08%

5-Axle
Articulated (2H)

G	0	0%
A	0	0%
B	0	0%

6-Axle
Articulated (2I)

G	0	0%
A	0	0%
B	0	0%

B Double (2J)

G	0	0%
A	0	0%
B	0	0%

Double Road
Trains (2K)

G	0	0%
A	0	0%
B	0	0%

Triple Road
Trains (2L)

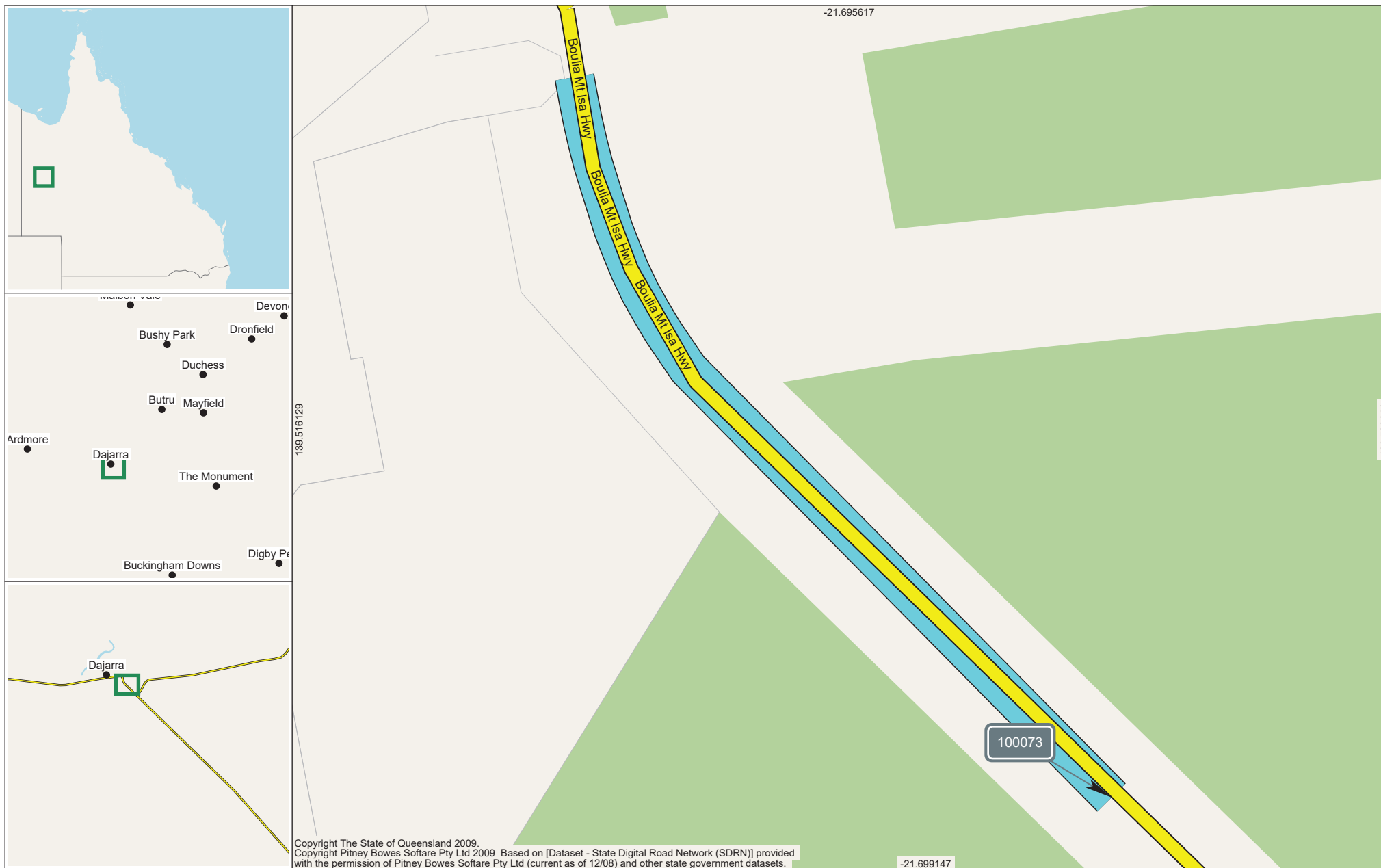
G	2	6.06%
A	2	6.25%
B	4	6.15%

AADT Segment Analysis Report (Complete)

Area 409 - North West District

Road Section 93E - DIAMANTINA DEV ROAD (BOULIA - DAJARRA)

Traffic Year 2019 - Data Collection Year 2019



AADT Segment Analysis Report (Complete)

Area 409 - North West District

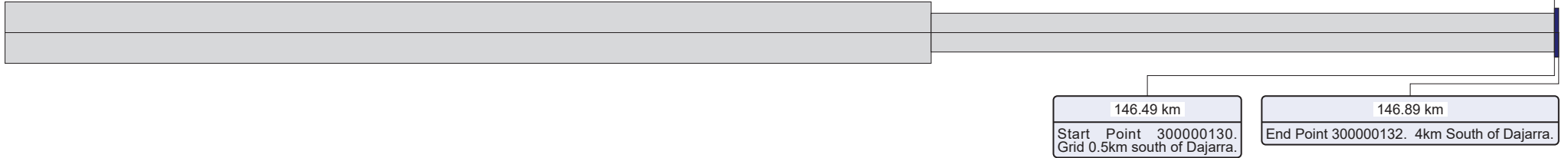
Road Section 93E - DIAMANTINA DEV ROAD (BOULIA - DAJARRA)

Traffic Year 2019 - Data Collection Year 2019

Site 100073. Point 300000130.
Grid 0.5km south of Dajarra.

146.49 km

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.

All Vehicles (00)

G	41	100%
A	41	100%
B	82	100%

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	0.00%	-0.40%	-0.30%
A	5.13%	-0.29%	-0.17%
B	2.50%	-0.35%	-0.24%

Light Vehicles (0A)

G	30	73.17%
A	32	78.05%
B	62	75.61%

Heavy Vehicles (0B)

G	12	29.27%
A	9	21.95%
B	21	25.61%

Short Vehicles (1A)

G	30	73.17%
A	32	78.05%
B	62	75.61%

Trucks and Buses (1B)

G	7	17.07%
A	6	14.63%
B	13	15.85%

Articulated Vehicles (1C)

G	2	4.88%
A	1	2.44%
B	3	3.66%

Road Trains (1D)

G	3	7.32%
A	2	4.88%
B	5	6.10%

Short 2-Axle Vehicles (2A)

G	25	60.98%
A	27	65.85%
B	52	63.41%

Short Vehicles Towing (2B)

G	5	12.20%
A	5	12.20%
B	10	12.20%

2-Axle Trucks and Buses (2C)

G	6	14.63%
A	5	12.20%
B	11	13.41%

3-Axle Trucks and Buses (2D)

G	1	2.44%
A	1	2.44%
B	2	2.44%

4-Axle Trucks (2E)

G	0	0%
A	0	0%
B	0	0%

3-Axle Articulated (2F)

G	0	0%
A	0	0%
B	0	0%

4-Axle Articulated (2G)

G	1	2.44%
A	1	2.44%
B	2	2.44%

5-Axle Articulated (2H)

G	0	0%
A	0	0%
B	0	0%

6-Axle Articulated (2I)

G	1	2.44%
A	0	0.00%
B	1	1.22%

B Double (2J)

G	0	0%
A	0	0%
B	0	0%

Double Road Trains (2K)

G	1	2.44%
A	0	0.00%
B	1	1.22%

Triple Road Trains (2L)

G	2	4.88%
A	2	4.88%
B	4	4.88%

AADT Segment Report

Provides AADT Segment details for a Road Section together with the traffic flow data collected at the related Site. Traffic data is reported by the start and end Through Distance of the AADT Segments on each section of road. The road segments are represented diagrammatically with AADT data including:

AADT by direction of traffic flow
VKT Vehicle Kilometres Travelled
%VC Percentage Vehicle Class as per the Austroads vehicle classification scheme

Annual Average Daily Traffic (AADT)

Annual Average Daily Traffic (AADT) is the number of vehicles passing a point on a road in a 24 hour period, averaged over a calendar year.

AADT Segment

Is a subdivision of a Road Section. The boundaries of an AADT Segment are its Start Point and End Point (or Start and End Through Distance (TDist)) within the Road Section. These distances are measured in kilometres from the beginning of the Road Section in Gazettal Direction. AADT Segments are determined by the traffic volume, collected at a count Site, located within the limits of each AADT Segment.

Annual Segment Growth (when displayed)

A percentage that represents the increase or decrease in AADT for the AADT Segment, using an exponential fit, calculated over a 1, 5 or 10 year period.

Area

For administration purposes the Department of Transport and Main Roads has divided Queensland into 12 Districts. The Area field in TSDM reports displays the District Name and Number.

District Name	District
Central West District	401
Darling Downs District	402
Far North District	403
Fitzroy District	404
Mackay/Whitsunday District	405
Metropolitan District	406
North Coast District	407
North West District	409
Northern District	408
South Coast District	410
South West District	411
Wide Bay/Burnett District	412

Data Year

The most recent year the traffic data was collected for this AADT Segment.

Gazettal Direction

The Gazettal Direction is the direction of the traffic flow. It can be easily recognised by referring to the name of the road eg. Road Section: 10A Brisbane - Gympie denotes that the gazettal direction is from Brisbane to Gympie.

- G Traffic flowing in Gazettal Direction
- A Traffic flowing against Gazettal Direction
- B The combined traffic flow in both Directions

Road Section

Is the Gazetted road from which the traffic data is collected. Each Road Section is given a code, allocated sequentially in Gazettal Direction. Larger roads are broken down into sections and identified by an ID code with a suffix for easier data collection and reporting (eg. 10A, 10B, 10C). Road Sections are then broken into AADT Segments which are determined by traffic volume.

Site

The physical location of a traffic counting device. Sites are located at a specified Through Distance along a Road Section.

Site TDist

The Through Distance in gazettal direction from the start of the Road Section at which the site is located.

Site Description

The description of the physical location of the traffic counting device.

Start and End Point

The unique identifier for the Through Distance along a Road Section.

Through Distance

The distance, in kilometres, from the beginning of the Road Section in Gazettal Direction.

Traffic Class

Is the 12 Austroads vehicle categories or classes into which vehicles are placed or binned. Traffic classes are formed in a hierarchical format.

Volume or All Vehicles

00 = 0A + 0B

Light Vehicles

0A = 1A

1A = 2A + 2B

Heavy Vehicles

0B = 1B + 1C + 1D

1B = 2C + 2D + 2E

1C = 2F + 2G + 2H + 2I

1D = 2J + 2K + 2L

The following classes are the categories for which data can be captured:

Volume

00 All vehicles.

2-Bin

0A Light vehicles

0B Heavy vehicles

4-Bin

1A Short vehicles

1B Truck or bus

1C Articulated vehicles

1D Road train

12-Bin

2A Short 2 axle vehicles

2B Short vehicles towing

2C 2 axle truck or bus

2D 3 axle truck or bus

2E 4 axle truck

2F 3 axle articulated vehicle

2G 4 axle articulated vehicle

2H 5 axle articulated vehicle

2I 6 axle articulated vehicle

2J B double

2K Double road train

2L Triple road train

Vehicle Kilometres Travelled (VKT)

Daily VKT is a measure of the traffic demand. It is calculated by the length of an AADT Segment in kilometres multiplied by its AADT. The yearly VKT is the daily VKT multiplied by 365 days.

AADT Segment Summary - All Vehicles

The Total VKT can be used to gauge the demand on an entire Road Section.

AADT Segment Summary - Heavy Vehicles only

A blank field indicates that vehicle classification data was not collected for this AADT Segment.

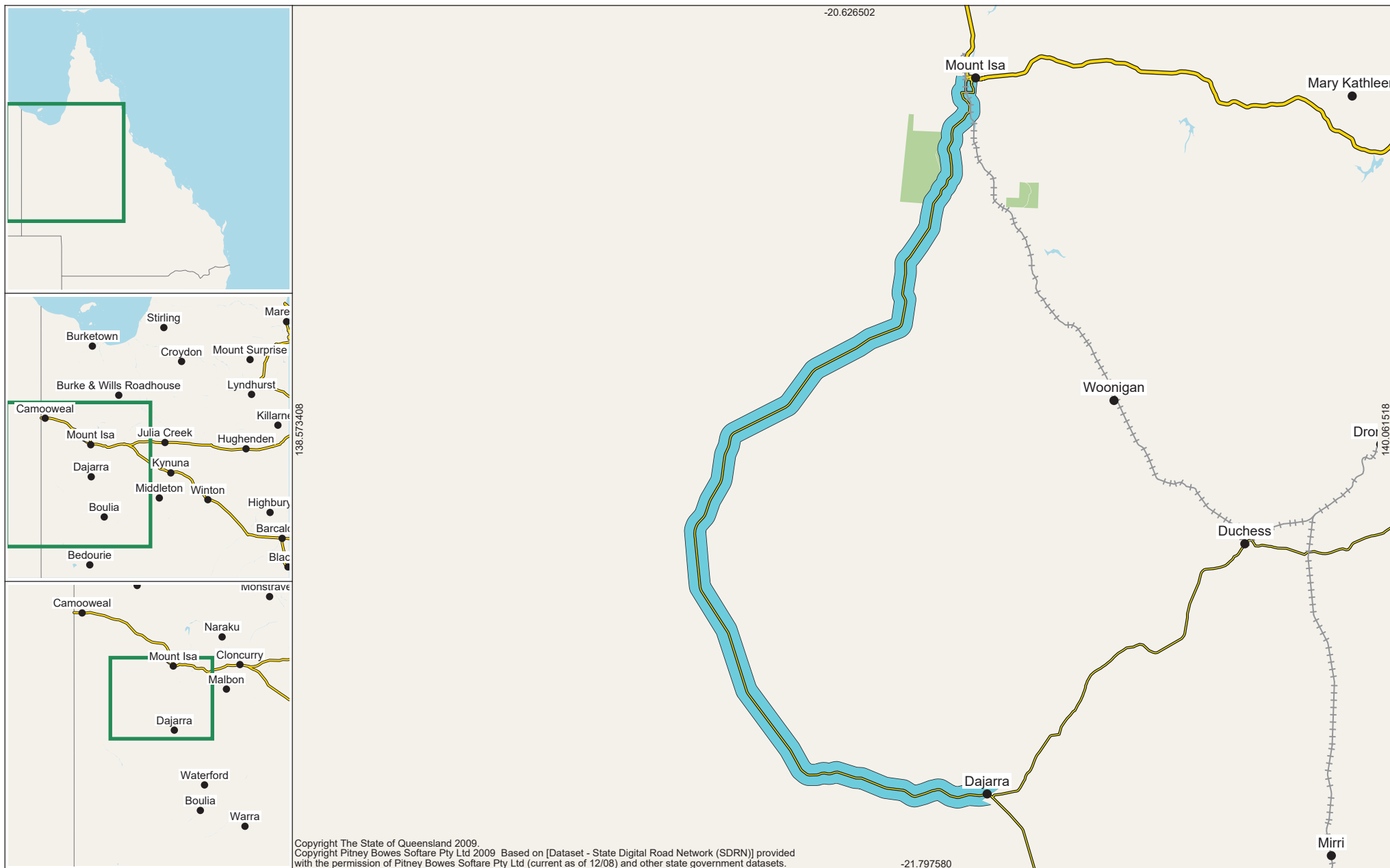
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Traffic Analysis and Reporting System
AADT Segment Analysis Report (Complete)
Road Section 93F - DIAMANTINA DEV ROAD (DAJARRA - MT ISA)
Traffic Year 2019

Road Segments Summary - All Vehicles

Region	Segment Start Tdist	Segment End Tdist	Site	Site Tdist	Description	AADT			VKT (Millions)			Data Year	Page
						G	A	B	G	A	B		
409	0.000 km	33.970 km	100009	1.260 km	93F Ch. 1.26km - North of Dajarra	48	48	96	0.59515	0.59515	1.19031	2019	2
401	33.970 km	132.100 km	70159	34.770 km	93F Data collected from Cloncurry Dist	36	37	73	1.28943	1.32525	2.61467	2019	3
409	132.100 km	150.980 km	100123	149.940 km	93F Ch 149.94 - 100m Nth Golf Course T/O	241	254	495	1.66078	1.75036	3.41114	2019	4
409	150.980 km	153.360 km	100075	152.200 km	93F Ch 152.2 - Between 21st/23rd Avenues	2,002	2,214	4,216	1.73914	1.92330	3.66244	2019	5
								Totals	5.28450	5.59407	10.87857		

Road Segments Summary - Heavy Vehicles only

VKT totals are calculated only if traffic class data is available for all sites.

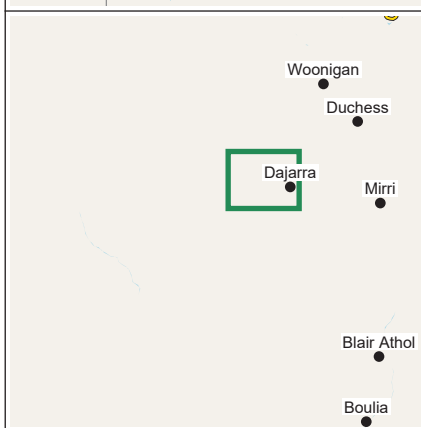
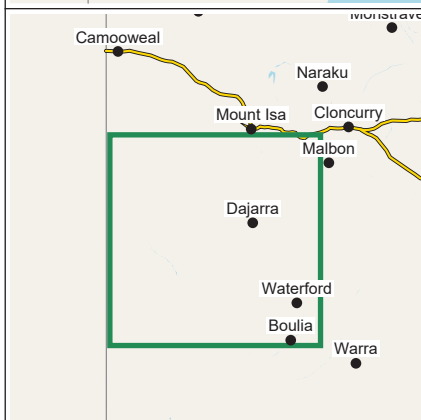
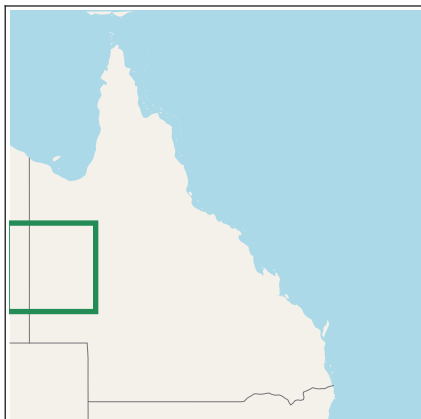
Region	Segment Start Tdist	Segment End Tdist	Site	Site Tdist	Description	HV AADT						HV VKT (Millions)			Data Year	Page
						G		A		B						
						AADT	HV %	AADT	HV %	AADT	HV %	G	A	B		
409	0.000 km	33.970 km	100009	1.260 km	93F Ch. 1.26km - North of Dajarra	11	22.92%	15	31.25%	26	27.08%	0.13639	0.18599	0.32238	2019	2
401	33.970 km	132.100 km	70159	34.770 km	93F Data collected from Cloncurry Dist	16	44.44%	5	13.51%	21	28.77%	0.57308	0.17909	0.75217	2019	3
409	132.100 km	150.980 km	100123	149.940 km	93F Ch 149.94 - 100m Nth Golf Course T/O	26	10.79%	103	40.55%	129	26.06%	0.17917	0.70979	0.88896	2019	4
409	150.980 km	153.360 km	100075	152.200 km	93F Ch 152.2 - Between 21st/23rd Avenues	134	6.69%	304	13.73%	438	10.39%	0.11641	0.26408	0.38049	2019	5
											Totals	1.00505	1.33895	2.34400		

AADT Segment Analysis Report (Complete)

Area 409 - North West District

Road Section 93F - DIAMANTINA DEV ROAD (DAJARRA - MT ISA)

Traffic Year 2019 - Data Collection Year 2019



AADT Segment Analysis Report (Complete)

Area 409 - North West District

Road Section 93F - DIAMANTINA DEV ROAD (DAJARRA - MT ISA)

Traffic Year 2019 - Data Collection Year 2019

Site 100009. Point 300019694.
1.26km north of Dajarra.

1.26 km

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

0.00 km

Start Point 300000021. Dajarra.

33.97 km

End Point 300000022. Boundry
of Ardmore Station Grid.

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.

All Vehicles (00)

G	48	100%
A	48	100%
B	96	100%

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	2.13%		
A	6.67%		
B	4.35%		

Light Vehicles (0A)

G	36	75.00%
A	32	66.67%
B	68	70.83%

Heavy Vehicles (0B)

G	11	22.92%
A	15	31.25%
B	26	27.08%

Short Vehicles (1A)

G	36	75.00%
A	32	66.67%
B	68	70.83%

Trucks and Buses (1B)

G	7	14.58%
A	10	20.83%
B	17	17.71%

Articulated Vehicles (1C)

G	1	2.08%
A	2	4.17%
B	3	3.12%

Road Trains (1D)

G	3	6.25%
A	3	6.25%
B	6	6.25%

Short 2-Axle
Vehicles (2A)

G	31	64.58%
A	28	58.33%
B	59	61.46%

Short Vehicles
Towing (2B)

G	5	10.42%
A	4	8.33%
B	9	9.38%

2-Axle Trucks
and Buses (2C)

G	6	12.50%
A	9	18.75%
B	15	15.62%

3-Axle Trucks
and Buses (2D)

G	1	2.08%
A	1	2.08%
B	2	2.08%

4-Axle
Trucks (2E)

G	0	0%
A	0	0%
B	0	0%

3-Axle
Articulated (2F)

G	0	0.00%
A	1	2.08%
B	1	1.04%

4-Axle
Articulated (2G)

G	1	2.08%
A	1	2.08%
B	2	2.08%

5-Axle
Articulated (2H)

G	0	0%
A	0	0%
B	0	0%

6-Axle
Articulated (2I)

G	0	0%
A	0	0%
B	0	0%

B Double (2J)

G	0	0%
A	0	0%
B	0	0%

Double Road
Trains (2K)

G	1	2.08%
A	1	2.08%
B	2	2.08%

Triple Road
Trains (2L)

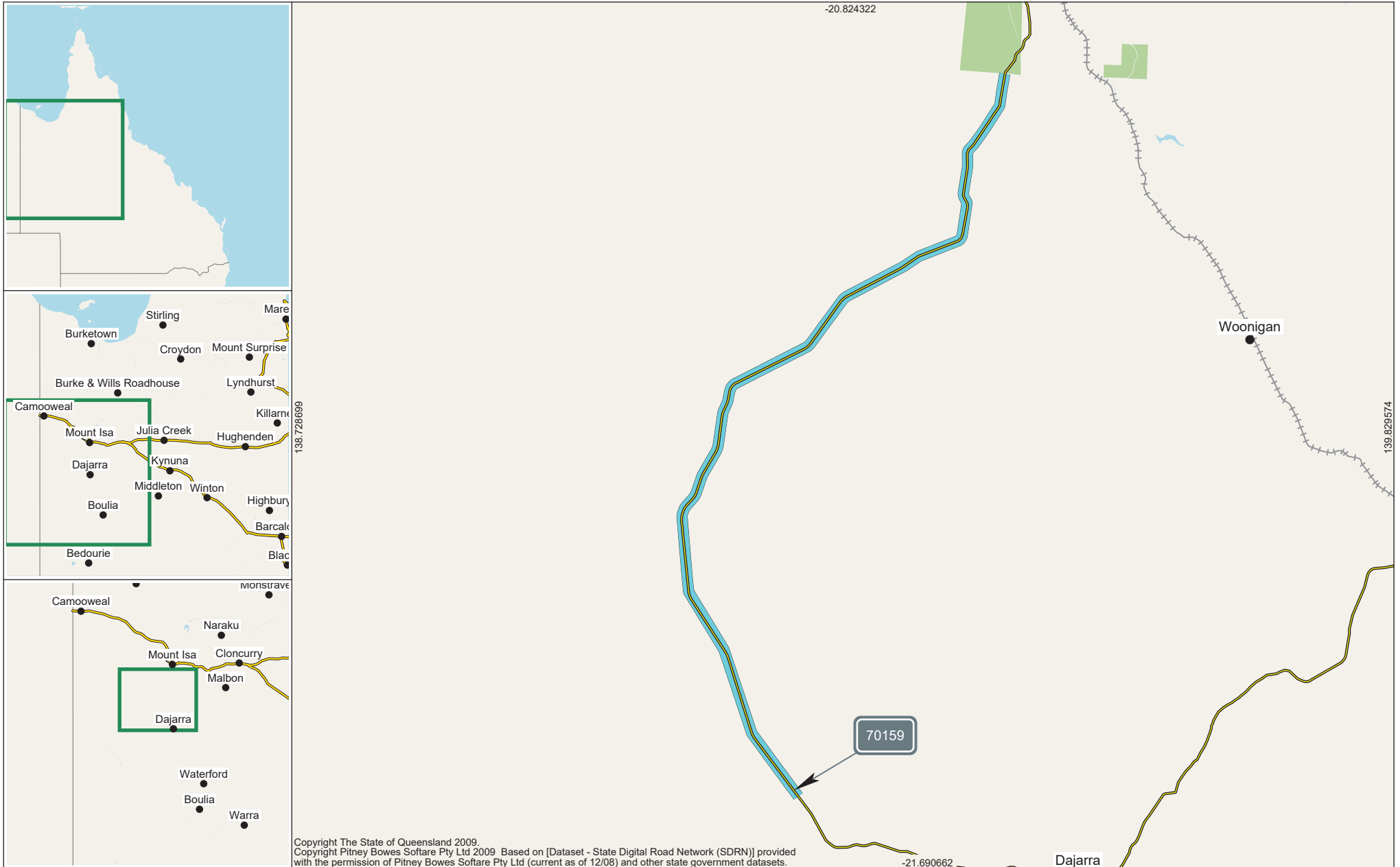
G	2	4.17%
A	2	4.17%
B	4	4.17%

AADT Segment Analysis Report (Complete)

Area 401 - Central West District

Road Section 93F - DIAMANTINA DEV ROAD (DAJARRA - MT ISA)

Traffic Year 2019 - Data Collection Year 2019



AADT Segment Analysis Report (Complete)

Area 401 - Central West District Road Section 93F - DIAMANTINA DEV ROAD (DAJARRA - MT ISA)
Traffic Year 2019 - Data Collection Year 2019

Site 70159. Point 270000381.
1.87km west of Dajarra - site # 70159.
34.77 km

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

33.97 km
Start Point 270000109. Cloncurry
/ Boulia Shire Boundary.

132.10 km
End Point 270000110. Boulia
/ Mt Isa Shire Boundary.

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.

All Vehicles (00)
G 36 100%
A 37 100%
B 73 100%

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	-2.70%	-1.32%	-1.29%
A	2.78%	0.38%	-0.05%
B	0.00%	-0.48%	-0.68%

Light Vehicles (0A)
G 18 50.00%
A 30 81.08%
B 48 65.75%

Heavy Vehicles (0B)
G 16 44.44%
A 5 13.51%
B 21 28.77%

Short Vehicles (1A)
G 18 50.00%
A 30 81.08%
B 48 65.75%

Trucks and Buses (1B)
G 12 33.33%
A 3 8.11%
B 15 20.55%

Articulated Vehicles (1C)
G 2 5.56%
A 0 0.00%
B 2 2.74%

Road Trains (1D)
G 2 5.56%
A 2 5.41%
B 4 5.48%

Short 2-Axle Vehicles (2A)
G 15 41.67%
A 25 67.57%
B 40 54.79%

Short Vehicles Towing (2B)
G 3 8.33%
A 5 13.51%
B 8 10.96%

2-Axle Trucks and Buses (2C)
G 11 30.56%
A 2 5.41%
B 13 17.81%

3-Axle Trucks and Buses (2D)
G 1 2.78%
A 1 2.70%
B 2 2.74%

4-Axle Trucks (2E)
G 0 0%
A 0 0%
B 0 0%

3-Axle Articulated (2F)
G 1 2.78%
A 0 0.00%
B 1 1.37%

4-Axle Articulated (2G)
G 1 2.78%
A 0 0.00%
B 1 1.37%

5-Axle Articulated (2H)
G 0 0%
A 0 0%
B 0 0%

6-Axle Articulated (2I)
G 0 0%
A 0 0%
B 0 0%

B Double (2J)
G 0 0%
A 0 0%
B 0 0%

Double Road Trains (2K)
G 0 0%
A 0 0%
B 0 0%

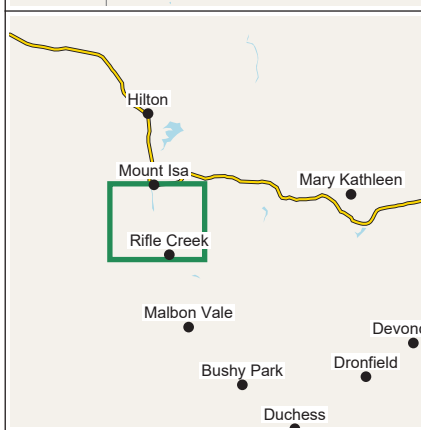
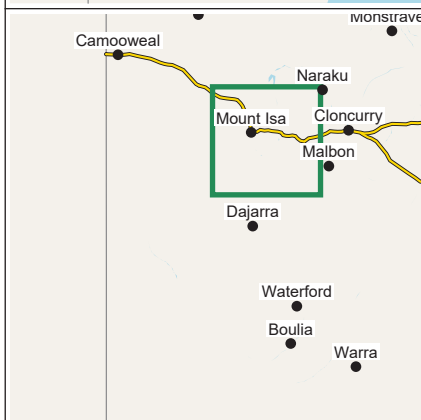
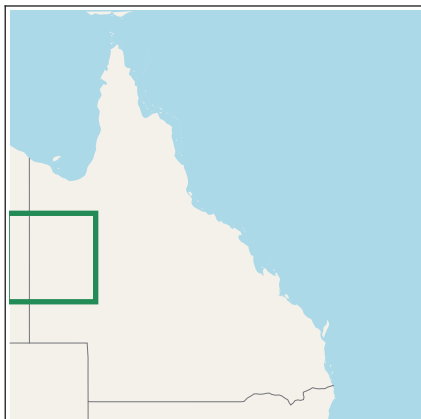
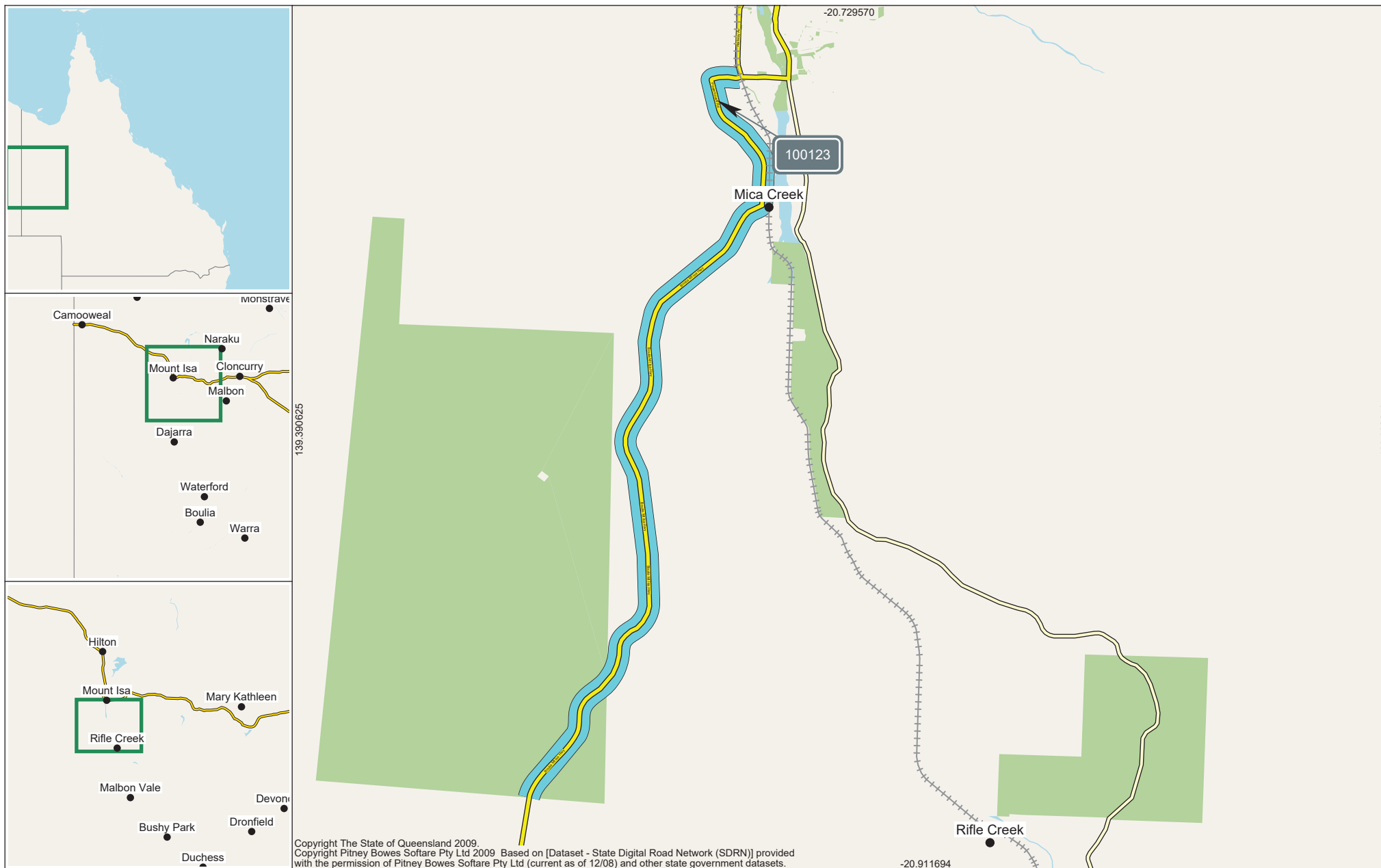
Triple Road Trains (2L)
G 2 5.56%
A 2 5.41%
B 4 5.48%

AADT Segment Analysis Report (Complete)

Area 409 - North West District

Road Section 93F - DIAMANTINA DEV ROAD (DAJARRA - MT ISA)

Traffic Year 2019 - Data Collection Year 2019



AADT Segment Analysis Report (Complete)

Area 409 - North West District

Road Section 93F - DIAMANTINA DEV ROAD (DAJARRA - MT ISA)

Traffic Year 2019 - Data Collection Year 2019

Site 100123. Point 300019695.
100metres north of Golf Course T/O.

149.94 km

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

132.10 km

Start Point 300000134. RP7 - LGA 209/246.

150.98 km

End Point 300019711. Railway level xing.

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.

All Vehicles (00)

G	241	100%
A	254	100%
B	495	100%

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	-12.36%	-6.29%	
A	-13.61%	-5.84%	
B	-13.01%	-6.08%	

Light Vehicles (0A)

G	215	89.21%
A	150	59.06%
B	365	73.74%

Short Vehicles (1A)

G	215	89.21%
A	150	59.06%
B	365	73.74%

Heavy Vehicles (0B)

G	26	10.79%
A	103	40.55%
B	129	26.06%

Trucks and Buses (1B)

G	14	5.81%
A	87	34.25%
B	101	20.40%

Articulated Vehicles (1C)

G	3	1.24%
A	7	2.76%
B	10	2.02%

Road Trains (1D)

G	9	3.73%
A	9	3.54%
B	18	3.64%

Short 2-Axle Vehicles (2A)

G	206	85.48%
A	145	57.09%
B	351	70.91%

Short Vehicles Towing (2B)

G	9	3.73%
A	5	1.97%
B	14	2.83%

2-Axle Trucks and Buses (2C)

G	11	4.56%
A	83	32.68%
B	94	18.99%

3-Axle Trucks and Buses (2D)

G	2	0.83%
A	3	1.18%
B	5	1.01%

4-Axle Trucks (2E)

G	1	0.41%
A	1	0.39%
B	2	0.40%

3-Axle Articulated (2F)

G	0	0.00%
A	2	0.79%
B	2	0.40%

4-Axle Articulated (2G)

G	1	0.41%
A	3	1.18%
B	4	0.81%

5-Axle Articulated (2H)

G	0	0%
A	0	0%
B	0	0%

6-Axle Articulated (2I)

G	2	0.83%
A	2	0.79%
B	4	0.81%

B Double (2J)

G	1	0.41%
A	1	0.39%
B	2	0.40%

Double Road Trains (2K)

G	1	0.41%
A	1	0.39%
B	2	0.40%

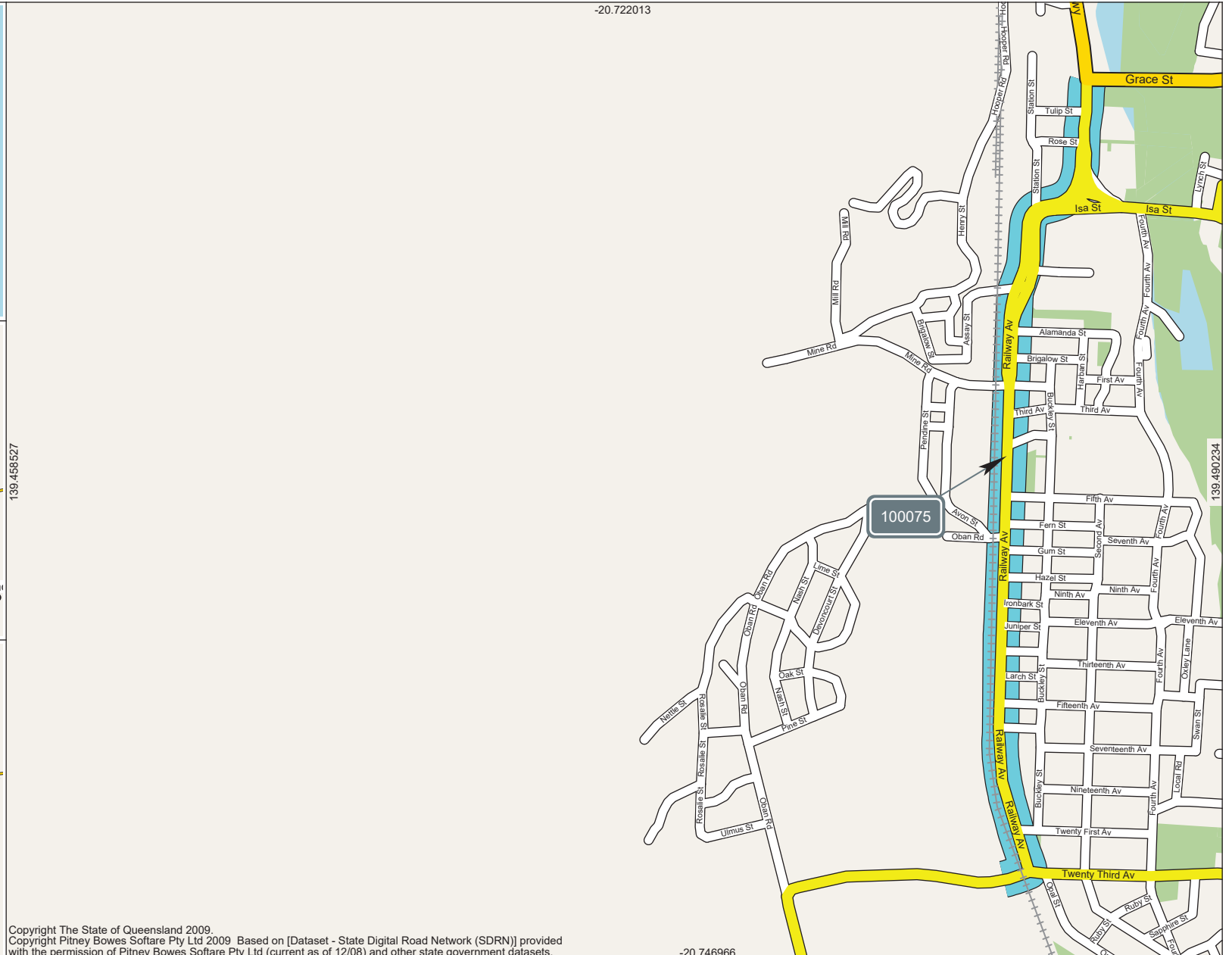
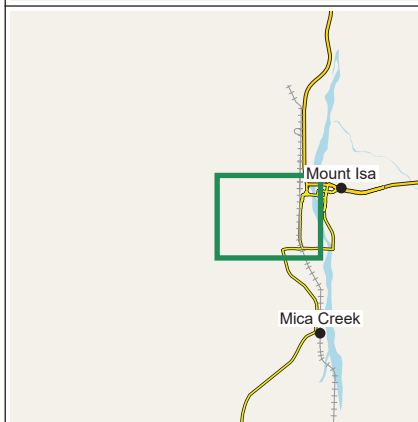
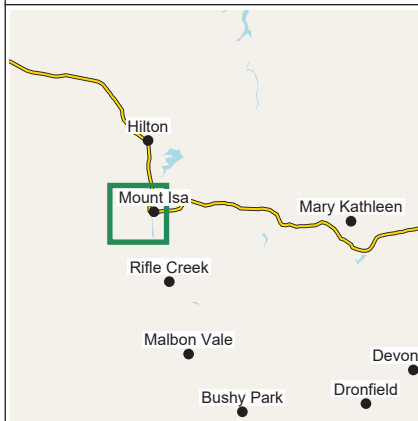
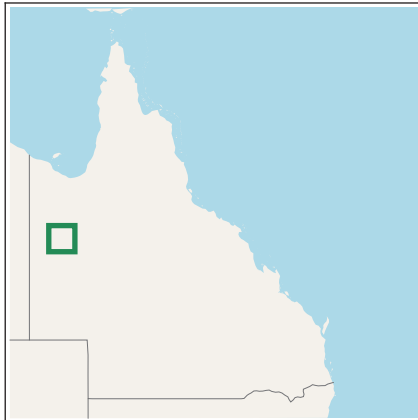
Triple Road Trains (2L)

G	7	2.90%
A	7	2.76%
B	14	2.83%

AADT Segment Analysis Report (Complete)

Area 409 - North West District Road Section 93F - DIAMANTINA DEV ROAD (DAJARRA - MT ISA)

Traffic Year 2019 - Data Collection Year 2019



AADT Segment Analysis Report (Complete)

Area 409 - North West District

Road Section 93F - DIAMANTINA DEV ROAD (DAJARRA - MT ISA)

Traffic Year 2019 - Data Collection Year 2019

Site 100075. Point 300000136.
Between 23rd and 21st Avenue on 93F.

152.20 km

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

150.98 km

Start Point 300019711. Railway level xing.

153.36 km

End Point 300000137. Rose Street T/o.

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.

All Vehicles (00)

G	2,002	100%
A	2,214	100%
B	4,216	100%

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	28.42%		
A	32.34%		
B	30.45%		

Light Vehicles (0A)

G	1,868	93.31%
A	1,911	86.31%
B	3,779	89.63%

Heavy Vehicles (0B)

G	134	6.69%
A	304	13.73%
B	438	10.39%

Short Vehicles (1A)

G	1,868	93.31%
A	1,911	86.31%
B	3,779	89.63%

Trucks and Buses (1B)

G	110	5.49%
A	277	12.51%
B	387	9.18%

Articulated Vehicles (1C)

G	13	0.65%
A	16	0.72%
B	29	0.69%

Road Trains (1D)

G	11	0.55%
A	11	0.50%
B	22	0.52%

Short 2-Axle Vehicles (2A)

G	1,849	92.36%
A	1,891	85.41%
B	3,740	88.71%

Short Vehicles Towing (2B)

G	19	0.95%
A	20	0.90%
B	39	0.93%

2-Axle Trucks and Buses (2C)

G	92	4.60%
A	258	11.65%
B	350	8.30%

3-Axle Trucks and Buses (2D)

G	11	0.55%
A	12	0.54%
B	23	0.55%

4-Axle Trucks (2E)

G	7	0.35%
A	7	0.32%
B	14	0.33%

3-Axle Articulated (2F)

G	1	0.05%
A	2	0.09%
B	3	0.07%

4-Axle Articulated (2G)

G	2	0.10%
A	4	0.18%
B	6	0.14%

5-Axle Articulated (2H)

G	1	0.05%
A	1	0.05%
B	2	0.05%

6-Axle Articulated (2I)

G	9	0.45%
A	9	0.41%
B	18	0.43%

B Double (2J)

G	1	0.05%
A	1	0.05%
B	2	0.05%

Double Road Trains (2K)

G	2	0.10%
A	2	0.09%
B	4	0.09%

Triple Road Trains (2L)

G	8	0.40%
A	8	0.36%
B	16	0.38%

AADT Segment Report

Provides AADT Segment details for a Road Section together with the traffic flow data collected at the related Site. Traffic data is reported by the start and end Through Distance of the AADT Segments on each section of road. The road segments are represented diagrammatically with AADT data including:

AADT by direction of traffic flow
VKT Vehicle Kilometres Travelled
%VC Percentage Vehicle Class as per the Austroads vehicle classification scheme

Annual Average Daily Traffic (AADT)

Annual Average Daily Traffic (AADT) is the number of vehicles passing a point on a road in a 24 hour period, averaged over a calendar year.

AADT Segment

Is a subdivision of a Road Section. The boundaries of an AADT Segment are its Start Point and End Point (or Start and End Through Distance (TDist)) within the Road Section. These distances are measured in kilometres from the beginning of the Road Section in Gazettal Direction. AADT Segments are determined by the traffic volume, collected at a count Site, located within the limits of each AADT Segment.

Annual Segment Growth (when displayed)

A percentage that represents the increase or decrease in AADT for the AADT Segment, using an exponential fit, calculated over a 1, 5 or 10 year period.

Area

For administration purposes the Department of Transport and Main Roads has divided Queensland into 12 Districts. The Area field in TSDM reports displays the District Name and Number.

District Name	District
Central West District	401
Darling Downs District	402
Far North District	403
Fitzroy District	404
Mackay/Whitsunday District	405
Metropolitan District	406
North Coast District	407
North West District	409
Northern District	408
South Coast District	410
South West District	411
Wide Bay/Burnett District	412

Data Year

The most recent year the traffic data was collected for this AADT Segment.

Gazettal Direction

The Gazettal Direction is the direction of the traffic flow. It can be easily recognised by referring to the name of the road eg. Road Section: 10A Brisbane - Gympie denotes that the gazettal direction is from Brisbane to Gympie.

- G Traffic flowing in Gazettal Direction
- A Traffic flowing against Gazettal Direction
- B The combined traffic flow in both Directions

Road Section

Is the Gazetted road from which the traffic data is collected. Each Road Section is given a code, allocated sequentially in Gazettal Direction. Larger roads are broken down into sections and identified by an ID code with a suffix for easier data collection and reporting (eg. 10A, 10B, 10C). Road Sections are then broken into AADT Segments which are determined by traffic volume.

Site

The physical location of a traffic counting device. Sites are located at a specified Through Distance along a Road Section.

Site TDist

The Through Distance in gazettal direction from the start of the Road Section at which the site is located.

Site Description

The description of the physical location of the traffic counting device.

Start and End Point

The unique identifier for the Through Distance along a Road Section.

Through Distance

The distance, in kilometres, from the beginning of the Road Section in Gazettal Direction.

Traffic Class

Is the 12 Austroads vehicle categories or classes into which vehicles are placed or binned. Traffic classes are formed in a hierarchical format.

Volume or All Vehicles

00 = 0A + 0B

Light Vehicles

0A = 1A

1A = 2A + 2B

Heavy Vehicles

0B = 1B + 1C + 1D

1B = 2C + 2D + 2E

1C = 2F + 2G + 2H + 2I

1D = 2J + 2K + 2L

The following classes are the categories for which data can be captured:

Volume

00 All vehicles.

2-Bin

0A Light vehicles

0B Heavy vehicles

4-Bin

1A Short vehicles

1B Truck or bus

1C Articulated vehicles

1D Road train

12-Bin

2A Short 2 axle vehicles

2B Short vehicles towing

2C 2 axle truck or bus

2D 3 axle truck or bus

2E 4 axle truck

2F 3 axle articulated vehicle

2G 4 axle articulated vehicle

2H 5 axle articulated vehicle

2I 6 axle articulated vehicle

2J B double

2K Double road train

2L Triple road train

Vehicle Kilometres Travelled (VKT)

Daily VKT is a measure of the traffic demand. It is calculated by the length of an AADT Segment in kilometres multiplied by its AADT. The yearly VKT is the daily VKT multiplied by 365 days.

AADT Segment Summary - All Vehicles

The Total VKT can be used to gauge the demand on an entire Road Section.

AADT Segment Summary - Heavy Vehicles only

A blank field indicates that vehicle classification data was not collected for this AADT Segment.

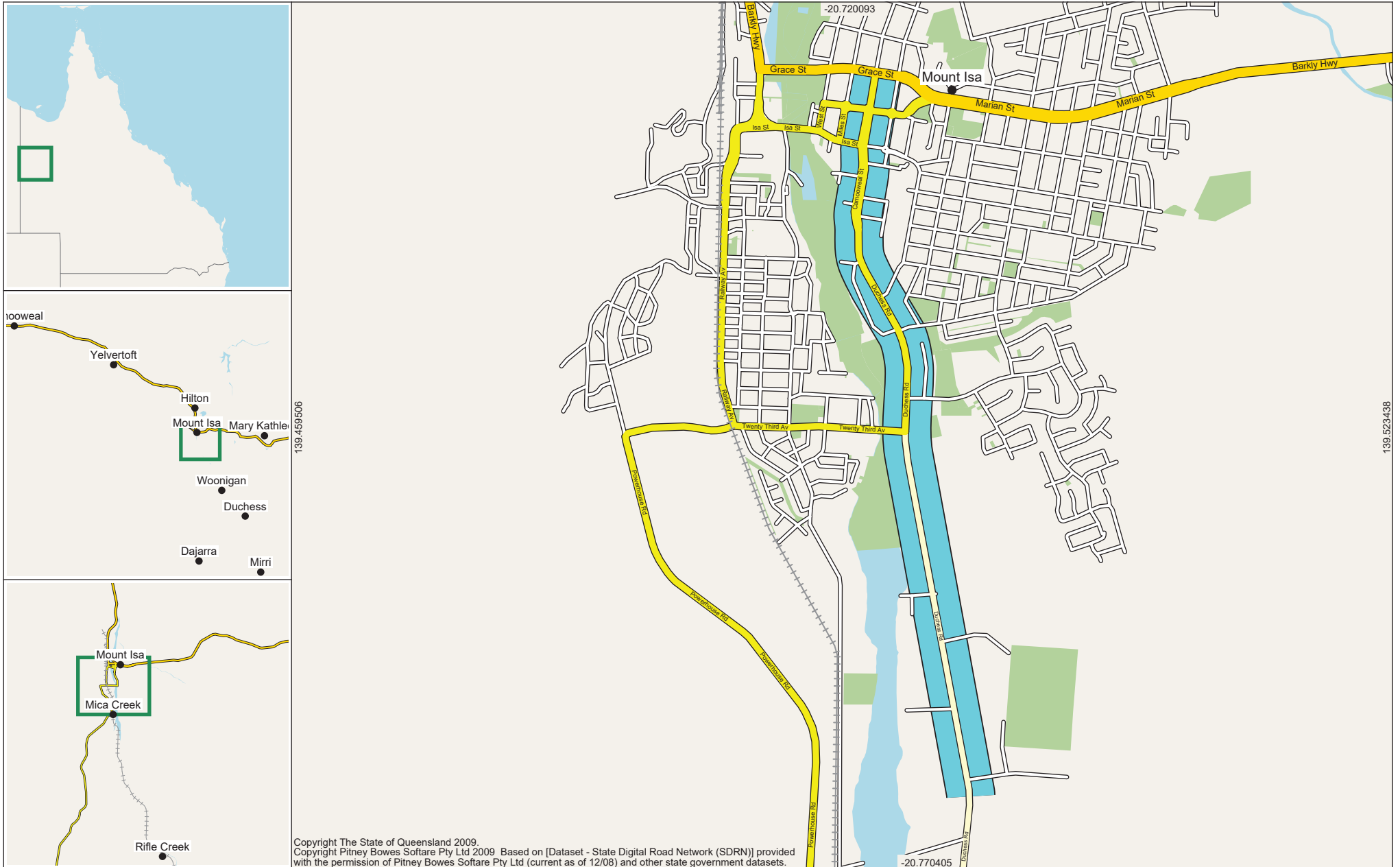
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Traffic Analysis and Reporting System
AADT Segment Analysis Report (Complete)
 Road Section 7709 - MT ISA - DUCHESS ROAD
 Traffic Year 2019

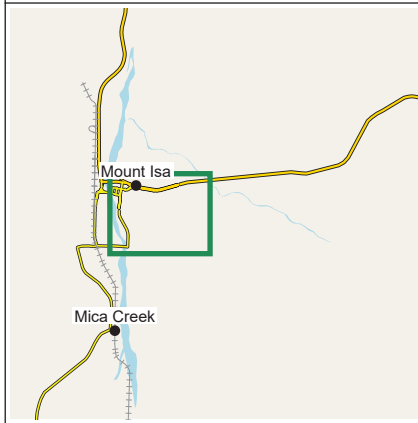
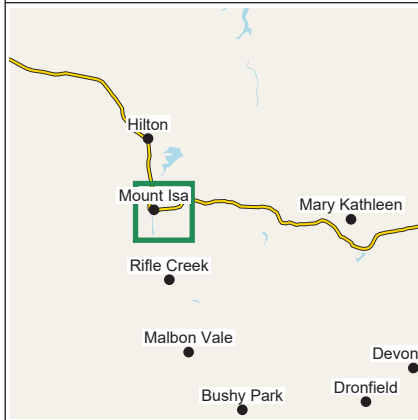
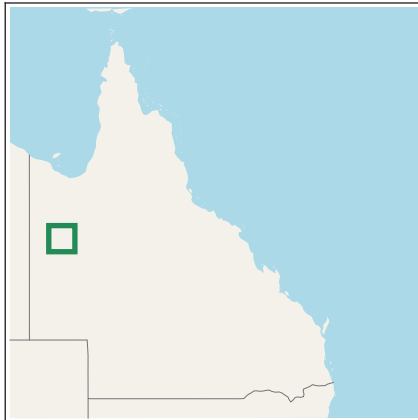
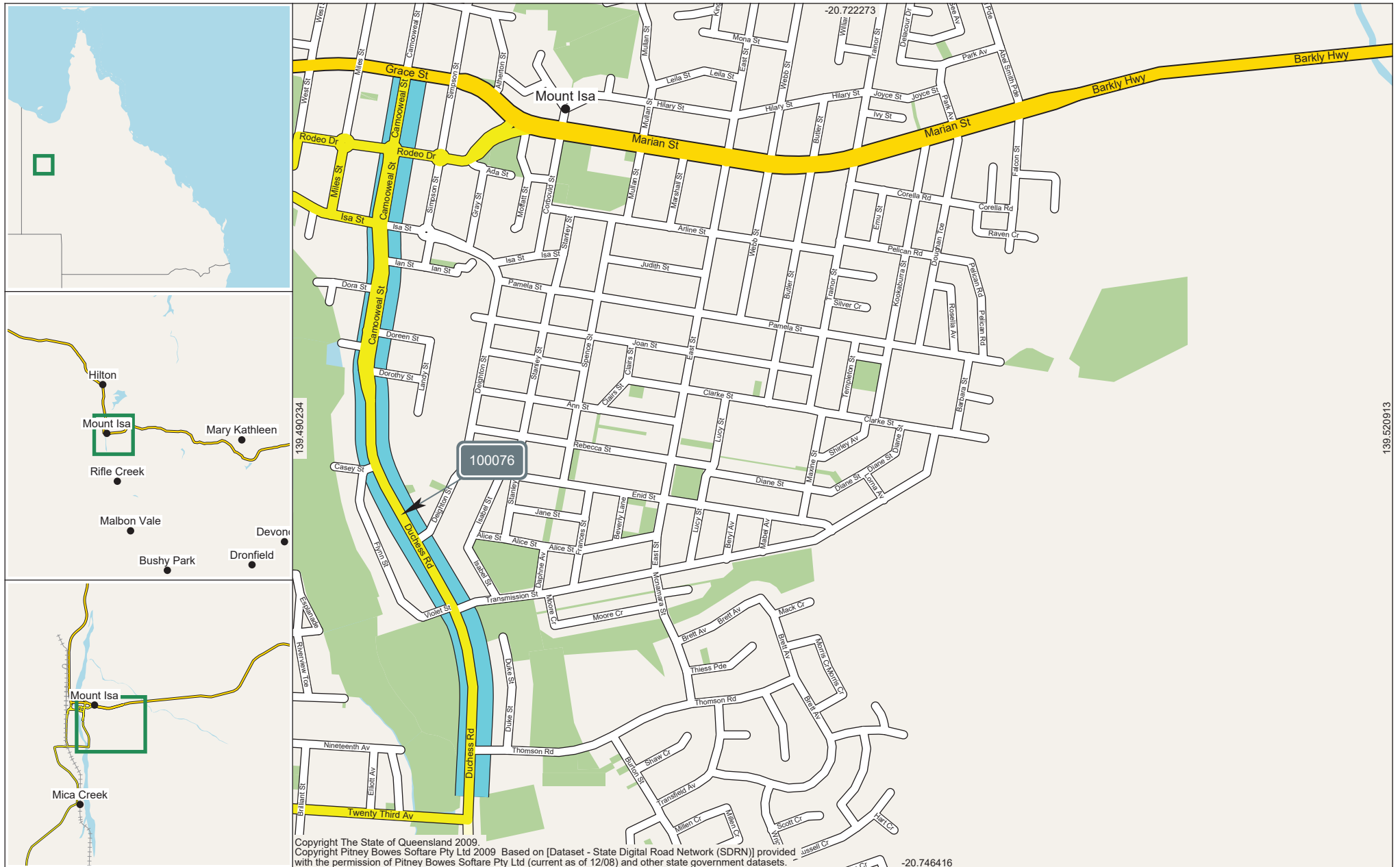
Road Segments Summary - All Vehicles

Region	Segment Start Tdist	Segment End Tdist	Site	Site Tdist	Description	AADT			VKT (Millions)			Data Year	Page
						G	A	B	G	A	B		
409	0.000 km	2.380 km	100076	1.500 km	7709 Ch 1.5 - Sth 15A/15B/7709 int	4,317	4,118	8,435	3.75018	3.57731	7.32748	2019	2
409	2.380 km	4.720 km	100085	3.800 km	7709 Ch 3.8 - Lagoon Creek Bridge	146	147	293	0.12470	0.12555	0.25025	2019	3
								Totals	3.87488	3.70286	7.57774		

Road Segments Summary - Heavy Vehicles only

VKT totals are calculated only if traffic class data is available for all sites.

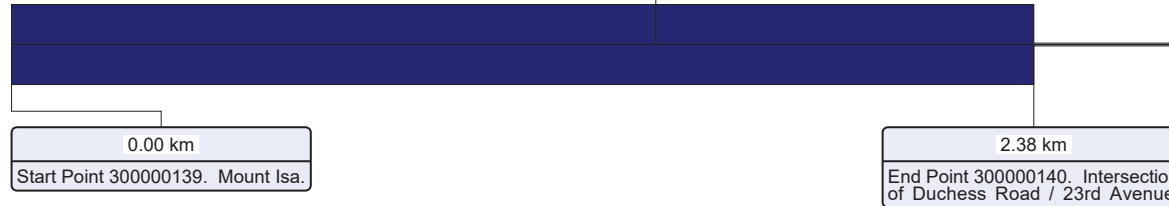
HV totals are calculated only if traffic class data is available for all sites.																
Region	Segment Start Tdist	Segment End Tdist	Site	Site Tdist	Description	HV AADT						HV VKT (Millions)			Data Year	Page
						G		A		B						
						AADT	HV %	AADT	HV %	AADT	HV %	G	A	B		
409	0.000 km	2.380 km	100076	1.500 km	7709 Ch 1.5 - Sth 15A/15B/7709 int	544	12.60%	189	4.59%	733	8.69%	0.47257	0.16418	0.63676	2019	
409	2.380 km	4.720 km	100085	3.800 km	7709 Ch 3.8 - Lagoon Creek Bridge	13	8.90%	30	20.41%	43	14.68%	0.01110	0.02562	0.03673	2019	
											Totals	0.48368	0.18981	0.67348		



Site 100076. Point 300019683.
1.5km south of Int 15A/15B/7709.

1.50 km

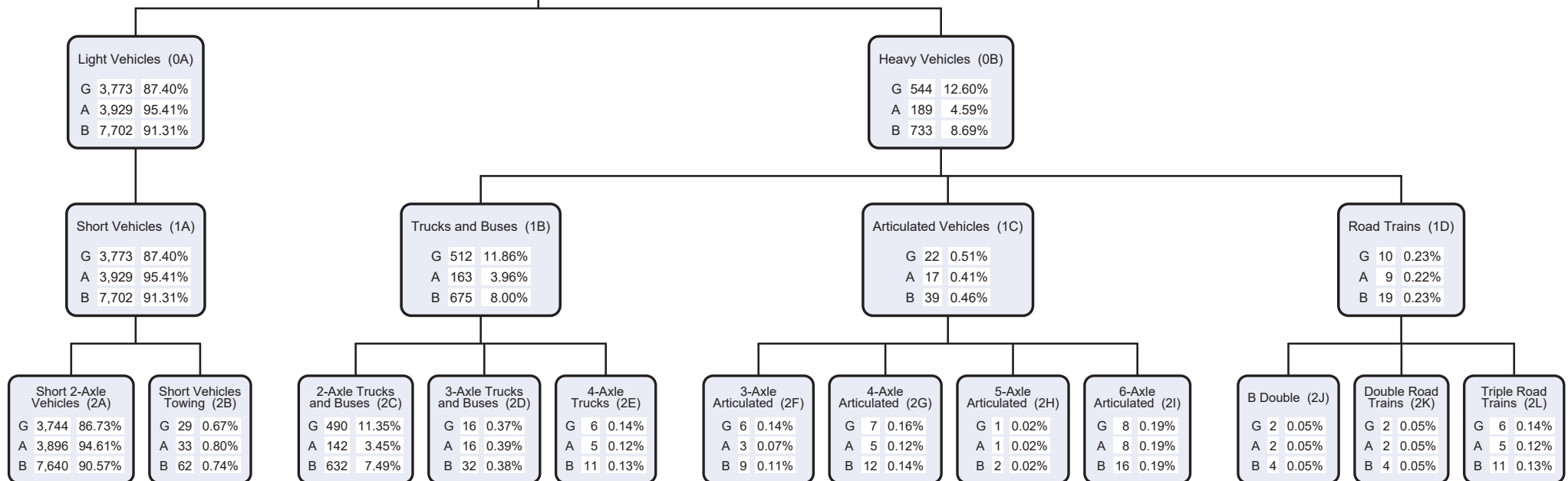
The width of each Road Segment is proportional to its AADT.

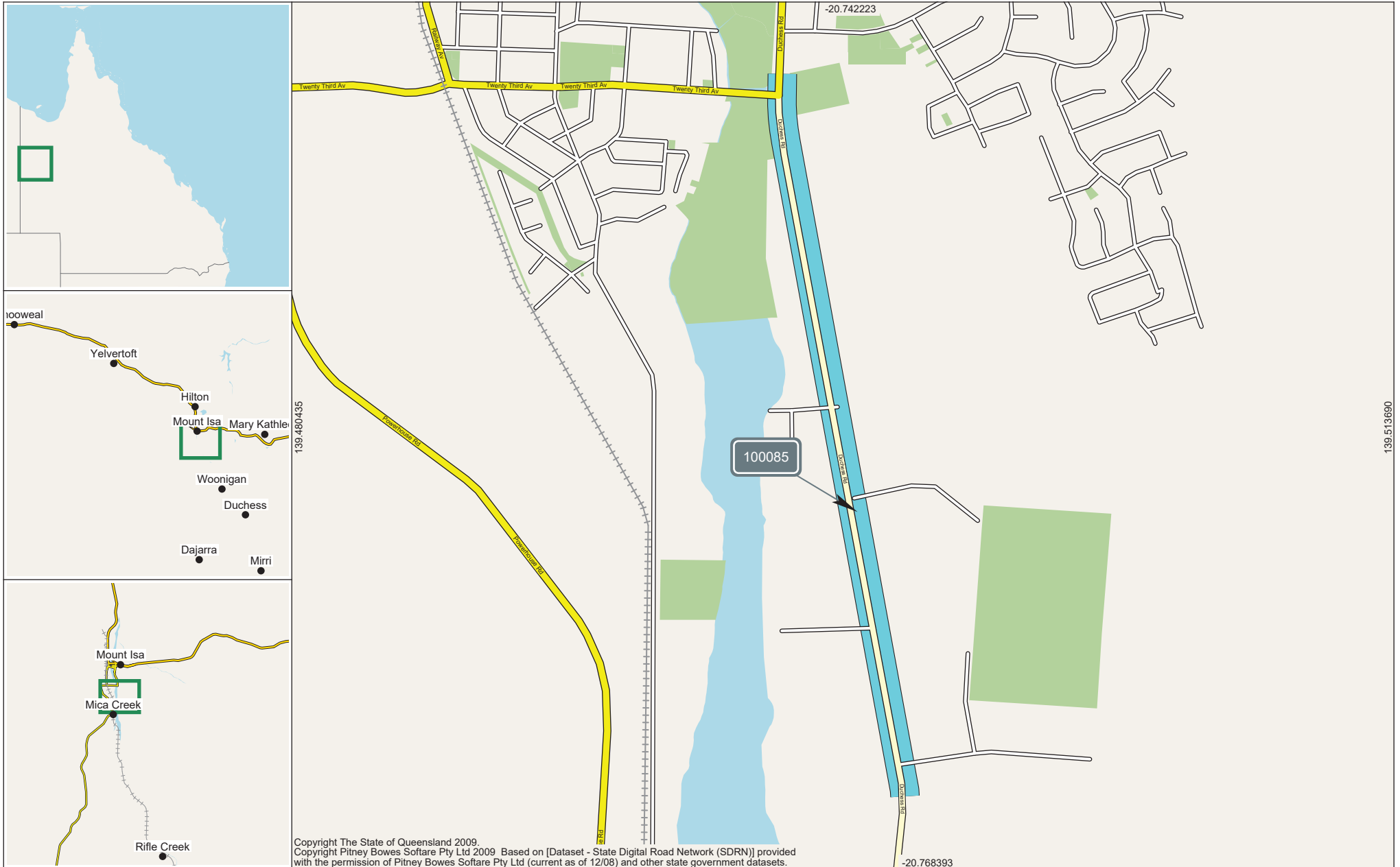


This report shows Annual Average Daily Traffic values (AADTs). Because the AADT values are converted to whole numbers, there will be occasional inaccuracies due to rounding. These inaccuracies are statistically insignificant.

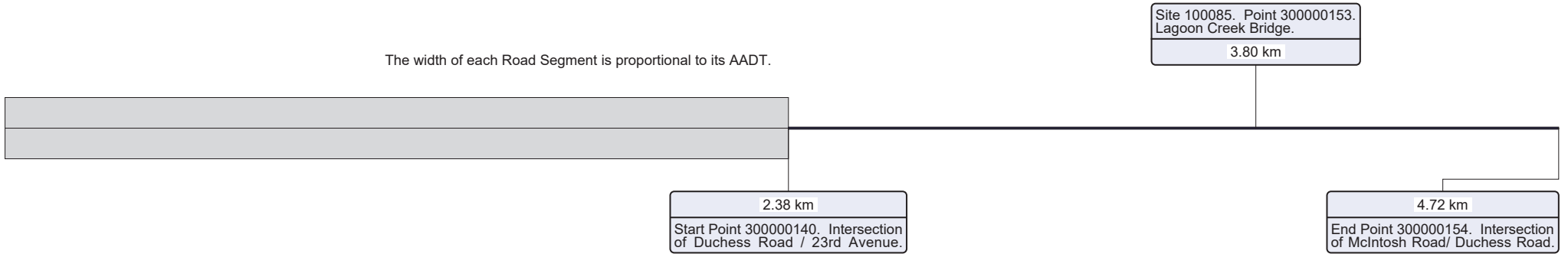
All Vehicles (00)		
G	4,317	100%
A	4,118	100%
B	8,435	100%

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	50.05%		
A	70.17%		
B	59.24%		





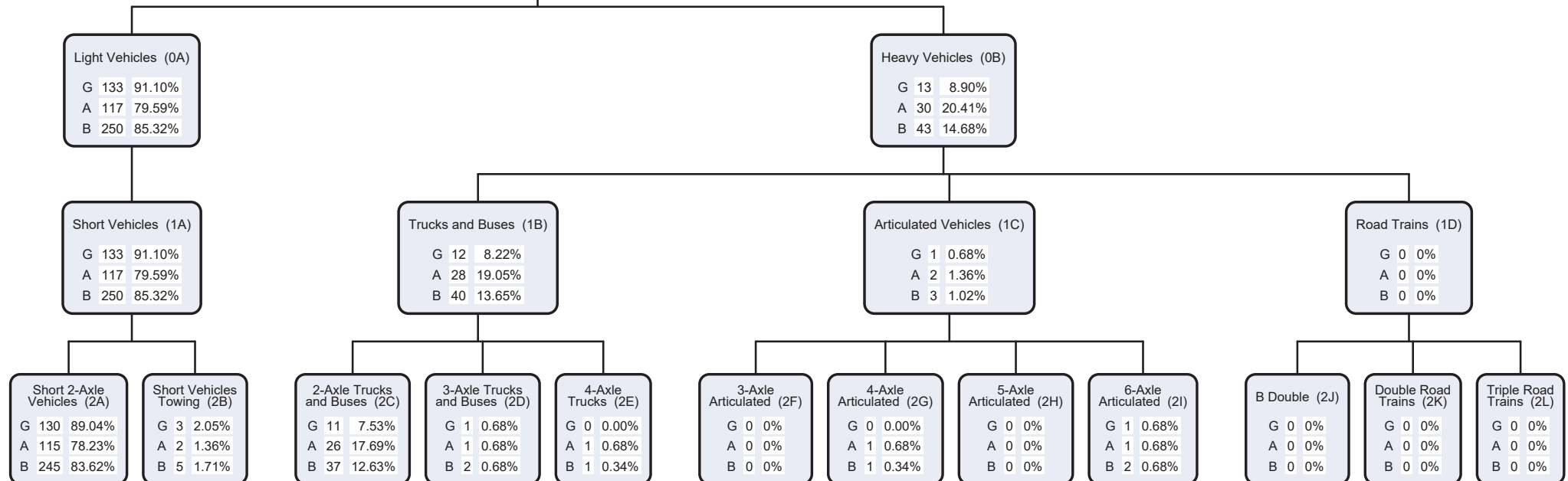
The width of each Road Segment is proportional to its AADT.



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.

All Vehicles (00)		
G	146	100%
A	147	100%
B	293	100%

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	2.10%		
A	-3.29%		
B	-0.68%		



AADT Segment Report

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North West District	409
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Data Year

The most recent year the traffic data was collected for this AADT Segment.

Gazettal Direction

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0A = 1A

1A = 2A + 2B

Heavy Vehicles

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1B = 2C + 2D + 2E

1C = 2F + 2G + 2H + 2I

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0A Light vehicles

0B Heavy vehicles

4-Bin

1A Short vehicles

1B Truck or bus

1C Articulated vehicles

1D Road train

12-Bin

2A Short 2 axle vehicles

2B Short vehicles towing

2C 2 axle truck or bus

2D 3 axle truck or bus

2E 4 axle truck

2F 3 axle articulated vehicle

2G 4 axle articulated vehicle

2H 5 axle articulated vehicle

2I 6 axle articulated vehicle

2J B double

2K Double road train

2L Triple road train

Vehicle Kilometres Travelled (VKT)

Daily VKT is a measure of the traffic demand. It is calculated by the length of an AADT Segment in kilometres multiplied by its AADT. The yearly VKT is the daily VKT multiplied by 365 days.

AADT Segment Summary - All Vehicles

The Total VKT can be used to gauge the demand on an entire Road Section.

AADT Segment Summary - Heavy Vehicles only

A blank field indicates that vehicle classification data was not collected for this AADT Segment.

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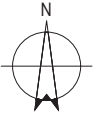
Appendix F – Mining Developments

CuString- Cumulative impacts mapping

Project name	Project type	Location	Proponent	Coordinates		Projection
COORDINATED/ PRESCRIBED				easting	northing	
Alpha Coal Project	Coordinated project	Alpha - 38 km north-west		485838.41	7877897.3	GDA2020 MGA Zone 55
Galilee Coal Project (Northern Export Facility)	Coordinated project	30 km north of Alpha		445058.53	7436368.58	GDA2020 MGA Zone 55
Carmichael Coal Mine and Rail	Coordinated project	160 km north-west of Clermont		446468.67	7397416.76	GDA2020 MGA Zone 55
China Stone Coal Project	Coordinated project	300 km west of Mackay		431256.39	7563519.29	GDA2020 MGA Zone 55
Capricorn Copper Mine Refurbishment and Restart Project	Prescribed project	Shown on website		263728.11	7937344.44	GDA2020 MGA Zone 54
Ravenswood Expansion Project	Prescribed project	Shown on website		489576.58	7776602.97	GDA2020 MGA Zone 55
Sconi Project	Prescribed project	Shown on website		282148.47	7900439.12	GDA2020 MGA Zone 55
MAJOR PROJECTS						
Mt Elliot	Major Project	Outback- North	Chinova	450493	7620212	GDA2020 MGA Zone 55
Merlin Molybdenum-Rhenium Phase 2	Major Project	Outback- North	Chinova	448234	7606287	GDA2020 MGA Zone 54
Cannington Expansion	Major Project	Outback- North	BHP Billiton	491378	7582277	GDA2020 MGA Zone 54
Roseby Copper (Little Eva)	Major Project	Outback- North	Altona Resources	410329.18	7771936.71	GDA2020 MGA Zone 54
Charters Towers	Major Project	Townsville Region	Citigold Corporation	422842	7779835	GDA2020 MGA Zone 55
MINING PROJECTS						
Copper Mountain Mining, Cloncurry, Queensland, copper				411671	7760614.93	GDA2020 MGA Zone 54
Citigold Corp, Charter Towers expansion, Queensland, gold				424255.46	7779299.61	GDA2020 MGA Zone 55
Evolution Mining, Mt Carlton, Queensland, gold				559523.57	7758744.78	GDA2020 MGA Zone 55
Walford Creek			Aeon Metals	209484.28	8030311.19	GDA2020 MGA Zone 54
Lady Annie			Bentley Resources/Kombi Mining	295175.28	7812124.49	GDA2020 MGA Zone 54
Tick Hill			Carnaby Resources	391981.37	7603779.03	GDA2020 MGA Zone 54
Osborne, Kulthor, Selwyn, Mt Dore			Chinova	448997.28	7602760.43	GDA2020 MGA Zone 54
Cloncurry Copper Project			Exco Resources	462815.87	7720714.99	GDA2020 MGA Zone 54
Mt Colin			Round Oak	400826.1	7702108.7	GDA2020 MGA Zone 54
Barbara			Round Oak	364054.36	7718508.5	GDA2020 MGA Zone 54
Rocklands			Cudeco	433426.56	7713945.39	GDA2020 MGA Zone 54
Eloise			FMR Investments	497835.35	7683482.69	GDA2020 MGA Zone 54
Milo			GBM Resources	419858.47	7703961.17	GDA2020 MGA Zone 54
Millenium			Global Energy Metals	417620.9	7721697.79	GDA2020 MGA Zone 54
Kalman, Jubilee, Elaine, Overlander, Mt Philp			Hammer Metals	388305.41	7687892.78	GDA2020 MGA Zone 54
Gilded Rose			AusMex	461000	7702000	GDA2020 MGA Zone 54
Westmoreland			Laramide Resources	207630.7	8080410.97	GDA2020 MGA Zone 54
Leichhardt Project			Malaco Leichhardt	355000	7800000	GDA2020 MGA Zone 54
Dugald River			MMG	411520.16	7760679.81	GDA2020 MGA Zone 54
Isa Copper Smelter, Mount Isa Copper, George Fisher			Mt Isa Mines	340290.07	7708992.02	GDA2020 MGA Zone 54

Mount Isa Zinc			Mt Isa Mines	341125.1	7708556.97	GDA2020 MGA Zone 54
George Fisher, Handlebar Hill			Mt Isa Mines	340863.99	7725405.58	GDA2020 MGA Zone 54
Ernest Henry			Mt Isa Mines	470877.44	7739212.73	GDA2020 MGA Zone 54
Lady Loretta			Mt Isa Mines	295928.19	7812375.03	GDA2020 MGA Zone 54
Valhalla, Odin, Skal, Bikini, Mirrioola			Paladin Energy	329487.31	7744880.79	GDA2020 MGA Zone 54
Duke Batman			Paladin Energy	329004.9	7789008.93	GDA2020 MGA Zone 54
Andersons			Paladin Energy	355743.28	7714936.72	GDA2020 MGA Zone 54
Honey Pot			Paladin Energy	336170.51	7808755.14	GDA2020 MGA Zone 54
Watta Hills, Warwai			Paladin Energy	335239.22	7770363.26	GDA2020 MGA Zone 54
Mt Oxide			Perilya	339084.24	7844966.55	GDA2020 MGA Zone 54
Constance Range			Constance Resources	199756.86	7980938.32	GDA2020 MGA Zone 54
White Range			Young Australia Mines	448716.56	7668910.51	GDA2020 MGA Zone 54
Mt Norma			Young Australia Mines	468800.61	7685581.57	GDA2020 MGA Zone 54
Phosphate Hill			Incitec Pivot	394243.89	7582248.22	GDA2020 MGA Zone 54
Century			New Century	248434.35	7927478.35	GDA2020 MGA Zone 54
Lorena			Malachite Resources	463947.16	7706687.43	GDA2020 MGA Zone 54
AusMes Mining Group - Mt Freda			AusMex Mining Group	472278.85	7680084.49	GDA2020 MGA Zone 54
Mary Kathleen			QLD Government	374327.05	7700102.58	GDA2020 MGA Zone 54
Korella			Australia New Agribusiness and Chemical Group	530626.56	7655989.36	GDA2020 MGA Zone 54
Mount Dromedary			Novonix	417500	7830500	GDA2020 MGA Zone 54
Maronan - Pb/Ag/Cu/Au			Red Metal	496877.28	7678866.7	GDA2020 MGA Zone 54
Pegmont			Vendetta	467500	7584000	GDA2020 MGA Zone 54
Wee MacGregor			Cohiba Minerals	390145.5	7687092.93	GDA2020 MGA Zone 54
Eloise JV, Altia			Sandfire Resources [Eloise JV (OZ Minerals), Altia (Minotaur Exploration)]	500000	7575000	GDA2020 MGA Zone 54
Quamby (Assuming Quamby Queen Mine)			Copper Mountain Mining	426022.35	7748867.37	GDA2020 MGA Zone 54
Ardmore			Centrex Metals	322000	7600000	GDA2020 MGA Zone 54
Bluebush			Pursuit Minerals	289869.05	7975191.93	GDA2020 MGA Zone 54
Trekelano			GBM Resources	386344.35	7624135.51	GDA2020 MGA Zone 54
Paradise South			Paradise Phosphate	299053.57	7834830.88	GDA2020 MGA Zone 54
Kamarga - Paperback Project incl. JB Prospect			Pursuit Minerals	272976.72	7909754.92	GDA2020 MGA Zone 54
Barr Creek (D8)			Phosphate International	310000	7840000	GDA2020 MGA Zone 54
St Elmo			Multicom Resources	592927.53	7722954.38	GDA2020 MGA Zone 54

Appendix G – DTMR intersection swept paths



PRELIMINARY

rev	description	app'd	date
A	INITIAL ISSUE		02.07.20

CUSTRING PTY LTD
COPPER STRING 2.0 EIS
A TRIPLE SWEEP PATHS
FOR TMR01



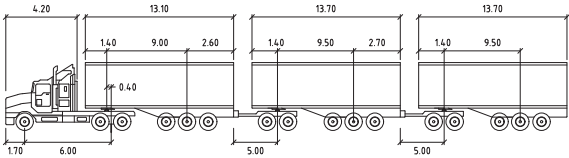
71 Stanley Street, Townsville QLD 4810 Australia
PO Box 930 Townsville QLD 4810
T 61 7 4720 0400 F 61 7 4772 6514
E tsvmail@ghd.com W www.ghd.com

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scale | 1:500 for A1 job no. | 42-21176
date | JULY 2020 rev no. | A

approved (PD) SK001

A TRIPLE SWEEP PATHS - TMR01
SCALE 1:500



A-TRIPLE

Tractor Width	2.50	Lock to Lock Time	6.0
Trailer Width	2.50	Steering Angle	25.6
Tractor Track	2.50	Articulating Angle	70.0
Trailer Track	2.50		



PRELIMINARY

rev	description	app'd	date
A	INITIAL ISSUE		02.07.20

CUSTRING PTY LTD
COPPER STRING 2.0 EIS
A TRIPLE SWEEP PATHS
FOR TMR02



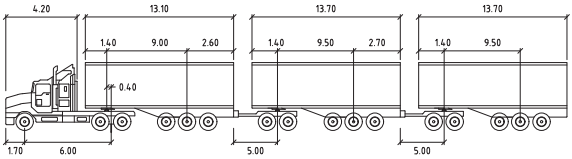
71 Stanley Street, Townsville QLD 4810 Australia
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date | JULY 2020 rev no. | A

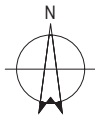
approved (PD) SK002

A TRIPLE SWEEP PATHS - TMR02
SCALE 1:500



A-TRIPLE

Tractor Width	4.20	Tractor Length	13.10	Tractor Width	1.40	Tractor Length	13.70	Tractor Width	1.40	Tractor Length	13.70
Trailer Width	2.50	Trailer Length	9.00	Trailer Width	2.50	Trailer Length	9.50	Trailer Width	2.50	Trailer Length	9.50
Tractor Track	2.50	Tractor Track	2.50	Tractor Track	2.50	Tractor Track	2.50	Tractor Track	2.50	Tractor Track	2.50
Trailer Track	2.50	Trailer Track	2.50	Trailer Track	2.50	Trailer Track	2.50	Trailer Track	2.50	Trailer Track	2.50



PRELIMINARY

rev	description	app'd	date
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CUSTRING PTY LTD
COPPER STRING 2.0 EIS
A TRIPLE SWEPT PATHS
FOR TMR05



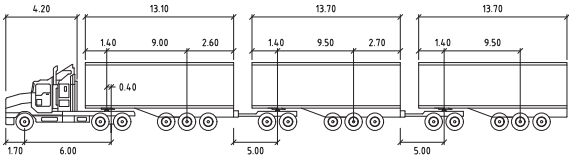
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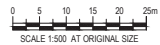
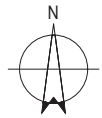
approved (PD) SK005

A TRIPLE SWEPT PATHS - TMR05
SCALE 1:500



A-TRIPLE

Tractor Width	2.50	Lock to Lock Time	6.0
Trailer Width	2.50	Steering Angle	25.6
Tractor Track	2.50	Articulating Angle	70.0
Trailer Track	2.50		



PRELIMINARY

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A	INITIAL ISSUE		02.07.20

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A TRIPLE SWEEP PATHS
FOR TMR07



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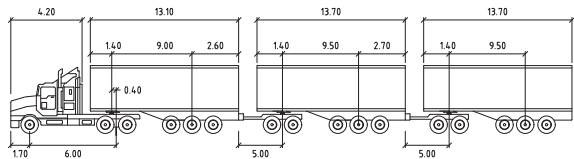
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approved (PD) SK007

A TRIPLE SWEEP PATHS - TMR07

SCALE 1:500



A-TRIPLE

Tractor Width	2.50	Lock to Lock Time	6.0
Trailer Width	2.50	Steering Angle	25.6
Tractor Track	2.50	Articulating Angle	70.0
Trailer Track	2.50		



PRELIMINARY

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A	INITIAL ISSUE		02.07.20

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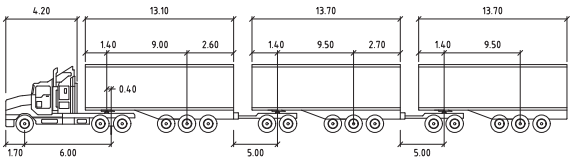
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approved (PD) SK009

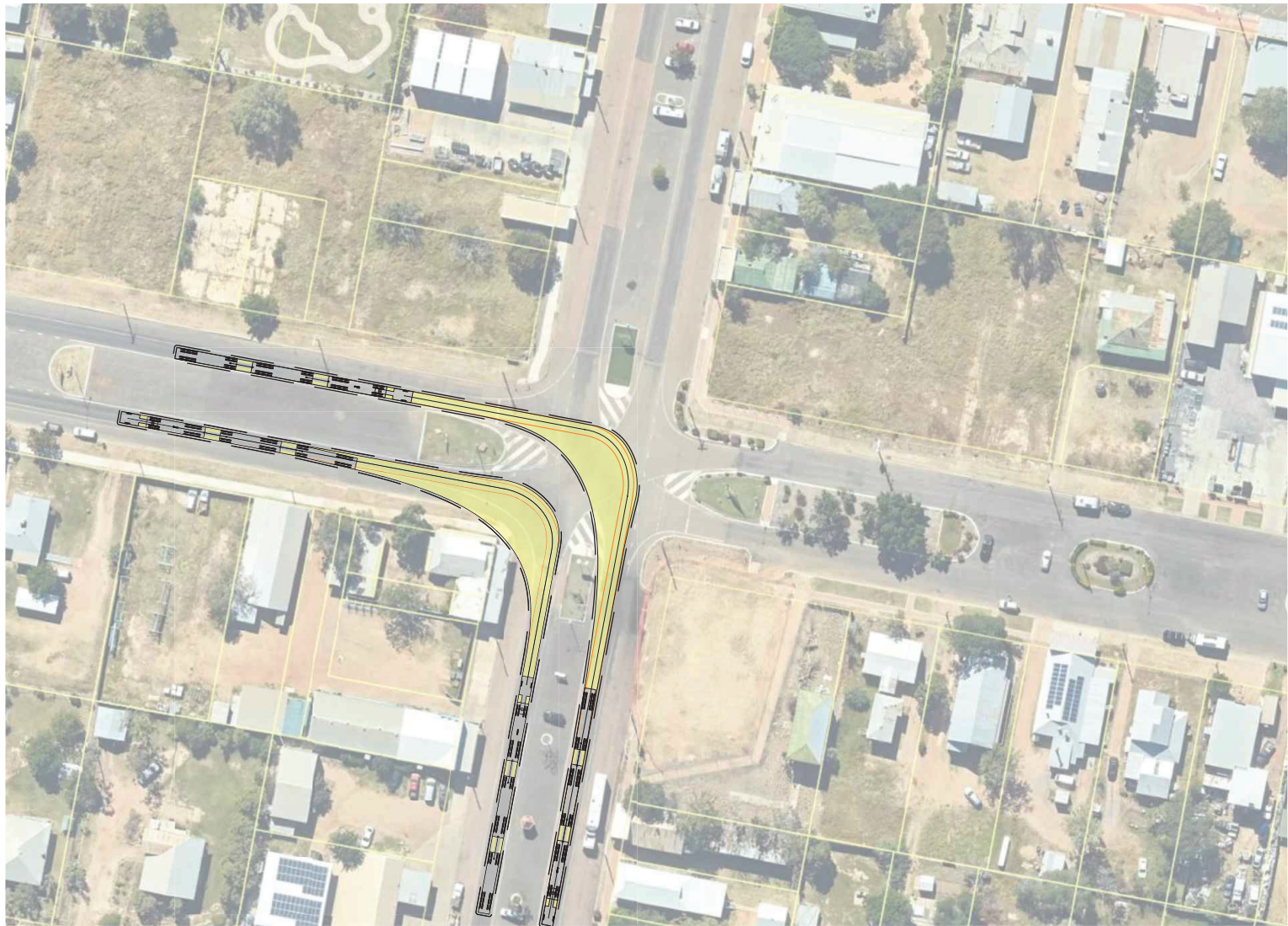
A TRIPLE SWEEP PATHS - TMR09

SCALE 1:500



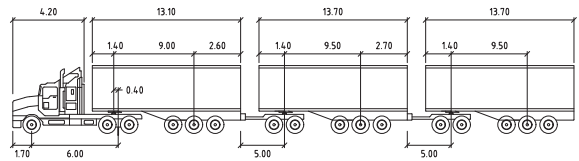
A-TRIPLE

	metres		
Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 25.6
Tractor Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		



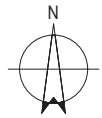
A TRIPLE SWEEP PATHS - TMR11

SCALE 1:500



A-TRIPLE

Tractor Width	2.50	Lock to Lock Time	6.0
Trailer Width	2.50	Steering Angle	25.6
Tractor Track	2.50	Articulating Angle	70.0
Trailer Track	2.50		



0 5 10 15 20 25m
SCALE 1:500 AT ORIGINAL SIZE

PRELIMINARY

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A	INITIAL ISSUE		02.07.20

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A TRIPLE SWEEP PATHS
FOR TMR11

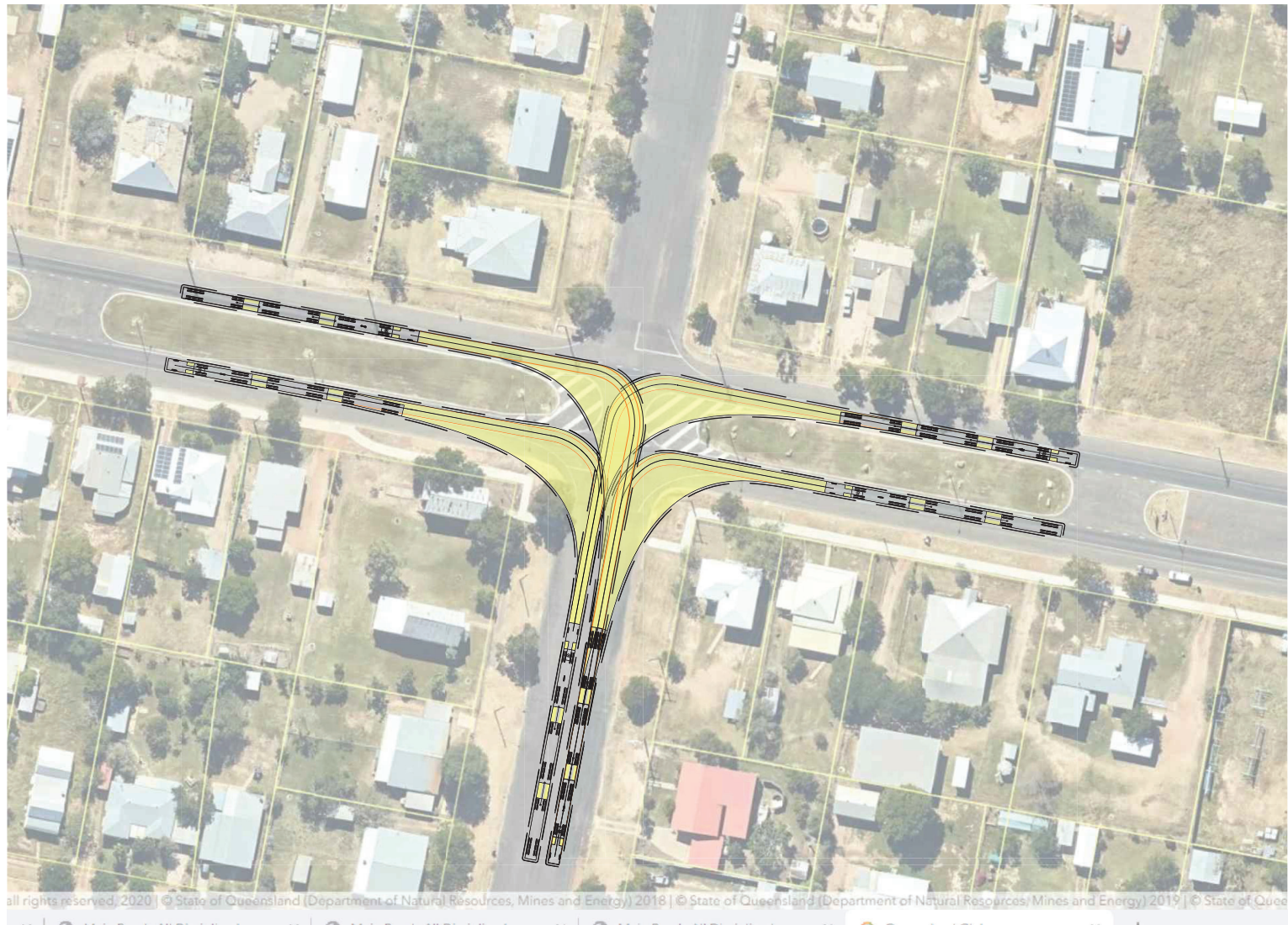


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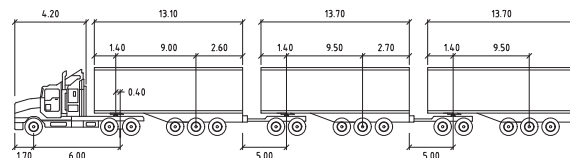
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approved (PD) SK011



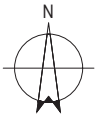
A TRIPLE SWEEP PATHS - TMR12

SCALE 1:500



A-TRIPLE

Tractor Width	2.50	Lock to Lock Time	6.0
Trailer Width	2.50	Steering Angle	25.6
Tractor Track	2.50	Articulating Angle	70.0
Trailer Track	2.50		



PRELIMINARY

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A	INITIAL ISSUE		02.07.20

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A TRIPLE SWEEP PATHS
FOR TMR12



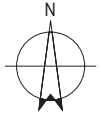
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A TRIPLE SWEEP PATHS
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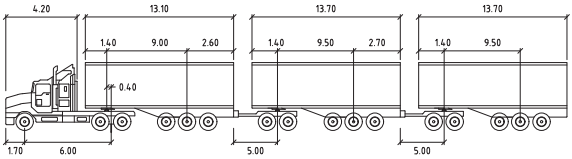
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approved (PD) SK013

A TRIPLE SWEEP PATHS - TMR13
SCALE 1:500

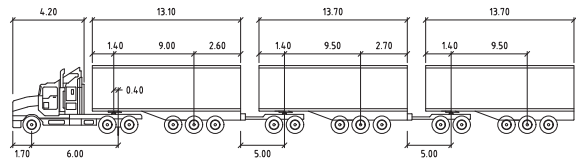


A-TRIPLE

Tractor Width	2.50	Lock to Lock Time	6.0
Trailer Width	2.50	Steering Angle	25.6
Tractor Track	2.50	Articulating Angle	70.0
Trailer Track	2.50		

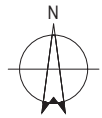


A TRIPLE SWEEP PATHS - TMR14
SCALE 1:500



A-TRIPLE

Tractor Width	2.50	Lock to Lock Time	6.0
Trailer Width	2.50	Steering Angle	25.6
Tractor Track	2.50	Articulating Angle	70.0
Trailer Track	2.50		



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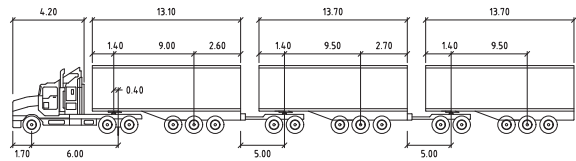
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approved (PD) **SK014**



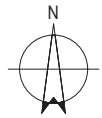
A TRIPLE SWEEP PATHS - TMR16
SCALE 1:500



A-TRIPLE

Tractor Width	4.20	Tractor Lock to Lock Time	6.0
Trailer Width	13.10	Tractor Steering Angle	25.6
Tractor Track	1.40	Tractor Articulating Angle	70.0
Trailer Track	2.60		

Tractor Width	4.20	Tractor Lock to Lock Time	6.0
Trailer Width	13.10	Tractor Steering Angle	25.6
Tractor Track	1.40	Tractor Articulating Angle	70.0
Trailer Track	2.60		



0 5 10 15 20 25m
SCALE 1:500 AT ORIGINAL SIZE

PRELIMINARY

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A	INITIAL ISSUE		02.07.20

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A TRIPLE SWEEP PATHS
FOR TMR16

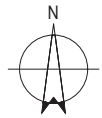


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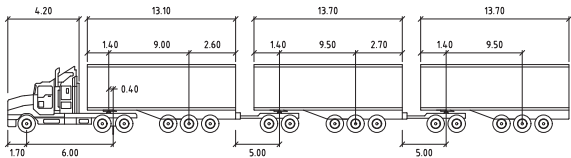
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approved (PD) SK017

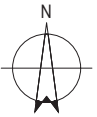
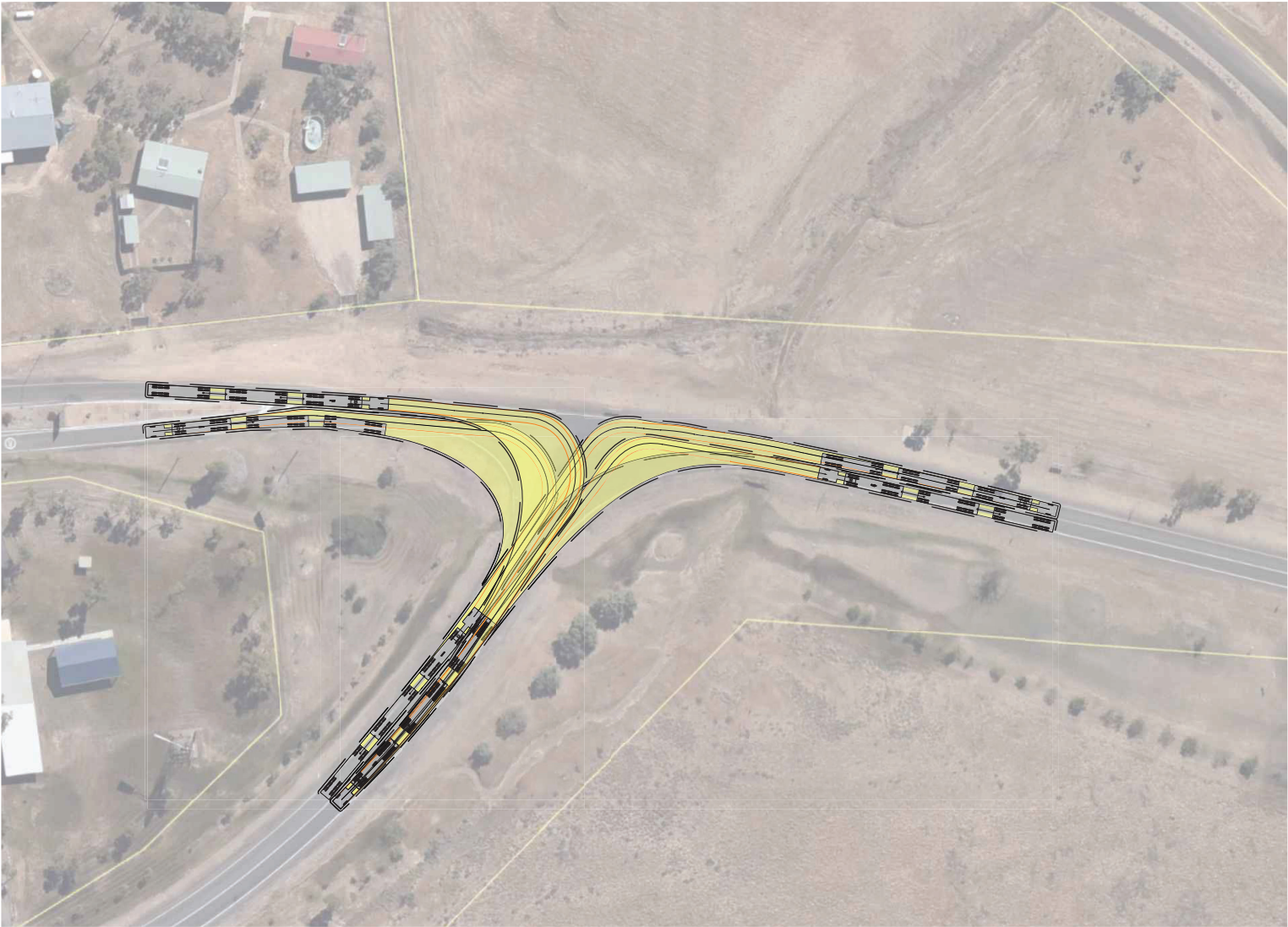
A TRIPLE SWEEP PATHS - TMR17

SCALE 1:500



A-TRIPLE

	metres		
Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 25.6
Tractor Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		



PRELIMINARY

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A	INITIAL ISSUE		02.07.20

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A TRIPLE SWEEP PATHS
FOR TMR19



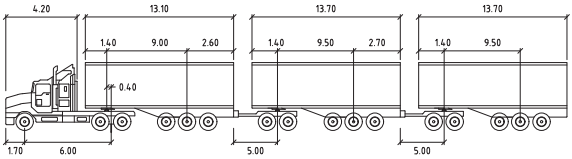
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approved (PD) SK019

A TRIPLE SWEEP PATHS - TMR19
SCALE 1:500



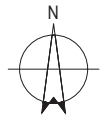
A-TRIPLE

Tractor Width	4.20
Trailer Width	13.10
Tractor Track	13.70
Trailer Track	13.70

Tractor Width	4.20
Trailer Width	13.10
Tractor Track	13.70
Trailer Track	13.70

Tractor Width	4.20
Trailer Width	13.10
Tractor Track	13.70
Trailer Track	13.70

Tractor Width	4.20
Trailer Width	13.10
Tractor Track	13.70
Trailer Track	13.70



PRELIMINARY

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A	INITIAL ISSUE		02.07.20

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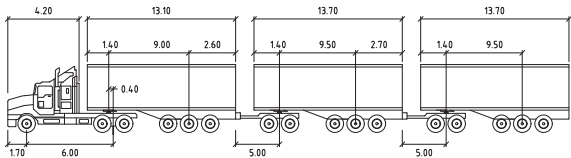
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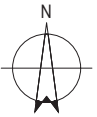
A TRIPLE SWEEP PATHS - TMR20

SCALE 1:500



A-TRIPLE

	metres		
Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 25.6
Tractor Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		



PRELIMINARY

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A	INITIAL ISSUE		02.07.20

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A TRIPLE SWEEP PATHS
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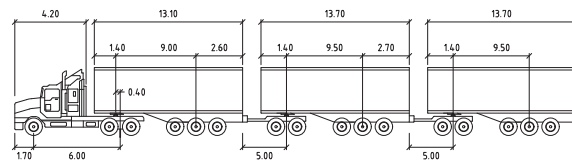
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approved (PD) SK022

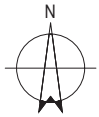
A TRIPLE SWEEP PATHS - TMR22

SCALE 1:500



A-TRIPLE

Tractor Width	2.50	Lock to Lock Time	6.0
Trailer Width	2.50	Steering Angle	25.6
Tractor Track	2.50	Articulating Angle	70.0
Trailer Track	2.50		



PRELIMINARY

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FOR TMR23



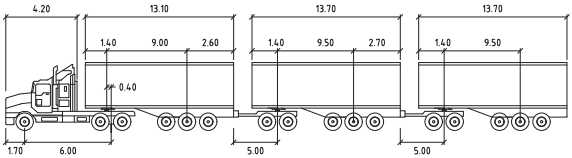
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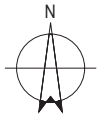
approved (PD) SK023

A TRIPLE SWEEP PATHS - TMR23
SCALE 1:500



A-TRIPLE

Tractor Width	2.50	Lock to Lock Time	6.0
Trailer Width	2.50	Steering Angle	25.6
Tractor Track	2.50	Articulating Angle	70.0
Trailer Track	2.50		



PRELIMINARY

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A	INITIAL ISSUE		02.07.20

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A TRIPLE SWEPT PATHS
FOR TMR25



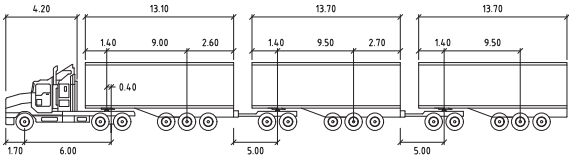
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approved (PD) SK025

A TRIPLE SWEPT PATHS - TMR25
SCALE 1:500



A-TRIPLE

Tractor Width	2.50	Lock to Lock Time	6.0
Trailer Width	2.50	Steering Angle	25.6
Tractor Track	2.50	Articulating Angle	70.0
Trailer Track	2.50		



PRELIMINARY

rev	description	app'd	date
A	INITIAL ISSUE		02.07.20

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A TRIPLE SWEPT PATHS
FOR TMR32



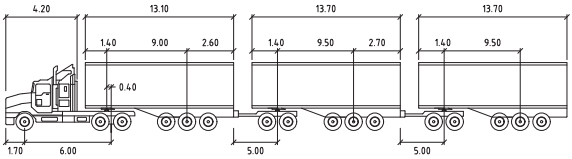
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approved (PD) SK032

A TRIPLE SWEPT PATHS - TMR32
SCALE 1:500

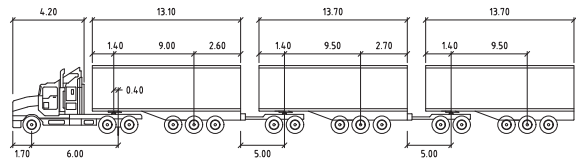


A-TRIPLE

Tractor Width	2.50	Lock to Lock Time	6.0
Trailer Width	2.50	Steering Angle	25.6
Tractor Track	2.50	Articulating Angle	70.0
Trailer Track	2.50		

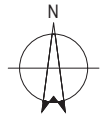


A TRIPLE SWEEP PATHS - TMR33
SCALE 1:500



A-TRIPLE

Tractor Width	4.20	Tractor Lock to Lock Time	6.0
Trailer Width	1.40	Tractor Steering Angle	25.6
Tractor Length	9.00	Tractor Articulating Angle	70.0
Trailer Length	13.10		
Trailer Width	2.60		
Trailer Length	13.70		
Trailer Width	2.70		
Trailer Length	13.70		
Trailer Width	2.70		



PRELIMINARY

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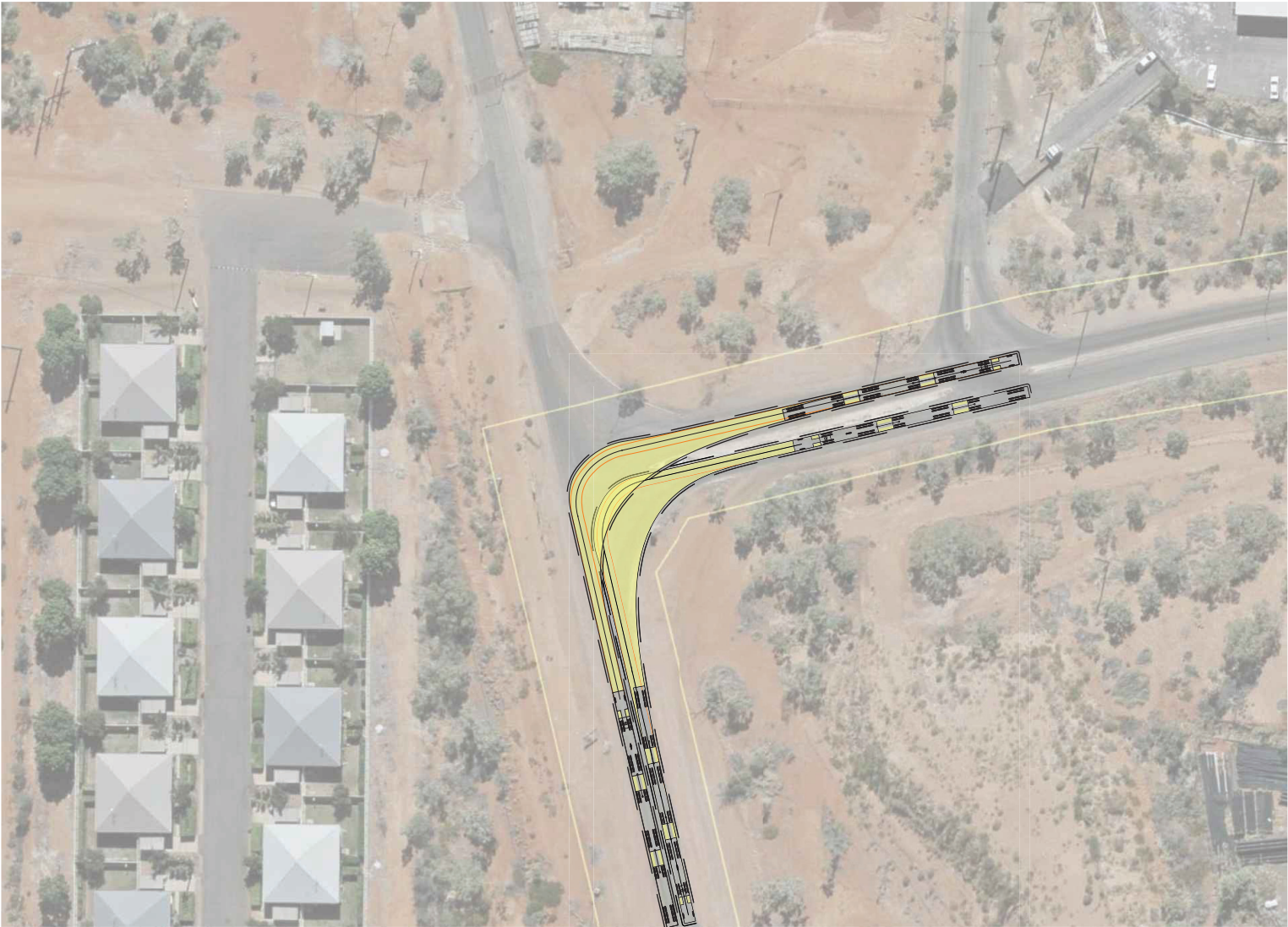


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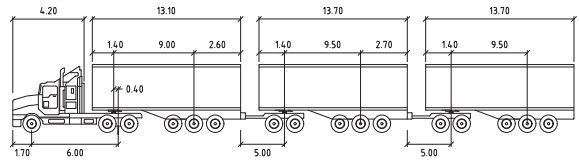
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date | JULY 2020 rev no. | A

approved (PD) SK033



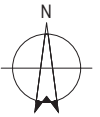
A TRIPLE SWEEP PATHS - TMR35

SCALE 1:500



A-TRIPLE

Tractor Width	2.50	Lock to Lock Time	6.0
Trailer Width	2.50	Steering Angle	25.6
Tractor Track	2.50	Articulating Angle	70.0
Trailer Track	2.50		



PRELIMINARY

rev	description	app'd	date
A	INITIAL ISSUE		02.07.20

CUSTRING PTY LTD
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A TRIPLE SWEEP PATHS
FOR TMR35



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scale | 1:500 for A1 job no. | 42-21176
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PRELIMINARY

rev	description	app'd	date
A	INITIAL ISSUE		02.07.20

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A TRIPLE SWEEP PATHS
FOR TMR36



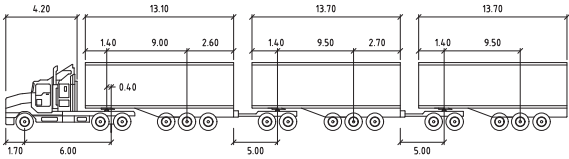
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scale | 1:500 for A1 job no. | 42-21176
date | JULY 2020 rev no. | A

approved (PD) SK036

A TRIPLE SWEEP PATHS - TMR36
SCALE 1:500



A-TRIPLE

Tractor Width	2.50	Lock to Lock Time	6.0
Trailer Width	2.50	Steering Angle	25.6
Tractor Track	2.50	Articulating Angle	70.0
Trailer Track	2.50		



PRELIMINARY

rev	description	app'd	date
A	INITIAL ISSUE		02.07.20

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A TRIPLE SWEEP PATHS
FOR TMR37



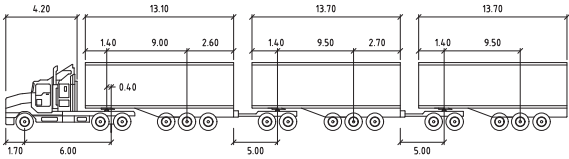
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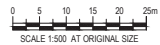
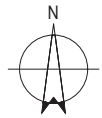
approved (PD) SK037

A TRIPLE SWEEP PATHS - TMR37
SCALE 1:500



A-TRIPLE

Tractor Width	2.50	Lock to Lock Time	6.0
Trailer Width	2.50	Steering Angle	25.6
Tractor Track	2.50	Articulating Angle	70.0
Trailer Track	2.50		



PRELIMINARY

rev	description	app'd	date
A	INITIAL ISSUE		02.07.20

CUSTRING PTY LTD
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A TRIPLE SWEEP PATHS
FOR TMR38



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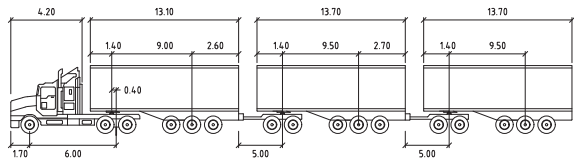
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approved (PD) SK038

A TRIPLE SWEEP PATHS - TMR38

SCALE 1:500



A-TRIPLE

Tractor Width	2.50	Lock to Lock Time	6.0
Trailer Width	2.50	Steering Angle	25.6
Tractor Track	2.50	Articulating Angle	70.0
Trailer Track	2.50		

Appendix H – Formal and informal rest areas

Guide to Queensland Roads

Barkly Highway


Queensland
Government

Get in touch with us

Online

Pay your vehicle registration or fine, renew your licence and access more services at www.tmr.qld.gov.au/online-services

Phone

- Call **13 23 80*** for registration and licensing enquiries.
 - Call **13 QGOV (13 74 68)*** for all other enquiries.
- Operates **Monday–Friday 8am–5pm** excluding public holidays.

In person

Find your nearest Customer Service Centre:

- Visit www.qld.gov.au/transport/contacts/centres
- Look for the on the map
- Call **13 23 80***

Remember to bring appropriate identification.

Public transport

TransLink operates within South East Queensland. For transport services, fares and timetables visit www.translink.com.au or call **13 12 30**. For services outside of South East Queensland, please contact the local transport operator.

Tollways

South East Queensland has a network of toll roads for easy and convenient travelling. For locations and information on how to pay your toll, visit www.qld.gov.au/transport/safety/tolls.

www.facebook.com/TMRQld @tmrqld

View a copy of the Guide to Queensland Roads online at www.tmr.qld.gov.au/guide

* Local call charges in Australia apply. Check with your service provider for call costs.

Explore Queensland

Looking for some travel inspiration? For great holiday destinations, visit www.queenslandholidays.com.au

Camping

To find the best spot to pitch your tent at the beach or in the bush, call the Department of National Parks, Sport and Racing on **13 QGOV (13 74 68)*** or visit www.qld.gov.au/recreation

Caravan parks

For a Queensland caravan park directory, contact Caravanning Queensland on **(07) 3862 1833** or visit caravanqld.com.au



Image supplied
by Tourism and
Events Queensland

Traffic updates

Visit www.131940.qld.gov.au, call **13 19 40** or view our regional Twitter feeds for up-to-date information on road closures and traffic conditions across Queensland.

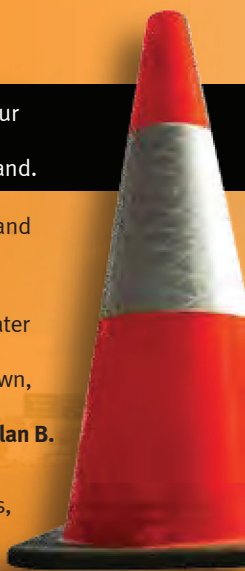
The traffic updates service is provided by Transport and Main Roads and RACQ.

Floods

Even if it looks calm, no one can predict what floodwater will do or what's happened to the road underneath. Never drive, ride or walk through floodwater. Slow down, use an alternative route or wait until the water drops. **Remember – if it's flooded, forget it. Always have a Plan B.**

Roadworks

For your own safety and the safety of our road workers, please slow down, be patient, drive to the conditions and obey all signage.





Recreational vehicle (RV) effluent dump sites

Site	Location
Allora	Church Street, opposite Warwick Street off New England Highway
Allora	Showgrounds, Darling Street off New England Highway
Alpha	Clermont-Alpha Road opposite showgrounds
Aramac	Adjacent to the caravan park, Booker Street
Atherton	Sewerage Works, Grove Street
Augathella	Bassington Park, Bendee Street
Ayr	Burdekin Shell Travel Centre, corner Queen Street and Bower Street
Babinda	East of town over railway near river. Old Pacific Highway at Rotary Park
Balgai Beach	Enter from Esplanade, Balgai Beach, northern end of Marlin Street
Baralaba	Showgrounds, Woornoah Street
Barcaldine	Lloyd Jones Weir, 15km south of Barcaldine off Barcaldine-Isisford Road
Barcaldine	Showgrounds, council caravan area, Pine Street North
Beaunesert	Caravan park, Albert Street (dump point \$3)
Bedourie	Diamantina Developmental Road, near airport
Bedourie	No. 3 Bore Diamantina Developmental Road, 50km east south-east of Bedourie
Bedourie	Monkira rest area, 122km south-east of intersection with Eyre Developmental Road
Beerwah	Gowinta Farm, 205 Burys Road
Beerwah	Sports ground, entry from Simpson Street opposite Aldi then south under Kilcoy-Beerwah Road
Benaraby	Boyne River rest area, off Bruce Highway
Betoota	Birdsville Developmental Road
Biggenden	Adjacent Mountain View Caravan Park, Isis Highway
Biggenden	Showgrounds, Isis Highway
Biloela	Visitor Information Centre, 11 Exhibition Avenue
Birdsville	200m east of bridge on Birdsville Developmental Road
Birdsville	West Adelaide Street
Blackall	Showgrounds, Salvia Street
Blackall	Corner Coronation Drive and Garden Street, 1km from town centre
Blackbutt	Outside showgrounds, Bowman Road
Blackwater	Showgrounds, Turpentine Street
Bluewater	Bluewater Park rest area, 35km north of Townsville, west side of the highway behind the parkland
Bollon	William Street, behind Rural Fire Brigade shed
Boonah	Showgrounds, Melbourne Street
Bouila	Diamantina Developmental Road, lefthand side of road on way out of town towards Mount Isa
Bowen	Showgrounds, Mount Nutti Road, rear of caretaker's cottage
Bowen	Marina
Bribie Island	Boat ramp off Kal-Ma-Kuta Drive, Sandstone Point
Brisbane	Manly Boat Harbour, Royal Esplanade
Bundaberg	Hinkler Lions Park, corner Isis Highway and University Drive
Burketown	Burke Street, opposite caravan park
Caboollure	Showgrounds, Beerburum Road, enter via gate 2
Cairns	Wastewater Depot, Macnamara Street
Cairns	Off Scott Street in showgrounds via gate 7
Cairns	Southern Wastewater Treatment Plant, Kate Street
Callopie	Corner of Taragoola Road and Dawson Highway
Caloundra	7 Caloundra Road, in parkland behind Visitor Information Centre
Camooweal	Corner of Barkly and Beaumont Streets
Carmila	Carmila Beach
Carpentaria	107km south of Normanton on Burke Developmental Road
Cecil Plains	Taylor Street, Cecil Plains Caravan Park
Charleville	Qantas Drive
Charters Towers	Recreation area adjacent to New Queen Road and Flinders Highway intersection
Childers	Park behind post office in Crescent Street
Chillagoe	Rodeo showgrounds, Frew Street
Chinchilla	Wondal Road, at rest area opposite recreation reserve
Clairview	Near Clairview CWA
Clermont	Theresa Creek Dam, 22km south-west of Clermont
Clermont	Lime Street next to bowls club
Cloncurry	78km north on Matilda Highway
Coen	Taylor Street, 200m north of Armbrust Street intersection
Collinsville	Showgrounds, Conway Street
Cooktown	Endeavour Park, Charlotte Street
Cooktown	Corner Adelaide and Walker Streets
Croydon	Outside the caravan park on corner of Brown Street and Alldridge Street
Cunnamulla	Showgrounds, William Street, 200m from Balonne Highway
Dalby	Black Street
Dalveen	40km south of Warwick on Mountain Park Road
Darlington	Darlington Park, Kerry Road, 26km south of Beaunesert
Dirranbandi	Theodore Street, beside showgrounds
Duaringa	Mackenzie Park, Capricorn Highway
Dululu	Recreation grounds, Bryant Street
Eidsvold	Behind swimming pool, opposite hotel in truck bay
Einasleigh	Baroota Street, north of railway crossing
Emerald	Visitor Information Centre, Clermont Street
Eulo	Eulo Airport, Leo Street
Eumundi	RV stopover, corner Albert Street and Napier Road
Fernvale	Clive Street
Fletcher	Fletcher Creek Camping Reserve, Gregory Developmental Road
Gatton	Showgrounds behind toilet block, near grassed area, Pine Tree Camp area
Gayndah	Zonhoven Park, Burnett Highway
Georgetown	Corner of Normanton and Low Streets
Gin Gin	North side of town, opposite BP service station, access from entry to RACQ Service Agent
Glenden	North of Gilbert Avenue
Goomeri	Llewellyn Street, off Burnett Highway
Goondwindi	Sewerage Plant, Boundary Road
Greenvale	Caravan Park, 3 Kylee Court
Gregory	Wills Developmental Road and Wills Road intersection
Gympie	Six Mile Creek rest area by AFL Ground
Gympie	Archery Park, corner Cross Street and Bruce Highway, 1.5km north of town centre
Gympie	91 Radtke Road, Kia Ora, on Tin Can Bay Road
Hebel	William Street, near hotel, opposite children's playground
Hervey Bay	Visitor Information Centre, 227 Maryborough-Hervey Bay Road
Home Hill	Sixth Street, west of railway line
Hughenden	McLaren Street, outside Ergon Energy Depot
Ilfracombe	Corner of Murray Street and Main Avenue
Imbil	Showgrounds, corner Diggings Road and William Street
Ingham	Near Ingham Visitor Information Centre, corner of Townsville Road and Cooper Street
Inglewood	Lions Park, Cunningham Highway
Injune	Near Injune Roadhouse
Innisfail	Bruce Highway (Scullen Avenue) in Haddrell Park
Ipswich	Showgrounds, 81 Warwick Road
Isisford	St Denys Street north
Jandowae	Dalby Street
Jandowae	Showgrounds, Warra Street
Jericho	Outside showgrounds 1km north-east of town
Jondaryn	Woolshed Caravan Park, 264 Jondaryn-Evanslea Road



Recreational vehicle (RV) effluent dump sites

Site	Location
Julia Creek	Corner Hickman and Allison Streets
Julia Creek	At racecourse, Julia Creek-Kynuna Road
Jundah	Longreach Road
Jundah	Thomson Developmental Road, 250 metres north of junction of Isisford-Bimera Road
Kalbar	Showgrounds off George Street, 200m north of Edward Street
Karumba	Karumba Truckstop, Yappar Street and Bypass Road intersection
Kenilworth	Showgrounds, Maleny-Kenilworth Road
Kilcoy	Anzac Park rest area, corner Seib and William Streets
Kingaroy	Lions Park, corner Baron Street and Kingaroy Street south
Kingaroy	Showgrounds, 31 Youngman Street
Kippa-Ring	(Scarborough) Thurecht Parade, opposite Coast Guard
Laidley	John Street, near swimming pool
Lake Monduran	Fred Haigh Dam, Lake Monduran
Longreach	Showgrounds, Kite Street
Lawn Hill	Adels Grove Airport
Lawnton	Showgrounds, 757 Gympie Road
Lowood	Station Street
Mackay	320 Nebo Road, carpark behind Visitor Information Centre
Mareeba	Doyle Street, opposite leagues club and rodeo grounds
Maroochydhore	Shire Sewerage Plant, Commercial Road
Maryborough	Showgrounds, 3km north of city
Maryborough	Maryborough Airport, 2km east of town on Saltwater Creek Road
McKinlay	Truck stop, Middleton Street
Meandarra	Condamine-Meandarra Road and Dillon Street
Miles	Industrial Lane (turn into Waterworks Road then into Industrial Lane)
Millmerran	Walpole Street
Millmerran	Millmerran-Cecil Plains Road
Mirani	5 Victoria Street
Mitchell	Alice Street
Moffatdale	Yallakool Park, Haager Drive near Bjelke-Petersen Dam
Monto	Showgrounds, access from Kennedy Street
Morven	Morven Recreation Ground, Victoria Street
Mossman	Park Street, near swimming pool
Mount Isa	George Street
Mount Isa	57km north-west on Barkly Highway
Mount Molloy	Rifle Creek rest area
Mount Perry	In front of caravan park, off Heusman Street
Mount Surprise	In town, near public toilets on Gulf Developmental Road
Moura	From Dawson Highway on Bindaree Road into Moura, 200m on left
Mundubbera	Bauer Street, near tennis courts
Mungallala	Cobb and Co Park, off Warrego Highway
Murgon	Council Caravan Park, 3 Krebs Street
Muttaburra	Bridge Street
Nambour	Off Blil Road, on the south side of the west exit 208 roundabout at junction with Bruce Highway
Nanango	D'Aguilar Highway, enter via southern BP service station entrance
Nebo	Corner Peak Downs Highway and Bowen Street
Normanton	Council Depot, Phillip Street
Oakey	Corner York and Lorimer Street
Petrie	Wyllie Park rest area, Gympie Road, gates open 8am-6pm
Pittsworth	Railway Street
Pomona	Showgrounds, Exhibition Street
Proserpine	Council Caravan Park, 55-79 Anzac Road
Quilpie	Corner of Quarion and Chipu Streets
Rainbow Beach	By sewage pumping station, north of town, Clarkson Drive
Rainbow Beach	Tooloora Creek, Fraser Island
Rathdowney	Biggriggen Road
Ravenshoe	Sewerage works, 26 Ascham Street
Redcliffe	Showgrounds, Scarborough Road
Richmond	Hillier and Harris Streets intersection
Rockhampton	Music Bowl Park, Nuttall Street
Rolleston	Beazley Park and Dawson Highway
Rollingstone	Rollingstone Park rest area, Rollingstone Street
Roma	Station Street, near Ergon Depot
Roma	Showgrounds on Northern Road, Quintin Street
Sandgate	Near boat ramp off Sinbad Street, Shorncliffe
Sapphire	Corner Centenary Drive and Rifle Range Road
Sarina	Off Broad Street, 100m west of Bruce Highway
Seaforth	Seaforth Reserve Road, off Palm Avenue
Seventeen Seventy	Near Council Depot, on the right side of SES access road
Springsure	Dawson Highway, 100m east of Comet Street
Springsure	Showgrounds, Barcoo Street, behind hospital
St George	McGahan Street, on track along rear of showgrounds
St Lawrence	Recreational Reserve, before railway crossing at entrance to town
Stanthorpe	By toilets in Apex Park, corner Folkestone and Creek Streets
Stanthorpe	Showgrounds, High Street
Surat	Adjacent to Surat Bridge, Fisherman's Park, 1km north on Balonne River
Tambo	Lake Park, Landsborough Highway
Tara	Corner Chinchilla-Tara and Showground Road
Taroom	4 Wolsey Street
Texas	Flemming Street
Thargomindah	Easton Drive, near airport north on Bulloo Developmental Road
Theodore	Eastern Lane between 6th and 7th Avenues, near tennis courts
Thuringowa	Kern Brothers Drive and Canterbury Road intersection
Thuringowa	Puma Service Station, 900 Ingham Road and Clay Street intersection
Thuringowa	Entrance to Ross River Dam Park, Upper Ross River Road
Tin Can Bay	Snapper Creek Road
Toogoolawah	Showgrounds, 54 Ivory Creek Road
Toowoomba	Glenvale Road, Drayton
Townsville	Woodlands Holiday Village, 548 Bruce Highway and Mount Low Parkway intersection
Tully	Showgrounds, Butler Street
Wallumbilla	Showgrounds, off Warrego Highway
Wandoan	Under water tower, Jerrard Street
Warwick	Matilda Service Station, Cunningham Highway
Windsorah	Farrars Creek Diamantina Developmental Road, east of the Birdsville Developmental Road intersection
Windsorah	Maryborough Street, north-east outskirts of town
Winton	Showgrounds, Vindex Street
Winton	Winton Truck Stop, Riley Street
Wondai	Haly Street, near old railway station
Wyandra	Corner of Cooper and Macks Street
Yeppoon	Merv Anderson Park alongside the boat ramp east of the Yeppoon Visitor Information Centre
Yowah	Camp ground, 42 Matrix Drive
Yungaburra	Lot 500 on NR7572 Mulgrave Road
Data source:	Used with permission of Campervan & Motorhome Club of Australia, www.cmca.net.au . Sites filtered for public dump point, category DP.

How to use the Guide

To find a rest area, driver reviver or scenic stop, find the number closest to your location on the map and then refer to these tables for information about the site.

The coordinates for roadside amenities have been calculated from a geographic information system, based on best known location advice. Accuracy may vary from 10 metres to 200 metres.

Controlling authorities	Telephone	Abbreviation
Department of Transport and Main Roads	13 23 80	TMR (<i>camping not permitted</i>) TMR (<i>overnight stays permitted</i>) TMR (<i>heavy vehicle use only</i>)
Sunwater	13 15 89	W
Local Governments		L
Department of National Parks, Sport and Racing	13 QGOV (13 74 68)	PSR
Service Clubs		S
Other (e.g. community)		O

Number	Location	Latitude	Longitude	Control	Toilet (Disabled - ●)	Water supply	BBQ	Table	Shelter shed	Playground
1	2.2km N Chermide PO	-27.3726	153.0230	TMR	●	●	●	●	●	●
4	0.6km S Petrie PO	-27.2746	152.9800	L	●	●	●	●	●	●
6	4.1km S Glasshouse	-26.9394	152.9550	L	●	●	●	●	●	●
7	8.7km NE Landsborough	-26.7741	153.0380	TMR	●	●	●	●	●	●
10	0.5km S Yandina	-26.5655	152.9560	L	●	●	●	●	●	●
11	2.7km N Yandina	-26.5396	152.9560	L	●	●	●	●	●	●
16	6km S Gympie	-26.2316	152.6980	TMR	●	●	●	●	●	●
22	2.9km S Benaraby	-24.0105	151.3412	TMR	●	●	●	●	●	●
39	1.8km N El Arish	-17.7950	146.0100	L	●	●	●	●	●	●
40	12km N El Arish	-17.7132	146.0430	TMR	●	●	●	●	●	●
42	0.7km S Babinda	-17.3485	145.9230	L	●	●	●	●	●	●
43	1km S Gordonvale	-17.1010	145.7890	PSR	●	●	●	●	●	●
49	89.9km W Charters Towers	-20.4402	145.5336	TMR	●	●	●	●	●	●
51	0.2km SE Duarina	-23.7213	149.6720	L	●	●	●	●	●	●
53	4.3km NE Aratula	-27.9460	152.5820	TMR	●	●	●	●	●	●
54	0.2km E Aratula	-27.9736	152.5590	TMR	●	●	●	●	●	●
57	47km E Warwick	-28.0539	152.3800	PSR	●	●	●	●	●	●
58	45.1km E Warwick	-28.0623	152.3650	PSR	●	●	●	●	●	●
60	0.6km N Warwick	-28.2095	152.0370	L	●	●	●	●	●	●
63	1.2km NE Goondiwindi	-28.5364	150.3150	L	●	●	●	●	●	●
64	0.5km S Goondiwindi	-28.5510	150.3108	L	●	●	●	●	●	●
66	0.7km W Helidon	-27.5527	152.1230	TMR	●	●	●	●	●	●
68	21.3km W Miles	-26.6410	149.9805	L	●	●	●	●	●	●
70	1km E Yuleba	-26.6114	149.3903	L	●	●	●	●	●	●
72	0.6km E Mitchell	-26.4852	147.9820	L	●	●	●	●	●	●
74	24.2km SW Bundaberg	-25.0586	152.2320	TMR	●	●	●	●	●	●
76	28km N Cairns	-16.7226	154.6430	L	●	●	●	●	●	●
78	36km W Innisfail	-17.6046	145.7620	PSR	●	●	●	●	●	●
79	37.5km W Innisfail	-17.5990	145.7570	PSR	●	●	●	●	●	●
80	0.1km SW Cooyar	-26.9831	151.8313	L	●	●	●	●	●	●
81	0.1km S Hampton	-27.3580	152.0691	L	●	●	●	●	●	●
82	7.2km N Toowoomba PO	-27.5074	151.9560	L	●	●	●	●	●	●
83	9.4km S Toowoomba PO	-27.6469	151.9350	S	●	●	●	●	●	●
84	0.7km E Allora	-28.0356	151.9880	L	●	●	●	●	●	●
89	1km NE Charleville	-26.3996	146.2354	L	●	●	●	●	●	●
91	5.9km NW Jimboomba	-27.7834	153.0120	TMR	●	●	●	●	●	●
92	11.4km S Jimboomba	-27.9103	152.9840	TMR	●	●	●	●	●	●
94	6km N Rathdowney	-28.1706	152.8890	TMR	●	●	●	●	●	●
95	13.6km SW Rathdowney	-28.2957	152.7860	TMR	●	●	●	●	●	●
98	1km W Goondiwindi	-28.5456	150.2992	S	●	●	●	●	●	●
99	2km E Mareeba	-17.0060	145.4390	TMR	●	●	●	●	●	●
100	0.8km N Atherton	-17.2615	145.4770	L	●	●	●	●	●	●
101	0.5km S Atherton	-17.2895	145.4820	L	●	●	●	●	●	●
102	17km SW Ravenshoe	-17.6459	145.3472	L	●	●	●	●	●	●
104	0.3km E Kilcoy	-26.9427	152.5680	L	●	●	●	●	●	●
105	1.2km S Nanango	-26.6805	151.9970	L	●	●	●	●	●	●
107	7.1km SE Kingaroy	-26.5889	151.9030	TMR	●	●	●	●	●	●
109	1.8km E Gayndah	-25.6292	151.6250	L	●	●	●	●	●	●
110	5.6km SE Binjour	-25.5336	151.4960	TMR	●	●	●	●	●	●
111	10.8km N Eidsvold	-25.2820	151.1390	TMR	●	●	●	●	●	●
112	18.5km NW Monto	-24.7990	150.9810	TMR	●	●	●	●	●	●
113	3.1km NW Fernvale	-27.4374	152.6370	L	●	●	●	●	●	●
114	0.3km SE Harlin	-26.9761	152.3590	L	●	●	●	●	●	●
115	5.6km E Kilkivan	-26.0897	152.2880	TMR	●	●	●	●	●	●
116	9.2km SW Kingaroy	-26.5879	151.7880	TMR	●	●	●	●	●	●



Motorist rest areas

Number	Location	Latitude	Longitude	Control	Toilet (Disabled - ♿)	Water supply	BBQ	Table	Shelter shed	Playground
127	1.2km N Mt Molloy	-16.6654	145.3280	L	●	●	●	●	●	●
128	10.6km SW Mudgeeraba	-28.1237	153.2930	TMR	●	●	●	●	●	●
129	1.6km E Buderim	-26.6822	153.0660	L	●	●	●	●	●	●
132	9.7km E Jimboomba	-27.7997	153.1000	TMR	●	●	●	●	●	●
133	18.5km N Boonah	-27.8822	152.7290	TMR	●	●	●	●	●	●
139	31.7km SW Gatton	-27.7485	152.0896	U	●	●	●	●	●	●
140	0.1km SW Clifton	-27.9321	151.9060	L	●	●	●	●	●	●
141	0.3km N Clifton	-27.9287	151.9060	L	●	●	●	●	●	●
143	70km W Condamine	-26.8869	149.4520	PSR	●	●	●	●	●	●
146	26km NE Esk	-27.1206	152.5510	O	●	●	●	●	●	●
147	0.4km S Caboolture	-27.0885	152.9510	L	●	●	●	●	●	●
148	13.9km NE Hampton	-27.3617	152.1770	PSR	●	●	●	●	●	●
149	19.3km W Tingoora	-26.3717	151.6470	TMR	●	●	●	●	●	●
151	6.5km NE Kenilworth	-26.5650	152.7670	L	●	●	●	●	●	●
152	0.1km SE Peachester	-26.8450	152.8840	L	●	●	●	●	●	●
153	6.2km S Kenilworth	-26.6250	152.6900	L	●	●	●	●	●	●
161	9.8km W Gordonvale	-17.1389	145.7250	L	●	●	●	●	●	●
162	4km NE Malanda	-17.3385	145.6230	L	●	●	●	●	●	●
163	12km N Malanda	-17.2836	145.6130	PSR	●	●	●	●	●	●
164	1km W Malanda	-17.3554	145.5860	L	●	●	●	●	●	●
165	0.8km N Mossman	-16.4531	145.3720	L	●	●	●	●	●	●
166	2km S Mareeba	-17.0080	145.4250	L	●	●	●	●	●	●
167	1km N Mareeba	-16.9882	145.4210	L	●	●	●	●	●	●
168	0.2km NE Dimbulah	-17.1484	145.1130	L	●	●	●	●	●	●
177	19.3km SE Canungra	-28.1212	153.2010	L	●	●	●	●	●	●
180	6km E Killarney	-28.3536	152.3450	L	●	●	●	●	●	●
181	10.4km E Killarney	-28.3418	152.3710	PSR	●	●	●	●	●	●
182	13km W Warwick	-28.2162	151.9190	W	●	●	●	●	●	●
186	5.5km SW Ravenshoe	-17.6438	145.4590	PSR	●	●	●	●	●	●
187	7.7km NE Millaa Millaa	-17.4749	145.6560	L	●	●	●	●	●	●
188	2.9km N Millaa Millaa	-17.4957	145.6110	L	●	●	●	●	●	●
189	0.5km SW Tinaroo Falls	-17.1718	145.5468	W	●	●	●	●	●	●
191	6.5km W Babinda	-17.3327	145.8650	L	●	●	●	●	●	●
192	0.3km NW Port Douglas	-16.4815	145.4630	L	●	●	●	●	●	●
193	6.7km N Mossman	-16.4195	145.4060	L	●	●	●	●	●	●
194	24km S Atherton	-17.4271	145.4860	PSR	●	●	●	●	●	●
195	0.5km SE Ravenshoe	-17.6091	145.4840	L	●	●	●	●	●	●
196	0.1km SE Kurrimine	-17.7765	146.1080	L	●	●	●	●	●	●
197	0.2km N Mission Beach	-17.8662	146.1080	L	●	●	●	●	●	●
198	0.4km S Ety Bay	-17.5611	146.0900	L	●	●	●	●	●	●
199	5.2km N Mission Beach	-17.8317	146.1000	L	●	●	●	●	●	●
200	2.6km N Mission Beach	-17.8583	146.1140	L	●	●	●	●	●	●
202	2km S Warwick	-28.2270	152.0190	L	●	●	●	●	●	●
203	1.7km SW Warwick	-28.2229	152.0190	L	●	●	●	●	●	●
205	4.2km NW Longreach	-23.4102	144.2297	L	●	●	●	●	●	●
206	1km S Rathdowney	-28.2222	152.8590	TMR	●	●	●	●	●	●
210	63km S Mount Garnet	-18.1068	144.8270	PSR	●	●	●	●	●	●
211	0.5km E Condamine	-26.9268	150.1354	L	●	●	●	●	●	●
222	2.1km W Kallangur PO	-27.2611	152.9800	TMR	●	●	●	●	●	●
223	0.7km N Killarney	-28.3339	152.2962	L	●	●	●	●	●	●
227	1.1km W Murgon	-26.2381	151.9310	L	●	●	●	●	●	●
229	2.9km N Mission Beach	-17.8452	146.1050	L	●	●	●	●	●	●
230	5.5km N Mission Beach	-17.8294	146.1000	L	●	●	●	●	●	●
232	9km E Yungaburra	-17.2444	145.6412	PSR	●	●	●	●	●	●
233	0.3km S Herberton	-17.3822	145.3843	L	●	●	●	●	●	●
236	1km NE Warwick	-28.2082	152.0400	L	●	●	●	●	●	●
239	1km S Toogoolawah	-27.0934	152.3800	L	●	●	●	●	●	●
240	0.3km W Moore	-26.8939	152.2890	L	●	●	●	●	●	●
241	0.5km E Gatton	-27.5576	152.2840	L	●	●	●	●	●	●
242	5.5km W Gatton	-27.5724	152.2300	L	●	●	●	●	●	●
244	10km SW Kingaroy	-26.6122	151.7840	TMR	●	●	●	●	●	●
247	1.3km NW Bramstown Beach	-17.3430	146.0190	L	●	●	●	●	●	●
249	4km NW Woodford	-26.9290	152.7580	TMR	●	●	●	●	●	●
250	0.2km N Killarney	-28.3385	152.2951	L	●	●	●	●	●	●
254	0.9km N Laura	-15.5519	144.4340	L	●	●	●	●	●	●
255	75km NW Laura	-15.1886	143.8700	L	●	●	●	●	●	●
256	104.6km NW Laura	-15.0191	143.6590	L	●	●	●	●	●	●
257	1.5km NW Coen	-13.9395	143.2020	L	●	●	●	●	●	●
258	66km NW Coen	-13.4405	142.9460	L	●	●	●	●	●	●
259	28.2km S Cooktown	-15.6811	145.2057	L	●	●	●	●	●	●
260	14km S Mossman	-16.5387	145.4694	L	●	●	●	●	●	●
262	1.3km N Chermide PO	-27.3784	153.0300	L	●	●	●	●	●	●
263	0.3km W Capalaba	-27.5200	153.1880	L	●	●	●	●	●	●
264	0.1km SW Birkdale	-27.4930	153.2140	L	●	●	●	●	●	●
265	2km N Wellington Point	-27.4660	153.2400	L	●	●	●	●	●	●
266	3km NW Cleveland	-27.5105	153.2450	L	●	●	●	●	●	●
267	2.8km NE Cleveland Point	-27.5103	153.2900	L	●	●	●	●	●	●
268	1.8km E Cleveland	-27.5246	153.2850	L	●	●	●	●	●	●
269	2km E Victoria Point	-27.5830	153.2890	L	●	●	●	●	●	●



Motorist rest areas

Number	Location	Latitude	Longitude	Control	Toilet (Disabled - ●)	Water supply	BBQ	Table	Shelter shed	Playground
378	4km E Blackbutt	-26.8852	152.1440	PSR	●	●	●	●	●	●
379	0.1km W Blackbutt	-26.8852	152.1000	L	●	●	●	●	●	●
380	0.1km NW Crows Nest	-27.2609	152.0545	L	●	●	●	●	●	●
381	0.1km NW Crows Nest	-27.2619	152.0553	L	●	●	●	●	●	●
382	0.4km N Chinchilla	-26.7354	150.6300	L	●	●	●	●	●	●
383	18km NW Proston	-26.0954	151.4490	W	●	●	●	●	●	●
386	0.6km N Inglewood	-28.4106	151.0790	L	●	●	●	●	●	●
387	0.4km SE Clifton	-27.9333	151.9100	L	●	●	●	●	●	●
388	4km SW Mackay	-21.1652	149.1548	L	●	●	●	●	●	●
389	0.2km S Sarina	-21.4227	149.2170	L	●	●	●	●	●	●
390	1km S Sarina	-21.4296	149.2200	L	●	●	●	●	●	●
391	0.4km NE Eton	-21.2626	148.9760	L	●	●	●	●	●	●
392	0.2km S Nebo	-21.6894	148.6950	L	●	●	●	●	●	●
393	5.3km S Eungella	-21.1671	148.5050	PSR	●	●	●	●	●	●
394	0.1km SE Calen	-20.8983	148.7730	L	●	●	●	●	●	●
395	3.5km SW Elphinstone	-21.5352	148.2340	L	●	●	●	●	●	●
396	0.2km E Seaforth	-20.9009	148.9680	L	●	●	●	●	●	●
398	0.1km E Clairview	-22.1197	149.5360	L	●	●	●	●	●	●
399	0.6km W Dysart	-22.5886	148.3420	L	●	●	●	●	●	●
400	1km SE Middlemount	-22.8191	148.7130	L	●	●	●	●	●	●
438	0.8km N Roma	-26.5656	148.7870	S	●	●	●	●	●	●
440	7km N Childers	-25.2195	152.2388	L	●	●	●	●	●	●
441	0.7km SE Emerald	-23.5299	148.1660	L	●	●	●	●	●	●
442	1.2km N Emerald	-23.5153	148.1560	L	●	●	●	●	●	●
443	0.6km W Emerald	-23.5239	148.1560	L	●	●	●	●	●	●
444	0.1km S Springsure	-24.1182	148.0890	L	●	●	●	●	●	●
445	1km N Springsure	-24.0926	148.0970	L	●	●	●	●	●	●
446	0.1km NE Rolleston	-24.4631	148.6240	L	●	●	●	●	●	●
447	0.3km SE Capella	-23.0856	148.0230	L	●	●	●	●	●	●
450	0.6km S Blackwater	-23.5857	148.8802	L	●	●	●	●	●	●
451	0.3km E Wallumbulla	-26.5868	149.1900	S	●	●	●	●	●	●
452	0.5km W Barcaldine	-23.5521	145.2840	L	●	●	●	●	●	●
456	4km S Bowenville	-27.3256	151.4540	L	●	●	●	●	●	●
457	3.6km S Toowoomba	-27.5877	151.9490	L	●	●	●	●	●	●
458	0.3km E Toowoomba	-27.5610	151.9580	L	●	●	●	●	●	●
459	1.7km W Laidley	-27.6329	152.3780	W	●	●	●	●	●	●
462	23km S Boonah	-28.1790	152.6570	W	●	●	●	●	●	●
464	11km SE Fassifern	-28.0301	152.5520	W	●	●	●	●	●	●
465	9.5km SW Currumbin	-28.1687	153.4430	L	●	●	●	●	●	●
467	6.2km N Springbrook	-28.1671	153.2600	L	●	●	●	●	●	●
468	0.8km W Mudgeeraba	-28.0825	153.3610	L	●	●	●	●	●	●
469	34.9km S Nerang	-28.1989	153.2310	L	●	●	●	●	●	●
470	2km N Surfers Paradise	-27.9857	153.4280	L	●	●	●	●	●	●
471	1km N Broadbeach	-28.0211	153.4290	L	●	●	●	●	●	●
472	0.8km SE Burleigh Heads	-28.0911	153.4590	L	●	●	●	●	●	●
473	0.2km NW Coolangatta	-28.1668	153.5360	L	●	●	●	●	●	●
475	1.3km E Coolangatta	-28.1638	153.5510	L	●	●	●	●	●	●
476	0.4km S Kingston PO	-27.6623	153.1190	L	●	●	●	●	●	●
477	0.5km E Marsden PO	-27.6775	153.1210	L	●	●	●	●	●	●
478	1.1km E Browns Plains PO	-27.6622	153.0510	L	●	●	●	●	●	●
485	9.8km E Dingo	-26.6639	149.4284	TMR	●	●	●	●	●	●
490	0.1km S Yelarbon	-28.5722	150.7520	L	●	●	●	●	●	●
493	51.5km W Millmerran	-28.0449	150.7980	TMR	●	●	●	●	●	●
494	67.6km N Goondiwindi	-28.1589	150.6566	TMR	●	●	●	●	●	●
496	1.7km E Toobeah	-28.4155	149.8750	L	●	●	●	●	●	●
497	0.2km W Bungunya	-28.4234	149.6577	L	●	●	●	●	●	●
499	0.4km S Talwood	-28.4865	149.4684	L	●	●	●	●	●	●
501	2.2km S Stanthorpe	-28.6721	151.9230	TMR	●	●	●	●	●	●
502	0.1km S Texas	-28.8556	151.1650	L	●	●	●	●	●	●
503	5.8km N Gympie	-26.1503	152.6300	L	●	●	●	●	●	●
504	0.6km S Kilcoy	-26.9471	152.5650	L	●	●	●	●	●	●
506	0.1km S Maidenwell	-26.8476	151.7990	L	●	●	●	●	●	●
507	3km S Gympie	-26.2166	152.6840	L	●	●	●	●	●	●
508	0.6km NE Burpengary	-27.1516	152.9770	L	●	●	●	●	●	●
509	1.2km N Caboolture	-27.0741	152.9490	L	●	●	●	●	●	●
510	0.7km SE Chinchilla	-26.7452	150.6303	L	●	●	●	●	●	●
511	0.8km S Chinchilla	-26.7458	150.6271	L	●	●	●	●	●	●
512	0.8km NE Millmerran	-27.8725	151.2770	L	●	●	●	●	●	●
513	0.1km N Millmerran	-27.8753	151.2700	L	●	●	●	●	●	●
514	1km W Millmerran	-27.8772	151.2590	L	●	●	●	●	●	●
515	1.1km E Cecil Plains	-27.5325	151.2050	L	●	●	●	●	●	●
516	10km E Millmerran	-27.8308	151.3480	L	●	●	●	●	●	●
519	0.1km N Cooyar	-26.9821	151.8314	L	●	●	●	●	●	●
520	0.3km SW Yarraman	-26.8431	151.9782	L	●	●	●	●	●	●
521	18.7km N Toowoomba	-27.4276	151.9918	L	●	●	●	●	●	●
522	13.5km N Toowoomba	-27.4595	151.9590	L	●	●	●	●	●	●
523	67.7km N Mitchell	-25.9252	147.8760	L	●	●	●	●	●	●
524	35km W Mitchell	-26.4656	147.6360	L	●	●	●	●	●	●
525	0.2km NW Mungallala	-26.4455	147.5420	L	●	●	●	●	●	●



Motorist rest areas

Number	Location	Latitude	Longitude	Control	Toilet (Disabled - ●)	Water supply	BBQ	Table	Shelter shed	Playground
529	0.8km NW Tara	-27.2705	150.4589	L		●	●	●	●	
530	0.2km S Tara	-27.2787	150.4612	L		●				
531	0.8km W Tara	-27.2766	150.4540	L					●	●
532	0.4km N Killarney	-28.3367	152.2957	L	●	●	●	●	●	●
533	1km S Weengallon	-28.3573	149.0550	L	●	●	●	●	●	●
534	1km SW Weengallon	-28.3565	149.0520	TMR						
535	0.6km S Thallon	-28.6345	148.8710	L	●	●	●	●	●	●
537	0.1km SE Hebel	-28.9728	147.7961	L	●	●				
538	0.6km SW Dirranbandi	-28.5859	148.2266	L		●	●	●	●	●
539	0.4km N Nobby	-27.8527	151.9033	L		●				
540	0.8km W Goondiwindi	-28.5458	150.3020	L	●				●	●
541	2.8km NW Goondiwindi	-28.5322	150.2858	L		●		●		
542	2.1km NW Goondiwindi	-28.5351	150.2918	L	●	●	●	●	●	●
543	1.3km NW Goondiwindi	-28.5395	150.2990	L	●	●	●	●	●	
544	0.8km N Goondiwindi	-28.5392	150.3078	L	●	●	●	●	●	●
545	0.2km NW Stanthorpe	-28.6540	151.9330	L	●	●	●		●	
546	0.4km NW Meandarra	-27.3219	149.8801	L	●		●	●	●	
547	0.3km N Meandarra	-27.3231	149.8820	S		●	●	●	●	●
548	1.4km SW St George	-28.0438	148.5680	L	●	●	●	●	●	●
549	1.2km NE Leyburn	-28.0055	151.5890	L		●	●	●	●	●
553	24.2km NW Tambo	-24.7517	146.1100	TMR	●					
555	0.1km S Coppabella	-21.9044	148.3714	TMR		●		●		
558	12km E Seaforth	-20.9039	148.9960	L	●	●				
559	14km E Seaforth	-20.9221	149.0470	L	●		●			
560	12km E Calen	-20.8338	148.8390	L	●	●	●	●		
561	0.7km N Clontarf	-27.2573	153.0860	L	●	●	●	●	●	
562	0.4km NE Redcliffe	-27.2308	153.1160	L	●		●			
563	12km W Mt Glorious	-27.3058	152.6880	PSR		●	●	●	●	●
566	0.9km E Ipswich	-27.6159	152.7690	L	●	●	●	●	●	●
567	3km S Churchill	-27.6412	152.7510	L	●	●	●	●	●	●
568	1.1km N North Ipswich	-27.6046	152.7610	L	●	●	●	●	●	●
569	3.2km NW Brassall	-27.5883	152.7460	L	●	●	●	●	●	●
570	2.3km E Booval	-27.6141	152.7840	L	●	●	●	●	●	●
571	1.1km N Redbank Plains	-27.6402	152.8440	L		●	●	●		
572	0.5km N Peak Crossing	-27.7795	152.7320	L	●	●	●	●	●	●
573	1km S Chuvar	-27.5570	152.8030	L	●	●	●	●	●	●
574	0.1km NW Marburg	-27.5659	152.5960	L	●	●	●	●	●	●
575	5km E Rosewood	-27.6485	152.6370	L			●	●		
576	2km E Rosevale	-27.8645	152.4940	L				●	●	●
577	6km S Willowbank	-27.6805	152.6840	L						
580	18.3km SE Rathdowney	-28.3200	152.9330	L	●	●				
581	6.3km N Canungra	-27.9704	153.1630	L			●	●	●	
582	2.3km E Beaudesert	-27.9939	153.0180	L	●	●	●	●	●	●
583	0.1km S Mt Tamborine	-27.9730	153.1970	L	●	●	●	●	●	●
584	1.5km N Numinbah Valley	-28.1292	153.2290	PSR		●	●	●	●	●
585	7.5km SW Moura	-24.5992	149.9093	S						
586	45km NW Eidsvold	-25.1909	150.9910	S	●		●	●	●	
591	93km S Bedourie	-25.1482	139.5810	L						
592	61km S Bedourie	-24.8711	139.6280	L	●	●	●	●	●	●
594	0.2km S Bedourie	-24.3608	139.4710	L	●	●	●	●	●	●
595	32km N Bedourie	-24.1362	139.5340	L						
596	22km N Birdsville	-25.7421	139.3300	L					●	●
602	26km W Proserpine	-20.3634	148.3870	W	●	●	●	●	●	●
603	0.5km E Proserpine	-20.4021	148.5860	L	●	●	●	●	●	●
604	2.2km SW Warwick	-28.2293	152.0180	L		●	●	●	●	●
605	0.2km S Woolroolin	-26.4123	151.8160	L	●	●	●	●	●	●
606	0.2km NW Warra	-26.9295	150.9192	TMR						
607	0.4km SW Kumbia	-26.6920	151.6530	S	●	●	●	●	●	●
609	24.9km N Townsville	-19.1752	146.5530	L	●	●	●	●	●	●
616	0.2km NE Yuleba	-26.6113	149.3820	L				●	●	●
619	16km N Roma	-26.4330	148.7940	L					●	
621	40km E Charleville	-26.4145	146.6250	L	●	●	●	●	●	●
625	25km S Surat	-27.3073	148.9200	L					●	
626	23km N Blackall	-24.2737	145.3390	TMR					●	●
634	25km E Proserpine	-20.4780	148.7410	L	●	●	●	●	●	●
658	0.3km E Bollon	-28.0316	147.4780	L	●	●	●	●	●	●
659	0.1km N Mt Larcom	-23.8107	150.9801	L	●	●				
660	1km W Marlborough	-22.8168	149.8870	TMR				●	●	●
662	29.4km NE Normanton	-17.4715	141.1790	L						
664	1km N Surat	-27.1496	149.0730	L	●	●	●	●	●	●
666	0.2km S Injune	-25.8456	148.5652	L	●	●	●	●	●	●
667	0.8km E Miles	-26.6599	150.1960	L	●	●	●	●	●	●
668	43km W Miles	-26.6438	149.7618	L	●	●	●	●	●	●
669	0.5km E Muckadilla	-26.5855	148.3880	L	●	●	●	●	●	●
670	0.5km W Mitchell	-26.4891	147.9710	L	●	●	●	●	●	●
672	0.4km W Morven	-26.4161	147.1110	L	●	●	●	●	●	●
678	0.3km W Condamine	-26.9262	150.1310	L	●	●	●	●	●	●
681	0.3km S Maidenwell	-26.8493	151.7980	L	●	●	●	●	●	●
682	44.6km N Charters Towers	-19.8182	146.0590	L	●	●	●	●	●	●



Motorist rest areas

Number	Location	Latitude	Longitude	Control	Toilet (Disabled - ●)	Water supply	BBQ	Table	Shelter shed	Playground
892	130km W Thargomindah	-27.6311	142.6832	L	●					
898	7km N Moranbah	-22.0477	148.1316	TMR	●	●	●	●	●	
959	28.5km S Biloela	-24.5686	150.6615	TMR					●	●
972	29km S Mount Perry	-25.3928	151.7754	L	●	●	●	●	●	
974	0.5km N Monto	-24.8633	151.1213	L	●	●	●	●	●	
977	40km W Proston	-26.2617	151.2701	TMR					●	●
991	126km NW Belyando Crossing	-20.6763	146.3010	TMR						
998	1.4km NW Tiaro	-25.7154	152.5752	L	●				●	●
999	0.2km S Tiaro	-25.7286	152.5843	L	●	●	●	●	●	●
1000	0.1km S Bauple	-25.8125	152.6191	L					●	●
1001	0.1km E Rosendale	-25.8397	152.5953	L					●	●
1002	0.2km NE Howard	-25.3178	152.5630	L	●	●			●	●
1005	0.2km S Mulgildie	-24.9646	151.1315	TMR					●	
1008	5.5km SW Bundaberg	-24.8974	152.3134	L	●	●	●	●	●	●
1009	0.1km N Childers	-25.2356	152.2782	L	●	●	●	●	●	●
1023	5km E Ilfracombe	-23.5043	144.5578	TMR						●
1026	0.2km E Longreach	-23.4407	144.2516	TMR	●	●	●	●	●	●
1027	60km E Alpha	-23.6577	147.2006	L					●	●
1029	35km E Alpha	-23.6599	146.9252	TMR					●	●
1031	54km E Barcaldine	-23.5653	145.7947	TMR	●	●			●	●
1033	0.5km NW Aramac	-22.9674	145.2392	TMR	●	●			●	●
1034	21km S Ilfracombe	-23.6595	144.5082	TMR					●	●
1035	0.2km S Blackall	-24.4255	145.4625	TMR	●	●			●	●
1036	96km E Birdsville	-25.7086	140.1575	TMR	●				●	●
1037	0.3km NE Birdsville	-25.8976	139.3548	TMR	●	●			●	●
1039	12km NE Windorah	-25.3701	142.7469	TMR	●					
1041	0.2km S Windorah	-25.4225	142.6556	TMR	●	●			●	●
1042	143km SE Bedourie	-24.8193	140.5410	TMR	●	●			●	●
1043	86km N Bedourie	-23.7307	139.6363	L	●	●	●	●	●	●
1046	171km W Winton	-22.3524	141.5495	O	●	●				
1047	140km E Boulia	-22.6387	141.1640	TMR					●	●
1069	0.1km S Cooyar	-26.9823	151.8314	L	●	●	●	●	●	●
1071	2km S Texas	-28.8671	151.1639	L	●	●	●	●	●	●
1072	6km E Texas	-28.8448	151.2124	L					●	●
1077	23km NE Inglewood	-28.3974	151.2942	O	●				●	●
1118	0.3km S Westwood	-23.6217	150.1566	L	●	●	●	●	●	●
1124	0.6km E Bluff	-23.5830	149.0759	L	●				●	●



Driver revive/rest areas



Number	Location	Latitude	Longitude	Control	Toilet (Disabled - 🚻)	Water supply	BBQ	Table	Shelter shed	Playground
17	29km N Gympie	-25.9860	152.5700	TMR	●	●	●	●	●	●
21	1.5km NW Gin Gin	-24.9742	151.9455	TMR	●	●	●	●	●	●
36	11.2km S Ingham	-18.7679	146.1330	TMR	●	●	●	●	●	●
38	25km S Tully	-18.1197	145.9130	TMR	●	●	●	●	●	●
62	0.5km NE Inglewood	-28.4129	151.0850	L	●	●	●	●	●	●
117	0.5km N Wondai	-26.3140	151.8710	L	●	●	●	●	●	●
207	35.7km S Miriam Vale	-24.6127	151.6670	TMR	●	●	●	●	●	●
208	2.6km NE Mundubbera	-25.5725	151.3130	O	●	●	●	●	●	●
238	13km S St Lawrence	-22.4397	149.4750	TMR	●	●	●	●	●	●
251	0.4km NW Wallangarra	-28.9214	151.9290	L	●	●	●	●	●	●
278	4.3km S Bowen	-20.0460	148.2290	TMR	●	●	●	●	●	●
281	60km W Cloncurry	-20.8008	139.9960	TMR	●	●	●	●	●	●
326	4km N Innisfail	-17.5147	145.9940	L	●	●	●	●	●	●
359	0.5km NE Millmerran	-27.8742	151.2740	L	●	●	●	●	●	●
426	1km SE Yarraman	-26.8477	151.9840	L	●	●	●	●	●	●
439	0.7km E Julia Creek	-20.6570	141.7507	S	●	●	●	●	●	●
487	27km NE Warwick	-28.0741	152.1870	TMR	●	●	●	●	●	●
600	1km SE Goondiwindi	-28.5532	150.3206	L	●	●	●	●	●	●
646	8.8km NW Ayr	-19.5703	147.3380	TMR	●	●	●	●	●	●
647	0.2km SW Beaudesert	-27.9897	152.9940	L	●	●	●	●	●	●
648	9.2km N Calliope	-23.9595	151.1515	O	●	●	●	●	●	●
649	1km S Charleville	-26.4126	146.2456	S	●	●	●	●	●	●
650	0.1km S Dululu	-23.8472	150.2630	S	●	●	●	●	●	●
651	9km SE Nambour	-26.6898	153.0040	O	●	●	●	●	●	●
652	1.6km W Hughenden	-20.8422	144.1850	S	●	●	●	●	●	●
653	3km S Maryborough	-25.5796	152.6540	S	●	●	●	●	●	●
654	0.2km W Miles	-26.6593	150.1849	S	●	●	●	●	●	●
655	0.5km W Monto	-24.8650	151.1140	O	●	●	●	●	●	●
656	0.7km NW Ormeau	-27.7866	153.2540	L	●	●	●	●	●	●
661	0.4km N Yaamba	-23.1348	150.3693	L	●	●	●	●	●	●
764	1km E Willowbank	-27.6591	152.7086	O	●	●	●	●	●	●
766	0.1km S Injune	-25.8453	148.5660	L	●	●	●	●	●	●
829	0.3km N Alpha	-23.6486	146.6400	O	●	●	●	●	●	●

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Scenic stops

Number	Location	Latitude	Longitude	Control	Toilet (Disabled - ●)	Water supply	BBQ	Table	Shelter shed	Signed
25	11.2km N Rockhampton	-23.2827	150.5101	L						
37	16km N Ingham	-18.5324	146.1871	TMR						●
71	5.6km E Roma	-26.5756	148.8380	L				●	●	
77	32km W Innisfail	-17.6121	145.7930	PSR						●
154	7.9km NE Maleny	-26.7414	152.8950	L				●	●	●
160	10km SW Innisfail	-17.5787	145.9690	TMR				●	●	●
184	10.3km S Cania Dam	-24.7185	150.9900	PSR	●	●	●	●	●	●
185	11km W Paluma	-19.0154	146.2680	PSR	●	●	●	●	●	●
190	9.5km S Redlynch	-16.9600	145.6830	L	●	●	●	●	●	●
225	13.1km SW Mossman	-16.5342	145.3820	TMR						●
226	6.5km E Kuranda	-16.8380	145.6720	TMR						●
234	32.8km S Mossman	-16.6462	145.5650	TMR						
235	6.3km W Millaa Millaa	-17.5203	145.5678	L				●		●
248	14km SW Mossman	-16.5395	145.3820	TMR						●
253	12.7km SE Laura	-15.6385	144.5030	PSR	●	●	●	●	●	●
261	28.7km NW Mt Carbine	-16.4688	144.8810	TMR						●
466	20.3km SW Currumbin	-28.2269	153.3900	TMR						●
474	0.7km NE Coolangatta	-28.1645	153.5450	L	●	●	●	●	●	●
564	6.5km S Mt Glorious	-27.3561	152.7630	PSR	●	●				●
565	8.9km NW Kenmore Shopping Centre	-27.4296	152.8780	PSR						
588	3km W Mt Perry	-25.1908	151.6270	L			●		●	
599	53.7km NW Mount Isa	-20.3725	139.2650	TMR			●	●	●	
628	78km N Cloncurry	-20.0809	140.2278	TMR	●	●	●	●	●	●
645	134.5km W Charters Towers	-20.7133	145.2260	TMR				●	●	●
715	1km SE Cardwell	-18.2713	146.0340	L	●	●	●	●	●	●
784	4.7km E Ravenshoe	-17.5901	145.5290	O						●
785	23.4km S Cooktown	-15.6502	145.2210	PSR						●
786	14km S Lakeland	-15.9756	144.8281	L						●
844	7.8km W Miles	-26.6506	150.1110	L	●	●				●
865	113.2km W Springsure	-24.4599	147.1623	L				●	●	
933	44.6km W Cloncurry	-20.7822	140.1125	TMR						●
934	46.1km W Cloncurry	-20.7840	140.0987	O						●
1004	15km NW Gayndah	-25.6047	151.5403	L	●					●
1006	40km SW Mundubbera	-25.7121	151.0537	PSR	●	●	●	●	●	●
1007	35km NW Biggenden	-25.3561	151.9184	L	●	●	●	●	●	●
1167	7.5km NE Mount Morgan	-23.5994	150.4241	L				●	●	

				Heavy vehicle and motorist rest areas						
Number	Location	Latitude	Longitude	Control	Toilet (Disabled - ●)	Water supply	BBQ	Table	Shelter shed	Signed
27	19.5km SE Calen	-21.0285	148.8930	TMR	●	●	●	●	●	●
46	4.4km S Barcaldine	-23.5909	145.2760	TMR	●	●	●	●	●	●
47	17.4km E Ilfracombe	-23.5123	144.6724	TMR	●	●	●	●	●	●
61	31.1km W Warwick	-28.1696	151.7310	TMR	●	●	●	●	●	●
67	0.8km W Miles	-26.6561	150.1797	L	●	●	●	●	●	●
108	26.8km E Gayndah	-25.6816	151.8165	TMR	●	●	●	●	●	●
124	78.3km S Normanton	-18.2771	140.8110	TMR	●	●	●	●	●	●
125	38km S Normanton	-17.9482	140.9070	TMR	●	●	●	●	●	●
282	90.2km SE Camooweal	-20.1916	138.8980	TMR	●	●	●	●	●	●
337	51.1km E Mount Isa	-20.7530	139.9310	TMR	●	●	●	●	●	●
338	19.4km E Mount Isa	-20.7026	139.6612	TMR	●	●	●	●	●	●
461	44km SE Winton	-22.5604	143.4260	TMR	●	●	●	●	●	●
479	66km NW Winton	-21.9731	142.6620	TMR	●	●	●	●	●	●
480	1km NW Morella	-22.9704	143.8590	TMR	●	●	●	●	●	●
481	3.3km E Barcaldine	-23.5527	145.3074	TMR	●	●	●	●	●	●
482	48km E Richmond	-20.8583	143.5687	TMR	●	●	●	●	●	●
483	49km W Richmond	-20.7234	142.6784	TMR	●	●	●	●	●	●
484	66km E Cloncurry	-20.6435	141.1024	TMR	●	●	●	●	●	●
486	42km E Warwick	-28.0630	152.3510	TMR	●	●	●	●	●	●
489	20.8km W Inglewood	-28.5140	150.9180	TMR	●	●	●	●	●	●
491	21.3km E Goondiwindi	-28.4879	150.4830	TMR	●	●	●	●	●	●
551	29.6km W Barcaldine	-23.5383	144.9920	TMR	●	●	●	●	●	●
552	9.6km SE Blackall	-24.4630	145.5600	TMR	●	●	●	●	●	●


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Heavy vehicle rest areas

Number	Location	Latitude	Longitude	Control	Toilet (Disabled -●)	Water supply	BBQ	Table	Shelter shed	Signed
26	4km W Marlborough	-22.8495	149.8680	TMR						●
48	8.4km E Longreach	-23.4436	144.3298	TMR						●
52	1.9km S Warill View	-27.8414	152.6160	TMR	●					●
55	16.7km SW Aratula	-28.0534	152.4340	TMR						● ●
65	16.1km E Gatton	-27.5643	152.4250	TMR						●
85	12.1km S Warwick	-28.2877	151.9527	TMR	●				● ● ●	
90	0.1km N Surat	-27.1524	149.0680	L						●
97	2km N Wandoan	-26.1066	149.9500	L						●
121	23km N Burke & Wills	-18.9874	140.4340	TMR						●
144	1.3km W Mungindi	-28.9745	148.9830	L	● ● ● ● ● ●					
201	1.5km S Gunalda	-26.0136	152.5637	TMR						
213	3.2km S Augathella	-25.8104	146.5990	L						●
214	46km S Charleville	-26.7853	146.0980	L						●
215	99.3km S Charleville	-27.2436	145.9820	L	●		●		● ●	
217	22.2km N Miles	-26.4915	150.0810	L						●
218	35.4km S Theodore	-25.2044	149.9731	L						●
219	68km N Injune	-25.3062	148.6600	L						●
228	21.6km S Mackay	-21.2946	149.1670	TMR						●
231	9.2km N Calliope	-23.9607	151.1490	L	● ●					●
237	12km S Wandoan	-26.2075	150.0174	L						●
243	7.2km SW Bell	-26.9448	151.3840	L						●
331	29.5km NW Kynuna	-21.4662	141.6680	TMR						●
333	39.2km NW Mount Isa	-20.4212	139.3860	TMR						●
335	45km SW Dalby	-27.3237	150.8780	L	●		● ● ●			
339	43.2km E Julia Creek	-20.6714	142.1550	TMR						●
346	0.5km E Bollon	-28.0319	147.4840	L						
348	1.2km N Windera	-26.0411	151.8310	TMR	● ●					●
384	1.3km E Miles	-26.6606	150.2000	L						●
385	2km E Roma Town	-26.5755	148.8130	L						
405	11.4km SW Millmerran	-27.9090	151.1880	L						●
406	11.8km SW Millmerran	-27.9259	151.1710	L						
407	38.4km SW Millmerran	-28.0013	150.9380	L						●
423	5.6km S Harlin	-27.0196	152.3680	L						
425	3.2km SE Moore	-26.9119	152.3170	L						●
427	7.3km N Cooyar	-26.9315	151.8130	L						
428	23km NW Crows Nest	-27.1200	151.9322	L					●	●
434	5km NE Southbrook	-27.6435	151.7336	L						
437	16km E Yuleba	-26.6318	149.5580	L					●	●
449	0.5km NW Alpha	-23.6461	146.6370	L						●
454	2km N Gavial	-23.4536	150.5286	TMR						●
460	2km SW Hazledean	-21.3897	148.9420	TMR						●
495	0.3km S Moonie	-27.7176	150.3710	TMR	● ●		●		●	●
500	2km W St George	-28.0308	148.5400	L						●
526	43.4km W Miles	-26.6440	149.7579	L						●
527	66km W Bollon	-27.9955	146.8190	L						●
528	13km W Mitchell	-26.4866	147.8500	L						●



Heavy vehicle rest areas

Number	Location	Latitude	Longitude	Control	Toilet (Disabled -●)	Water supply	BBQ	Table	Shelter shed	Signed
550	28.2km S Barcaldine	-23.7941	145.3070	TMR	●	●		● ● ●		
589	10km N Gunalda	-25.9291	152.6040	TMR						●
590	34.8km N Maryborough	-25.3103	152.4750	TMR						●
611	6.1km SW Townsville	-19.3857	146.8370	TMR						●
615	7km E Yuleba	-26.6215	149.4580	L			● ●	● ●	●	
617	0.6km SE Thargomindah	-27.9983	143.8230	L	● ●			● ● ●	● ●	
618	30km S Roma	-26.7779	148.9320	TMR		●		● ● ●	●	
624	41km S Surat	-27.4387	148.8400	L		●		● ● ●	●	
633	12km N Bloomsbury	-20.6113	148.6100	TMR						●
642	45.5km E Rolleston	-24.6395	149.0181	TMR						●
644	24km SE Tambo	-25.0236	146.4330	TMR						●
663	1.2km SE Kunwarara	-22.9110	150.1363	TMR						●
665	45km N Roma	-26.1999	148.7080	TMR		●		● ● ●	●	
671	1.4km E Morven	-26.4123	147.1260	TMR						●
673	26km SW Augathella	-25.9585	146.4767	L						●
674	13km N Taroom	-25.5474	149.7758	TMR						●
675	7.5km N Taroom	-25.5863	149.7715	TMR						●
676	0.5km SW Taroom	-25.6432	149.7950	L				● ● ●		
677	9.1km S Miles	-26.7362	150.2010	L						●
679	3.5km S Mitchell	-26.5137	147.9930	L						●
680	33km E Quilpie	-26.6161	144.5980	L						●
727	1.3km N Texas	-28.8437	151.1620	TMR						
745	3.6km N Mungindi	-28.9451	148.9730	TMR						●
747	18km N Goondiwindi	-28.4466	150.2990	TMR						●
761	0.4km N Injune Town	-25.8402	148.5670	L	● ●		● ● ●	● ● ●		
762	33km S Cunnamulla	-28.3012	145.7430	L						●
767	1.6km SE Emerald	-23.5352	148.1730	TMR						
768	0.1km NW Comet	-23.6060	148.5470	TMR						●
769	12.5km E Emerald	-23.5600	148.2760	TMR						●
773	163.6km E Birdsville	-25.7085	140.7640	L	●			● ●		
780	9km W Gatton Turnoff	-27.5433	152.2350	TMR	● ●			● ● ●		
781	1km E Charlton	-27.5246	151.8630	TMR	●			● ● ●		
793	1km W Mount Gamet	-17.6753	145.1066	TMR	● ●					
807	0.1km W Clermont	-22.8162	147.6340	TMR						●
820	10km NE Leyburn	-27.9536	151.6630	TMR						●
825	22km W Childers	-25.2132	152.0820	TMR						●
826	22.5km W Childers	-25.2158	152.0780	TMR						●
835	14km N Surat	-27.0342	149.0830	TMR		●		● ● ●		
836	17km S Roma	-26.6582	148.8750	TMR		●		● ● ●		
839	48km N St George	-27.6833	148.8170	TMR		●		● ● ●		
842	2km S Torbanlea	-25.3626	152.5980	TMR						
845	17.5km W Miles	-26.6428	150.0140	TMR						●
847	3.8km W Mitchell	-26.4814	147.9410	L						●
848	6.9km W Mitchell	-26.4825	147.9110	L						●
856	37.8km W Charleville	-26.5742	145.9390	L						●
862	1.8km S Miriam Vale	-24.3469	151.5594	TMR	● ●		●		●	●



Heavy vehicle rest areas

Number	Location	Latitude	Longitude	Control	Toilet (Disabled -●)	Water supply	BBQ	Table	Shelter shed	Signed
866	1.2km SE Middelmount	-22.8212	148.7124	TMR						●
867	1.1km SE Middelmount	-22.8181	148.7142	TMR						●
875	1.2km W Mingela	-19.8740	146.6337	TMR	● ●			●		●
879	32km NW Rolleston	-24.3163	148.3707	TMR					● ● ●	
881	0.5km SW Dululu	-23.8479	150.2572	TMR						●
893	31.7km E Cunnamulla	-28.0164	146.0056	TMR						
894	93km S Mitchell	-27.2624	148.0546	TMR						●
896	78.7km N Clermont	-22.1838	147.2298	TMR						●
897	3km E Clermont	-22.8020	147.6471	TMR					●	●
912	32km S Mackay	-22.1044	149.5252	TMR						●
917	12.7km NW Mackay	-21.0940	149.0724	L						●
919	4.4km S Bloomsbury	-20.7403	148.6053	TMR						●
921	26.5km N Proserpine	-20.2442	148.4355	L						●
948	181km N Cloncurry	-19.2287	140.3459	O						
973	9km N Mundubbera	-25.5240	151.2902	TMR						●
978	1km N Tiaro	-25.7178	152.5842	TMR						●
981	22km SW Toowoomba	-27.6371	151.7427	TMR						
984	30km N Inglewood	-28.1875	151.1675	TMR						●
990	87km NW Belyando Crossing	-20.9760	146.4133	TMR	● ●			● ● ●		
995	69.5km N Charters Towers	-19.7039	145.8686	TMR	● ●			● ● ●		
1010	5.4km SE Moore	-26.9304	152.3238	TMR	● ●			● ● ●		
1012	8km E Dingo	-23.6605	149.4092	TMR					● ● ●	
1013	6km E Dingo	-23.6562	149.3910	TMR					● ● ●	
1014	1.5km SW Biloela	-24.4064	150.4985	TMR	●					●
1015	6.3km S Rannes	-24.1550	150.1090	TMR					● ● ●	
1017	39km SE Tambo	-25.1275	146.4730	TMR						
1018	2km W Tambo	-24.8837	146.2307	TMR						
1019	1.2km SE Blackall	-24.4275	145.4753	TMR	●					●
1021	2km S Barcaldine	-23.5699	145.2824	TMR	● ●			● ●		
1048	0.4km NW McKinlay	-21.2711	141.2884	L						
1070	22km S Warwick	-28.3488	151.9253	TMR						●
1074	3km W Millmerran	-27.8736	151.2395	TMR	● ●			● ● ●		
1091	2.5km N Babinda	-17.3216	145.9283	TMR	● ●			● ● ●		
1100	2.2km SE Marmor	-23.6861	150.7326	L						●
1107	9km NW Yaamba	-23.1055	150.2947	TMR	●					●

Rules on the length of stay at rest areas vary between controlling authorities.

Motorists can stay up to 20 hours, including overnight, at some transport and Main Roads rest areas, shown in blue in the tables.

Motorists cannot stay overnight at Transport and Main Roads rest areas shown in red in the tables.

Due to space limitations, the heavy vehicle stopping places are not tabled here, but are displayed in the maps with a ▲.

 Accredited visitor information centres			
Site	Street address	Phone	Wi-fi
Agnes Water	71 Springs Road	4902 1533	●
Atherton	Corner Silo Road and Main Street	4091 4222	●
Ayr	Plantation Park, Bruce Highway	4783 5988	●
Babinda	1 Munro Street	4067 1008	
Barcaldine	149 Oak Street	4651 1724	●
Beaudesert	2–14 Enterprise Drive	5541 4495	●
Bedourie	13 Herbert Street	4746 1040	●
Biggera Waters	Kiosk 4, Harbour Town Shopping Centre, 147 Brisbane Road	5563 7688	●
Bilinga	Site 20, Domestic Arrival Terminal, Gold Coast Airport	5536 4709	●
Biloela	437 Callide Street	4992 2405	
Biloela	Queensland Heritage Park, 11 Exhibition Avenue	4992 2400	●
Birdsville	29 Burt Street	4656 3300	●
Blackall	Ram Park, 145a Shamrock Street	4657 4637	●
Blackbutt	Hart Street	4163 0633	●
Boonah	20 Boonah–Fassifern Road	5463 2233	
Bouli	25 Herbert Street	4746 3386	●
Bowen	South Bruce Highway, Mount Gordon	4786 4222	
Bribie Island	Benabrow Avenue, Bellara	3408 9026	●
Brisbane	167 Queen Street, Queen St Mall	3006 6290	
Brisbane	South Bank House, Stanley Street Plaza	3156 6366	
Brisbane Domestic Airport	Ground Floor, Common User Terminal	3305 9233	●
Brisbane International Airport	Level 2, Brisbane International Airport, Airport Drive	3406 3190	●
Bundaberg	271 Bourbong Street	4153 8888	●
Burpengary	BP North Travel Centre, Bruce Highway	5428 7455	●
Caboolture	280 Beerburum Road	5432 4423	●
Cairns	51 The Esplanade	4051 3588	●
Caloundra	77 Bulcock Street	5458 8847	●
Caloundra	7 Caloundra Road	5458 8846	●
Canungra	12–14 Kidston Street	5543 5156	
Capalaba	17 Runnymede Road	3824 8611	●
Charleville	1 Milky Way	4654 7771	●
Charters Towers	74 Mosman Street	4761 5533	●
Childers	The Palace Building, 72 Churchill St	4153 8888	
Chinchilla	Chinchilla Street, off Warrego Highway	4660 7291	●
Clontarf	110 Hornibrook Esplanade	3284 3500	●
Cloncurry	Mollwraith Street	4742 1361	●
Coolum Beach	Corner Tickle Park and David Low Way	5458 8841	●
Croydon	51–59 Samwell Street	4748 7152	
Cunnamulla	2 Jane Street	4655 8470	●

 Accredited visitor information centres			
Site	Street address	Phone	Wi-fi
Dalby	Thomas Jack Park, corner Condamine and Drayton Streets	4679 4461	●
Eidsvold	23767 Gayndah–Monto Road, (A3 Australia's Country Way)	4165 7272	●
Emerald	3 Clermont Street	4982 4142	●
Esk	82 Ipswich Street	5424 2923	
Fernvale	Fernvale Futures Complex, 1483 Brisbane Valley Highway	5427 0200	
Gatton	Lockyer Valley Cultural Centre, 34 Lake Apex Drive	5466 3426	●
Georgetown	20 Low Street	4062 1485	●
Gin Gin	Mulgrave St, off Bruce Highway	4153 8888	
Gladstone	Marina Ferry Terminal, 4/72 Bryan Jordan Drive	4972 9000	●
Glass House Mountains	Settler's Rotary Park, corner Bruce Parade and Reed Street	5458 8848	●
Goondiwindi	Corner McLean and Bowen Streets	4671 7474	●
Gympie	Lake Alford, 24 Bruce Highway	5480 5183	●
Hampton	8623 New England Highway	4697 9066	●
Herberton	1 Jacks Road	4096 3474	●
Hervey Bay	227 Maryborough–Hervey Bay Road, corner of Urraween Road	4196 9600	●
Home Hill	12 Railway Avenue	4782 8241	●
Hughenden	Flinders Discovery Centre, 37 Gray Street	4741 2970	●
Ingham	Corner Cooper Street and Bruce Highway	4776 4792	●
Injune	32 Hutton Street	4626 0503	●
Ipswich	Queens Park, 14 Queen Victoria Parade	3281 0555	●
Julia Creek	34 Burke Street	4746 7690	●
Karumba	Walker Street	4747 7522	●
Kilcoy	41 Hope Street	5422 0440	
Kingaroy	124–128 Haly Street	4189 9172	●
Kuranda	Therwine Street	4093 9311	●
Kybong	Puma Roadhouse, Bruce Highway	5483 5554	
Loganholme	Hyperdome, Corner Pacific Highway and Bryants Road	3801 9888	●
Longreach	99A Eagle Street	4658 4150	●
Mackay	320 Nebo Road	4944 5888	●
Malanda	Atherton–Malanda Road	4096 6957	●
Manly	William Gunn Jetty, 1 Wyvernleigh Close	3348 3524	
Mareeba	345 Byrnes Street	4092 5674	
Marian	Melba House, Eungella Road via Mackay	4954 4299	
Maroochydore	Corner Melrose Parade and Sixth Avenue	5458 8842	●
Maryborough	City Hall, 388 Kent Street	4120 5600	●
Miles	141 Murilla Street	4627 1492	●
Miriam Vale	27 Roe Street	4974 5428	●
Mission Beach	Porter Promenade	4068 7099	
Montville	198 Main Street	5458 8845	●

 Accredited visitor information centres			
Site	Street address	Phone	Wi-fi
Mooloolaba	Corner First Avenue and Brisbane Road	5458 8844	●
Mount Isa	19 Marian Street	4749 1555	●
Mudjimba	Arrivals Terminal, Sunshine Coast Airport, Friendship Avenue	5448 9088	●
Murgon	63 Lamb Street	4189 9387	●
Nanango	41 Henry Street	4189 9446	●
Nome	Billabong Sanctuary, off Bruce Highway (south of Townsville)	4780 4397	●
Noosa Heads	61 Hastings Street	5430 5000	●
Normanton	Corner Landsborough and Caroline Streets	4745 8444	●
North Tamborine	Doughty Park, Main Western Road	5545 3200	●
Proserpine	192 Main Street	4945 3967	●
Quilpie	51 Broilga Street	4656 0540	●
Rathdowney	82 Mount Lindesay Highway	5544 1222	
Ravenshoe	24 Moore Street	4097 7700	
Redcliffe	170 Redcliffe Parade	3283 3577	
Richmond	91-93 Goldring Street	4741 3429	
Rockhampton	The Spire, 176 Gladstone Road	4921 2311	
Roma	2 Riggers Road	4622 8676	
Sarina	"Field of Dreams" Parklands, 1 Railway Square	4956 2251	
St George	114 St George's Terrace	4620 8877	●
Stanthorpe	28 Leslie Parade	4681 2057	
Strathpine	Corner Gympie and Strathpine Roads	3205 4793	●
Surfers Paradise	2 Cavill Avenue	5538 4419	●
Tewantin	Noosa Marina, 2 Parkyn Court	5430 5000	
Tewantin	120 Poinciana Avenue	5449 7353	
Thargomindah	Echidna Place, 37 Dowling Street	4621 8095	●
Tiaro	Mayne Street	4129 2599	
Toowoomba	82–86 James Street, off Warrego Highway	4639 3797	●
Townsville	334A Flinders Street	4721 3660	●
Tully	59389 Bruce Highway	4068 2288	●
Warwick	49 Albion Street	4661 3122	
Windorah	7 Maryborough Street	4656 3063	●
Winton	50 Elderslie Street	4657 1466	●
Woodford	27 Archer Street	0408 773 550	●
Wondai	80 Haly Street	4189 9251	●
Yeppoon	Ross Creek Roundabout, Scenic Highway	4939 4888	●
Yungaburra	2 Maude Kehoe Park	4095 2416	●
Data source:		Information from Tourism and Events Queensland current as at March 2016. For further information visit www.queensland.com/vics	

Distance tables (Kilometres)

Coolangatta																							M1	A1
101	Brisbane (Gateway Toll Bridge)																							
148	47	Caboolture T/O (exit 152)																						
204	103	56	Nambour T/O (exit 208)																					
270	169	122	66	Gympie																				
350	249	202	146	80	Maryborough Hervey Bay T/O (route 57)																			
407	306	259	203	137	57	Childers																		
462	361	314	258	192	115	55	Gin Gin																	
561	460	413	357	291	211	154	99	Miriam Vale																
621	520	473	417	351	271	214	159	60	Calliope T/O (route 60)															
731	630	583	527	461	381	324	269	170	110	Rockhampton														
835	734	687	631	565	485	428	373	274	214	104	Marlborough													
915	814	767	711	645	565	508	453	354	294	184	80	St Lawrence												
1043	942	895	839	773	693	636	581	482	422	312	208	128	Sarina											
1078	977	930	874	808	728	671	616	517	457	347	243	163	35	Mackay										
1133	1032	985	929	863	783	726	671	572	512	402	298	218	90	55	Calen									
1203	1102	1055	999	933	853	796	741	642	582	472	368	288	160	125	70	Proserpine								
1267	1166	1119	1063	997	917	860	805	706	646	536	432	352	224	189	134	64	Bowen T/O							
1375	1274	1227	1171	1105	1025	968	913	814	754	644	540	460	332	297	242	172	108	Ayr						
1456	1355	1308	1252	1186	1106	1049	994	895	835	725	621	541	413	378	323	253	189	81	Townsville T/O (route 17)					
1561	1460	1413	1357	1291	1211	1154	1099	1000	940	830	726	646	518	483	428	358	294	186	105	Ingham				
1657	1556	1509	1453	1387	1307	1250	1195	1096	1036	926	822	742	614	579	524	454	390	282	201	96	Tully			
1710	1609	1562	1506	1440	1360	1303	1248	1149	1089	979	875	795	667	632	577	507	443	335	254	149	53	Innisfail		
1797	1696	1649	1593	1527	1447	1390	1335	1236	1176	1066	962	882	754	719	664	594	530	422	341	236	140	87	Cairns	

Brisbane																		A2	
27	Toowoomba Esk T/O (exit 33)																		
122	95	Toowoomba																	
206	179	84	Dalby																
287	260	165	81																
332	305	210	126	45	Chinchilla														
					Miles														
473	446	351	267	186	141	Roma													
560	533	438	354	273	228	87	Mitchell												
650	623	528	444	363	318	177	90	Morven											
742	715	620	536	455	410	269	182	92	Augathella										
859	832	737	653	572	527	386	299	209	117	Tambo									
960	933	838	754	673	628	487	400	310	218	101	Blackall								
1067	1040	945	861	780	735	594	507	414	321	209	107	Barcardine							
1174	1147	1052	968	887	842	701	614	524	432	315	214	107	Lengreath						
1353	1326	1231	1147	1066	1021	880	793	703	611	494	393	286	179	Winton					
1517	1490	1395	1311	1230	1185	1044	957	867	775	658	557	450	343	164	Kynuna				
1700	1673	1578	1494	1413	1368	1227	1140	1050	958	841	740	633	526	347	183	Cloncurry			
1821	1794	1699	1615	1534	1489	1348	1261	1171	1079	962	861	754	647	468	304	121	Mount Isa		
2010	1988	1888	1804	1723	1678	1537	1450	1360	1268	1151	1050	943	836	657	493	310	189	Camooweal	
2023	1996	1901	1817	1736	1691	1550	1463	1373	1281	1164	1063	956	849	670	506	323	202	13	NT Border

Wallangarra																			 	
38	Stanthorpe																			
98	60	Warwick																		
123	85	25	Allora																	
182	144	84	59	Toowoomba																
225	187	127	102	43	Crows Nest															
299	261	201	176	117	74	Yarraman														
320	282	222	197	138	95	21	Nanango													
380	342	282	257	198	155	81	60	Goomeri												
454	416	356	331	272	229	155	134	74	Ban Ban Springs											
481	443	383	358	299	256	182	161	101	27	Gayndah										
527	489	429	404	345	302	228	207	147	73	46	Mundubberra									
564	526	466	441	382	339	265	244	184	110	83	37	Eidsvold								
603	565	505	480	421	378	304	283	223	149	122	76	39	Bundaberg		Gin Gin T/O (route 12)					
637	599	539	514	455	412	338	317	257	183	156	110	73	34	Monto						
731	693	633	608	549	506	432	411	351	277	250	204	167	128	94	Biloela					
804	766	706	681	622	579	505	484w	424	350	323	277	240	201	167	73	Dululu				
835	797	737	712	653	610	536	515	455	381	354	308	271	232	198	104	31	Mount Morgan			
875	837	777	752	693	650	576	555	495	421	394	348	311	272	238	144	71	40	Rockhampton		

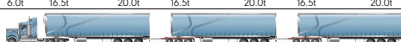
NSW Border												A55	A7			
4	Hebel															
71	67	Dirranbandi														
166	162	95	St George													
282	278	211	116	Surat												
361	357	290	195	79	Roma											
624	620	553	458	342	Rolleston											
695	691	624	529	413	334	71	Springsure									
762	758	691	596	480	401	138	67	Emerald								
814	810	743	648	532	453	190	119	52	Capella							
868	864	797	702	586	507	244	173	106	54	Clermont						
1041	1037	970	875	759	680	417	346	279	227	173	Belyando Crossing					
1239	1235	1168	1073	957	878	615	544	477	425	371	198	Charters Towers				

Goondiwindi															A5
97	Moonie														
145	48	The Gums													
195	98	50	Condamine												
228	131	83	33	Miles											
297	200	152	102	69	Wandoan										
358	261	213	163	130	61	Taroom									
453	356	308	258	225	156	95	Theodore								
512	415	367	317	284	215	154	59	Banana							
558	461	413	363	330	261	200	105	46	Rannes						
591	494	446	396	363	294	233	138	79	33	Dululu					
617	520	472	422	389	320	259	164	105	59	26	Westwood T/O				

Rockhampton										A4
49	Westwood									
111	62	Daringa								
195	146	84	Blackwater							
270	221	159	75	Emerald						
438	389	327	243	222	168	Alpha				
492	443	381	297					Jericho		
578	529	467	383	308	140	86	Barcardine			

Townsville										A6
43	Woodstock									
138	95	Charters Towers								
297	254	159	Torrens Creek							
386	343	248	89	Hughenden						
501	458	363	204	115	Richmond					
650	607	512	353	264	149	Julia Creek				
787	744	649	490	401	286	137	Cloncurry			

Appendix I – Common Heavy Freight Vehicle Combinations

	Description	Maximum Length (metres)	Maximum Regulatory Mass under GML (tonnes)	Maximum Regulatory Mass under CML (tonnes)	Maximum Regulatory Mass under HML (tonnes)
1. COMMON RIGID TRUCKS - GENERAL ACCESS					
(a)	 2 Axle Rigid Truck	≤ 12.5	15.0	CML does not apply	-
(b)	 3 Axle Rigid Truck	≤ 12.5	22.5	23.0	-
(c)	 4 Axle Rigid Truck	≤ 12.5	26.0	27.0	-
(d)	 4 Axle Twinsteer Rigid Truck	≤ 12.5	26.5	27.0	-
(e)	 5 Axle Twinsteer Rigid Truck	≤ 12.5	30.0	31.0	-
2. COMMON SEMITRAILER COMBINATIONS - GENERAL ACCESS					
(a)	 3 Axle Semitrailer	≤ 19.0	24.0	-	-
(b)	 4 Axle Semitrailer	≤ 19.0	31.5	32.0	32.0
(c)	 5 Axle Semitrailer	≤ 19.0	35.0	36.0	37.5
(d)	 5 Axle Semitrailer	≤ 19.0	39.0	40.0	40.0
(e)	 6 Axle Semitrailer	≤ 19.0	42.5	43.5	45.5
3. COMMON RIGID TRUCK AND TRAILER COMBINATIONS (General access when complying with prescribed mass and dimension requirements)					
(a)	 2 Axle Truck and 2 Axle Dog Trailer	≤ 19.0	30.0	-	-
(b)	 2 Axle Truck and 2 Axle Pig Trailer	≤ 19.0	30.0	CML does not apply	-
(c)	 3 Axle Truck and 2 Axle Dog Trailer	≤ 19.0	40.5	41.0	-
(d)	 3 Axle Truck and 2 Axle Pig Trailer	≤ 19.0	37.5	CML does not apply	-
(e)	 3 Axle Truck and 3 Axle Dog Trailer	≤ 19.0	42.5	43.5	-
(f)	 3 Axle Truck and 3 Axle Pig Trailer	≤ 19.0	40.5	CML does not apply	-
(g)	 3 Axle Truck and 4 Axle Dog Trailer	≤ 19.0	42.5	43.5	-
(h)	 4 Axle Truck and 3 Axle Dog Trailer	≤ 19.0	42.5	43.5	-
(i)	 4 Axle Truck and 4 Axle Dog Trailer	≤ 19.0	42.5	43.5	-
4. COMMON B-DOUBLE COMBINATIONS - CLASS 2					
(a)	 7 Axle B-double	≤ 19.0	55.5	57.0	57.0
(b)	 8 Axle B-double	≤ 26.0	59.0	61.0	62.5
(c)	 8 Axle B-double	≤ 26.0	59.0	61.0	62.5
(d)	 9 Axle B-double	≤ 26.0	62.5	64.5	68.0
5. COMMON TYPE 1 ROAD TRAINS - CLASS 2					
(a)	 9 Axle A-double	≤ 36.5	72.0	74.0	74.0
(b)	 11 Axle A-double	≤ 36.5	79.0	81.0	85.0
(c)	 12 Axle A-double	≤ 36.5	82.5	84.5	90.5
(d)	 12 Axle Modular B-triple	≤ 35.0	82.5	84.5	90.5
(e)	 12 Axle B-triple	≤ 36.5	82.5	84.5	90.5
(f)	 14 Axle AB-triple	≤ 36.5	99.0	101.0	107.5
(g)	 15 Axle AB-triple	≤ 36.5	102.5	104.5	113.0
(h)	 11 Axle Rigid Truck and 2 Dog Trailers	≤ 36.5	88.5	90.5	91.0
6. COMMON TYPE 2 ROAD TRAINS - CLASS 2					
(a)	 16 Axle A-triple	≤ 53.5	115.5	117.5	124.5
(b)	 18 Axle A-triple	≤ 53.5	122.5	124.5	135.5
(c)	 15 Axle AB-triple	≤ 44.0 – Classified by the NHVR as Type 1 when L ≤ 36.5m	102.5	104.5	113.0
(d)	 13 Axle Rigid Truck and 2 Dog Trailers	≤ 47.5 – Classified by the NHVR as Type 1 when L ≤ 36.5m	95.5	97.5	102.0
(e)	 17 Axle BAB-Quad	≤ 53.5	119.0	121.0	130.0
(f)	 18 Axle BAB-Quad	≤ 53.5	122.5	124.5	135.5
(g)	 17 Axle ABB-Quad	≤ 53.5	119.0	121.0	130.0
(h)	 18 Axle ABB-Quad	≤ 53.5	122.5	124.5	135.5

Appendix J – Traffic impact assessment certification

Appendix B: Traffic impact assessment certification

Certification of Traffic Impact Assessment Report

Registered Professional Engineer Queensland

for

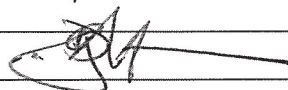
Project title:	CopperString 2.0 EIS Project
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As a professional engineer registered by the Board of Professional Engineers of Queensland pursuant to the *Professional Engineers Act 2002* as competent in my areas of nominated expertise, I understand and recognise:

- the significant role of engineering as a profession, and that
- the community has a legitimate expectation that my certification affixed to this engineering work can be trusted, and that
- I am responsible for ensuring its preparation has satisfied all necessary standards, conduct and contemporary practice.

As the responsible RPEQ, I certify:

- I am satisfied that all submitted components comprising this traffic impact assessment, listed in the following table, have been completed in accordance with the *Guide to Traffic Impact Assessment* published by the Queensland Department of Transport and Main Roads and using sound engineering principles, and
- where specialised areas of work have not been under my direct supervision, I have reviewed the outcomes of the work and consider the work and its outcomes as suitable for the purposes of this traffic impact assessment, and that
- the outcomes of this traffic impact assessment are a true reflection of results of assessment, and that
- I believe the strategies recommended for mitigating impacts by this traffic impact assessment, embrace contemporary practice initiatives and will deliver the desired outcomes.

Name:	Graham Anderson	RPEQ No:	15935
RPEQ competencies:	Transport/Civil		
Signature:		Date:	13/11/2020
Postal address:	71 Stanley Street Townsville QLD 4810		
Email:	graham.anderson@ghd.com		