Galilee Power Station Project

Material Change of Use Application
Transport Impact Assessment

Prepared by: GTA Consultants (QLD) Pty Ltd for Waratah Coal Pty Ltd

on 7/07/20

Reference: Q163323

Issue #: D

GTAconsultants

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Quality Record

Issue	Date	Description	Prepared By	Checked By	Approved By	Signed
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EXECUTIVE SUMMARY

Background and Purpose of this Report

Waratah Coal Proprietary Limited (Waratah Coal) a wholly owned subsidiary of Mineralogy Proprietary Limited, proposes to develop a 1,400 MW ultra-supercritical power station, known as the Galilee Power Project, adjacent to the Mining Lease for their Galilee Coal Project (GCP). The Project will be located adjacent to the GCP Mining Lease Application area (MLA70454) which is located approximately 30km north of the township of Alpha, within the Barcaldine Regional Council administrative area.

GTA has been engaged by Waratah Coal to undertake a revision to the Transport Impact Assessment (TIA) (Revision B, dated 16/10/2019) previously prepared as part of the Material Change of Use Development Application. The purpose of this updated Transport Impact Assessment (Revision C, dated 11/06/20) is to incorporate additional analyses requested by the Department of Transport and Main Roads (TMR) referenced within the Barcaldine Regional Council (BRC) *Information Request* (dated 02/04/20), provided at Appendix A. This report considers and responds to items raised within Section 3(a)-3(j) of the *Information Request*.

Assessment Scenarios and Traffic Generation

Design horizons as outlined below form the basis of this TIA. These design horizons have been determined with respect to the requirements set out in the Department of Transport and Main Roads' *Guide to Traffic Impact Assessment (GTIA)* and represent the critical design years when considering likely Project traffic generation associated with forecast workforce requirements (further detailed provided in Section 5.2).

- 2022 (Project Year 2): Peak construction phase of Project
- 2023 (Project Year 3): Opening year of operations of Project and peak combined Project workforce
- 2032 (Project Year 12): 10-year design horizon from operations commencement of Project
- 2042 (Project Year 22): 20-year design horizon from operations commencement of Project.

It should be noted that the 10-year and 20-year design horizon is only relevant to access intersection assessment and pavement impact assessment, respectively, as outlined in the GTIA.

Although it is possible that the project's construction schedule may change, the assessment presented herein has been made on a 'worst case' basis for the options of project timing and size that has the greatest anticipated impact on the road network (i.e. constructed as soon as possible and 1,400 MW ultra-supercritical). Feasible alternatives for project timing and sizing would all result in lower intensity for construction workforce traffic, and lesser transport related impacts than that presented within this report.

The Galilee Power Project will be the first thermal power plant in Australia to employ flue gas desulphurisation (FGD). This process is being deployed in order to make the Galilee Power Project the cleanest coal fired power project in Australia measured by any metric. There are three technologies being considered for flue gas desulphurisation, each with a different impact on operational vehicle movements, these technologies are:

- Option 1: Conventional wet limestone slurry,
- Option 2: Dry limestone injection,
- Option 3: Catalytic wet acid process.

Options 1 and 2 require delivery of limestone to the site. Option 3 does not require delivery of limestone to the site. Limestone will be sourced from the Rockhampton or Gladstone region. Option 3 produces saleable sulphuric acid. For the purposes of this study it is assumed that sulphuric acid will be trucked in an ISO-tainer by flat bed semi-trailer to Alpha where the ISO-tainer will be loaded onto rail for transportation to its final destination (likely to be QNI north of Townsville).

It is anticipated that the workforce is to be a combination of drive-in/drive out (DIDO) and fly in/fly out (FIFO) during the construction phase and only DIDO during the operations phase. Project workforce is assumed to access the site from nearby townships of Jericho and Alpha with construction FIFO workforce assumed to do so from Alpha Airport. These assumptions are understood to be the best Project estimate based on discussion with the Proponent.

Estimates of the workforce generated traffic based on the latest and best estimate of workforce numbers for the Project are detailed in Table 1.1. Traffic associated with operation of the GCP mine is included in the various cumulative impacts identified in Section 4.

Table 1.1: Workforce Traffic Generation Summary

Design Year	AM Peak (veh / hr)		PM Peak (veh / hr)	
	In	Out	In	Out
2022	218	0	0	218
2023	246	0	0	246
2032	120	0	0	120

veh /hr – vehicle movements per hour

The estimated projection of daily heavy vehicle movements based on the latest and best estimates are shown in Table 1.2.

Table 1.2: Daily Project Heavy Vehicle Movements

Project Phase	Vehicle Type	Origin/ Destination					
		Alpha	Gladstone	Mackay	Brisbane	Northern Territory	Southern States
Construction (2021 – 2023)	Rigid	48 [1]	2	2 [2]	2 [2]	2 [2]	2 [2]
	Semi-Trailer	2	6	2 [2]	2 [2]	2 [2]	2 [2]
	B-Double	2	6	2 [2]	2 [2]	2 [2]	2 [2]
	Oversized or Road Train (Type 1)	2	6	2 [2]	2 [2]	2 [2]	2 [2]
	Sub-Total	**54**	**20**	**8** [2]	**8** [2]	**8** [2]	**8** [2]
Operations (2023 – 2076)	Rigid	2	2	2 [2]	2 [2]	2 [2]	2 [2]
	Semi-Trailer	2	8	2 [2]	2 [2]	2 [2]	2 [2]
	B-Double	2	2	2 [2]	2 [2]	2 [2]	2 [2]
	Oversized or Road Train (Type 1)	2	2	2 [2]	2 [2]	2 [2]	2 [2]
	Sub-Total	**8**	**14**	**8** [2]	**8** [2]	**8** [2]	**8** [2]
Option 1 FGD [4] (2023 – 2076)	Road Train (Type 1)	-	12 [3]	-	-	-	-
	Semi-Trailer	-	16 [3]	-	-	-	-
Option 2 FGD [4] (2023 – 2076)	Road Train (Type 1)	-	22 [3]	-	-	-	-
	Semi-Trailer	-	28 [3]	-	-	-	-

Project Phase	Vehicle Type	Origin/ Destination					
		Alpha	Gladstone	Mackay	Brisbane	Northern Territory	Southern States
Option 3 FGD (2023 – 2076)	Semi-Trailer	26	-	-	-	-	-

[1] 10 of the 48 vehicle movements from Alpha are expected to originate from and be destined for Emerald.
[2] These movements are expected to be occasional on an as required basis.
[3] Haulage from limestone quarry to Gracemere as a single semi-trailer and then coupled as a Type 1 Road Train from Gracemere to the Project site.
[4] Limestone is likely to be sourced from a quarry in Gladstone or Rockhampton. To maintain a conservative assessment, it has been assumed that the quarry will be located in Gladstone, though it is proposed that the pavement impact assessment be re-evaluated (if necessary) after the relevant technology and limestone sourcing contracts are confirmed.

A total of 106 heavy vehicle movements per day are expected for peak construction, of which 48 are expected to be articulated and 58 are rigid. Of the 106 movements, 54 are expected to be local movements between site and Alpha (predominantly rigid trucks) and 52 movements are from further afield (Gladstone, Mackay, Brisbane, interstate). For these longer range haul movements, 81% are forecast to be articulated semi-trailers or larger, which is generally consistent with haul movement operations for developments of this nature.

It is noted that the 48 rigid vehicles travelling between Alpha and the site on a daily basis are work vehicles, couriers and other general service vehicles that will move between Alpha and the site conveying smaller items or equipment (e.g. welding trucks, courier vans, catering trucks, flatbed trucks delivering small items equipment such as work platforms, fibre optic work trucks, small cranes).

Waratah Coal anticipates that a portion of the construction materials coming to site would come through the Port of Gladstone and that a smaller number of deliveries would be made from alternative ports such as the Port of Brisbane or be trucked from interstate. The fleet of vehicles delivering materials to site is expected to be a mix of Semi-trailers, B-Doubles, B-Triples, Type 1 Road Trains and oversized/over mass vehicles.

As shown in Table 1.2, the majority of the heavy vehicle movements for the Project are expected to access the site from Gladstone and Alpha. Heavy vehicle traffic from Mackay, Brisbane and interstate has been excluded for the purpose of this assessment, given low and infrequent traffic volumes expected from these locations. The assumed haul route for heavy vehicle movements to/ from Gladstone and Alpha is via the Capricorn Highway.

Road Link Assessment

A road link assessment has been undertaken to assess the anticipated worst-case Project impacts on the proposed haul route (i.e. inclusive of the worst case traffic volumes associated with FGD Option 2). The impact of forecast Project traffic exceeding 5% of annual average daily traffic (AADT) for road segments on the Capricorn Highway are presented in Table 1.3.

It is noted that the future year traffic forecasts have been determined using growth rates calculated by the preceding 10-years, as displayed within the AADT segment reports provided by TMR. Where growth has been reported as negative for the preceding 10 years, a growth rate of 0% p.a. has been adopted.

Table 1.3: Project Traffic Impacted Road Links – Including FGD Option 2

Road Name	Chainage Start	Chainage End	Heavy Vehicle Percentage	Direction	% Increase in AADT	
					2022	2023
181 - GLADSTONE - MT LARCOM ROAD	0	1.409	14.72	G	4%	6%
	0	1.409	20.26	A	4%	6%
	1.409	2.277	16.05	G	4%	7%
	1.409	2.277	16.2	A	4%	7%

Road Name	Chainage Start	Chainage End	Heavy Vehicle Percentage	Direction	% Increase in AADT	
					2022	2023
	2.277	3.2	16.05	G	4%	7%
	2.277	3.2	16.2	A	4%	7%
	3.2	3.258	16.2	A	4%	7%
	3.2	3.258	16.05	G	4%	7%
	4.625	7.063	15.99	A	4%	7%
	7.063	9.325	15.99	A	4%	7%
	9.325	12.292	15.99	A	4%	7%
	12.292	32.14	21.87	G	8%	14%
	12.292	32.14	30.29	A	8%	14%
10E - BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	0	11.445	24.28	G	4%	8%
	0	11.445	27.85	A	4%	7%
	11.445	45.42	26.32	G	4%	8%
	11.445	45.42	24.77	A	5%	8%
	45.42	85.308	23.77	A	4%	7%
	45.42	85.308	21.66	G	4%	7%
	85.308	108.938	28.33	G	3%	6%
	85.308	108.938	26.17	A	3%	5%
	108.938	114.088	27.05	A	4%	6%
	108.938	114.088	24.95	G	4%	6%
	114.088	114.388	24.95	G	4%	6%
	114.088	114.388	27.05	A	4%	6%
16A - CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	5.69	5.97	37.15	A	5%	8%
	5.69	5.97	24.82	G	5%	7%
	5.97	9.39	24.82	G	5%	7%
	5.97	9.39	37.15	A	5%	8%
	9.39	10	37.15	A	5%	8%
	9.39	10	24.82	G	5%	7%
	10	13.367	24.82	G	5%	7%
	10	13.367	37.15	A	5%	8%
	13.367	17.856	24.67	A	6%	10%
	13.367	17.856	26.31	G	6%	9%

Road Name	Chainage Start	Chainage End	Heavy Vehicle Percentage	Direction	% Increase in AADT	
					2022	2023
	17.856	51.62	27.53	G	7%	12%
	17.856	51.62	27.31	A	7%	12%
	51.62	73.35	30.43	G	9%	14%
	51.62	73.35	28.79	A	8%	13%
	73.35	106.38	28.79	A	8%	13%
	73.35	106.38	30.43	G	9%	14%
16B - CAPRICORN HIGHWAY (DUARINGA - EMERALD)	0	36.04	28.23	A	9%	15%
	0	36.04	25.65	G	9%	15%
	36.04	82.671	28.59	A	8%	13%
	36.04	82.671	21.14	G	9%	14%
	82.671	86.15	23.21	G	6%	10%
	82.671	86.15	22.88	A	6%	10%
	86.15	90.56	20.87	G	10%	16%
	86.15	90.56	20.95	A	10%	16%
	90.56	127.95	21.78	A	11%	18%
	90.56	127.95	23.13	G	11%	18%
	127.95	157.46	16.07	A	8%	14%
	127.95	157.46	15.24	G	8%	14%
	157.46	157.56	16.07	A	8%	14%
	157.46	157.56	15.24	G	8%	14%
16C - CAPRICORN HIGHWAY (EMERALD - ALPHA)	1.08	2.17	20.43	G	8%	13%
	1.08	2.17	18.41	A	9%	14%
	2.17	43.3	19.8	G	20%	32%
	2.17	43.3	22.56	A	20%	32%
	43.3	70.531	24.85	G	52%	84%
	43.3	70.531	46.63	A	53%	86%
	70.531	107.95	23.15	A	70%	113%
	70.531	107.95	28.98	G	52%	83%
	107.95	167.94	33.24	G	56%	90%

Road Name	Chainage Start	Chainage End	Heavy Vehicle Percentage	Direction	% Increase in AADT	
					2022	2023
	107.95	167.94	26.08	A	55%	89%
16D - CAPRICORN HIGHWAY (ALPHA - BARCALDINE)	0	54.27	22.63	A	554%	788%
	0	54.27	47.31	G	578%	824%

The Capricorn Highway between Emerald and Barcaldine currently services a low volume of traffic (i.e. generally less than 300 vehicles per day in both directions). This results in a disproportionate level of Project impact being calculated on low volume sections, such as the projected 788% and 824% increase in traffic volumes on the Capricorn Highway between Alpha and Barcaldine. Project traffic anticipated to use the Capricorn Highway (between Saltbush Road and Barcaldine) is expected to be low and in the order of 65 vehicles per day at Project peak. All impacted road links have been assessed for capacity constraints, and all impacted road sections are expected to remain within the calculated theoretical capacity, inclusive of Project generated traffic.

Intersection Assessment - Capricorn Highway / Saltbush Road

The Project proposes to gain vehicular access to the site via Saltbush Road to provide a more direct access route to the mine from the major road network being the Capricorn Highway. In order to facilitate this access, the Project proposes to upgrade the existing Capricorn Highway / Saltbush Road intersection. A turn warrant assessment of this intersection has been undertaken in accordance with the methodology provided in the Department of Transport and Main Roads' *Road Planning and Design Manual (RPDM) Volume 3: Part 4A*. Results of the assessment (included at Appendix C) conclude that turn treatments at the intersection should take the form of:

- Left-Turn: Basic Left Turn (BAL)
- Right-Turn: Short Channelised Right Turn (CHR[s]).

It should be noted that these turn treatments are also acceptable for the 2032 design horizon and are required prior to construction commencement of the Project in 2021.

Storage requirements for the short channelised right turn lane on the Capricorn Highway have been calculated using SIDRA Intersection V8.0. The modelling has been undertaken using the SIDRA Network feature, and takes into consideration the interaction of the nearby rail level crossing on Saltbush Road when the rail level crossing is in operation. The modelling has considered a rail level crossing closure time of 74 seconds (advice provided by TMR and Queensland Rail (QR) on 28/05/20), and includes updated vehicle parameters to include Type 2 Road Trains (53.5m). Whilst the Project only anticipates the use of Type 1 Road Trains, BRC has requested the intersection design to accommodate up to a Type 2 Road Train. The SIDRA modelling has indicated that a maximum 95th percentile queuing of up to 33m is expected on the Capricorn Highway. This storage requirement has been allowed for within the concept design of the Capricorn Highway / Saltbush Road intersection.

It is noted that the SIDRA results presented in this assessment are based on a worst-case scenario which assumes that:

- Project traffic occurs solely during the background network peak hours (it is likely that traffic demands will be spread throughout the course of the day)
- The rail level crossing is activated during the peak hour, when traffic volumes are at its highest (this occurrence may be unlikely given that there are currently 14 scheduled passenger and freight services per week), and
- The rail level crossing will be activated at a time when the largest vehicle (Type 1 Road Train (36.5m)) is present and using the crossing.

The 95th percentile queue of up to 33m is therefore considered highly conservative.

Saltbush Road Rail Level Crossing

Advice provided within BRC's *Information Request* indicated that QR had completed an Australian Level Crossing Assessment Model (ALCAM) assessment for the Saltbush Road rail level crossing located adjacent to the Capricorn Highway / Saltbush Road intersection on the basis of the forecast traffic volumes provided in GTA's Transport Impact Assessment (Revision B, dated 16/10/2019). QR indicated that the rail level crossing should be upgraded to include flashing lights, applicable advance warning signage, 'Keep Clear' signage, yellow box marking, 'Rail-X' road marking and lighting.

Additional advice provided by TMR (email correspondence dated 29/05/20) indicated that the design and separation of the rail level crossing with the Capricorn Highway / Saltbush Road intersection should consider the requirements set out within *AS1742.7:2016 Manual of Uniform Traffic Control Devices, Part 7: Railway.*

The concept design of the Capricorn Highway / Saltbush Road intersection has considered the requirements set out within *AS1742.7:2016 Part 7* and the expected 95th percentile queue lengths as calculated using SIDRA Intersection. Further details are provided in Section 7.1 of this report.

Local Road Upgrades

Figure 1.1 sets out the proposed local road upgrades and closures associated with the mine and power station. The upgrade will bring the upgraded roads to two lane sealed roads suitable for the classes of heavy vehicles required to construct and operate the power plant and mine. The upgrades will include appropriate design allowances for expected over-mass vehicles and bend geometry will allow for expected road train and oversized vehicle access. Driveways will be assessed for appropriate line of site geometry and driveway to road intersections will be upgraded as necessary and as agreed with landholders.

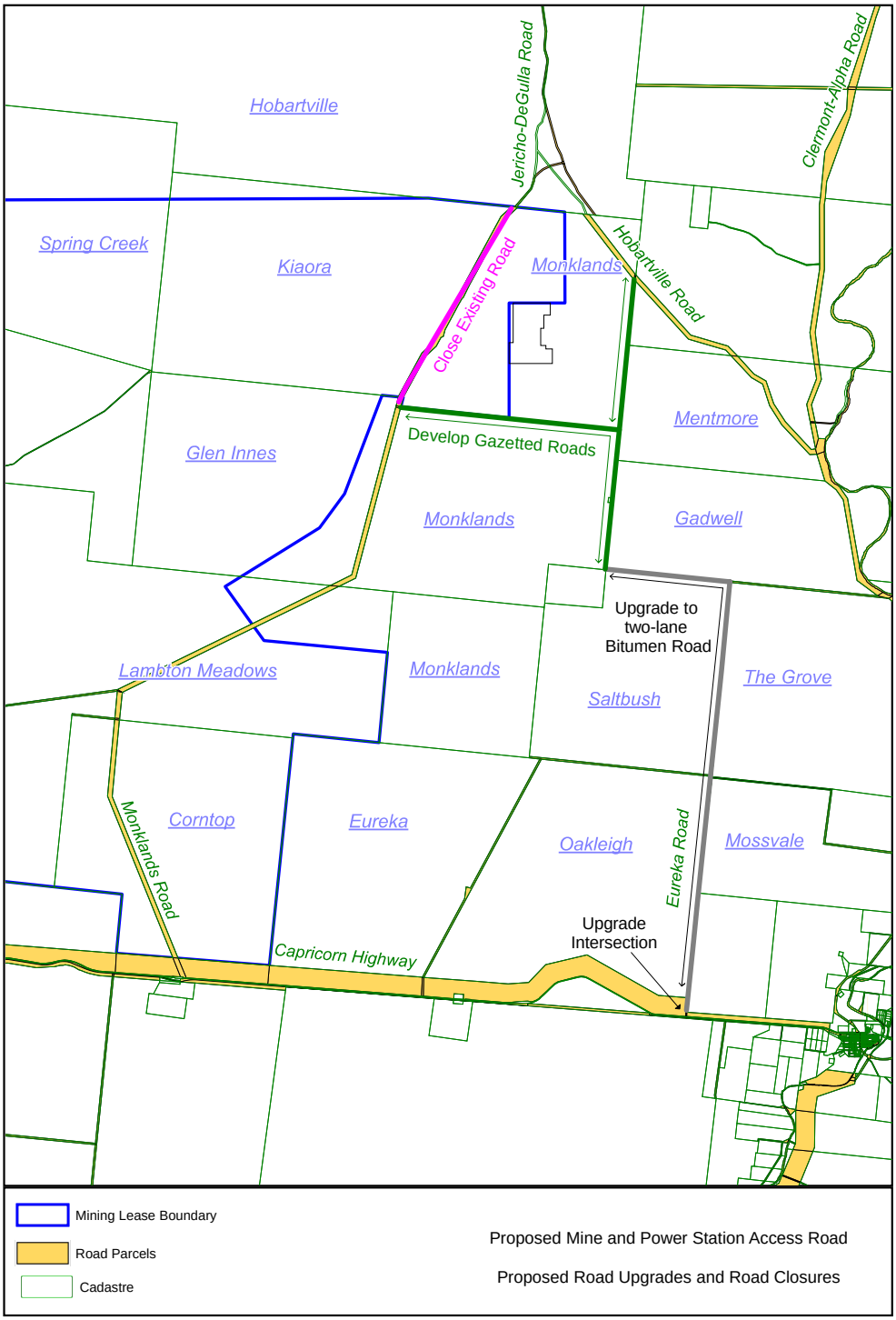
Eureka Road (also known as Saltbush Road) and un-named road reserves running between Eureka Road and Degulla Road will be upgraded to a two lane, all weather sealed road. The upgrade of Eureka Road will extend from the Capricorn Highway in the South (at approximately 23.64°S, 146.57°E) to Degulla Road in the North (at approximately 23.36°S, 146.55°E).

An un-named road reserve running between Monklands Road (at approximately 23.41°S, 146.45°E) and the above Eureka Road extension (at approximately 23.42°S, 146.54°E) will also be upgraded to a two lane, all weather sealed road. This road will provide access to the mine and power station and provide a link from the northern end of Monklands Road up to Degulla Road in the North.

All road upgrades will meet Council's technical requirements. The roads will be classified as Class 3 Rural Arterial Road under the Barcaldine Road Classification Policy I009 (Appendix A). In the event that Council does not have existing, published technical standards, Austroads standards will be used. The roads, culverts and intersection designs will be suitable for Type 2 Road Trains. The designs will be certified by a Registered Professional Engineer of Queensland (RPEQ).

The road upgrades will commence at the start of the project as enabling infrastructure. The roads will be designed and constructed with sufficient pavement strength to meet the anticipated traffic flows over the life of the project. We propose that the maintenance of the new road network be addressed in the proposed infrastructure agreement.

Figure 1.1: Proposed Road Closures and Upgrades



The closure of Monklands Road is triggered by the mine rather than the power station; nevertheless, we appreciate that Council must consider the impacts of the combined projects. The closure will have the following impacts:

- Transit times between the northern section of Monklands Road (e.g. Monklands Station) and Alpha (for travel into Alpha and towards Emerald) are expected to improve due to the new, higher speed sealed roads providing superior, all weather access.
- Transit times between the northern section of Monklands Road and the Capricorn Highway intersection at Monklands Road (for travel towards Barcaldine) remains unchanged.
- Transit times between the northern section of Monklands Road and the Alpha-Clermont Road (for travel towards Clermont) are expected to improve due to the sealed, all weather, higher speed new connection to Degulla Road.
- Transit times between the northern section of Monklands Road and the existing Monklands Road and Degulla Road intersection (for travel northwards on Degulla Road) will increase marginally due to the additional distance. The transit distance will increase from approximately 14 km to 23.5 km, of which approximately 15.5 km will be new, sealed higher speed road,
- Transit times from Degulla Road (north and west of the Eureka Road extension) into Alpha (for travel into Alpha and towards Emerald) are expected to improve due to the sealed, all weather, higher speed new connection between Degulla Road and the Capricorn Highway.

Pavement Impact Assessment

Identification of pavement impacts to SCRs was undertaken in line with TMR's GTIA guidelines and the associated Pavement Impact Assessment (PIA) Practice Note for the Capricorn Highway between Jericho and Rockhampton, the Bruce Highway between Benaraby and Rockhampton, and Gladstone – Mount Larcom Road. Background AADT volumes and Standard Axle Repetitions (SAR) were based on data provided by TMR in a marginal cost spreadsheet, and Project generated traffic SARs were calculated based on anticipated heavy vehicle movements for the Project. Anticipated pavement loadings of adjacent Galilee Coal Mine Project were also added to the background generated SAR's (refer to Section 4) to undertake a cumulative pavement impact assessment.

In accordance with the TMR assessment guidelines, the pavement impact identification was undertaken based on SAR4 loading, with monetary contributions then determined based on the pavement type dependent loading corresponding to SAR4, SAR5 or SAR12.

Impact identification and resultant monetary contributions which would be required to offset pavement impacts, have been determined for the following scenarios:

- Scenario 1: Project with No FGD (for comparative purposes)
- Scenario 2: Project with Option 1 FGD, which includes heavy vehicle movements for Limestone delivery via Gladstone
- Scenario 3: Project with Option 2 FGD, which includes heavy vehicle movements for Limestone delivery via Gladstone
- Scenario 4: Project with Option 3 FGD, which includes heavy vehicle movements for acid removal to Alpha.

Pavement Impacts (i.e. SAR impacts) of greater than 5% have been identified for the road links along the Capricorn Highway, as presented in Table 8.2, Table 8.3, Table 8.4 and Table 8.5 within the report, for the design years of 2022 and 2023.

As per the PIA methodology, contributions have been assessed based on the costing pavement type and marginal cost provided by TMR. The monetary contributions have been calculated based on the corresponding SAR4, SAR5, and SAR12 impacts consistent with the PIA methodology for a period up to 20 years following the opening of the final stage.

Table 1.4: Pavement Impact Assessment Monetary Contributions

Phase	Scenario 1: No FGD	Scenario 2: FGD Option 1	Scenario 3: FGD Option 2	Scenario 4: FGD Option 3
Construction (2021 – 2022)	$193,974	$193,974	$193,974	$193,974
Construction + Operations Overlap (2023)	$199,106	$276,959	$315,749	$203,640
Operations (2024 – 2042)	$1,415,474	$2,689,009	$4,093,072	$1,734,584
Combined Total (i.e. life of project)	$1,808,554	$3,159,942	$4,602,795	$2,132,197

The pavement impact contribution identified for the Project varies between $1,808,554 and $4,602,795, depending on the technology selected. A summary of pavement contribution by road section (per scenario) is provided in Appendix G.

The Proponent has proposed that the pavement impact contribution be confirmed after the relevant technology and limestone sourcing contract (if necessary) have been finalised. The recalculation of the pavement contribution (if required) and subsequent pavement contribution payment to TMR is proposed to occur prior to the commencement of any construction and heavy vehicle haul operations. The Proponent has also expressed a desire to make better use of rail infrastructure to minimise the impact on the road network.

Road Safety Risk Assessment

An analysis has been undertaken of historical crash data proximate to the Project. The analysis suggests that no atypical safety risks or hazards are present on the Capricorn Highway between Jericho and Rockhampton, which would need to be factored into the design of the Capricorn Highway/ Saltbush Road intersection or otherwise considered as part of this assessment.

Consideration of Other Impacts

The Project is likely to utilise oversized vehicles for some of the transport activities as part of construction and operations. The use of these vehicles will be undertaken in accordance with the National Heavy Vehicle Regulator guidelines and be subject to permit applications and TMR approvals for the use of such vehicles. The use of these vehicles will be assessed as part of these permit applications.

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1. INTRODUCTION

01

1.1. Background

Waratah Coal Proprietary Limited (Waratah Coal), a wholly owned subsidiary of Mineralogy Proprietary Limited, proposes to develop a 1,400MW ultra-supercritical power station, known as the Galilee Power Project, adjacent to the Mining Lease for their Galilee Coal Project (GCP). The Project is located approximately 30 km to the north of Alpha in Queensland, Australia. The Project will provide the power needs for the GCP mine operations and provide low cost, reliable power to the National Electricity Market.

GTA has been engaged by Waratah Coal to undertake a revision to the Transport Impact Assessment (TIA) (Revision B, dated 16/10/2019) previously prepared as part of the Material Change of Use Development Application. The purpose of this updated Transport Impact Assessment (Revision C, dated 11/06/20) is to incorporate additional analyses requested by the Department of Transport and Main Roads (TMR) referenced within the Barcaldine Regional Council (BRC) *Information Request* (dated 02/04/20), provided at Appendix A. This report considers and responds to items raised within Section 3(a)-3(j) of the *Information Request*.

1.2. Purpose of this Report

This report sets out the assessment of the expected transport implications resulting from the construction, operation and decommissioning/ rehabilitation phases of the Project. Specifically, this report considers the following:

1. The existing traffic conditions proximate to the Project, including an assessment of the haul roads anticipated to service the Project (base case).
2. Consideration of cumulative traffic impacts from adjacent large-scale developments.
3. The traffic generating characteristics of the Project.
4. The anticipated transport impact of the Project on the surrounding Local and State Controlled Road (SCR) network.
5. Proposed changes to road-related infrastructure required by the Project. This includes modifications to roads and access works and realignments of rail lines in the context of rail level crossings and services.
6. Expected traffic volumes of heavy vehicle haul movement associated with transport of materials, wastes and other goods for construction and operational phases of the Project.
7. Workforce journey-to-work (JTW) traffic generated by all Project activities, including anticipated traffic modes, volumes, composition, timing and routes.
8. Identification of methods and strategies to reduce any identified traffic impacts.

1.3. Study Methodology

This Transport Impact Assessment (TIA) has been undertaken in accordance with the requirements of the Department of Transport and Main Roads' *Guide to Traffic Impact Assessment* (GTIA), by way of the adoption of the following methodology:

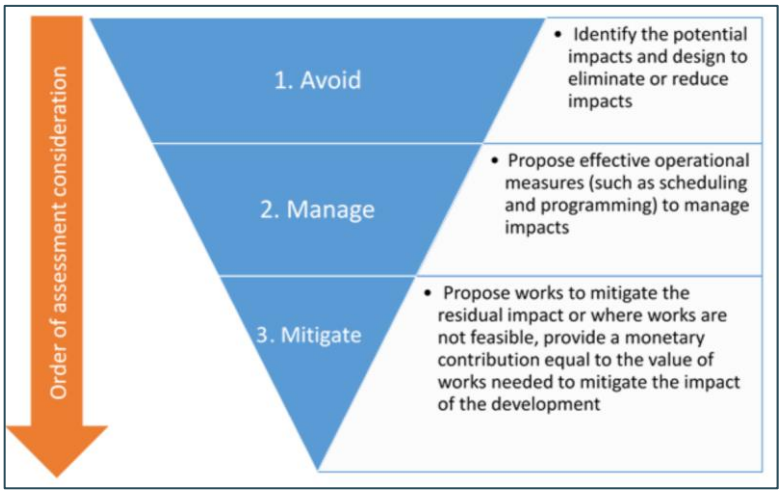
- Review existing road conditions and operations and establish a baseline condition (i.e. transport operation without the Project).
- Review publicly available information and documents to source traffic generation metrics of adjacent large-scale developments.
- Prepare estimates of Project generated traffic based on the intended haul routes of heavy vehicles and workforce requirements.
- Prepare scenarios for the traffic assessment which consider baseline and Project traffic generation estimates at critical Project milestones (referred herein as design horizons).

- Determine anticipated road impacts of the Project for each of the identified design horizons, in accordance with threshold levels and rationale provided within GTIA. Specifically, the following impacts have been considered:
    - Impact of the proposed vehicular access intersection on the existing road network provided as part of the Project.
    - Impact of Project related traffic on existing road link capacity for key haul routes.
    - Impact of Project related heavy vehicle movements on existing pavement conditions.
- Where impacts were identified as exceeding GTIA defined threshold levels, recommendations to "avoid", "manage" or "mitigate" these impacts have been provided in line with the methodology detailed in GTIA and shown in Figure 1.1.
- Review and assess road safety risks that might arise as a result of the Project and identify mitigation measures to ensure no worsening of these risks.

It should be highlighted that the application of this methodology also addresses the following requirements of Council's planning scheme:

- Has an appropriately designed access to the road network and traffic generated by the development does not impact adversely on the local road network.
- Sufficient information should be provided to enable Council to accurately assess traffic related matters. The following information should be provided:
    - traffic likely to be generated by the proposal;
    - the number, type and frequency of vehicles likely to service the proposal;
    - the times and arrangements for servicing of the premises;
    - anticipated carparking requirements; and
    - the extent of car parking, vehicle manoeuvring areas, crossover / access details, loading / unloading areas, service areas.

Figure 1.1: Impact Mitigation Hierarchy



Source: Guide to Traffic Impact Assessment, Department of Transport and Main Roads (September 2017)

1.4. Reference Documents & Supporting Data

This report has been prepared with consideration of the following reference resources and documents:

- Draft Waratah Coal, Galilee Power Station, Initial Advice Statement (dated 31 August 2018)
- TMR (2017) *Guide to Traffic Impact Assessment (GTIA)*
- TMR (2006) *Road Planning and Design Manual (Edition 2) – Volume 3 (RPDM)*
- TMR (2014) *Road Planning and Design Manual (2nd Edition) – Volume 3: Supplement to Austroads Guide to Road Design Part 4A (RPDM Volume 3: Part 4A)*
- Austroads (2012) *Guide to Pavement Technology, Part 2: Pavement Structural Design (Austroads GPT: Part 2)*
- Austroads (2009) *Guide to Traffic Management Part 3: Traffic Studies and Analysis (Austroads GTM: Part 3)*
- Austroads (2010) *Guide to Road Design Part 4A: Unsignalised and Signalised Intersections (Austroads GRD: Part 4A)*
- Australian Standard *AS1742.7:2016 Manual of Uniform Traffic Control Devices, Part 7: Railway*
- Marginal Costs Spreadsheet, provided by TMR in September 2019
- Barcaldine Regional Council'(BRC) *Information Request* for applicant number DA221920 (dated 2 April 2020)
- Various email correspondence with TMR and Queensland Rail (QR) as referenced within this report
- Other background data and Project input assumptions as agreed with the Proponent.

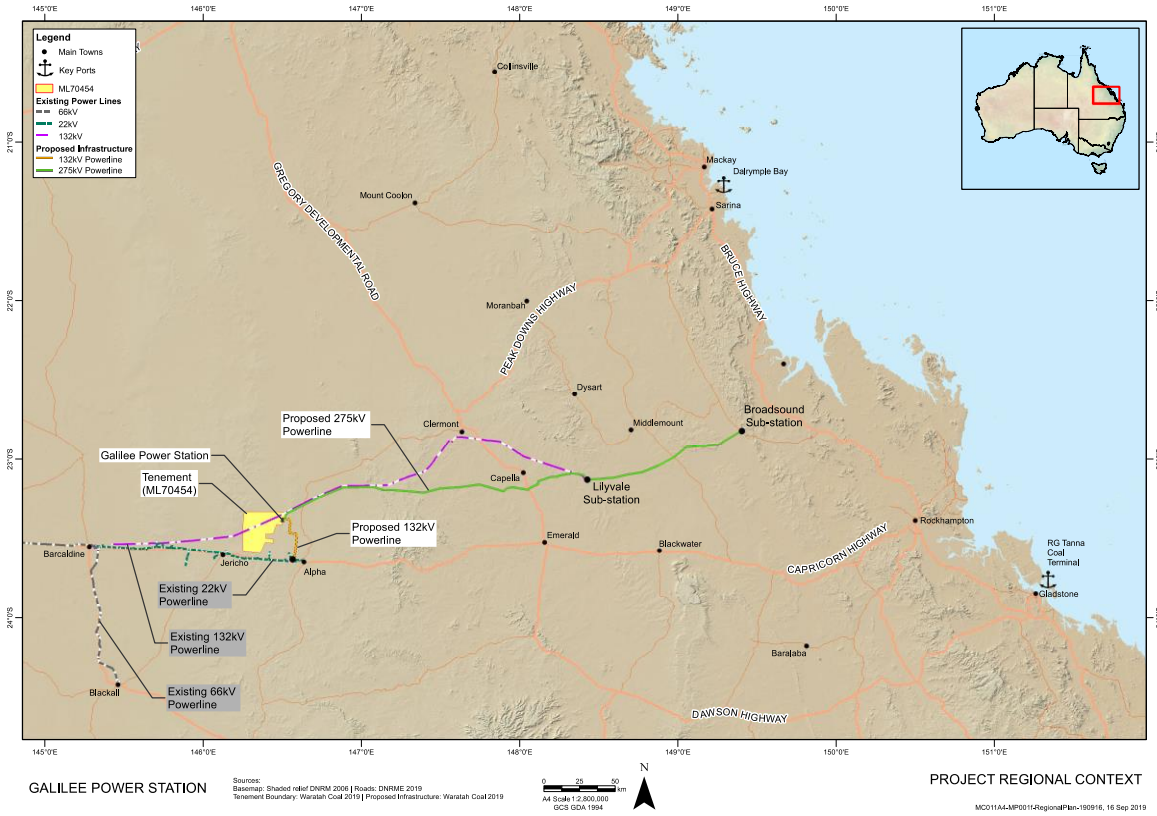
2. PROJECT DESCRIPTION

02

2.1. Project Location

The Project will be located adjacent to the GCP Mining Lease Application Area (MLA70454) which is located approximately 30km west / north-west of the township of Alpha, within the Barcaldine Regional Council administrative area. Current access to the Mining Lease is via Monklands Road, which runs north off the Capricorn Highway at an intersection about midway between the towns of Alpha and Jericho. Figure 2.1 shows the GCP's location in the regional context.

Figure 2.1: Project Location



Source: Galilee Power Station Advice Statement, provided September 2019

2.2. Project Schedule

Project timing will be staged to match market demand. For the purposes of this study, the worst case project timing has been assumed (that is, both units are constructed as soon as possible). Construction of the Project (under a worst case scenario) is planned to commence in 2021 with a construction period of three years for the first unit, with the second unit being constructed six months later. The commissioning and operations of the power station would be ready to provide power from December 2023.

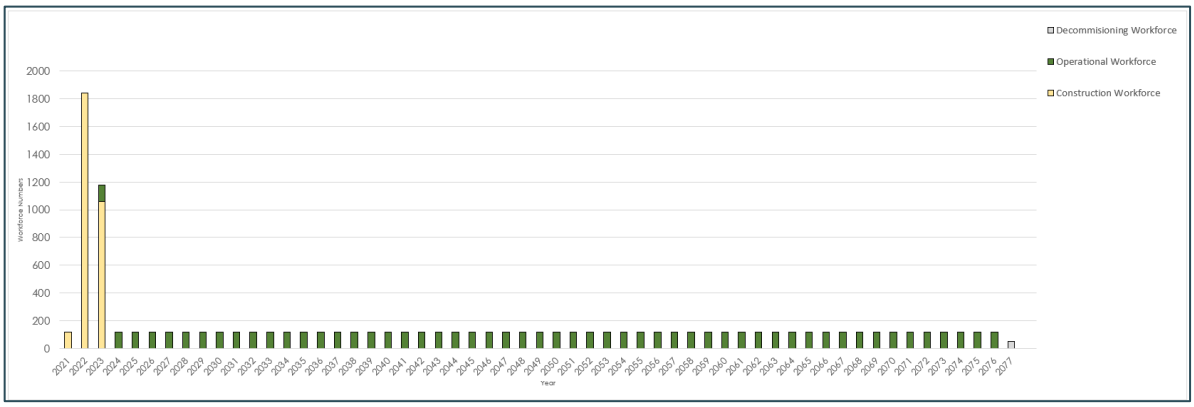
The Project has an operational cycle of 30 years followed by decommissioning and rehabilitation. Rehabilitation of the ash containment facility would be undertaken progressively during the operation of the power station.

2.3. Workforce Projections

The Project's workforce will be a combination of Fly-in/Fly-out (FIFO) workers and people residing in local areas (e.g. existing residents and/or new residents that choose to reside locally as a result of the Project's approval). Local residents are assumed to reside in nearby townships of Alpha and Jericho, with FIFO workers assumed to fly in and out of Alpha Airport and residing in camps in Alpha. It is assumed that Alpha Airport will be upgraded as a part of this Project to cater for the proposed FIFO arrangement. All FIFO workers are assumed to access the Project from camps in Alpha via bus. A proportion of workers residing in Alpha are also assumed to access the Project via GCP-operated bus, with the remaining workforce expected to use private vehicles. These assumptions are the best Project estimates to date based on discussions with the Proponent and apply to all phases of the Project, including construction, operations and decommissioning personnel.

Indicative workforce projections indicate a peak in workers during construction of around 400-600 persons; however, a very conservative projection has been used for the model to allow for a worst case scenario of just over 1,800 people as shown in Figure 2.2.

Figure 2.2: Indicative Workforce Projections



Source: Information provided by Arche Energy, dated 27 November 2018

2.4. Proposed Access & Parking Arrangements

The Project proposes to gain access via Saltbush Road. As such, upgrades to Saltbush Road and its intersection with Capricorn Highway will be undertaken to cater for Project generated traffic as part of this Project.

It is also expected that suitable and sufficient car parking for private vehicles will be provided on-site for workforce and visitors, such that vehicles are not parked on local or state roads.

Vehicle parking, access roads and manoeuvring areas are identified in the Galilee Power Station Concept Design Plant Plan provided as part of the overarching Development Application. A designated vehicular access road services the Administration buildings, with a total of 176 carparks being available for Operations/Maintenance/Administration personnel.

During operations, personnel are proposed to live in town, and this carparking will be available to them for their commute.

During construction, buses will typically transport construction personnel to/from site from the Construction camp. Construction vehicles will have multiple areas/opportunities for parking during the plant construction phase, including in:

- "Laydown Area South" or on the adjacent vacant land to the east and south
- "Laydown Area North", or on the adjacent vacant land to the east
- Temporarily designated Parking laybys alongside the haul roads (if required).

2.5. Haul Movement Routes

All materials, plant and equipment are intended to be delivered to the Project via road-based transport. It is expected that construction traffic will primarily involve a mix of rigid trucks, articulated vehicles (e.g. semi-trailer), B-Doubles and Road Trains. Some oversize loads are also expected throughout the life of the Project on an as required basis. Project infrastructure and other freight is expected to be transferred to site from regional centres such as Brisbane, Gladstone and Mackay as well as the local townships of Alpha and Emerald, with majority of the freight movement originating from Gladstone and Alpha. A small proportion of freight traffic is also expected to access the Project from interstate locations on an occasional basis during the operational phase of the Project.

Heavy vehicle movements associated with the construction and operational phase have been based upon projections provided by the Proponent and relate to best knowledge of the Project to date. Heavy vehicle traffic flows and associated vehicle types are expected to vary over the Project period, reflecting the type of materials and equipment required at specific points in time. Indicative heavy vehicle projections (based on best knowledge of the Project to date) which have formed the basis of the assessment are provided in Table 2.1.

The assessment has been made on a 'worst case' basis for the option of sizing and technology that has the greatest anticipated impact on the road network (i.e. 1,400 MW ultra-supercritical).

The Galilee Power Project will be the first thermal power plant in Australia to employ flue gas desulphurisation (FGD). This process is being deployed in order to make the Galilee Power Project the cleanest coal fired power project in Australia measured by any metric. There are three technologies being considered for flue gas desulphurisation, each with a different impact on operational vehicle movements, these technologies are:

- Option 1: Conventional wet limestone slurry,
- Option 2: Dry limestone injection,
- Option 3: Catalytic wet acid process.

Options 1 and 2 require delivery of limestone to the site. Option 3 does not require delivery of limestone to the site. Limestone will be sourced from the Rockhampton or Gladstone region. Option 3 produces saleable sulphuric acid. For the purposes of this study it is assumed that sulphuric acid will be trucked in an ISO-tainer by flatbed semi-trailer to Alpha where the ISO-tainer will be loaded onto rail for transportation to its final destination (likely to be QNI, north of Townsville).

As the three options have material differences on the pavement impact assessment, the assessment presented in Section 8 of this report includes a summary of the likely impacts and associated pavement contributions resulting from each option which is being considered for FGD. The Proponent has proposed that the pavement impact contribution be confirmed after the relevant technology and limestone sourcing contract (if necessary) have been finalised. The recalculation of the pavement contribution (if required) and subsequent pavement contribution payment to TMR is proposed to occur prior to the commencement of any construction and heavy vehicle haul operations.

Table 2.1: Daily Project Heavy Vehicle Movements

Project Phase	Vehicle Type	Origin / Destination					
		Alpha	Gladstone	Mackay	Brisbane	Northern Territory	Southern States
Construction (2021 – 2023)	Rigid	48 [1]	2	2 [2]	2 [2]	2 [2]	2 [2]
	Semi-Trailer	2	6	2 [2]	2 [2]	2 [2]	2 [2]
	B-Double	2	6	2 [2]	2 [2]	2 [2]	2 [2]
	Oversized or Road Train (Type 1)	2	6	2 [2]	2 [2]	2 [2]	2 [2]

Project Phase	Vehicle Type	Origin / Destination					
		Alpha	Gladstone	Mackay	Brisbane	Northern Territory	Southern States
	Sub-Total	**54**	**20**	**8** [2]	**8** [2]	**8** [2]	**8** [2]
Operations (2023 – 2076)	Rigid	2	2	2 [2]	2 [2]	2 [2]	2 [2]
	Semi-Trailer	2	8	2 [2]	2 [2]	2 [2]	2 [2]
	B-Double	2	2	2 [2]	2 [2]	2 [2]	2 [2]
	Oversized or Road Train (Type 1)	2	2	2 [2]	2 [2]	2 [2]	2 [2]
	Sub-Total	**8**	**14**	**8** [2]	**8** [2]	**8** [2]	**8** [2]
Option 1 FGD [4] (2023 – 2076)	**Road Train (Type 1)**	**-**	**12** [3]	**-**	**-**	**-**	**-**
	Semi-Trailer	**-**	**16** [3]	**-**	**-**	-	**-**
Option 2 FGD [4] (2023 – 2076)	**Road Train (Type 1)**	**-**	**22** [3]	**-**	**-**	**-**	**-**
	Semi-Trailer	**-**	**28** [3]	**-**	**-**	-	**-**
Option 3 FGD (2023 – 2076)	**Semi-Trailer**	**26**	**-**	**-**	**-**	**-**	**-**

[1] 10 of the 48 vehicle movements from Alpha are expected to originate from and be destined for Emerald (i.e. 10 of the 48 movements will not access Saltbush Road)
[2] These movements are expected to be occasional on an as required basis.
[3] Haulage from limestone quarry to Gracemere as a single semi-trailer and then coupled as a Type 1 Road Train from Gracemere to the Project site.
[4] Limestone is likely to be sourced from a quarry in Gladstone or Rockhampton. To maintain a conservative assessment, it has been assumed that the quarry will be located in Gladstone, though it is proposed that the pavement impact assessment be re-evaluated (if necessary) after the relevant technology and limestone sourcing contracts are confirmed.

A total of 106 heavy vehicle movements per day are expected for peak construction, of which 48 are expected to be articulated and 58 are rigid. Of the 106 movements, 54 are expected to be local movements between site and Alpha (predominantly rigid trucks) and 52 movements are from further afield (Gladstone, Mackay, Brisbane, interstate). For these longer range haul movements, 81% are forecast to be articulated semi-trailers or larger, which is generally consistent with haul movement operations for developments of this nature.

It is noted that the 48 rigid vehicles travelling between Alpha and the site on a daily basis are work vehicles, couriers and other general service vehicles that will move between Alpha and the site conveying smaller items or equipment (e.g. welding trucks, courier vans, catering trucks, flatbed trucks delivering small items equipment such as work platforms, fibre optic work trucks, small cranes).

Waratah Coal anticipates that a portion of the construction materials coming to site would come through the Port of Gladstone and that a smaller number of deliveries would be made from alternative ports such as the Port of Brisbane or be trucked from interstate. The fleet of vehicles delivering materials to site is expected to be a mix of Semi-trailers, B-Doubles, B-Triples, Type 1 Road Trains and oversized/over mass vehicles.

As shown in Table 2.1, the majority of Project generated heavy vehicle traffic is expected to originate from and be destined for Alpha and Gladstone during the construction phase (~67% of total construction heavy vehicle traffic, excluding FGD options). Heavy vehicle movements from Gladstone and Alpha are expected to be frequent, whilst only occasional and low volumes of heavy vehicle movements are expected to be generated from other locations.

3. EXISTING CONDITIONS

03

3.1. Road Network

The Project seeks to gain access via Saltbush Road, which intersects with the Capricorn Highway. Project traffic is anticipated to be generally limited to Capricorn Highway between the site and Rockhampton (route of heavy vehicle movements from Gladstone), and Saltbush Road between Capricorn Highway/ Saltbush Road intersection and the proposed site access. Characteristics of Capricorn Highway and Saltbush Road proximate to the Project are described in Table 3.1.

Table 3.1: Capricorn Highway and Saltbush Road Characteristics (Proximate to the Project Site)

Characteristic	Capricorn Highway	Saltbush Road
Direction	East – West	North – South
Jurisdiction	TMR	Barcaldine Regional Council
Cross-Section	Two-Lane / Two-way / Undivided	Two-way / undivided
Pavement	Sealed	Unsealed
AADT	~325	_ [1]
Posted Speed Limit	110 km/hr	Unposted

[1] Data not available. Saltbush Road is currently an unsealed road with negligible background traffic

The typical cross-section of Capricorn Highway and Saltbush Road proximate to the site is presented in Figure 3.1 – Figure 3.4.

Figure 3.1: Capricorn Highway (Facing East)

Figure 3.2: Capricorn Highway (Facing West)

Figure 3.3: Saltbush Road (Facing North)

Figure 3.4: Saltbush Road (Facing South)

3.2. Future Upgrades

Consultation with TMR and a review of TMR's *Queensland Transport and Roads Investment Program 2019-20 to 2022-23 (QTRIP)* has been undertaken with regards to known future planning for the Capricorn Highway between Jericho and Rockhampton, Bruce Highway between Rockhampton and Benaraby, and along Gladstone-Mount Larcom Road. For these state controlled road sections, works identified in QTRIP are presented in Table 3.2.

Table 3.2: QTRIP Works Schedule

Project Location	Location Description	Works Description
Capricorn Highway (Rockhampton - Duaringa)	Valentine Creek Bridge	Construct bridge/s
Capricorn Highway (Rockhampton - Duaringa)	Rockhampton – Gracemere	Duplicate from two to four lanes
Capricorn Highway (Duaringa – Emerald)	Codenwarra Road - Opal Street	Undertake transport project planning
Capricorn Highway (Duaringa - Emerald)	Sections: 14.65 - 140.39km	Rehabilitate pavement
Capricorn Highway (Rockhampton - Emerald)	Gracemere - Emerald	Construct overtaking lane/s
Capricorn Highway (Emerald - Alpha)	107.95 - 107.96km	Improve traffic signals
Bruce Highway (Benaraby – Rockhampton)	Various	Widen Pavement
Bruce Highway (Benaraby – Rockhampton)	Various	Construct overtaking lane/s
Bruce Highway (Benaraby – Rockhampton)	Six Mile Creek - South of Oaky Creek Road (86.60 - 90.72km)	Undertake transport project planning
Gladstone - Mount Larcom Road	Gibson Street - Wiggins Island Coal Export Terminal (2.30 - 7.50km)	Undertake transport project planning

As described in Table 3.2, several road upgrade projects are planned for the Capricorn Highway (16A, 16B, 16C, 16D), Bruce Highway (10E) and Gladstone-Mt Larcom Road (181). These works are planned to be undertaken prior to 2024.

Upgrades identified in Table 3.2, are generally projects to improve road capacity, safety and intersection operations along Capricorn Highway proximate to the site, and therefore, are expected to have a net benefit to the Project. Details regarding the extent of these upgrade works is not currently known. On this basis, the additional capacity likely to be available from the upgrades has not been considered in the RIA to allow for a worst-case (conservative) assessment.

3.3. Baseline Traffic Volumes & Growth

Background traffic volumes have been sourced from TMR, by way of 2018 Annual Average Daily Traffic (AADT) segment reports (obtained September 2019) for the Capricorn Highway (16A, 16B, 16C, 16D), Bruce Highway (10E) and Gladstone-Mt Larcom Road (181). A copy of these AADT reports is contained at Appendix B, with a summary of data provided in Table 3.3.

For the purpose of converting AADT volumes to peak hour volumes (for the road link and intersection assessment), a peak-to-daily ratio of 15% has been assumed. The application of this ratio is in accordance with guidance for rural roads provided in *RPDM 1st Edition – Chapter 5*.

A review of growth rates obtained from historic data detailed within the AADT segment reports indicates that the Capricorn Highway has experienced negative growth for various road sections over the past 5 to 10 years. This could be attributable to a slowdown in mining sector projects occurring within the region.

Future year traffic forecasts have been determined using growth rates calculated by the preceding 10-years, as displayed within the AADT segment reports provided by TMR and summarised in Table 3.3. Where growth has been reported as negative for the preceding 10 years, a growth rate of 0% p.a. has been adopted in all analyses contained within this report.

Table 3.3: Baseline Traffic Volumes – Bruce Highway, Capricorn Highway & Mt Larcom Road (2018)

Road Name	Direction	Chainage Start	Chainage End	AADT	5 Year Growth	10 Year Growth	Heavy Vehicle Percentage
181 - GLADSTONE - MT LARCOM ROAD	G	0	1.409	3320	-9.87	-3.69	14.72
	A	0	1.409	3369	-9.01	-4.36	20.26
	G	1.409	2.277	3025	-6.46	-2.68	16.05
	A	1.409	2.277	3150	-5.02	-1.6	16.2
	G	2.277	3.2	3025	-6.46	-2.68	16.05
	A	2.277	3.2	3150	-5.02	-1.6	16.2
	A	3.2	3.258	3150	-5.02	-1.6	16.2
	G	3.2	3.258	3025	-6.46	-2.68	16.05
	G	3.258	3.37	4706	-3.56	-1.37	11.52
	A	3.258	3.37	4542	-4.41	-1.33	14.11
	A	3.37	3.756	4542	-4.41	-1.33	14.11
	G	3.37	3.756	4706	-3.56	-1.37	11.52
	A	3.756	3.892	4542	-4.41	-1.33	14.11
	G	3.756	3.892	4706	-3.56	-1.37	11.52
	G	3.892	4.625	4706	-3.56	-1.37	11.52
	A	3.892	4.625	4542	-4.41	-1.33	14.11
	A	4.625	7.063	3189	-2.95	-1.6	15.99
	G	4.625	7.063	3206	-2.39	-0.8	13.5

Road Name	Direction	Chainage Start	Chainage End	AADT	5 Year Growth	10 Year Growth	Heavy Vehicle Percentage
	A	7.063	9.325	3189	-2.95	-1.6	15.99
	G	7.063	9.325	3206	-2.39	-0.8	13.5
	G	9.325	12.292	3206	-2.39	-0.8	13.5
	A	9.325	12.292	3189	-2.95	-1.6	15.99
	G	12.292	32.14	1480	-5.98	-1.77	21.87
	A	12.292	32.14	1482	-6.55	-2.31	30.29
10E - BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	G	0	11.445	2681	0.79	0.33	24.28
	A	0	11.445	2776	1.98	0.9	27.85
	G	11.445	45.42	2483	0.73	2.35	26.32
	A	11.445	45.42	2373	0.31	2.05	24.77
	A	45.42	85.308	2842	-0.7	0.2	23.77
	G	45.42	85.308	2841	0.34	0.14	21.66
	G	85.308	108.938	3478	2.59	2.26	28.33
	A	85.308	108.938	3524	3.59	2.41	26.17
	A	108.938	114.088	3067	2.84	1.85	27.05
	G	108.938	114.088	3062	1.21	1.5	24.95
	G	114.088	114.388	3062	1.21	1.5	24.95
	A	114.088	114.388	3067	2.84	1.85	27.05
	A	114.388	116.961	4412	1.27	0.77	21.02
	G	114.388	116.961	4798	0.19	1.1	15.46
	A	116.961	119.737	10110	-1.73	-1.04	16.9
	G	116.961	119.737	10103	-2.67	-1.75	20.55
	G	119.737	121.051	10566	-3.06	-1.4	11.61
	A	119.737	121.051	10346	-3.84	-2.32	14.47
16A - CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	G	0	0.738	8289	-1.07	0.35	10.79
	A	0	0.738	7503	-2.33	-0.42	25.98
	A	0.738	5.495	7503	-2.33	-0.42	25.98
	G	0.738	5.495	8289	-1.07	0.35	10.79
	G	5.495	5.69	8289	-1.07	0.35	10.79
	A	5.495	5.69	7503	-2.33	-0.42	25.98
	A	5.69	5.97	2421	-0.59	-0.2	37.15
	G	5.69	5.97	2583	0.28	0.36	24.82
	G	5.97	9.39	2583	0.28	0.36	24.82
	A	5.97	9.39	2421	-0.59	-0.2	37.15
	A	9.39	10	2421	-0.59	-0.2	37.15
	G	9.39	10	2583	0.28	0.36	24.82
	G	10	13.367	2583	0.28	0.36	24.82

Road Name	Direction	Chainage Start	Chainage End	AADT	5 Year Growth	10 Year Growth	Heavy Vehicle Percentage
	A	10	13.367	2421	-0.59	-0.2	37.15
	A	13.367	17.856	1882	-3.95	-2.17	24.67
	G	13.367	17.856	2120	-0.7	-0.47	26.31
	G	17.856	51.62	1633	-2.34	-1.53	27.53
	A	17.856	51.62	1660	-0.05	-0.41	27.31
	G	51.62	73.35	1346	-3.75	-2.61	30.43
	A	51.62	73.35	1464	-0.51	-1.07	28.79
	A	73.35	106.38	1461	-0.36	0.09	28.79
	G	73.35	106.38	1378	-1.2	-1.07	30.43
16B - CAPRICORN HIGHWAY (DUARINGA - EMERALD)	A	0	36.04	1328	-1.39	-1.25	28.23
	G	0	36.04	1318	-1.95	-1.62	25.65
	A	36.04	82.671	1451	1.29	0.31	28.59
	G	36.04	82.671	1385	0.22	-0.43	21.14
	G	82.671	86.15	1852	2.12	1.36	23.21
	A	82.671	86.15	1897	1.37	1.38	22.88
	G	86.15	90.56	1206	-1.79	0.09	20.87
	A	86.15	90.56	1220	-1.8	0.27	20.95
	A	90.56	127.95	1079	-1.24	-1.12	21.78
	G	90.56	127.95	1076	-0.64	-0.99	23.13
	A	127.95	157.46	1414	-0.6	-1.34	16.07
	G	127.95	157.46	1415	-0.83	-1.53	15.24
	A	157.46	157.56	1414	-0.6	-1.34	16.07
	G	157.46	157.56	1415	-0.83	-1.53	15.24
	G	157.56	157.78	4903	0.66	8.09	17.47
	A	157.56	157.78	4834	1.98	8.29	15.35
	A	157.78	158.64	4834	1.98	8.29	15.35
	G	157.78	158.64	4903	0.66	8.09	17.47
	A	158.64	158.95	4834	1.98	8.29	15.35
	G	158.64	158.95	4903	0.66	8.09	17.47
	A	158.95	159.55	6921	4.42	11.37	9.84
	G	158.95	159.55	5850	3.48	9.78	15.95
16C -CAPRICORN HIGHWAY (EMERALD - ALPHA)	A	0	1.08	3454	2.13	8.17	20.45
	G	0	1.08	3243	0.37	7.45	19.64
	G	1.08	2.17	1298	1.07	3.22	20.43
	A	1.08	2.17	1254	-0.31	2.39	18.41
	G	2.17	43.3	599	-2.55	-1.33	19.8
	A	2.17	43.3	610	-2.25	-1.08	22.56

Road Name	Direction	Chainage Start	Chainage End	AADT	5 Year Growth	10 Year Growth	Heavy Vehicle Percentage
	G	43.3	70.531	230	-2.85	-2.07	24.85
	A	43.3	70.531	226	-3.36	-2.61	46.63
	A	70.531	107.95	171	-3.89	-2.67	23.15
	G	70.531	107.95	220	2.82	1.26	28.98
	G	107.95	167.94	208	2.18	0.58	33.24
	A	107.95	167.94	214	1.21	0.37	26.08
16D - CAPRICORN HIGHWAY (ALPHA - BARCALDINE)	A	0	54.27	208	1.4	0.91	22.63
	G	0	54.27	200	1.61	0.79	47.31
	G	54.27	80.65	165	1.06	0.24	30.93
	A	54.27	80.65	173	2.15	0.43	24.49
	A	80.65	139.7	196	-0.58	0.25	36.02
	G	80.65	139.7	189	-1.58	-0.15	20.54
	G	139.7	140.49	189	-1.58	-0.15	20.54
	A	139.7	140.49	196	-0.58	0.25	36.02

3.4. Rail Network

The Project is located proximate to the Longreach – Emerald rail line which caters for long distance passenger service and the Central West System (freight service). This line is a principal passenger and freight line within the QR network, running between Brisbane and Winton with approximately four Longreach – Brisbane passenger services scheduled per week (two in each direction).

TMR has advised (email correspondence dated 29/05/20) that train traffic on the Central Line varies according to economic factors and seasonal considerations. TMR has advised that data over the past 12 months indicates that the Central Line currently services a maximum of 8 trains per day proximate to the Project; however, it is noted that advice provided by QR (email correspondence dated 25/04/20) indicates that there are currently only 14 scheduled services per week during seasonal periods of high demand).

3.5. Intersection & Network Performance

As shown in Table 3.3, current traffic volumes on the Capricorn Highway proximate to the Project are quite low, which is consistent with on-site observations during GTA's site inspection (undertaken on 14 November 2018). Data was unavailable for Saltbush Road, however, as it is currently an unsealed road providing access to a limited number of low traffic generating land uses (if any), it is not anticipated that existing traffic volumes would be significant. This is also consistent with on-site observations during GTA's site inspection.

The current network and intersection performance on Capricorn Highway proximate to the Project is well within capacity. As Saltbush Road at the Capricorn Highway does not cater for any notable traffic, modelling of the existing intersection for the "without Project" scenario is not deemed to be warranted.

3.6. Public Transport & Active Travel

There are no public or active transport provisions on Capricorn Highway proximate to the Project. This is assumed to be due to adjacent land uses mainly being grazing which does not require access via public or active transport. As such, no impacts are expected to occur to existing public and active transport provisions proximate to the Project as a result of the Project.

4. CUMULATIVE TRAFFIC IMPACTS

04

4.1. Identified Project/s

A review of approved Coordinator General developments proximate to the Project was undertaken to determine key developments which may have cumulative impacts. Based on this review, it is expected that the approved GCP development, adjacent to the Project, would increase demands on the transport network and should therefore be included as background traffic in assessing the cumulative impacts.

4.2. Traffic Generation

A review of the GCP's traffic engineering report (dated 28/06/2013) indicates that the GCP is expected to generate approximately 680 vehicle movements per day during the operations phase which is expected to overlap with the construction and operations phase of the Project. As such, traffic volumes and pavement loading expected to be generated by the GCP mine construction and operation has been added to the background traffic volumes to form the baseline scenario for the road link and pavement impact assessment to incorporate cumulative traffic impacts. The summary of traffic and pavement loading expected to be generated by the GCP is presented in Table 4.1 and Table 4.2.

Table 4.1: Galilee Coal Project Traffic Generation Summary

Road	Section	2009 AADT (vpd)	GCP Generated Traffic (vpd)	
			Construction	Operation
Capricorn Hwy	new road to Jericho	400	220	135
Capricorn Hwy	new road to Alpha	390	243	122
Capricorn Hwy	east of Alpha	420	46	270
Clermont-Alpha Road	south of mine	80	0	0
Clermont-Alpha Road	north of mine	16	14	7
Monklands Road*	south of mine	15	0	0
New Mine Access Road	Between mine site and Capricorn Highway	NA	286	144

Reproduced from Galilee Coal Project, Traffic Engineering Report – EIS, dated 28/06/2013
vpd – vehicle per day

Table 4.2: Galilee Coal Project Pavement Loading Summary

Highway Section	New Road to Jericho	New Road to Alpha	East of Alpha	West of Anakie-Sapphire Rd	Anakie- Sapphire Rd to Emerald
Existing Annual ESA's	65,500	65,500	61,300	90,500	202,200
Heavy Vehicle AADT from Mine	11	71	60	33	27
Average ESA per heavy vehicle	2.0	2.0	2.5	2.5	2.5
Daily ESA's from Mine	22	142	150	82	67
Annual ESA's from Mine	8,030	51,830	54,750	29,930	24,455
Percentage increase from existing	12%	79%	89%	33%	12%

Reproduced from Galilee Coal Project, Traffic Engineering Report – EIS, dated 28/06/2013

5. PROJECT TRAFFIC

05

5.1. Design Horizons for Assessment

The design horizons as outlined below form the basis of this TIA. These design horizons have been determined with respect to the requirements set out in GTIA (refer to Table 5.1) and represent the critical design years when considering likely Project traffic generation associated with forecast workforce requirements (further detailed provided in Section 5.2).

- 2022 (Project Year 2): Peak construction phase of Project
- 2023 (Project Year 3): Opening year of operations of Project and peak combined Project workforce
- 2032 (Project Year 12): 10-year design horizon from operations commencement of Project
- 2042 (Project Year 22): 20-year design horizon from operations commencement of Project.

It should be noted that the 10-year and 20-year design horizon is only relevant to access intersection assessment and pavement impact assessment, respectively, as outlined in the GTIA and reproduced at Table 4.1.

Table 5.1: GTIA Specified Design Horizons for Assessment

Assessment / Impact Type	Assessment / Impact Year
Access and Frontage	Year of opening of each stage including the final stage and 10 years after the year of opening of the final stage for access intersections.
Road Link Capacity	Year of opening of each stage including the final stage
Intersection Performance	Year of opening of each stage including the final stage
Pavement	Year of opening of each stage including the final stage. Note, that mitigation of pavement impacts occurs for a period of 20 years after the opening of the final stage.

(Sourced from GTIA)

5.2. Workforce Traffic Generation

Traffic generated by the Project workforce has been estimated based on the workforce projection outlined in Section 2.3. Assumptions have been made regarding the location of workforce, likely roster arrangements and vehicle occupancies, as detailed in the following sections. These assumptions have been developed in consultation with the Proponent and have been derived based on best knowledge of the Project to date. Current forecasts indicate that the workforce will peak at between 400 and 500 persons; however a more conservative peak has been selected for the purposes of this assessment to accommodate more labour intensive construction processes and higher intensities of work if necessary. A summary of the workforce projections modelled correlated to the design horizons are provided in Table 5.2.

Table 5.2: Total Workforce Numbers Modelled

Workforce Type	Estimated Number of Workforce		
	2022	2023	2032
Construction	1840	1060	0
Operations	0	120	120
Total	1840	1180	120

5.2.1. Location of Workforce

It is anticipated that the workforce is to be a combination of DIDO and FIFO during the construction phase and only DIDO during the operations phase. Project workforce is assumed to access the site from nearby townships of Jericho and Alpha with construction FIFO workforce assumed to do so from Alpha Airport. A summary of expected workforce locations and associated directional distributions is provided in Table 5.3 with proportions of each mode of travel detailed in Table 5.4 and Table 5.5.

Table 5.3: Workforce Location Directional Distributions

Origin/ Destination of Workforce Movements	Proportion of Workforce	
	Construction	Operations
Alpha (east of site)	95%	100%
Jericho (west of site)	5%	0%
Total	**100%**	**100%**

Table 5.4: Proportion of Workforce Utilisation by Mode of Travel – Construction

Origin/ Destination of Workforce Movements	Mode of Travel	Proportion of Workforce Utilisation
Alpha (east of site)	Car	5%
	Bus [1] (for residents of Alpha)	10%
	Bus [1] (from Camps for FIFO)	80%
Jericho (west of site)	Car	5%
Total	**100%**	**100%**

[1] Buses are assumed to have a seating capacity of 50 people per bus.

Table 5.5: Proportion of Workforce Utilisation by Mode of Travel – Operations

Origin/ Destination of Workforce Movements	Mode of Travel	Proportion of Workforce Utilisation
Alpha (east of site)	Car	100%
	Bus [1] (for local residents)	0%
	Bus [1] (from Camps for FIFO)	0%
Total	**100%**	**100%**

[1] Buses are assumed to have a seating capacity of 50 people per bus.

5.2.2. Workforce Rosters

The Project is expected to operate on different workforce rosters for the construction and operations phase, as follows:

- Construction: 1 x 12-hour day shift.
- Operation: 3 x 8-hour shifts with operational hours being 24 hours, 7 days a week.

It is assumed that majority of the operations workforce will be rostered on during the day shift, with only 5 or less staff assigned on a 24-hour roster.

It is assumed that traffic generation associated with shift start and end times will occur within a single hour, coinciding with the network peak. All traffic is assumed to arrive in the AM peak and depart in the PM peak.

5.2.3. Summary of Workforce Traffic Generation

Based on the assumptions documented in the preceding sections, estimates of workforce generated traffic (inclusive of bus movements) are summarised in Table 5.6, with detailed breakdowns provided at Appendix B.

Table 5.6: Workforce Traffic Generation Summary

Design Year	AM Peak (veh / hr)		PM Peak (veh / hr)	
	In	Out	In	Out
2022	218	0	0	218
2023	246	0	0	246
2032	120	0	0	120

veh / hr – vehicle movements per hour

5.3. Heavy Vehicle Traffic Generation

The Proponent has provided estimates of heavy vehicle movements for the Project construction and operational phases. The traffic forecast was based upon an estimate of the resources required for each of the phases of construction. The vehicle composition profile is set out in Table 5.7. The heavy vehicle movement generation and composition represents a typical working day, during the peak of construction activities.

A total of 106 heavy vehicle movements per day are expected for peak construction, of which 48 are expected to be articulated and 58 are rigid. Of the 106 movements, 54 are expected to be local movements between site and Alpha (predominantly rigid trucks) and 52 movements are from further afield (Gladstone, Mackay, Brisbane, interstate). For these longer range haul movements, 81% are forecast to be articulated semi-trailers or larger, which is generally consistent with haul movement operations for developments of this nature.

It is noted that the 48 rigid vehicles travelling between Alpha and the site on a daily basis are work vehicles, couriers and other general service vehicles that will move between Alpha and the site conveying smaller items or equipment (e.g. welding trucks, courier vans, catering trucks, flatbed trucks delivering small items equipment such as work platforms, fibre optic work trucks, small cranes).

Waratah Coal anticipates that a portion of the construction materials coming to site would come through the Port of Gladstone and that a smaller number of deliveries would be made from alternative ports such as the Port of Brisbane or be trucked from interstate. The fleet of vehicles delivering materials to site is expected to be a mix of Semi-trailers, B-Doubles, B-Triples, Type 1 Road Trains and oversized/over mass vehicles as indicated in Table 5.7.

A summary of anticipated daily two-way vehicle movements for the construction and operational phases of the Project is provided at Table 5.7.

Table 5.7: Daily Project Heavy Vehicle Movements

Project Phase	Vehicle Type	Origin / Destination					
		Alpha	Gladstone	Mackay	Brisbane	Northern Territory	Southern States
Construction (2021 – 2023)	Rigid	48 [1]	2	2 [2]	2 [2]	2 [2]	2 [2]
	Semi-Trailer	2	6	2 [2]	2 [2]	2 [2]	2 [2]
	B-Double	2	6	2 [2]	2 [2]	2 [2]	2 [2]
	Other [3]	2	6	2 [2]	2 [2]	2 [2]	2 [2]
	Sub-Total	**54**	**20**	**8** [2]	**8** [2]	**8** [2]	**8** [2]

Project Phase	Vehicle Type	Origin / Destination					
		Alpha	Gladstone	Mackay	Brisbane	Northern Territory	Southern States
Operations (2023 – 2076)	Rigid	2	2	2 [2]	2 [2]	2 [2]	2 [2]
	Semi-Trailer	2	8	2 [2]	2 [2]	2 [2]	2 [2]
	B-Double	2	2	2 [2]	2 [2]	2 [2]	2 [2]
	Other [3]	2	2	2 [2]	2 [2]	2 [2]	2 [2]
	Sub-Total	**8**	**14**	**8** [2]	**8** [2]	**8** [2]	**8** [2]
Option 1 FGD [5] (2023 – 2076)	**Road Train (Type 1)**	**-**	**12** [4]	**-**	**-**	**-**	**-**
	Semi-Trailer	**-**	**16** [4]	**-**	**-**	-	**-**
Option 2 FGD [5] (2023 – 2076)	**Road Train (Type 1)**	**-**	**22** [4]	**-**	**-**	**-**	**-**
	Semi-Trailer	**-**	**28** [4]	**-**	**-**	-	**-**
Option 3 FGD (2023 – 2076)	**Semi-Trailer**	**26**	**-**	**-**	**-**	**-**	**-**

[1] 10 of the 48 vehicle movements from Alpha are expected to originate from and be destined for Emerald (i.e. 10 of the 48 movements will not access Saltbush Road)
[2] These movements are expected to be occasional on an as required basis.
[3] including vehicle types of up to B-Triple, Type 1 Road Trains and oversize/over mass
[4] Haulage from limestone quarry to Gracemere as a single semi-trailer and then coupled as a Type 1 Road Train from Gracemere to the Project site.
[5] Limestone is likely to be sourced from a quarry in Gladstone or Rockhampton. To maintain a conservative assessment, it has been assumed that the quarry will be located in Gladstone, though it is proposed that the pavement impact assessment be re-evaluated (if necessary) after the relevant technology and limestone sourcing contracts are confirmed.

To ensure a conservative assessment, it is assumed that traffic generation associate with heavy vehicles will occur within a single hour, coinciding with the network peak. All heavy vehicle movements are assumed to arrive in the AM peak and depart in the PM peak, similar to workforce generated traffic to establish a worst-case scenario for assessment. Based on the assumptions documented in the preceding sections, estimates of heavy vehicle traffic are summarised in Table 5.8.

Table 5.8: Hourly Heavy Vehicle Traffic Generation Summary

Design Year	AM Peak (veh / hr)		PM Peak (veh / hr)	
	In	Out	In	Out
2021 – 2023 (Construction)	53	0	0	53
2023 – 2076 (Operations)	53	0	0	53
2032 – 2076: No FGD	27	0	0	27
2032 – 2076: FGD Option 1	33	0	0	33
2032 – 2076: FGD Option 2	38	0	0	38
2032 – 2076: FGD Option 3	40	0	0	40

Vm / hr – vehicle movements per hour

6. ROAD LINK ASSESSMENT

06

6.1. Context of Road Link Assessment

The following section has been prepared to assess anticipated worst case Project impacts on the proposed haul route (Capricorn Highway between Gladstone and Jericho), with due consideration of forecast traffic volumes "with" and "without" the Project. This assessment has been undertaken in accordance with the principles outlined in GTIA which defines the impact assessment area to be:

> *"All road links where the development traffic exceeds 5% of the base traffic in either direction on the link's annual average daily traffic (AADT) in the year of opening of each stage."*

6.2. Identification of Impacted Road Links

Table 6.1 summarises the comparison of baseline traffic to worst case Project traffic (i.e. inclusive of the worst case traffic volumes associated with FGD Option 2) and shows where the 5% impact threshold is exceeded in the assessment years of 2022 and 2023.

Table 6.1: Road Link Assessment – Impact Identification Table

Road Name	Chainage Start	Chainage End	Heavy Vehicle Percentage	Direction	% Increase in AADT	
					2022	2023
181 - GLADSTONE - MT LARCOM ROAD	0	1.409	14.72	G	4%	6%
	0	1.409	20.26	A	4%	6%
	1.409	2.277	16.05	G	4%	7%
	1.409	2.277	16.2	A	4%	7%
	2.277	3.2	16.05	G	4%	7%
	2.277	3.2	16.2	A	4%	7%
	3.2	3.258	16.2	A	4%	7%
	3.2	3.258	16.05	G	4%	7%
	4.625	7.063	15.99	A	4%	7%
	7.063	9.325	15.99	A	4%	7%
	9.325	12.292	15.99	A	4%	7%
	12.292	32.14	21.87	G	8%	14%
	12.292	32.14	30.29	A	8%	14%
10E - BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	0	11.445	24.28	G	4%	8%
	0	11.445	27.85	A	4%	7%
	11.445	45.42	26.32	G	4%	8%
	11.445	45.42	24.77	A	5%	8%
	45.42	85.308	23.77	A	4%	7%
	45.42	85.308	21.66	G	4%	7%
	85.308	108.938	28.33	G	3%	6%
	85.308	108.938	26.17	A	3%	5%

Road Name	Chainage Start	Chainage End	Heavy Vehicle Percentage	Direction	% Increase in AADT	
					2022	2023
	108.938	114.088	27.05	A	4%	6%
	108.938	114.088	24.95	G	4%	6%
	114.088	114.388	24.95	G	4%	6%
	114.088	114.388	27.05	A	4%	6%
16A - CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	5.69	5.97	37.15	A	5%	8%
	5.69	5.97	24.82	G	5%	7%
	5.97	9.39	24.82	G	5%	7%
	5.97	9.39	37.15	A	5%	8%
	9.39	10	37.15	A	5%	8%
	9.39	10	24.82	G	5%	7%
	10	13.367	24.82	G	5%	7%
	10	13.367	37.15	A	5%	8%
	13.367	17.856	24.67	A	6%	10%
	13.367	17.856	26.31	G	6%	9%
	17.856	51.62	27.53	G	7%	12%
	17.856	51.62	27.31	A	7%	12%
	51.62	73.35	30.43	G	9%	14%
	51.62	73.35	28.79	A	8%	13%
	73.35	106.38	28.79	A	8%	13%
	73.35	106.38	30.43	G	9%	14%
16B - CAPRICORN HIGHWAY (DUARINGA - EMERALD)	0	36.04	28.23	A	9%	15%
	0	36.04	25.65	G	9%	15%
	36.04	82.671	28.59	A	8%	13%
	36.04	82.671	21.14	G	9%	14%
	82.671	86.15	23.21	G	6%	10%
	82.671	86.15	22.88	A	6%	10%
	86.15	90.56	20.87	G	10%	16%
	86.15	90.56	20.95	A	10%	16%
	90.56	127.95	21.78	A	11%	18%
	90.56	127.95	23.13	G	11%	18%

Road Name	Chainage Start	Chainage End	Heavy Vehicle Percentage	Direction	% Increase in AADT	
					2022	2023
	127.95	157.46	16.07	A	8%	14%
	127.95	157.46	15.24	G	8%	14%
	157.46	157.56	16.07	A	8%	14%
	157.46	157.56	15.24	G	8%	14%
16C - CAPRICORN HIGHWAY (EMERALD - ALPHA)	1.08	2.17	20.43	G	8%	13%
	1.08	2.17	18.41	A	9%	14%
	2.17	43.3	19.8	G	20%	32%
	2.17	43.3	22.56	A	20%	32%
	43.3	70.531	24.85	G	52%	84%
	43.3	70.531	46.63	A	53%	86%
	70.531	107.95	23.15	A	70%	113%
	70.531	107.95	28.98	G	52%	83%
	107.95	167.94	33.24	G	56%	90%
	107.95	167.94	26.08	A	55%	89%
16D - CAPRICORN HIGHWAY (ALPHA - BARCALDINE)	0	54.27	22.63	A	554%	788%
	0	54.27	47.31	G	578%	824%

It is noted that the Capricorn Highway between Emerald and Barcaldine currently services a low volume of traffic (i.e. generally less than 300 vehicles per day in both directions). This results in a disproportionate level of Project impact being calculated on low volume sections, such as the projected 788% and 824% increase in traffic volumes on the Capricorn Highway between Alpha and Barcaldine. Project traffic anticipated to use the Capricorn Highway (between Saltbush Road to Barcaldine) is expected to be low and in the order of 65 vehicles per day at Project peak.

A link capacity assessment for these affected roads is provided in Section 6.3. It should be noted that the Gazetted direction is westbound and Against Gazetted direction is eastbound.

6.3. Road Link Capacity Assessment

The theoretical baseline road link capacity of affected road links (as identified in Section 6.2) has been calculated in accordance with *Austroads GTM: Part 3* for a single-lane flow of traffic. This applied methodology excludes overtaking lanes from the calculation and assumes a single lane of traffic flow in one direction, thereby being a conservative assessment. The guide mentions if single lane conditions without overtaking is retained over a significant length of the road, then as the traffic volume increases the speeds of all vehicles in a traffic stream tend to that of the slowest vehicle and stop-start conditions may develop. Once this occurs, the maximum flow rate of a single lane is reduced to an 'operational capacity' of about 1,800pcu/h.

In general, 1,800pcu/h can be regarded as the capacity of a single lane without overtaking, however capacity will be affected by factors such as the pavement width and restricted lateral clearances (e.g. shoulder width), the presence of heavy vehicles and the grade of the road.

It is noted from data provided by TMR (received November 2018), that the affected road links of the Capricorn Highway have sections with lane widths of less than 3.6m and shoulder widths of less than 1.8m, as such appropriate capacity reduction factors are to be applied to determine the theoretical capacity of these road links.

The following equation as detailed in Austroads GTM: Part 3 has been used to calculate the capacity of affected link sections:

$$C = 1800 * f_w * f_{hv}$$

where

C = Capacity in veh/h under prevailing roadway and traffic conditions

f_w = adjustment factor for narrow lanes and shoulder (obtained from Table 6.2*)*

f_{hv} = adjustment factor for heavy vehicles = $1/(1+P_{hv}(E_{hv} - 1))$

P_{hv} = the proportion of heavy vehicles in traffic stream, expressed as a decimal

E_{hv} = the average passenger car equivalent for heavy vehicles (obtained from Table 6.3*)*

6.3.1. Narrow Lane and Shoulder Adjustment Factor

Adjustment factors for narrow lane and shoulder widths is required to determine the theoretical capacity of affected sections. It has been assumed that the typical narrowest lane widths are 3.2m and typical narrowest shoulders are 0.2m. Adjustment factors for lane and shoulder widths are provided in *Austroads GTM: Part 3*, however these factors have only been provided for set lane and shoulder widths. As such, interpolation (linear) of these factors has been undertaken to correspond to the assumed lane and shoulder widths. Factors reproduced from *Austroads GTM: Part 3* are shown in Table 6.2, with interpolated factors highlighted in blue.

Table 6.2: Lane Adjustment Factors

Lateral Clearance	Lane Width										
	3.7m	**3.6m**	**3.5m**	**3.4m**	**3.3m**	**3.2m**	**3.1m**	**3m**	**2.9m**	**2.8m**	**2.7m**
2m	1.00	0.98	0.96	0.94	0.92	0.90	0.86	0.82	0.78	0.74	0.70
1.5m	0.95	0.93	0.91	0.89	0.87	0.85	0.81	0.78	0.74	0.70	0.67
1m	0.90	0.88	0.86	0.84	0.82	0.80	0.77	0.73	0.70	0.66	0.63
0.8m	0.85	0.83	0.81	0.80	0.78	0.76	0.73	0.70	0.67	0.64	0.60
0.7m	0.83	0.81	0.79	0.77	0.76	0.74	0.71	0.68	0.65	0.62	0.59
0.5m	0.78	0.76	0.75	0.73	0.72	0.70	0.67	0.65	0.62	0.59	0.57
0.2m	0.73	0.71	0.70	0.69	0.67	**0.66**	0.64	0.61	0.59	0.56	0.54
0m	0.65	0.64	0.63	0.62	0.61	0.60	0.58	0.56	0.54	0.52	0.50

Based on the information presented in Table 6.2, lane adjustment factors for all affected links is 0.66.

6.3.2. Heavy Vehicle Adjustment Factor

As mentioned in Section 6.3, heavy vehicle adjustment factor is calculated based on the proportion of heavy vehicles in a traffic stream, and the average passenger car equivalent for heavy vehicles. The proportion of heavy vehicles in the existing traffic stream for the affected road links, has been extracted from the AADT reports for each direction, and are detailed in Table 6.1.Average passenger car equivalent conversion factors for heavy vehicles is based on the grade of the road, with these relevant factors reproduced from *Austroads GTM: Part 3* in Table 6.3.

Table 6.3: Average Passenger Car Equivalents for Heavy Vehicles on Grades

Grade	Passenger Car Equivalent (E_{hv})
Level	2.00
Moderate	4.00
Long Sustained	8.00

For this assessment, the grade of all affected road links has been assumed to be 'moderate' which equates to a passenger car equivalent factor of 4.

Based on the above-mentioned proportions of heavy vehicles and average passenger car equivalent factor, heavy vehicle adjustment factors to determine the baseline capacity of the affected road links are detailed in Table 6.4.

Table 6.4: Heavy Vehicle Adjustment Factors

Road Name	Chainage Start	Chainage End	Heavy Vehicle Percentage	Direction	Heavy Vehicle Adjustment Factor (f_{hv})
181 - GLADSTONE - MT LARCOM ROAD	0	1.409	14.72	G	0.69
	0	1.409	20.26	A	0.62
	1.409	2.277	16.05	G	0.67
	1.409	2.277	16.2	A	0.67
	2.277	3.2	16.05	G	0.67
	2.277	3.2	16.2	A	0.67
	3.2	3.258	16.2	A	0.67
	3.2	3.258	16.05	G	0.67
	4.625	7.063	15.99	A	0.68
	7.063	9.325	15.99	A	0.68
	9.325	12.292	15.99	A	0.68
	12.292	32.14	21.87	G	0.60
	12.292	32.14	30.29	A	0.52
10E - BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	0	11.445	24.28	G	0.58
	0	11.445	27.85	A	0.54
	11.445	45.42	26.32	G	0.56
	11.445	45.42	24.77	A	0.57
	45.42	85.308	23.77	A	0.58
	45.42	85.308	21.66	G	0.61
	85.308	108.938	28.33	G	0.54
	85.308	108.938	26.17	A	0.56
	108.938	114.088	27.05	A	0.55

Road Name	Chainage Start	Chainage End	Heavy Vehicle Percentage	Direction	Heavy Vehicle Adjustment Factor (f_{hv})
	108.938	114.088	24.95	G	0.57
	114.088	114.388	24.95	G	0.57
	114.088	114.388	27.05	A	0.55
16A - CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	5.69	5.97	37.15	A	0.47
	5.69	5.97	24.82	G	0.57
	5.97	9.39	24.82	G	0.57
	5.97	9.39	37.15	A	0.47
	9.39	10	37.15	A	0.47
	9.39	10	24.82	G	0.57
	10	13.367	24.82	G	0.57
	10	13.367	37.15	A	0.47
	13.367	17.856	24.67	A	0.57
	13.367	17.856	26.31	G	0.56
	17.856	51.62	27.53	G	0.55
	17.856	51.62	27.31	A	0.55
	51.62	73.35	30.43	G	0.52
	51.62	73.35	28.79	A	0.54
	73.35	106.38	28.79	A	0.54
	73.35	106.38	30.43	G	0.52
16B - CAPRICORN HIGHWAY (DUARINGA - EMERALD)	0	36.04	28.23	A	0.54
	0	36.04	25.65	G	0.57
	36.04	82.671	28.59	A	0.54
	36.04	82.671	21.14	G	0.61
	82.671	86.15	23.21	G	0.59
	82.671	86.15	22.88	A	0.59
	86.15	90.56	20.87	G	0.61
	86.15	90.56	20.95	A	0.61
	90.56	127.95	21.78	A	0.60
	90.56	127.95	23.13	G	0.59

Road Name	Chainage Start	Chainage End	Heavy Vehicle Percentage	Direction	Heavy Vehicle Adjustment Factor (f_{hv})
	127.95	157.46	16.07	A	0.67
	127.95	157.46	15.24	G	0.69
	157.46	157.56	16.07	A	0.67
	157.46	157.56	15.24	G	0.69
16C - CAPRICORN HIGHWAY (EMERALD - ALPHA)	1.08	2.17	20.43	G	0.62
	1.08	2.17	18.41	A	0.64
	2.17	43.3	19.8	G	0.63
	2.17	43.3	22.56	A	0.60
	43.3	70.531	24.85	G	0.57
	43.3	70.531	46.63	A	0.42
	70.531	107.95	23.15	A	0.59
	70.531	107.95	28.98	G	0.53
	107.95	167.94	33.24	G	0.50
	107.95	167.94	26.08	A	0.56
16D - CAPRICORN HIGHWAY (ALPHA - BARCALDINE)	0	54.27	22.63	A	0.60
	0	54.27	47.31	G	0.41

6.4. Projected Volumes vs Theoretical Capacity

Based on the factors determined in the Sections 6.3.1 and 6.3.2 and application of the equation detailed in Section 6.3, the theoretical baseline capacity of affected road links and a comparison to projected traffic volumes (project traffic, baseline traffic with growth and cumulative traffic) is as shown in Table 6.5.

Table 6.5: Theoretical Baseline Road Link Capacity of Affected Links

Road Name	Chainage Start	Chainage End	Direction	Heavy Vehicle Percentage	Theoretical Baseline Capacity (veh / hr)	Projected 2022 Traffic Volume (veh / hr)	Projected 2023 Traffic Volume (veh / hr)
181 - LADSTONE - MT LARCOM ROAD	14.72	0	G	1.409	824	516	530
	20.26	0	A	1.409	739	523	537
	16.05	1.409	G	2.277	802	472	486
	16.2	1.409	A	2.277	799	491	505
	16.05	2.277	G	3.2	802	472	486
	16.2	2.277	A	3.2	799	491	505

Road Name	Chainage Start	Chainage End	Direction	Heavy Vehicle Percentage	Theoretical Baseline Capacity (veh / hr)	Projected 2022 Traffic Volume (veh / hr)	Projected 2023 Traffic Volume (veh / hr)
	16.2	3.2	A	3.258	799	491	505
	16.05	3.2	G	3.258	802	472	486
	15.99	4.625	A	7.063	803	496	510
	15.99	7.063	A	9.325	803	496	510
	15.99	9.325	A	12.292	803	496	510
	21.87	12.292	G	32.14	717	240	254
	30.29	12.292	A	32.14	622	240	254
10E - BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	24.28	0	G	11.445	687	425	441
	27.85	0	A	11.445	647	449	467
	26.32	11.445	G	45.42	664	425	448
	24.77	11.445	A	45.42	682	403	424
	23.77	45.42	A	85.308	693	448	463
	21.66	45.42	G	85.308	720	447	461
	28.33	85.308	G	108.938	642	587	613
	26.17	85.308	A	108.938	666	598	624
	27.05	108.938	A	114.088	656	512	535
	24.95	108.938	G	114.088	679	505	526
	24.95	114.088	G	114.388	679	505	526
	27.05	114.088	A	114.388	656	512	535
16A - CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	37.15	5.69	A	5.97	562	381	392
	24.82	5.69	G	5.97	681	411	423
	24.82	5.97	G	9.39	681	411	423
	37.15	5.97	A	9.39	562	381	392
	37.15	9.39	A	10	562	381	392
	24.82	9.39	G	10	681	411	423
	24.82	10	G	13.367	681	411	423
	37.15	10	A	13.367	562	381	392
	24.67	13.367	A	17.856	683	300	311
	26.31	13.367	G	17.856	664	336	347
	27.53	17.856	G	51.62	651	263	274
	27.31	17.856	A	51.62	653	267	278
	30.43	51.62	G	73.35	621	220	231

Road Name	Chainage Start	Chainage End	Direction	Heavy Vehicle Percentage	Theoretical Baseline Capacity (veh / hr)	Projected 2022 Traffic Volume (veh / hr)	Projected 2023 Traffic Volume (veh / hr)
	28.79	51.62	A	73.35	637	238	249
	28.79	73.35	A	106.38	637	238	249
	30.43	73.35	G	106.38	621	225	236
16B - CAPRICORN HIGHWAY (DUARINGA - EMERALD)	28.23	0	A	36.04	643	217	228
	25.65	0	G	36.04	671	216	227
	28.59	36.04	A	82.671	640	238	250
	21.14	36.04	G	82.671	727	226	237
	23.21	82.671	G	86.15	700	311	326
	22.88	82.671	A	86.15	704	318	333
	20.87	86.15	G	90.56	731	200	211
	20.95	86.15	A	90.56	730	203	214
	21.78	90.56	A	127.95	719	180	191
	23.13	90.56	G	127.95	701	179	190
	16.07	127.95	A	157.46	802	230	241
	15.24	127.95	G	157.46	815	230	241
	16.07	157.46	A	157.56	802	230	241
	15.24	157.46	G	157.56	815	230	241
16C - CAPRICORN HIGHWAY (EMERALD - ALPHA)	20.43	1.08	G	2.17	737	238	255
	18.41	1.08	A	2.17	765	224	240
	19.8	2.17	G	43.3	745	108	119
	22.56	2.17	A	43.3	708	110	121
	24.85	43.3	G	70.531	681	53	64
	46.63	43.3	A	70.531	495	52	63
	23.15	70.531	A	107.95	701	44	55
	28.98	70.531	G	107.95	635	53	64
	33.24	107.95	G	167.94	595	50	61
	26.08	107.95	A	167.94	667	51	62
16D - CAPRICORN HIGHWAY (ALPHA - BARCALDINE)	22.63	0	A	54.27	708	211	290
	47.31	0	G	54.27	491	210	288
	0	54.27	G	47.31	491	164	228

It should be noted that the Gazettal direction is westbound and Against Gazettal direction is eastbound.

As presented in Table 6.5, all affected road links are expected to operate within their theoretical capacity with the combined cumulative Project generated traffic and forecasted background traffic, for both directions and for all design years.

7. INTERSECTION IMPACT ASSESSMENT

07

7.1. Capricorn Highway/ Saltbush Road Intersection

The Project proposes to gain vehicular access to the site via Saltbush Road as discussed in Section 2.1 to provide a more direct access route to the mine from Capricorn Highway. In order to facilitate this access, the Project proposes to upgrade the existing Capricorn Highway/ Saltbush Road intersection.

Advice provided within BRC's *Information Request* indicated that QR had completed an Australian Level Crossing Assessment Model (ALCAM) assessment for the Saltbush Road rail level crossing located adjacent to the Capricorn Highway / Saltbush Road intersection on the basis of the forecast traffic volumes provided in GTA's Transport Impact Assessment (Revision B, dated 16/10/2019). QR indicated that the rail level crossing should be upgraded to include flashing lights, applicable advance warning signage, 'Keep Clear' signage, yellow box marking, 'Rail-X' road marking and lighting.

As requested by TMR in the BRC *Information Request*, SIDRA modelling has been undertaken to determine the impact of the level crossing being shut for a duration while a train passes, and to quantify the vehicle queuing which may occur during this time. The results presented in this assessment are based on a worst-case scenario which assumes that:

- Project traffic occurs solely during the background network peak hours (it is likely that traffic demands will be spread throughout the course of the day)
- The rail level crossing is activated during the peak hour, when traffic volumes are at its highest (this occurrence may be unlikely given that there are currently 14 scheduled passenger and freight services per week), and
- The rail level crossing will be activated at a time when the largest vehicle (Type 2 Road Train (53.5m)) is present and using the crossing.

7.1.1. Turn Warrant Assessment

A turn warrant assessment of the Capricorn Highway/ Saltbush Road intersection has been undertaken in accordance with the methodology provided in the *RPDM Volume 3: Part 4A*. Results of the assessment (included at Appendix C) conclude that turn treatments at the intersection should take the form of:

- Left-Turn: Basic Left Turn (BAL)
- Right-Turn: Short Channelised Right Turn (CHR[s]).

The turn warrant assessment indicates that BAL and CHR(s) turn treatments are required at the existing Capricorn Highway/ Saltbush Road intersection to cater for Project generated traffic. It should be noted that these turn treatments are required at the year of opening (2021), prior to the peak construction design year (2022).

7.1.2. Intersection Form

The required form for the left and right turn treatment at Capricorn Highway/ Saltbush Road is provided in Figure 7.1 and Figure 7.2 with a concept sketch of the intersection form at Appendix D. This treatment is based on the requirements set out in *Austroads GRD: Part 4A*.

The turn warrants require to accommodate at least one vehicle in the turn lane storage capacity. As the design vehicle for the intersection is a Type 2 Road Train, the turn warrants require to accommodate storage of at least 53.5m minimum. However, no heavy vehicles approach from the west, and as such the largest design vehicle for western approaches is a passenger car with storage requirement of 6m.

Figure 7.1: Basic Left Turn Treatment - General Form

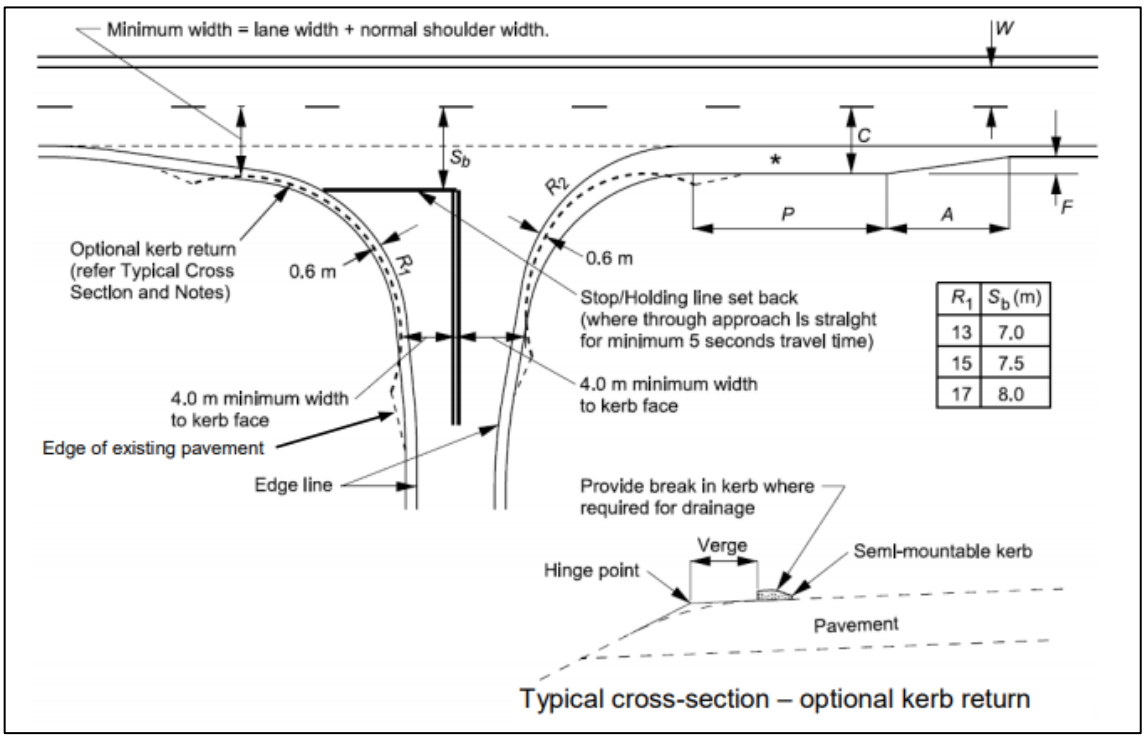
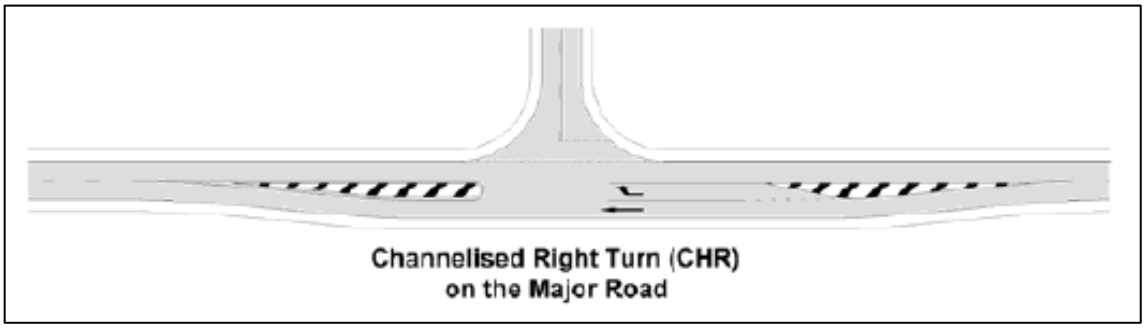


Figure 7.2: Channelised Right Turn Treatment – General Form



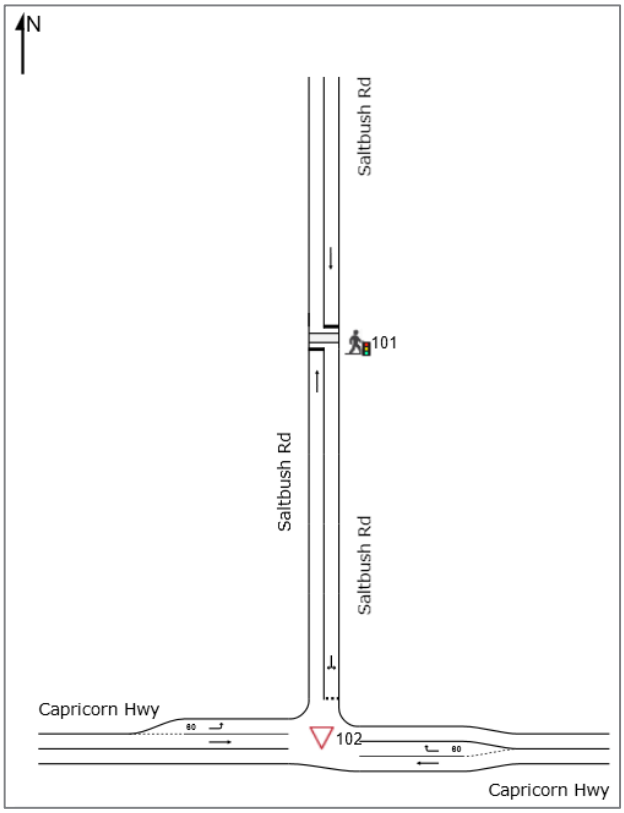
7.1.3. Operational Assessment

An operational assessment was completed to supplement the turn warrant assessment presented in Section 7.1.1. This assessment was conducted using SIDRA Intersection V8.0 (using the SIDRA Network feature) and intended to confirm the worst-case storage requirements at the Saltbush Road / Capricorn Highway intersection, for a condition which considers the adjacent Saltbush Road rail level crossing in operation.

The modelled network incorporating the Saltbush Road / Capricorn Highway intersection and the Saltbush Road level crossing is shown in Figure 7.3. The SIDRA modelling corresponds with the concept design provided in Appendix E. The design accommodates the following storage for queuing vehicles:

- Capricorn Highway – right turn: 115m
- Capricorn Highway – left turn: N/A (BAL – no storage)
- Saltbush Road – between rail crossing and Capricorn Highway: 56m.

Figure 7.3: Capricorn Highway / Saltbush Road – SIDRA model layout



The level crossing activation time has been determined through various email correspondence with QR and TMR. A rail level crossing activation time of 74 seconds (i.e. the rail level crossing will not be accessible to vehicles for 74 seconds due to a train using the level crossing) has been adopted for this assessment. This rail level crossing activation time (confirmed by QR 28/05/20) has considered the following parameters:

- Design vehicle anticipated to use the crossing (i.e. Type 1 Road Train (36.5m))
- Flashing light warning period prior to the train reaching the level crossing
- Processing time for the flashing lights
- Travel speed of trains at and proximate to the level crossing
- Maximum train length
- Additional 10 seconds warning period after the train has passed.

The assessment has also utilised the largest anticipated peak hour traffic volumes projected to use the Capricorn Highway / Saltbush Road intersection, corresponding with Option 2 of the FGD process. A summary of vehicle movements can be found in Section 5.2. Only the AM peak period has been assessed as the PM peak period does not result in Project related vehicles entering Saltbush Road from the Capricorn Highway and therefore would not result in queuing on the Capricorn Highway as a result of the rail level crossing.

Due to the atypical selection of vehicles to be utilised by the Project, consideration of additional vehicle classes within SIDRA is required. Whilst light vehicles (cars) and buses are standard, modified passenger car units (PCU) factors are required for heavy vehicles generated by the Project. It is important to not that the Project does not anticipate the use of Type 2 Road Trains and have therefore not included any in the SIDRA modelling. Guidance has been sought from the

Main Roads Western Australia (MRWA) *Operational Modelling Guidelines* for SIDRA assessment, which indicates appropriate movement class definitions as set out in Table 7.1

Table 7.1: MRWA Recommended Movement Classes

Austroads Vehicle Class	Vehicle Mass (kg)	Power (kw)	Length (m)	PCU Factor
1	1,600	120	4.85	1
2, 3, 4 & 5	22,500	160	12.5	2
6, 7, 8 & 9	42,500	350	19	3
10	64,000 - 70,000	400	27.5	4
11	80,000 – 90,000	450	36.5	4
12	115,000	450	53.5	5

Based on the anticipated composition and associated weighted average of heavy vehicles generated by the Project, modified PCU factors have been adopted as detailed in Table 7.2.

Table 7.2: SIDRA Assessment – Modified PCU Factors

SIDRA Vehicle Classification	Vehicles Included	Modified PCU Factor
Light Vehicles	Passenger Vehicles / Car	1.0
Buses	Buses	1.65
Heavy Vehicles	Rigid Trucks, Semi-Trailers, B-Doubles	2.5
Large Trucks	Type 1 Road Train	4.0

Results of the assessment are summarised in Table 7.3 with detailed outputs provided in Appendix H.

Table 7.3: SIDRA Results Summary – Capricorn Highway / Saltbush Road intersection

Scenario	Degree of Saturation	Level of Service	95th Percentile Queue – West Approach	95th Percentile Queue – East Approach
2022 (AM Peak)	0.147	A	6m	16m
2023 (AM Peak)	0.193	A	5m	33m
2032 (AM Peak)	0.112	A	0m	2m

The results indicate that the CHR(s) on the Capricorn Highway is required to accommodate a maximum 95th percentile queue of 33m. As previously discussed, this is based on a conservative assessment, and is only required for the 2023 design year, after which time, anticipated queue lengths reduce significantly as a result of decreased traffic generation from the Project's operational phases.

This storage requirement has been provided within the concept intersection layout provided in Appendix E.

7.2. Other State-Controlled Road Intersections

Traffic generated impacts at other SCR intersections have been considered within this RIA, for impacted road links in Section 5. Given that Project traffic is typically adding to the through movements along these intersections, it is expected that the road link assessment captures any Project impacts on SCR intersections.

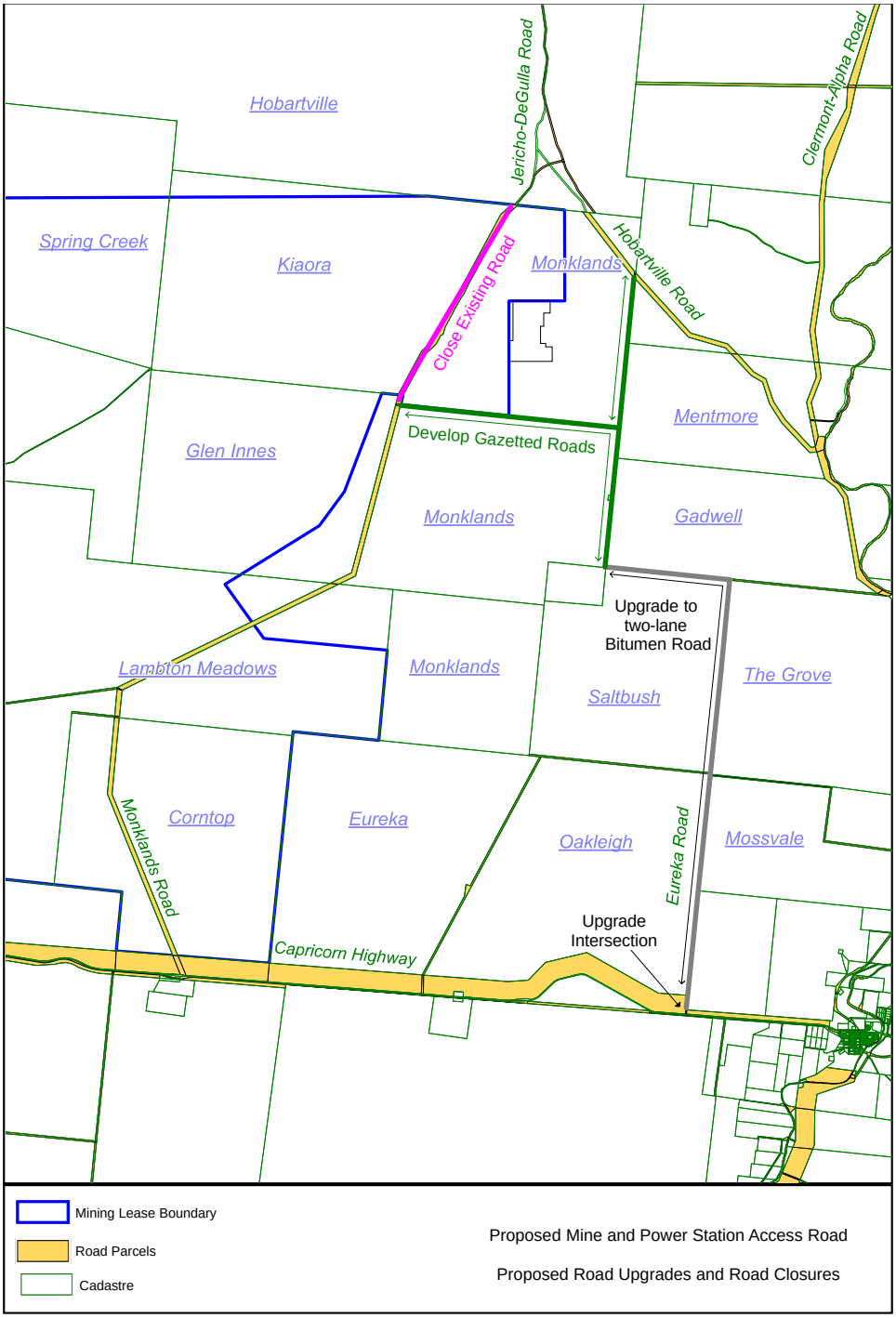
7.3. Project Access and Local Road Upgrades

The Project proposes to gain vehicular access to the site via Saltbush Road as discussed in Section 2.1 to provide a more direct access route to the mine from the Capricorn Highway. In order to facilitate this access, the Proponent intends to

upgrade local roads as shown in Figure 7.4. The upgrades will bring the roads to two lane sealed roads suitable for the classes of heavy vehicles required to construct and operate the power plant and mine.

The upgrade will include appropriate design allowances for expected over-mass vehicles and bend geometry will allow for expected road train and oversized vehicle access. The upgrade will include sealing of the roads and providing a carriageway of 8m in width and 1m verge on both sides of the road, in accordance with *Austroads GRD: Part 3*. Driveways will be assessed for appropriate line of site geometry and driveway to road intersections will be upgraded as necessary and as agreed with landholders. A sketch of the proposed form of Saltbush Road / Capricorn Highway intersection is included in Appendix D.

Figure 7.4: Local Road Upgrades



Eureka Road (also known as Saltbush Road) and un-named road reserves running between Eureka Road and Degulla Road will be upgraded to a two lane, all weather sealed road. The upgrade of Eureka Road will extend from the Capricorn Highway in the South (at approximately 23.64°S, 146.57°E) to Degulla Road in the North (at approximately 23.36°S, 146.55°E).

An un-named road reserve running between Monklands Road (at approximately 23.41°S, 146.45°E) and the above Eureka Road extension (at approximately 23.42°S, 146.54°E) will also be upgraded to a two lane, all weather sealed road. This road will provide access to the mine and power station and provide a link from the northern end of Monklands Road up to Degulla Road in the North.

All road upgrades will meet Council's technical requirements. The roads will be classified as Class 3 Rural Arterial Road under the Barcaldine Road Classification Policy I009 (Appendix A). In the event that Council does not have existing, published technical standards, Austroads standards will be used. The roads, culverts and intersection designs will be suitable for Type 2 Road Trains. The designs will be certified by a Registered Professional Engineer of Queensland (RPEQ).

The road upgrades will commence at the start of the project as enabling infrastructure. The roads will be designed and constructed with sufficient pavement strength to meet the anticipated traffic flows over the life of the project. We propose that the maintenance of the new road network be addressed in the proposed infrastructure agreement.

The closure of Monklands Road is triggered by the mine rather than the power station; nevertheless, we appreciate that Council must consider the impacts of the combined projects. The closure will have the following impacts:

- Transit times between the northern section of Monklands Road (e.g. Monklands Station) and Alpha (for travel into Alpha and towards Emerald) are expected to improve due to the new, higher speed sealed roads providing superior, all weather access.
- Transit times between the northern section of Monklands Road and the Capricorn Highway intersection at Monklands Road (for travel towards Barcaldine) remains unchanged.
- Transit times between the northern section of Monklands Road and the Alpha-Clermont Road (for travel towards Clermont) are expected to improve due to the sealed, all weather, higher speed new connection to Degulla Road.
- Transit times between the northern section of Monklands Road and the existing Monklands Road and Degulla Road intersection (for travel northwards on Degulla Road) will increase marginally due to the additional distance. The transit distance will increase from approximately 14 km to 23.5 km, of which approximately 15.5 km will be new, sealed higher speed road.
- Transit times from Degulla Road (north and west of the Eureka Road extension) into Alpha (for travel into Alpha and towards Emerald) are expected to improve due to the sealed, all weather, higher speed new connection between Degulla Road and the Capricorn Highway.

8. PAVEMENT IMPACT ASSESSMENT

08

8.1. Introduction

Identification of pavement impacts to SCRs was undertaken in-line TMR's GTIA guidelines and the associated Pavement Impact Assessment (PIA) Practice Note for the Capricorn Highway between Jericho and Rockhampton, the Bruce Highway between Benaraby and Rockhampton, and Gladstone – Mount Larcom Road. Background AADT volumes and Standard Axle Repetitions (SAR) were based on data provided by TMR in a marginal cost spreadsheet, and Project generated traffic SARs were calculated based on anticipated heavy vehicle movements for the Project. Anticipated pavement loadings of adjacent Galilee Coal Mine Project were also added to the background generated SAR's (refer to Section 4) to undertake a cumulative pavement impact assessment.

Per the TMR assessment guidelines, the pavement impact identification was undertaken based on SAR4 loading, with monetary contributions then determined based on the pavement type dependent loading corresponding to SAR4, SAR5 or SAR12.

Impact identification and resultant monetary contributions which would be required to offset pavement impacts, have been determined for the following scenarios:

- Scenario 1: Project with No FGD (for comparative purposes)
- Scenario 2: Project with Option 1 FGD, which includes heavy vehicle movements for Limestone delivery via Gladstone
- Scenario 3: Project with Option 2 FGD, which includes heavy vehicle movements for Limestone delivery via Gladstone
- Scenario 4: Project with Option 3 FGD, which includes heavy vehicle movements for acid removal to Alpha.

8.2. SAR Conversion Factors

SAR conversion factors have been provided in TMR's GTIA guidelines and the PIA Practice Note. The adopted SAR4 conversion factors for impact identification are as detailed in Table 8.1.

Table 8.1: SAR Conversion Factors

Vehicle Type	Vehicle Class	SAR Conversion Factor
Bus/ Truck	4	3.6
Semi-Trailer	7	5.1
B-Double	10	6.3
Oversized & Type 1 Road Train	11	8.4

8.3. Impact Identification

As per the PIA methodology, the baseline heavy vehicle SARs were compared with Project generated heavy vehicle SARs for the design years of the PIA, the years of opening of each stage. A summary of the Project generated heavy vehicle movements (and SARs) on SCRs anticipated to be used by the Project is presented in Appendix E for the relevant design horizons.

Pavement Impacts (i.e. SAR impacts) of greater than 5% have been identified for the road links along the Capricorn Highway, as presented in Table 8.2, Table 8.3, Table 8.4, and Table 8.5 for the design years of 2023 and 2024.

Table 8.2: Pavement Impact Identification – Scenario 1

Road Name	Chainage Start	Chainage End	Direction	Forecast 2022 Pavement Impact	Forecast 2023 Pavement Impact
181 - GLADSTONE - MT LARCOM ROAD	0	1.409	G	6%	6%
	1.409	2.277	G	6%	6%
	2.277	3.2	G	6%	6%
	3.2	3.258	G	6%	6%
	3.258	3.37	G	5%	5%
	3.37	3.756	G	5%	5%
	3.756	3.892	G	5%	5%
	3.892	4.625	G	5%	5%
	4.625	7.063	G	6%	6%
	7.063	9.325	G	6%	6%
	9.325	12.292	G	6%	6%
	12.292	32.14	G	9%	9%
10E - BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	45.42	85.308	G	5%	5%
16A - CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	17.856	51.62	G	6%	6%
	51.62	73.35	G	6%	6%
	73.35	106.38	G	6%	6%
16B - CAPRICORN HIGHWAY (DUARINGA - EMERALD)	0	36.04	G	7%	7%
	36.04	82.671	G	8%	8%
	82.671	86.15	G	6%	6%
	86.15	90.56	G	9%	9%
	90.56	127.95	G	9%	9%
	127.95	157.46	G	11%	11%
	157.46	157.56	G	11%	11%
16C - CAPRICORN HIGHWAY (EMERALD - ALPHA)	1.08	2.17	G	8%	8%
	2.17	43.3	G	17%	17%
	43.3	70.531	G	28%	28%
	70.531	107.95	G	25%	25%
	107.95	167.94	G	24%	24%
16D - CAPRICORN HIGHWAY (ALPHA - BARCALDINE)	0	54.27	A	8%	7%
	0	54.27	G	47%	47%

Table 8.3: Pavement Impact Identification – Scenario 2

Road Name	Chainage Start	Chainage End	Direction	Forecast 2022 Pavement Impact	Forecast 2023 Pavement Impact
181 - GLADSTONE - MT LARCOM ROAD	0	1.409	G	6%	8%
	1.409	2.277	G	6%	8%
	2.277	3.2	G	6%	8%
	3.2	3.258	G	6%	8%
	3.258	3.37	G	5%	7%
	3.37	3.756	G	5%	7%
	3.756	3.892	G	5%	7%
	3.892	4.625	G	5%	7%
	4.625	7.063	G	6%	9%
	7.063	9.325	G	6%	9%
	9.325	12.292	G	6%	9%
	12.292	32.14	G	9%	12%
10E - BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	0	11.445	G	4%	6%
	11.445	45.42	G	4%	6%
	45.42	85.308	G	5%	7%
	108.938	114.088	G	4%	5%
	114.088	114.388	G	4%	5%
	114.388	116.961	G	4%	5%
16A - CAPRICORN HIGHWAY (ROCKHAMPTON – DUARINGA)	5.69	5.97	G	4%	5%
	5.97	9.39	G	4%	5%
	9.39	10	G	4%	5%
	10	13.367	G	4%	5%
	13.367	17.856	G	4%	6%
	17.856	51.62	G	6%	7%
	51.62	73.35	G	6%	8%
	73.35	106.38	G	6%	8%
16B - CAPRICORN HIGHWAY (DUARINGA - EMERALD)	0	36.04	G	7%	9%
	36.04	82.671	G	8%	11%
	82.671	86.15	G	6%	7%
	86.15	90.56	G	9%	12%
	90.56	127.95	G	9%	12%
	127.95	157.46	G	11%	14%

Road Name	Chainage Start	Chainage End	Direction	Forecast 2022 Pavement Impact	Forecast 2023 Pavement Impact
	157.46	157.56	G	11%	14%
16C - CAPRICORN HIGHWAY (EMERALD - ALPHA)	1.08	2.17	G	8%	10%
	2.17	43.3	G	17%	22%
	43.3	70.531	G	28%	35%
	70.531	107.95	G	25%	32%
	107.95	167.94	G	24%	31%
16D - CAPRICORN HIGHWAY (ALPHA - BARCALDINE)	0	54.27	A	8%	8%
	0	54.27	G	47%	47%

Table 8.4: Pavement Impact Identification – Scenario 3

Road Name	Chainage Start	Chainage End	Direction	Forecast 2022 Pavement Impact	Forecast 2023 Pavement Impact
181 - GLADSTONE - MT LARCOM ROAD	0	1.409	G	6%	9%
	1.409	2.277	G	6%	9%
	2.277	3.2	G	6%	9%
	3.2	3.258	G	6%	9%
	3.258	3.37	G	5%	8%
	3.37	3.756	G	5%	8%
	3.756	3.892	G	5%	8%
	3.892	4.625	G	5%	8%
	4.625	7.063	G	6%	11%
	7.063	9.325	G	6%	11%
	9.325	12.292	G	6%	11%
	12.292	32.14	G	9%	14%
10E - BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	0	11.445	G	4%	8%
	11.445	45.42	G	4%	7%
	45.42	85.308	G	4%	8%
	108.938	114.088	G	4%	6%
	114.088	114.388	G	4%	6%
	114.388	116.961	G	4%	6%
16A - CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	5.69	5.97	G	4%	6%
	5.97	9.39	G	4%	6%
	9.39	10	G	4%	6%

Road Name	Chainage Start	Chainage End	Direction	Forecast 2022 Pavement Impact	Forecast 2023 Pavement Impact
	10	13.367	G	4%	6%
	13.367	17.856	G	4%	7%
	17.856	51.62	G	6%	8%
	51.62	73.35	G	6%	9%
	73.35	106.38	G	6%	9%
16B - CAPRICORN HIGHWAY (DUARINGA - EMERALD)	0	36.04	G	7%	11%
	36.04	82.671	G	8%	12%
	82.671	86.15	G	6%	8%
	86.15	90.56	G	9%	14%
	90.56	127.95	G	9%	14%
	127.95	157.46	G	11%	16%
	157.46	157.56	G	11%	16%
16C - CAPRICORN HIGHWAY (EMERALD - ALPHA)	1.08	2.17	G	8%	12%
	2.17	43.3	G	17%	26%
	43.3	70.531	G	28%	42%
	70.531	107.95	A	3%	4%
	70.531	107.95	G	25%	38%
	107.95	167.94	G	24%	37%
16D - CAPRICORN HIGHWAY (ALPHA - BARCALDINE)	0	54.27	A	8%	9%
	0	54.27	G	47%	47%

Table 8.5: Pavement Impact Identification – Scenario 4

Road Name	Chainage Start	Chainage End	Direction	Forecast 2022 Pavement Impact	Forecast 2023 Pavement Impact
181 - GLADSTONE - MT LARCOM ROAD	0	1.409	G	6%	6%
	1.409	2.277	G	6%	6%
	2.277	3.2	G	6%	6%
	3.2	3.258	G	6%	6%
	3.258	3.37	G	5%	5%
	3.37	3.756	G	5%	5%
	3.756	3.892	G	5%	5%
	3.892	4.625	G	5%	5%
	4.625	7.063	G	6%	6%

Road Name	Chainage Start	Chainage End	Direction	Forecast 2022 Pavement Impact	Forecast 2023 Pavement Impact
	7.063	9.325	G	6%	6%
	9.325	12.292	G	6%	6%
	12.292	32.14	G	9%	9%
10E - BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	45.42	85.308	G	5%	5%
16A - CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	17.856	51.62	G	6%	6%
	51.62	73.35	G	6%	6%
	73.35	106.38	G	6%	6%
16B - CAPRICORN HIGHWAY (DUARINGA – EMERALD)	0	36.04	G	7%	7%
	36.04	82.671	G	8%	8%
	82.671	86.15	G	6%	6%
	86.15	90.56	G	9%	9%
	90.56	127.95	G	9%	9%
	127.95	157.46	G	11%	11%
	157.46	157.56	G	11%	11%
16C - CAPRICORN HIGHWAY (EMERALD - ALPHA)	1.08	2.17	G	8%	8%
	2.17	43.3	G	17%	17%
	43.3	70.531	G	28%	28%
	70.531	107.95	G	25%	25%
	107.95	167.94	G	24%	24%
16D - CAPRICORN HIGHWAY (ALPHA - BARCALDINE)	0	54.27	A	8%	25%
	0	54.27	G	47%	47%

8.4. Pavement Impact Contribution

Contributions have been assessed based on the costing pavement type and marginal cost provided by TMR. The monetary contributions have been calculated based on the corresponding SAR4, SAR5, and SAR12 impacts consistent with the PIA methodology for a period up to 20 years following the opening of the final stage.

The monetary contributions have been calculated based on the impacted road section segments of the Capricorn Highway (section 16A, 16B, 16C and 16D), the Bruce Highway (section 10E), and Gladstone- Mount Larcom Road (181) for the years where an annual impact of greater than 5% was identified. A summary of the monetary contributions required for the given heavy vehicle generation and options proposed is provided in Table 8.6.

Table 8.6: Pavement Impact Assessment Monetary Contributions

Phase	Scenario 1: No FGD	Scenario 2: FGD Option 1	Scenario 3: FGD Option 2	Scenario 4: FGD Option 3
Construction (2021 – 2022)	$193,974	$193,974	$193,974	$193,974
Construction + Operations Overlap (2023)	$199,106	$276,959	$315,749	$203,640
Operations (2024 – 2042)	$1,415,474	$2,689,009	$4,093,072	$1,734,584
Combined Total (i.e. life of project)	**$1,808,554**	**$3,159,942**	**$4,602,795**	**$2,132,197**

The pavement impact contribution identified for the Project varies between $1,808,554 and $4,602,795, depending on the technology selected. A summary of pavement contribution by road section (per scenario) is provided in Appendix G.

The Proponent has proposed that the pavement impact contribution be confirmed after the relevant technology and limestone sourcing contract (if necessary) have been finalised. The recalculation of the pavement contribution (if required) and subsequent pavement contribution payment to TMR is proposed to occur prior to the commencement of any construction and heavy vehicle haul operations.

9. ROAD SAFETY RISK ASSESSMENT

09

9.1. Risk Identification

Safety on the SCR network is a key consideration for developments interacting with the SCR network. The following potential road safety risks have been identified as a result of the Project with a risk assessment and mitigation measures detailed in Section 9.2:

- Increased through traffic along SCR network resulting in congestion and potential for vehicle collision
- Changed intersection form of Capricorn Highway/ Saltbush Road may cause confusion for motorists
- Increased risk of vehicle collision due to driver fatigue
- Debris/construction material on roads during the construction phase of the Project
- Transportation of hazardous and dangerous goods/materials during construction and operations
- Project generated vehicles queuing onto the level crossing on Saltbush Road
- Project generated vehicles queuing onto the Capricorn Highway as a result of level crossing activation.

9.2. Risk Assessment & Mitigation

In accordance with GTIA, *"development should ensure that a road's safety is not significantly worsened as a result of the development and that any pre-existing or development-introduced unacceptable safety risk is addressed".* GTIA defines significantly worsened as change in safety risk rating (i.e. medium to high). Traffic safety risks are scored based on the matrix shown in Figure 9.1.

Figure 9.1:Traffic Safety Risk Scoring Matrix

		Potential consequence				
		Property only (1)	Minor injury (2)	Medical treatment (3)	Hospitalisation (4)	Fatality (5)
Potential likelihood	Almost certain (5)	M	M	H	H	H
	Likely (4)	M	M	M	H	H
	Moderate (3)	L	M	M	M	H
	Unlikely (2)	L	L	M	M	M
	Rare (1)	L	L	L	M	M

L: Low risk
M: Medium risk
H: High risk

Potential road safety risks as a result of the Project, identified in Section 9.1 have been rated as presented in Figure 9.2. All risks are expected to be within a medium level with the development (and mitigation measures where needed) as summarised in Figure 9.2.

Figure 9.2: Project Related Road Safety Risk Assessment

Risk Item	Without Development			With Development			Mitigation Measures	With Development & Mitigation		
	Likelihood	Consequence	Risk Rating	Likelihood	Consequence	Risk Rating		Likelihood	Consequence	Risk Rating
Increased through traffic along SCR network resulting in congestion and potential for vehicle collision	1	2	L	2	2	L	No Action			
Changed intersection form of Capricorn Highway / Saltbush Road intersection may cause confusion to motorists	1	1	L	4	3	M	Ensure access intersections are designed appropriately to meet the turn warrant requirements detailed in section 6.2 of the RIA, coupled with signage to alert motorists of changed conditions	2	2	L
Increased risk of vehicle collision due to driver fatigue	3	5	H	4	4	H	Monitoring of workforce hours and driver behaviours to be incoporated into the RMP to address this risk	2	5	M
Debris/Construction material on roads during the construction phase of the project	2	2	L	4	2	M	Ensure a construction management plan is in place to address impacts on SCR's as a result of project generated debris and construction materials	2	2	L
Transportation of Hazardous and Dangerous goods during construction and operations	1	2	L	3	5	H	Transportation of hazardous and dangerous goods is to comply with requirements of Australian Dangerous Goods Code	2	2	L
Project generated vehicles queuing onto level crossing on Saltbush Road	2	5	M	4	5	H	Upgrade existing level crossing based on recommendations of ALCAM assessment	1	5	M
Project generated vehicles queuing onto the Capricorn Highway as a result of level crossing activation	1	5	M	3	5	H	Upgrade existing Capricorn Highway / Saltbush Road intersection to accommodate anticipated queuing	1	5	M

In addition to the Road Safety Risk Assessment, analysis of road crash data for the Capricorn Highway was undertaken to assess current levels of road safety. Road crash data for the Capricorn Highway was sourced from TMR (obtained November 2018) for a five-year period between 2013 – 2018. This crash data provides information on the number of crashes along the Capricorn Highway, categorised into the following:

- Crash resulting in fatality
- Crash resulting in hospitalisation
- Crash resulting in medical treatment
- Minor crash
- Crash resulting in property damage only.

Analysis of the recorded accidents on the Capricorn Highway, proximate to the Project and specifically near Saltbush Road, indicates the following:

- There were two recorded accidents proximate to the Project in the preceding five-year period
- These crashes did not result in fatality
- Both crashes involved vehicles colliding with an object and veering off the carriageway.

It is considered that this type of crash is typical for the use, type and function of the Capricorn Highway within the area, and therefore the crash data suggests that the Capricorn Highway proximate to the Project does not pose any atypical safety risks or hazards that need to be factored into the access design.

10. CONSIDERATION OF OTHER IMPACTS

10

10.1. Oversized Vehicles

The Project is likely to utilise oversized vehicles for some of the transport activities as part of construction and operations. It is noted that the use of these vehicles will be undertaken in accordance with the National Heavy Vehicle Regulator guidelines and be subject to permit applications and TMR approvals for the use of such vehicles. The use of these vehicles will be assessed as part of these permit applications.

10.2. Rail Level Crossings

One open level crossing has been identified on Saltbush Road (445.350 km on the Queensland Rail Central West Line), proximate to Capricorn Highway/ Saltbush Road intersection. An inspection of this rail level crossing and publicly available QR network details, indicates that the level crossing is a single-track rail line (Longreach – Emerald rail line on the Central West System) expected to have infrequent services.

TMR has advised (email correspondence dated 29/05/20) that train traffic on the Central Line varies according to economic factors and seasonal considerations. TMR has advised that data over the past 12 months indicates that the Central Line currently services a maximum of 8 trains per day proximate to the Project; however, It is noted that advice provided by QR (email correspondence dated 25/04/20) indicates that there are currently only 14 scheduled services per week during seasonal periods of high demand).

Advice provided within BRC's *Information Request* indicated that QR had completed an ALCAM assessment for the Saltbush Road rail level crossing located adjacent to the Capricorn Highway / Saltbush Road intersection on the basis of the forecast traffic volumes provided in GTA's Transport Impact Assessment (Revision B, dated 16/10/2019). QR indicated that the rail level crossing should be upgraded to include flashing lights, applicable advance warning signage, 'Keep Clear' signage, yellow box marking, 'Rail-X' road marking and lighting.

Additional advice provided by TMR (email correspondence dated 29/05/20) indicated that the design and separation of the rail level crossing with the Capricorn Highway / Saltbush Road intersection should consider the requirements set out within *AS1742.7:2016 Manual of Uniform Traffic Control Devices, Part 7: Railway*.

The concept design of the Capricorn Highway / Saltbush Road intersection has considered the requirements set out within *AS1742.7:2016 Part 7* and the expected 95th percentile queue lengths as calculated using SIDRA Intersection. The concept design is provided at Appendix E.

11. CONCLUSION

11

11.1. Conclusion

Based on the analysis and discussions presented within this report, the following conclusions are made:

- Worst case traffic demands for the Project are expected to occur in:
  - 2022 (Project Year 2): Peak construction phase of Project
  - 2023 (Project Year 3): Opening year of operations of Project
  - 2032 (Project Year 12): 10-year design horizon from operations commencement of Project
  - 2042 (Project Year 22): 20-year design horizon from operations commencement of Project.
- A number of road segments along the Capricorn Highway are expected to have Project traffic volumes which are greater than 5% of baseline traffic volumes, however, all road segments are expected to operate within theoretical capacity.
- The Project proposes to gain access via Saltbush Road and hence proposes to upgrade Saltbush Road and the existing intersection with the Capricorn Highway.
- A turn warrant assessment indicates that BAL and CHR (s) turn treatments are required on Capricorn Highway at Saltbush Road to cater for Project generated traffic.
- A SIDRA assessment has been undertaken to determine the queue length storage requirements (95th percentile) for turn treatments on the Capricorn Highway at Saltbush Road to cater for Project generated traffic during a scenario which considers rail level crossing activation. These storage requirements have been provided within the proposed upgrade for the Saltbush Road / Capricorn Highway intersection.
- Adequate separation between the Saltbush Road level crossing and the Saltbush Road / Capricorn Highway intersection has been provided in accordance with AS1472.7-2016. The provision of the required separation has necessitated a minor realignment of the Capricorn Highway at Saltbush Road as shown in the provided intersection concept design.
- Based on the calculated development SAR's, pavement impacts of greater than 5% have been identified for a number of road links on the Capricorn Highway, Bruce Highway and Mount Larcom Road. A monetary contribution will likely be required to ameliorate the impact. The results indicate that the impact correlates to a monetary contribution between $1,808,554 and $4,602,795, based on the option which proceeds.
- The Proponent has proposed that the pavement impact contribution be confirmed after the relevant technology and limestone sourcing contract (if necessary) have been finalised. The recalculation of the pavement contribution (if required) and subsequent pavement contribution payment to TMR is proposed to occur prior to the commencement of any construction and heavy vehicle haul operations
- Based on the Road Safety Risk Assessment all identified risks associated with the Project are expected to be within a medium level, with the inclusion of transport mitigation strategies as outlined in this report.

Based on the assessment and findings of this traffic impact assessment it is concluded that there are no reasonable or relevant transport planning and engineering grounds that may arise which would give reason to not approve this Project's planning application.

A. BARCALDINE REGIONAL COUNCIL INFORMATION REQUEST

A

All correspondence to be addressed to the
Chief Executive Officer
PO Box 191
BARCALDINE QLD 4725
council@barc.qld.gov.au
www.barcaldinerc.qld.gov.au

ABN: 36 154 302 599

Our Ref: DA221920
Enquire to: Brett Walsh
Telephone: (07) 4651 5600

2 April 2020

Waratah Coal Pty Ltd
GPO Box 1538
BRISBANE QLD 4001

Sent via email: info@waratahcoal.com

Dear Sir / Madam,

Information Request

SECTION 68(1) OF THE PLANNING Act 2016
Given under section 12 of the Development Assessment Rules

The Barcaldine Regional Council has carried out a further review of your development application for the following premises.

Applicant details

Applicant Number:	DA221920
Approval sought:	Development Permit for a Material Change of Use
Description of the development proposed:	Public utility (1,400MW power station and associated infrastructure including access roads and substation); Environmentally relevant activities (ERA14 – electricity generation, ERA16 – extractive and screening activities, ERA50 – mineral and bulk material handling, ERA 60 – waste disposal and ERA63 – sewerage treatment; and Hazardous chemical facility.

Location details

Street address:	3260 Monklands Road, Alpha QLD 4724
Real property description:	part of Lot 2 on SP136836

Information requested

The Barcaldine Regional Council has determined that the following additional information is needed to assess the application:

1. **Scale, intensity and sequencing of the proposed development**
   The application material does not provide a clear and concise understanding of all aspects of the development for the full lifecycle of the project (i.e. from construction, to operation and decommissioning).

For example during the construction phase, internal to the site, the town planning report discusses a staged approach to the construction of the 1400MW power station, with the first 700MW thermal generator being constructed within thirty-six (36) months with a lead time of approximately 6 months until the completion of the second 700MW thermal generator. Please confirm if this will result in an overlap period of construction and operational workforce at the site in the context of the below items.

It is also understood that the Alpha township will not be connected to the power plant until the second generator is constructed. The electricity supply to the Alpha township is at capacity, with new developments (i.e. workers accommodation) unable to connect to the network and the town experiences unreliable power supply with frequent blackouts. Please include the connection of the power plant to the township as part of the construction of the first generator, considering the issues that are expected to arise as outlined below.

It is understood that the proposed development relies upon external infrastructure that is either in the pipeline of approvals or is currently inadequate to support the project. For example,

- the adjoining proposed Mine project and its operations are integrated with the running of the power station for the supply of coal and water through dewatering practices at the Mine. Confirm if the mine will be established prior to construction of the power station. If not, how will dewatering practices be conducted.
- the Alpha Airport will be relied upon for the fly in, fly out (FIFO) workforce in the construction phase of the project. The local airport infrastructure is likely to be inadequate in catering for the influx of FIFO workers.
- the lack of available accommodation within the nearby towns to support the anticipated workforce associated with the construction and operational stages of the proposed development.
- the lack of available infrastructure (electricity and town water supply) to support the workforce of the proposed development.

In light of the above items, provide for Council assessment and consideration further details on the scale and intensity of the proposed development. Associated management and mitigation measures must be provided at all stages of the project life incorporating the sequencing (or staging) of essential infrastructure and services internal and external to the site and associated timeframes for the project.

Additionally, provide confirmation on the staggered arrangement for the construction of the two 700MW power stations. This information is required to demonstrate that the proposed development can be undertaken in an orderly and logical sequence to achieve efficient provision of infrastructure, as well as, ensuring any impacts from the proposed development do not adversely impact on infrastructure. The details of the sequencing of the development could be shown on staging plans.

2. **Rural Zone Code**
   The town planning report does not completely address all relevant matters of the assessment benchmark within the *Jericho Shire Planning Scheme 2006*. The scale of the proposed development will have significant impacts on the

rural amenity and provisioning of infrastructure across the lifecycle of the proposed development (i.e. from construction, to operation and decommissioning).

Provide for Council assessment and consideration further details on how the proposed development complies with Overall outcome 4 of the Rural Zone Code.

3. State-controlled Transport Infrastructure

Third party advice has been requested from the Department of Transport and Main Roads (TMR) and in consultation with Queensland Rail (QR) on the Traffic Impact Assessment (TIA) prepared by GTA Consultants (QLD) Pty Ltd dated 16 January 2020. Overall, TMR found the TIA has not been completed in accordance with the department's *Guide to Traffic Impact Assessments* (GTIA) as it lacked specific details and analysis to demonstrate the project impacts and how these impacts will be appropriately managed or mitigated.

Provide for Council assessment and consideration an amended TIA that addresses the following matters:

(a) Section 3.3 of the TIA shows the 10-year historical growth rates for various sections of the Gladstone – Mt Larcom Road (Road 181), Bruce Highway (Road 10E) and the Capricorn Highway (Road 16A, 16B, 16C and 16D). These growth rates vary significantly from -4.36% on the Gladstone – Mt Larcom Road to 11.37% on the Capricorn Highway (16B). The TIA has adopted a 3% linear growth rate for all sections of all roads. Whilst the determination of accurate future growth rates is not a simple task, the approach of adopting a single growth rate across such a wide range of historic growth rates and over a number of State-controlled Road (SCR) that clearly exhibit significantly different traffic patterns is considered too simplistic and is not adequately justified. TMR would typically expect separate growth rates to be determined for each section of each SCR or at a minimum a single growth rate for each SCR rather than a single growth rate across the entire network. The adopted growth rates for each section of the SCR network should be reviewed and any growth rate adopted adequately justified.

(b) The proponent has proposed that the pavement impact contribution be confirmed after the relevant technology and limestone sourcing contract have been finalised. These details have the potential to cause a significant impact on the pavement (varies between $1,515,979.00 and $3,894,609.00 depending on the technology selected) and may affect the performance of the intersection between Saltbush Road and the Capricorn Highway. These details should be finalised and included within the TIA to be assessed.
As any condition issued for a Development Permit, the approval must be final and certain. Please note, there is very limited opportunity (if any) to carry out further assessments post-approval to determine the costs associated with the pavement impacts.

(c) The section documenting additional impact considerations states that a Road-Use Management Plan (RMP) will be required as the project progresses, and potential strategies may include adjusting shift times and heavy vehicle movement so that project traffic peaks do not

coincide with road peaks. This RMP and the potential strategies should be finalised and included within the TIA as these assumptions may fundamentally change the operation of the Saltbush Road/Capricorn Highway intersection. TMR may need to consider whether they are comfortable with this development moving forward without these items finalised.

(d) Although an ALCAM assessment did not form part of the TIA, Queensland Rail did provide the following to TMR:

- *"The railway manager (Queensland Rail) has reviewed the submitted traffic data, conducted ALCAM assessments (Australian Level Crossing Assessment Model) and advised that the Saltbush Road level crossing should be upgraded to include flashing lights, applicable advance warning signage, 'Keep Clear' signage, yellow box marking, 'Rail-X' road marking and lighting."*

With the above mentioned in mind, further consideration / confirmation needs to be given to the effect of the level crossing being shut for a duration while a train passes and the queuing that may occur on the Capricorn Highway during this time. This scenario should be closely examined to ensure the CHR(s) has sufficient storage length to prevent queuing onto the Capricorn Highway travelling lanes.

(e) In Section 3.5 Intersection & Network Performance it states "...current traffic volumes on Capricorn Highway proximate to the Project are quite low which is consistent with on-site observation during GTA's inspection (undertaken on 14 November 2018). As such, the current network and intersection performance on Capricorn Highway, proximate to the Project is expected to be within capacity". While these assumptions may be the case, it may not be sufficient to state this without documented evidence that these statements are correct. Therefore, please include modelling of the relevant affected intersections in proximity to the development to confirm that this statement is correct. The TIA does not include any SIDRA Intersection modelling or other modelling to provide a justified basis for this statement. Of particular concern is the queuing lengths that may be experienced at the Saltbush Road / Capricorn Highway Intersection during peak hours with consideration given to the operation of the level crossing, as noted above.

(f) In Section 5.3 Heavy vehicle Traffic Generation, the project has assumed that vehicles predominately used for construction will be rigid trucks and not semi-trailers or B-Double / Oversized trucks. The TIA states that during the construction period the daily project heavy vehicle movements will include 48 rigid trucks, 2 semi-trailers, 2 B-doubles and 2 oversized vehicles. If the methodology was revised to include additional semi-trailers this would likely have a worsening effect on the performance and arrangement of the intersection. Please confirm the methodology that the vast majority of trucking traffic will be that of rigid trucks. This does not appear to be typical of a regional construction project of this scale.

(g) In Section 7.1 Capricorn Highway/Saltbush Road Intersection turn warrant assessments have been undertaken and suggest that the

concluded turn warrants are acceptable. While the turn treatments may be correct, no modelling has been undertaken to understand the level of service of the intersection or potential queue lengths during peak hours. In addition to this, the intersection with the Capricorn Highway features a level crossing within close proximity on Saltbush Road.
Please include SIDRA modelling as part of the analysis within the TIA to ensure that the intersections operate within acceptable performance criteria and to identify the potential queue lengths during peak hours and while a train is travelling over the open level crossing (OLC). In addition, please note, the turn volumes for the right turn into Saltbush Road in the AM peak hour for the 2022, 2023 and 2032 scenarios all exceed the upper limits of the turn warrants charts, which may result in a CHR(S) not being suitable. SIDRA analysis is therefore required to confirm the queue length that will need to be provided at this intersection.

(h) In Section 9 Road Safety Risk Assessment a project related Road Safety Risk Assessment has been completed. This risk assessment provides sufficient documentation on without / with development risk items, mitigation measure and conclusions. Council / TMR may need to consider whether a risk item should be included that examines the risk of vehicles queuing onto the Capricorn Highway travelling lanes while a train is passing on the level crossing in close proximity on Saltbush Road. While this scenario may be unlikely, it has not been addressed within the TIA and the impacts are not well documented or understood.

(i) Although a Road Safety Assessment has been completed (as per item h above), it should be amended to ensure the risk of vehicles queuing on and onto the Capricorn Highway is assessed and adequately managed / mitigated.

(j) It is acknowledged that within Section 10.2 of the TIA it is recommended that the existing level crossing be upgraded to boom gates for road user safety. However, as mentioned within item d above, Queensland Rail has conducted an ALCAM assessments and advised that the Saltbush Road level crossing should be upgraded to include flashing lights, applicable advance warning signage, 'Keep Clear' signage, yellow box marking, 'Rail-X' road marking and lighting. Furthermore, an assessment of the potential queue lengths on Saltbush Road during a train crossing should also be carried out to ensure adequate storage capacity existing between the Capricorn Highway and the OLC.

4. Local Roads

The application material provides insufficient information on the impacts to the local road network across the lifespan of the proposed development. For instance, the integration of the future mine project with the proposed development will significantly impact the local road network in the vicinity of the site and will result in the closure of Monklands Road, removing a road link to the north. The proposal plans only detail Saltbush Road being constructed to the access of the Power Station, situated at the south eastern part of Lot 2. To compensate for the loss of Monklands Road it is considered appropriate in this instance to require Salt Bush Road to be constructed to the intersection with Degulla Road.

The assessment has not considered the existing arrangements for the road network as declared road train type 2 routes, which commence at Alpha.

The TIA has not considered the pavement impacts to Saltbush Road through the sequencing of the proposed development from the staggered construction, to operational to decommissioning. It is expected that Saltbush Road will be used by the wider community over the lifespan of the proposed development as it will replace the Monklands Road link.

Provide for Council assessment and consideration an amended Traffic Impact Assessment that addresses the impacts to the local road network across the lifecycle of the project, acknowledges the declared road train type 2 routes, details haulage routes for the lifecycle of the project and identify upgrades to Saltbush Road to address connectivity of the local road network.

5. **Vehicle Parking and Service Vehicle Provision**

The proposal plans do not show any car parking arrangements, manoeuvring areas or service vehicle parking arrangements.

Provide to Council for assessment and consideration amended proposal plans including car parking layout, service vehicle parking and vehicle manoeuvring areas at all stages of the proposed development.

6. **Social Impact Assessment**

The Town Planning report includes high-level details of the workforce arrangements, which is expected to be predominantly a FIFO workforce during the construction phase and moving to a residential based operational workforce. The projected workforce numbers for the proposed development are substantial in comparison to the population of the nearby and surrounding townships. The application material has not provided details on any direct or indirect social impacts of the proposed development on the Barcaldine Region communities.

It is acknowledged that a development of this scale has not been anticipated by the *Jericho Shire Planning Scheme 2006*. The site of the project is located outside of the townships of Jericho and Alpha, however the daily operations of the project are likely to impact these nearby townships. The planning assumptions under the Priority Infrastructure Plan contained within the Planning Scheme predicts low growth in population, housing, jobs and non-residential floor space across the former Shire. Accordingly, council has not planned to provide additional infrastructure and services to support the expected demand and population growth generated by the proposed development on existing infrastructure and services.

Provide for Council assessment and consideration a Social Impact Assessment (SIA) prepared generally in accordance with the Department of State Development, Manufacturing, Infrastructure and Planning (DSDMIP) *Social Impact Assessment Guideline* dated March 2018. The SIA must address the following key matters:

a. The full lifecycle of the project (i.e. all stages of the project life);
b. Community and stakeholder engagement to:
    i. Understand who is likely to be impacted and how
    ii. Understand the effects on communities
    iii. Identify and assess potential social impacts

iv. Develop management measures to mitigate adverse impacts and enhance benefits
v. Support monitoring and reporting.

c. Workforce management;
d. Housing and accommodation strategy;
e. Local business and industry procurement;
f. Health and community wellbeing.

The management measures identified through the SIA process must be documented in a Social Impact Management Plan (SIMP), which will provide a practical basis for their implementation. The SIMP is to include detail on the proposed management measures, timeframes for implementation, roles and responsibilities, stakeholders, and potential partnerships. The SIMP must also incorporate processes to ensure that throughout the project lifecycle management measures are effectively monitored and allow for updates and review where amendments can be made to any ineffective management measures.

7. Water Usage and Supply

The application material provides insufficient information on the provision of water for all aspects of the proposed development and across the lifespan of the proposed development (i.e. construction, operation and decommission). It also does not provide information of contingency measures that may be required where dewatering is unavailable, or where town water supply is not available to service the workers associated with the proposed development. A copy of third party advice provided by the Department of Natural Resources, Mines and Energy is appended in Attachment 1.

Provide for Council assessment and consideration further details on water supply management measures to ensure the proposed development is provided with a sustainable water supply.

8. Alpha Airport

The town planning report states an expected peak construction workforce of 1,000 persons maintained for 4 to 5 months, with the first thermal generator completed 36 months after commencement of the construction. It is anticipated that most of the construction workforce with be on a FIFO arrangement with a service offered between Alpha and Rockhampton (e.g. fifty (50) seat turbo-prop aircraft). Major upgrades will be required to the Alpha Airport.

Provide for Council assessment and consideration an Alpha Airport Redevelopment Plan that considers the upgrades required to the Alpha Airport to support the proposed development's workforce. The master plan should consider both operational airside infrastructure upgrades (i.e. runway, communications, security, hangers, storage facilities, etc) and public access areas (i.e. terminal, car parking arrangements, access to the Capricorn Highway, pick-up / drop-off arrangements, vehicle manoeuvring).

9. Infrastructure Agreement

As discussed in item 6 above, council has prepared a Priority Infrastructure Plan (PIP) in accordance with the *Integrated Planning Act 1997* which forms part of the *Jericho Shire Planning Scheme 2006*. Under the PIP, the proposed development is located outside of the Priority Infrastructure Area and will require major upgrades to Council infrastructure and facilities to cater for the additional demand generated by the proposed development. Council has also

prepared a draft Local Government Infrastructure Plan in accordance with the *Planning Act 2016* and it does not change the outcomes of the current PIP.

Item 1 above has requested further details on the impacts to infrastructure in relation to the sequencing of the development. To ensure that the development is carried out in an orderly and logical manner it is recommended that an Infrastructure Agreement may be entered into between the developer and the Barcaldine Regional Council for works required by this proposed development and remuneration appropriate to be paid to the council for additional demand generated by the proposed development on infrastructure (such as, the Alpha Airport, road infrastructure, town infrastructure, social infrastructure, etc.).

Provide for Council consideration and assessment a draft Infrastructure Agreement.

Further details

The due date for providing the requested information is 3 months from the date of this request.

In accordance with section 13.2 of the Development Assessment Rules, you may respond by giving:

(a) all of the information requested; or
(b) part of the information requested; or
(c) a notice that none of the information will be provided.

As Barcaldine Regional Council's assessment of your application will be based on the information provided, it is recommended that you provide all the information requested. In accordance with section 14.2 of the Development Assessment Rules, if you do not provide a response before the above due date (or a further agreed period), it will be taken as if you have decided not to respond to the information request and the Barcaldine Regional Council will continue the assessment of your application without the information requested.

Please note that Council may request further advice any time before the application is decided.

If you have any queries please do not hesitate to contact Deputy Chief Executive Officer Brett Walsh at the Executive Office on (07) 4651 5621.

Yours sincerely,

for
Steven Boxall
Chief Executive Officer

Attachment 1 Third Party Advice from the Department of Natural Resources, Mines and Energy (DNRME)

B. AADT SEGMENT REPORTS

B

Traffic Analysis and Reporting System

AADT Segment Analysis Report (Complete)

Road Section 181 - GLADSTONE - MT LARCOM ROAD

Traffic Year 2017

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		
404	0.000 km	1.409 km	60071	1.200 km	G'stone-Mt Larcom Rd 200m N Lord St	3,352	3,364	6,716	1.72388	1.73005	3.45394	2017	2
404	1.409 km	3.258 km	60073	2.550 km	G'stone-Mt Larcom Rd 50m S Auckland Ck	2,592	2,425	5,017	1.74930	1.63660	3.38590	2017	3
404	3.258 km	4.625 km	61052	3.344 km	G'stone-Mt Larcom Rd 500m S Red Rover Rd	3,753	3,698	7,451	1.87258	1.84514	3.71771	2017	4
404	4.625 km	12.292 km	60074	6.270 km	G'stone-Mt Larcom Rd1km N Calliope River	2,617	2,217	4,834	7.32356	6.20417	13.52773	2017	5
404	12.292 km	32.140 km	60076	16.451 km	G'stone-Mt Larcom Rd 150m N Yarwun Rd	1,179	1,204	2,383	8.54129	8.72240	17.26369	2017	6
								Totals	21.21061	20.13836	41.34897		

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		
404	0.000 km	1.409 km	60071	1.200 km	G'stone-Mt Larcom Rd 200m N Lord St	473	14.11%	417	12.40%	890	13.25%	0.24326	0.21446	0.45771	2017	2
404	1.409 km	3.258 km	60073	2.550 km	G'stone-Mt Larcom Rd 50m S Auckland Ck	479	18.48%	522	21.53%	1,001	19.95%	0.32327	0.35229	0.67556	2017	3
404	3.258 km	4.625 km	61052	3.344 km	G'stone-Mt Larcom Rd 500m S Red Rover Rd	841	22.41%	762	20.61%	1,603	21.51%	0.41962	0.38020	0.79982	2017	4
404	4.625 km	12.292 km	60074	6.270 km	G'stone-Mt Larcom Rd1km N Calliope River	587	22.43%	512	23.09%	1,099	22.73%	1.64269	1.43281	3.07550	2017	5
404	12.292 km	32.140 km	60076	16.451 km	G'stone-Mt Larcom Rd 150m N Yarwun Rd	363	30.79%	364	30.23%	727	30.51%	2.62976	2.63701	5.26677	2017	6
											Totals	5.25860	5.01676	10.27537		

Site 60071. Point 260000128. G'stone-Mt Larcom Rd 200m N Lord St.

1.20 km

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

0.00 km

Start Point 260000129. Glenlyon St to Mt Larcom @ Dawson Rd.

1.41 km

End Point 260000130. Hanson Road to Mt Larcom @ Hilderbrand St.

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	-13.00%	-11.41%	-3.58%
A	-9.84%	-11.00%	-4.26%
B	-11.45%	-11.21%	-3.94%

All Vehicles (00)

G	3,352	100%
A	3,364	100%
B	6,716	100%

Light Vehicles (0A)

G	2,878	85.86%
A	2,946	87.57%
B	5,824	86.72%

Heavy Vehicles (0B)

G	473	14.11%
A	417	12.40%
B	890	13.25%

Short Vehicles (1A)

G	2,878	85.86%
A	2,946	87.57%
B	5,824	86.72%

Trucks and Buses (1B)

G	302	9.01%
A	221	6.57%
B	523	7.79%

Articulated Vehicles (1C)

G	104	3.10%
A	115	3.42%
B	219	3.26%

Road Trains (1D)

G	67	2.00%
A	81	2.41%
B	148	2.20%

Short 2-Axle Vehicles (2A)

G	2,826	84.31%
A	2,898	86.15%
B	5,724	85.23%

Short Vehicles Towing (2B)

G	52	1.55%
A	48	1.43%
B	100	1.49%

2-Axle Trucks and Buses (2C)

G	241	7.19%
A	157	4.67%
B	398	5.93%

3-Axle Trucks and Buses (2D)

G	47	1.40%
A	51	1.52%
B	98	1.46%

4-Axle Trucks (2E)

G	14	0.42%
A	13	0.39%
B	27	0.40%

3-Axle Articulated (2F)

G	3	0.09%
A	1	0.03%
B	4	0.06%

4-Axle Articulated (2G)

G	4	0.12%
A	3	0.09%
B	7	0.10%

5-Axle Articulated (2H)

G	6	0.18%
A	7	0.21%
B	13	0.19%

6-Axle Articulated (2I)

G	91	2.71%
A	104	3.09%
B	195	2.90%

B Double (2J)

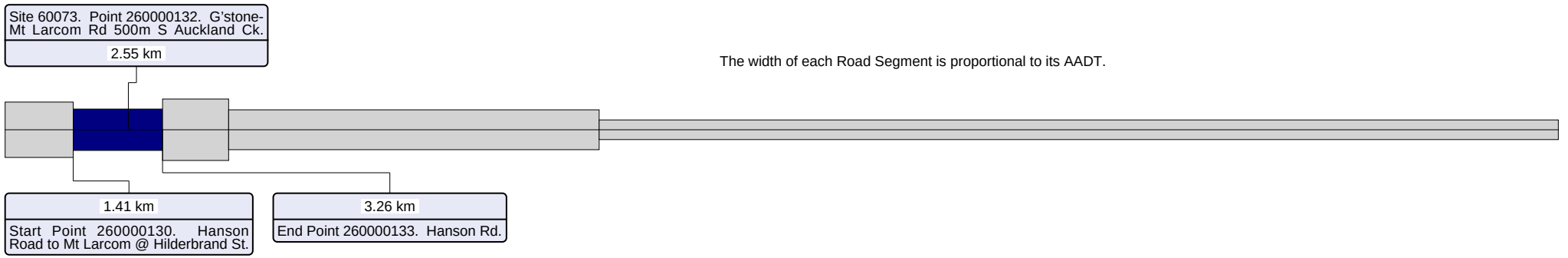
G	67	2.00%
A	81	2.41%
B	148	2.20%

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%



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	-13.80%	-11.56%	-4.46%
A	-16.52%	-12.61%	-4.80%
B	-15.14%	-12.08%	-4.63%

All Vehicles (00)

G	2,592	100%
A	2,425	100%
B	5,017	100%

Light Vehicles (0A)

G	2,113	81.52%
A	1,903	78.47%
B	4,016	80.05%

Heavy Vehicles (0B)

G	479	18.48%
A	522	21.53%
B	1,001	19.95%

Short Vehicles (1A)

G	2,113	81.52%
A	1,903	78.47%
B	4,016	80.05%

Trucks and Buses (1B)

G	251	9.68%
A	309	12.74%
B	560	11.16%

Articulated Vehicles (1C)

G	137	5.29%
A	110	4.54%
B	247	4.92%

Road Trains (1D)

G	91	3.51%
A	103	4.25%
B	194	3.87%

Short 2-Axle Vehicles (2A)

G	2,067	79.75%
A	1,867	76.99%
B	3,934	78.41%

Short Vehicles Towing (2B)

G	46	1.77%
A	36	1.48%
B	82	1.63%

2-Axle Trucks and Buses (2C)

G	193	7.45%
A	251	10.35%
B	444	8.85%

3-Axle Trucks and Buses (2D)

G	45	1.74%
A	45	1.86%
B	90	1.79%

4-Axle Trucks (2E)

G	13	0.50%
A	13	0.54%
B	26	0.52%

3-Axle Articulated (2F)

G	2	0.08%
A	4	0.16%
B	6	0.12%

4-Axle Articulated (2G)

G	4	0.15%
A	4	0.16%
B	8	0.16%

5-Axle Articulated (2H)

G	11	0.42%
A	7	0.29%
B	18	0.36%

6-Axle Articulated (2I)

G	120	4.63%
A	95	3.92%
B	215	4.29%

B Double (2J)

G	90	3.47%
A	103	4.25%
B	193	3.85%

Double Road Trains (2K)

G	1	0.04%
A	0	0.00%
B	1	0.02%

Triple Road Trains (2L)

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

Site 61052. Point 260000763. G'stone-Mt Larcom Rd 500m S Red Rover Rd.

3.34 km

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

3.26 km

Start Point 260000133. Hanson Rd.

4.62 km

End Point 260000135. Hanson Rd to Gladstone @ Pwr Stn 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.

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	-12.31%	-12.03%	-4.17%
A	-13.58%	-12.07%	-3.94%
B	-12.95%	-12.05%	-4.06%

All Vehicles (00)

G	3,753	100%
A	3,698	100%
B	7,451	100%

Light Vehicles (0A)

G	2,913	77.62%
A	2,936	79.39%
B	5,849	78.50%

Heavy Vehicles (0B)

G	841	22.41%
A	762	20.61%
B	1,603	21.51%

Short Vehicles (1A)

G	2,913	77.62%
A	2,936	79.39%
B	5,849	78.50%

Trucks and Buses (1B)

G	565	15.05%
A	477	12.90%
B	1,042	13.98%

Articulated Vehicles (1C)

G	177	4.72%
A	170	4.60%
B	347	4.66%

Road Trains (1D)

G	99	2.64%
A	115	3.11%
B	214	2.87%

Short 2-Axle Vehicles (2A)

G	2,833	75.49%
A	2,853	77.15%
B	5,686	76.31%

Short Vehicles Towing (2B)

G	80	2.13%
A	83	2.24%
B	163	2.19%

2-Axle Trucks and Buses (2C)

G	465	12.39%
A	388	10.49%
B	853	11.45%

3-Axle Trucks and Buses (2D)

G	78	2.08%
A	69	1.87%
B	147	1.97%

4-Axle Trucks (2E)

G	22	0.59%
A	20	0.54%
B	42	0.56%

3-Axle Articulated (2F)

G	13	0.35%
A	10	0.27%
B	23	0.31%

4-Axle Articulated (2G)

G	11	0.29%
A	7	0.19%
B	18	0.24%

5-Axle Articulated (2H)

G	17	0.45%
A	15	0.41%
B	32	0.43%

6-Axle Articulated (2I)

G	136	3.62%
A	138	3.73%
B	274	3.68%

B Double (2J)

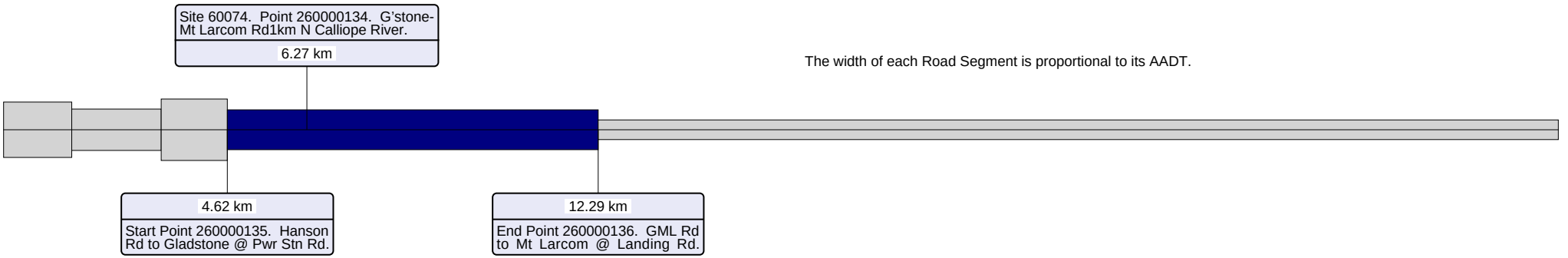
G	98	2.61%
A	114	3.08%
B	212	2.85%

Double Road Trains (2K)

G	1	0.03%
A	1	0.03%
B	2	0.03%

Triple Road Trains (2L)

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



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	-1.02%	-11.21%	-3.38%
A	-17.95%	-16.37%	-6.35%
B	-9.58%	-13.76%	-4.84%

All Vehicles (00)

G	2,617	100%
A	2,217	100%
B	4,834	100%

Light Vehicles (0A)

G	2,029	77.53%
A	1,706	76.95%
B	3,735	77.27%

Heavy Vehicles (0B)

G	587	22.43%
A	512	23.09%
B	1,099	22.73%

Short Vehicles (1A)

G	2,029	77.53%
A	1,706	76.95%
B	3,735	77.27%

Trucks and Buses (1B)

G	337	12.88%
A	305	13.76%
B	642	13.28%

Articulated Vehicles (1C)

G	118	4.51%
A	107	4.83%
B	225	4.65%

Road Trains (1D)

G	132	5.04%
A	100	4.51%
B	232	4.80%

Short 2-Axle Vehicles (2A)

G	1,994	76.19%
A	1,670	75.33%
B	3,664	75.80%

Short Vehicles Towing (2B)

G	35	1.34%
A	36	1.62%
B	71	1.47%

2-Axle Trucks and Buses (2C)

G	276	10.55%
A	257	11.59%
B	533	11.03%

3-Axle Trucks and Buses (2D)

G	46	1.76%
A	37	1.67%
B	83	1.72%

4-Axle Trucks (2E)

G	15	0.57%
A	11	0.50%
B	26	0.54%

3-Axle Articulated (2F)

G	6	0.23%
A	4	0.18%
B	10	0.21%

4-Axle Articulated (2G)

G	6	0.23%
A	5	0.23%
B	11	0.23%

5-Axle Articulated (2H)

G	9	0.34%
A	6	0.27%
B	15	0.31%

6-Axle Articulated (2I)

G	97	3.71%
A	92	4.15%
B	189	3.91%

B Double (2J)

G	132	5.04%
A	100	4.51%
B	232	4.80%

Double Road Trains (2K)

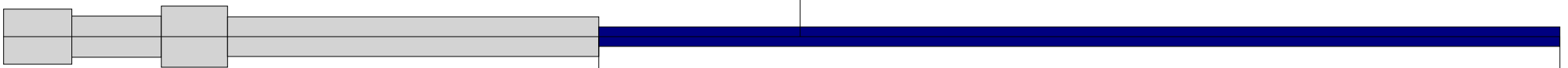
G	0	0%
A	0	0%
B	0	0%

Triple Road Trains (2L)

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

Site 60076. Point 260000138. G'stone-Mt Larcom Rd 150m N Yarwun Rd.
16.45 km

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



12.29 km
Start Point 260000136. GML Rd to Mt Larcom @ Landing Rd.

32.14 km
End Point 260000139. Gladstone-Mt.Larcom Rd @ Bruce Hwy.

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	-13.18%	-13.70%	-4.53%
A	-12.18%	-13.87%	-4.87%
B	-12.68%	-13.79%	-4.70%

All Vehicles (00)

G	1,179	100%
A	1,204	100%
B	2,383	100%

Light Vehicles (0A)

G	815	69.13%
A	839	69.68%
B	1,654	69.41%

Heavy Vehicles (0B)

G	363	30.79%
A	364	30.23%
B	727	30.51%

Short Vehicles (1A)

G	815	69.13%
A	839	69.68%
B	1,654	69.41%

Trucks and Buses (1B)

G	202	17.13%
A	198	16.45%
B	400	16.79%

Articulated Vehicles (1C)

G	74	6.28%
A	72	5.98%
B	146	6.13%

Road Trains (1D)

G	87	7.38%
A	94	7.81%
B	181	7.60%

Short 2-Axle Vehicles (2A)

G	790	67.01%
A	814	67.61%
B	1,604	67.31%

Short Vehicles Towing (2B)

G	25	2.12%
A	25	2.08%
B	50	2.10%

2-Axle Trucks and Buses (2C)

G	169	14.33%
A	165	13.70%
B	334	14.02%

3-Axle Trucks and Buses (2D)

G	20	1.70%
A	19	1.58%
B	39	1.64%

4-Axle Trucks (2E)

G	13	1.10%
A	14	1.16%
B	27	1.13%

3-Axle Articulated (2F)

G	6	0.51%
A	5	0.42%
B	11	0.46%

4-Axle Articulated (2G)

G	5	0.42%
A	4	0.33%
B	9	0.38%

5-Axle Articulated (2H)

G	6	0.51%
A	5	0.42%
B	11	0.46%

6-Axle Articulated (2I)

G	57	4.83%
A	58	4.82%
B	115	4.83%

B Double (2J)

G	86	7.29%
A	93	7.72%
B	179	7.51%

Double Road Trains (2K)

G	1	0.08%
A	1	0.08%
B	2	0.08%

Triple Road Trains (2L)

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

Report Notes for AADT Segment Analysis Report (Complete)

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 it's Start Point and End Point (or Start and End Through Distance (TDist)) within the Road Section. These distances are measured in kilometres from the begining 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
Metropolitian 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.

AADT Segment Analysis Report (Complete)

Road Section 10E - BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)

Traffic Year 2017

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		
404	0.000 km	11.445 km	60127	10.000 km	Bruce Hwy 10m N Ginger Beer Ck(Calliope)	2,672	2,711	5,383	11.16208	11.32500	22.48708	2017	2
404	11.445 km	45.420 km	60006	18.105 km	Bruce Hwy 100m S of Calliope River	2,214	2,346	4,560	27.45554	29.09245	56.54799	2017	3
404	45.420 km	85.308 km	60023	53.490 km	Bruce Hwy 100m Sth Hut Ck (Ambrose)	2,728	2,960	5,688	39.71728	43.09500	82.81227	2017	4
404	85.308 km	108.938 km	61551	100.438 km	Bruce Hwy Mikros WiM Site 400m N Bobs Ck	3,060	3,175	6,235	26.39235	27.38422	53.77656	2017	5
404	108.938 km	114.388 km	60130	111.494 km	Bruce Hwy 100m Nth Gavial Ck	2,955	2,842	5,797	5.87823	5.65345	11.53168	2017	6
404	114.388 km	116.961 km	60024	114.500 km	Bruce Hwy 30m North Scrubby Ck	5,575	4,538	10,113	5.23573	4.26184	9.49757	2017	7
404	116.961 km	119.737 km	60868	118.341 km	Bruce Hwy100m N Owald St(Lower Dawson R)	9,565	9,070	18,635	9.69164	9.19009	18.88173	2017	8
404	119.737 km	121.051 km	61086	120.225 km	Bruce Hwy(Gladstone Rd) @ Derby St	10,466	10,476	20,942	5.01960	5.02439	10.04399	2017	9
								Totals	130.55245	135.02643	265.57888		

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		
404	0.000 km	11.445 km	60127	10.000 km	Bruce Hwy 10m N Ginger Beer Ck(Calliope)	687	25.71%	685	25.27%	1,372	25.49%	2.86989	2.86154	5.73143	2017	2
404	11.445 km	45.420 km	60006	18.105 km	Bruce Hwy 100m S of Calliope River	653	29.49%	686	29.24%	1,339	29.36%	8.09777	8.50700	16.60477	2017	3
404	45.420 km	85.308 km	60023	53.490 km	Bruce Hwy 100m Sth Hut Ck (Ambrose)	556	20.38%	750	25.34%	1,306	22.96%	8.09487	10.91934	19.01421	2017	4
404	85.308 km	108.938 km	61551	100.438 km	Bruce Hwy Mikros WiM Site 400m N Bobs Ck	903	29.51%	832	26.20%	1,735	27.83%	7.78833	7.17596	14.96429	2017	5
404	108.938 km	114.388 km	60130	111.494 km	Bruce Hwy 100m Nth Gavial Ck	917	31.03%	778	27.38%	1,695	29.24%	1.82414	1.54764	3.37178	2017	6
404	114.388 km	116.961 km	60024	114.500 km	Bruce Hwy 30m North Scrubby Ck	708	12.70%	813	17.92%	1,521	15.04%	0.66491	0.76352	1.42844	2017	7
404	116.961 km	119.737 km	60868	118.341 km	Bruce Hwy100m N Owald St(Lower Dawson R)	1,019	10.65%	960	10.58%	1,979	10.62%	1.03249	0.97271	2.00520	2017	8
404	119.737 km	121.051 km	61086	120.225 km	Bruce Hwy(Gladstone Rd) @ Derby St	1,368	13.07%	1,075	10.26%	2,443	11.67%	0.65611	0.51558	1.17169	2017	9
											Totals	31.02852	33.26329	64.29181		

Site 60127. Point 260000227. 1km Sth Dawson Hwy (Calliope).

10.00 km

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

0.00 km

Start Point 260000228. Bruce Hwy to R'ton @ Gladstone-Benaraby.

11.45 km

End Point 260000014. S.Abut Dawson Hwy Overpass.

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	0.11%	-0.79%	0.68%
A	-0.88%	0.29%	0.92%
B	-0.39%	-0.25%	0.80%

All Vehicles (00)

G	2,672	100%
A	2,711	100%
B	5,383	100%

Light Vehicles (0A)

G	1,985	74.29%
A	2,024	74.66%
B	4,009	74.48%

Heavy Vehicles (0B)

G	687	25.71%
A	685	25.27%
B	1,372	25.49%

Short Vehicles (1A)

G	1,985	74.29%
A	2,024	74.66%
B	4,009	74.48%

Trucks and Buses (1B)

G	322	12.05%
A	279	10.29%
B	601	11.16%

Articulated Vehicles (1C)

G	200	7.49%
A	202	7.45%
B	402	7.47%

Road Trains (1D)

G	165	6.18%
A	204	7.52%
B	369	6.85%

Short 2-Axle Vehicles (2A)

G	1,790	66.99%
A	1,842	67.95%
B	3,632	67.47%

Short Vehicles Towing (2B)

G	195	7.30%
A	182	6.71%
B	377	7.00%

2-Axle Trucks and Buses (2C)

G	278	10.40%
A	237	8.74%
B	515	9.57%

3-Axle Trucks and Buses (2D)

G	34	1.27%
A	33	1.22%
B	67	1.24%

4-Axle Trucks (2E)

G	10	0.37%
A	9	0.33%
B	19	0.35%

3-Axle Articulated (2F)

G	32	1.20%
A	25	0.92%
B	57	1.06%

4-Axle Articulated (2G)

G	43	1.61%
A	32	1.18%
B	75	1.39%

5-Axle Articulated (2H)

G	27	1.01%
A	26	0.96%
B	53	0.98%

6-Axle Articulated (2I)

G	98	3.67%
A	119	4.39%
B	217	4.03%

B Double (2J)

G	162	6.06%
A	201	7.41%
B	363	6.74%

Double Road Trains (2K)

G	3	0.11%
A	3	0.11%
B	6	0.11%

Triple Road Trains (2L)

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

Site 60006. Point 260000013. 25m Nth Calliope River on Bruce Hwy.
18.11 km

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

11.45 km
Start Point 260000014. S.Abut Dawson Hwy Overpass.

45.42 km
End Point 260000015. Bruce Hwy to R'ton @ G'stone-Mt.Larcom 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.

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	1.93%	-0.49%	1.17%
A	2.45%	2.20%	2.58%
B	2.20%	0.85%	1.87%

All Vehicles (00)

G	2,214	100%
A	2,346	100%
B	4,560	100%

Light Vehicles (0A)

G	1,561	70.51%
A	1,660	70.76%
B	3,221	70.64%

Heavy Vehicles (0B)

G	653	29.49%
A	686	29.24%
B	1,339	29.36%

Short Vehicles (1A)

G	1,561	70.51%
A	1,660	70.76%
B	3,221	70.64%

Trucks and Buses (1B)

G	230	10.39%
A	240	10.23%
B	470	10.31%

Articulated Vehicles (1C)

G	189	8.54%
A	198	8.44%
B	387	8.49%

Road Trains (1D)

G	234	10.57%
A	248	10.57%
B	482	10.57%

Short 2-Axle Vehicles (2A)

G	1,364	61.61%
A	1,492	63.60%
B	2,856	62.63%

Short Vehicles Towing (2B)

G	197	8.90%
A	168	7.16%
B	365	8.00%

2-Axle Trucks and Buses (2C)

G	199	8.99%
A	206	8.78%
B	405	8.88%

3-Axle Trucks and Buses (2D)

G	23	1.04%
A	25	1.07%
B	48	1.05%

4-Axle Trucks (2E)

G	8	0.36%
A	9	0.38%
B	17	0.37%

3-Axle Articulated (2F)

G	23	1.04%
A	20	0.85%
B	43	0.94%

4-Axle Articulated (2G)

G	36	1.63%
A	30	1.28%
B	66	1.45%

5-Axle Articulated (2H)

G	28	1.26%
A	26	1.11%
B	54	1.18%

6-Axle Articulated (2I)

G	102	4.61%
A	122	5.20%
B	224	4.91%

B Double (2J)

G	233	10.52%
A	247	10.53%
B	480	10.53%

Double Road Trains (2K)

G	1	0.05%
A	1	0.04%
B	2	0.04%

Triple Road Trains (2L)

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

Site 60023. Point 260000046. Hut Ck (Nth Ambrose)on Bruce Hwy.
53.49 km

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

45.42 km
Start Point 260000015. Bruce Hwy to R'ton @ G'stone-Mt.Larcom Rd.

85.31 km
End Point 260000047. Bruce Hwy to Marmor @ Bajool-Port Alma.

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	3.49%	-2.54%	-0.18%
A	8.19%	-0.47%	1.12%
B	5.88%	-1.51%	0.48%

All Vehicles (00)

G	2,728	100%
A	2,960	100%
B	5,688	100%

Light Vehicles (0A)

G	2,173	79.66%
A	2,208	74.59%
B	4,381	77.02%

Heavy Vehicles (0B)

G	556	20.38%
A	750	25.34%
B	1,306	22.96%

Short Vehicles (1A)

G	2,173	79.66%
A	2,208	74.59%
B	4,381	77.02%

Trucks and Buses (1B)

G	190	6.96%
A	338	11.42%
B	528	9.28%

Articulated Vehicles (1C)

G	177	6.49%
A	207	6.99%
B	384	6.75%

Road Trains (1D)

G	189	6.93%
A	205	6.93%
B	394	6.93%

Short 2-Axle Vehicles (2A)

G	1,948	71.41%
A	2,047	69.16%
B	3,995	70.24%

Short Vehicles Towing (2B)

G	225	8.25%
A	161	5.44%
B	386	6.79%

2-Axle Trucks and Buses (2C)

G	152	5.57%
A	286	9.66%
B	438	7.70%

3-Axle Trucks and Buses (2D)

G	30	1.10%
A	44	1.49%
B	74	1.30%

4-Axle Trucks (2E)

G	8	0.29%
A	8	0.27%
B	16	0.28%

3-Axle Articulated (2F)

G	16	0.59%
A	24	0.81%
B	40	0.70%

4-Axle Articulated (2G)

G	26	0.95%
A	31	1.05%
B	57	1.00%

5-Axle Articulated (2H)

G	26	0.95%
A	24	0.81%
B	50	0.88%

6-Axle Articulated (2I)

G	109	4.00%
A	128	4.32%
B	237	4.17%

B Double (2J)

G	187	6.85%
A	204	6.89%
B	391	6.87%

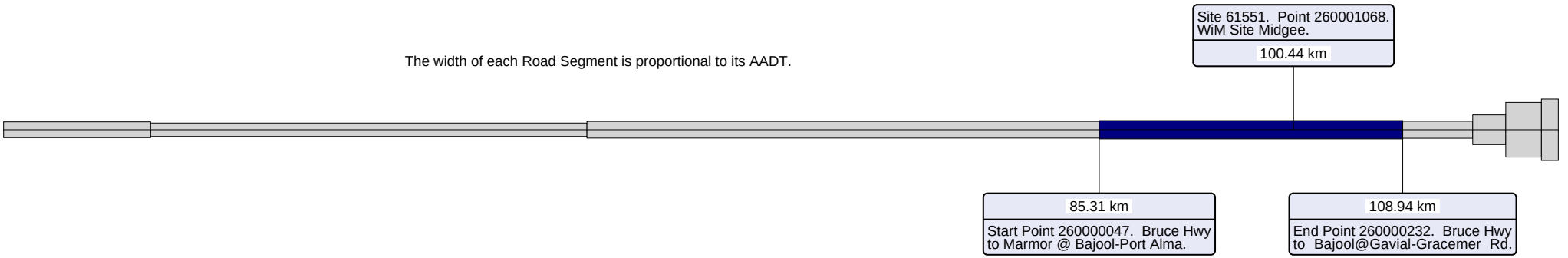
Double Road Trains (2K)

G	2	0.07%
A	1	0.03%
B	3	0.05%

Triple Road Trains (2L)

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

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%	-0.57%	0.70%
A	10.59%	0.35%	1.17%
B	5.13%	-0.11%	0.94%

All Vehicles (00)

G	3,060	100%
A	3,175	100%
B	6,235	100%

Light Vehicles (0A)

G	2,158	70.52%
A	2,342	73.76%
B	4,500	72.17%

Heavy Vehicles (0B)

G	903	29.51%
A	832	26.20%
B	1,735	27.83%

Short Vehicles (1A)

G	2,158	70.52%
A	2,342	73.76%
B	4,500	72.17%

Trucks and Buses (1B)

G	458	14.97%
A	342	10.77%
B	800	12.83%

Articulated Vehicles (1C)

G	243	7.94%
A	237	7.46%
B	480	7.70%

Road Trains (1D)

G	202	6.60%
A	253	7.97%
B	455	7.30%

Short 2-Axle Vehicles (2A)

G	1,959	64.02%
A	2,143	67.50%
B	4,102	65.79%

Short Vehicles Towing (2B)

G	199	6.50%
A	199	6.27%
B	398	6.38%

2-Axle Trucks and Buses (2C)

G	403	13.17%
A	280	8.82%
B	683	10.95%

3-Axle Trucks and Buses (2D)

G	44	1.44%
A	50	1.57%
B	94	1.51%

4-Axle Trucks (2E)

G	11	0.36%
A	12	0.38%
B	23	0.37%

3-Axle Articulated (2F)

G	42	1.37%
A	22	0.69%
B	64	1.03%

4-Axle Articulated (2G)

G	48	1.57%
A	29	0.91%
B	77	1.23%

5-Axle Articulated (2H)

G	29	0.95%
A	30	0.94%
B	59	0.95%

6-Axle Articulated (2I)

G	124	4.05%
A	156	4.91%
B	280	4.49%

B Double (2J)

G	200	6.54%
A	251	7.91%
B	451	7.23%

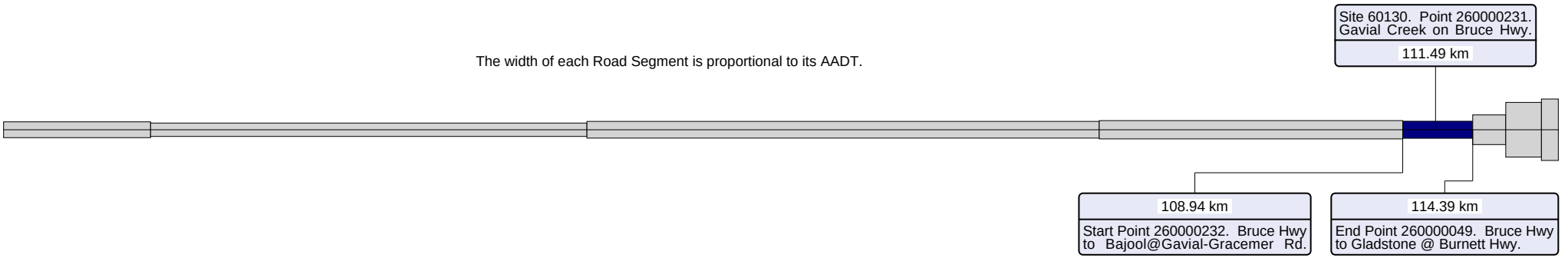
Double Road Trains (2K)

G	2	0.07%
A	2	0.06%
B	4	0.06%

Triple Road Trains (2L)

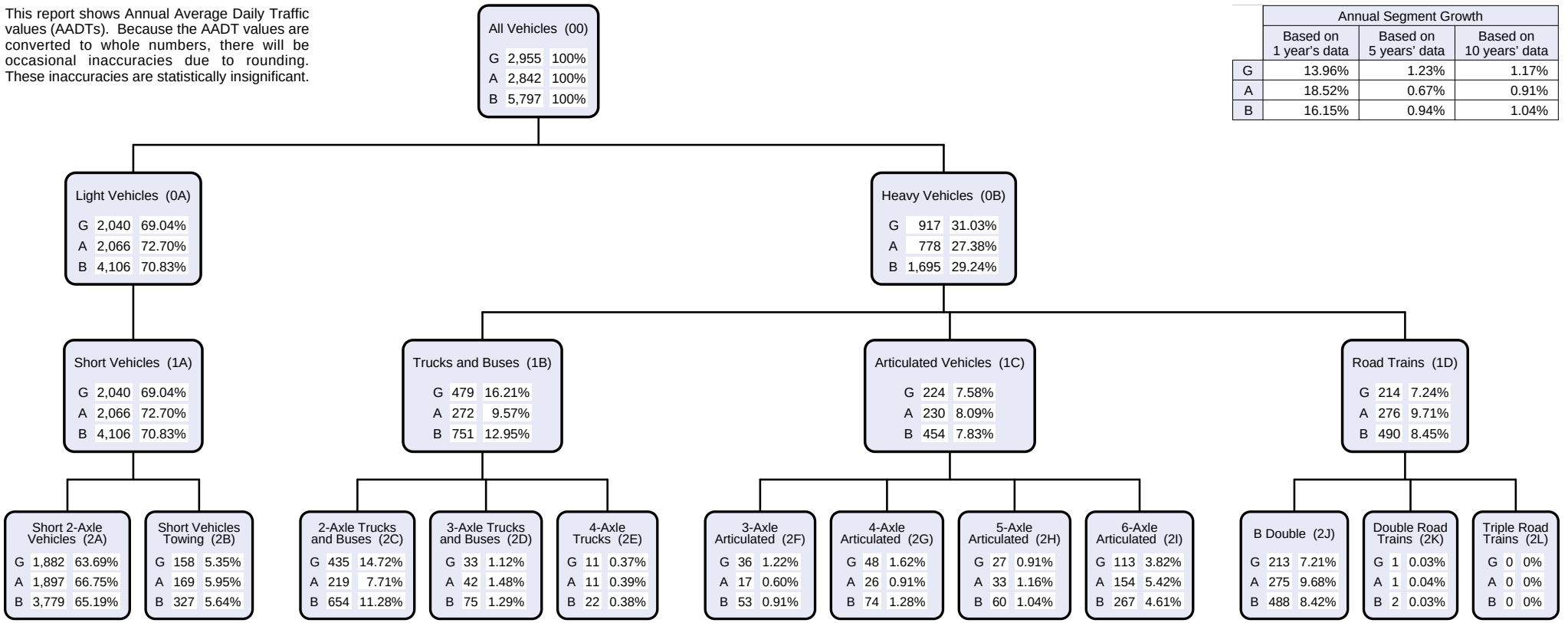
G	0	0%
A	0	0%
B	0	0%

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

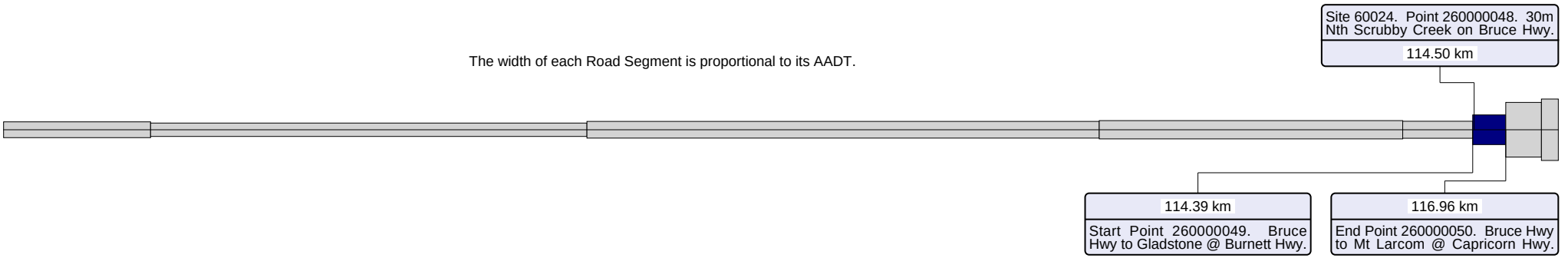


This report shows Annual Average Daily Traffic values (AADTs). Because the AADT values are converted to whole numbers, there will be occasional inaccuracies due to rounding. These inaccuracies are statistically insignificant.

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	13.96%	1.23%	1.17%
A	18.52%	0.67%	0.91%
B	16.15%	0.94%	1.04%

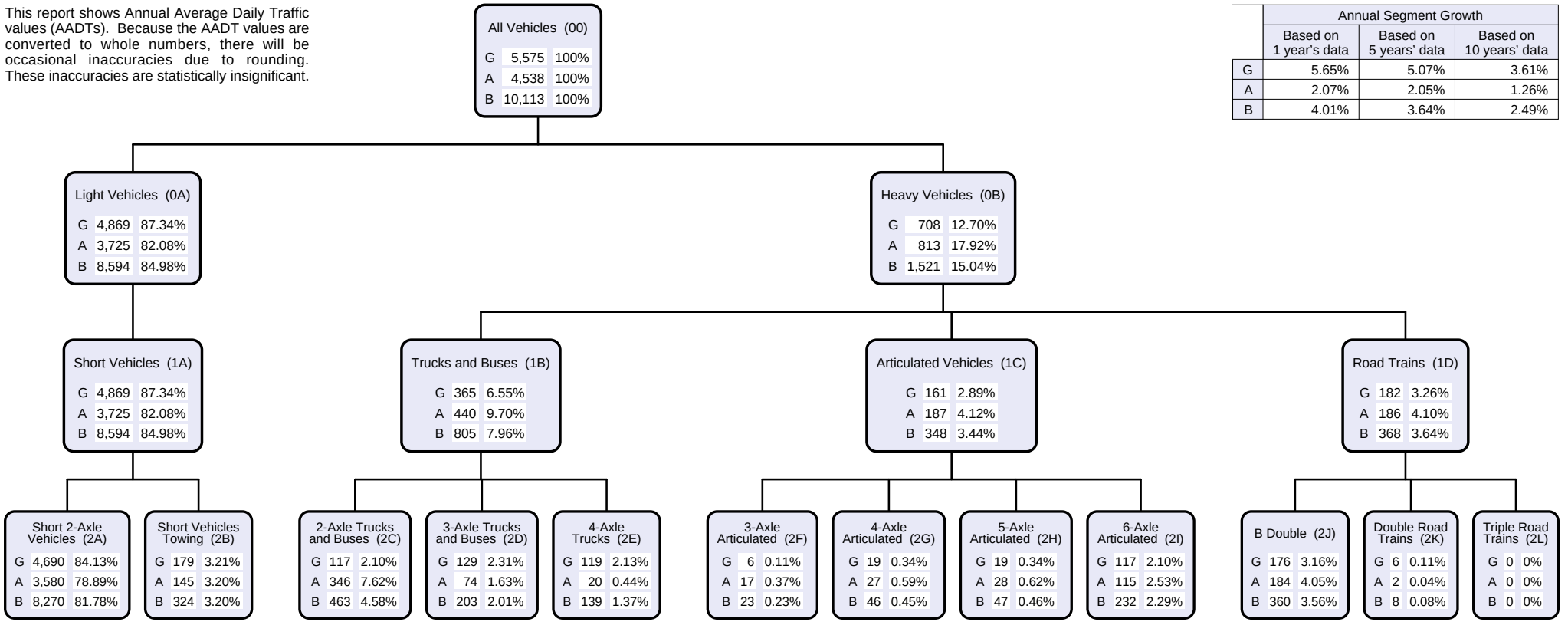


The width of each Road Segment is proportional to its AADT.

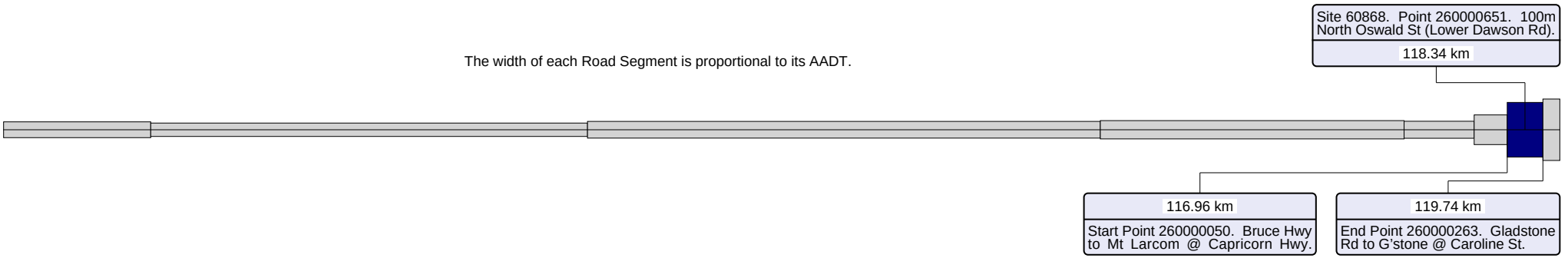


This report shows Annual Average Daily Traffic values (AADTs). Because the AADT values are converted to whole numbers, there will be occasional inaccuracies due to rounding. These inaccuracies are statistically insignificant.

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	5.65%	5.07%	3.61%
A	2.07%	2.05%	1.26%
B	4.01%	3.64%	2.49%



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	-7.06%	-5.56%	-2.30%
A	-5.63%	-5.76%	-2.37%
B	-6.37%	-5.66%	-2.33%

All Vehicles (00)

G	9,565	100%
A	9,070	100%
B	18,635	100%

Light Vehicles (0A)

G	8,546	89.35%
A	8,110	89.42%
B	16,656	89.38%

Heavy Vehicles (0B)

G	1,019	10.65%
A	960	10.58%
B	1,979	10.62%

Short Vehicles (1A)

G	8,546	89.35%
A	8,110	89.42%
B	16,656	89.38%

Trucks and Buses (1B)

G	684	7.15%
A	523	5.77%
B	1,207	6.48%

Articulated Vehicles (1C)

G	177	1.85%
A	227	2.50%
B	404	2.17%

Road Trains (1D)

G	158	1.65%
A	210	2.32%
B	368	1.97%

Short 2-Axle Vehicles (2A)

G	8,244	86.19%
A	7,774	85.71%
B	16,018	85.96%

Short Vehicles Towing (2B)

G	302	3.16%
A	336	3.70%
B	638	3.42%

2-Axle Trucks and Buses (2C)

G	595	6.22%
A	397	4.38%
B	992	5.32%

3-Axle Trucks and Buses (2D)

G	73	0.76%
A	102	1.12%
B	175	0.94%

4-Axle Trucks (2E)

G	16	0.17%
A	24	0.26%
B	40	0.21%

3-Axle Articulated (2F)

G	20	0.21%
A	11	0.12%
B	31	0.17%

4-Axle Articulated (2G)

G	32	0.33%
A	32	0.35%
B	64	0.34%

5-Axle Articulated (2H)

G	19	0.20%
A	30	0.33%
B	49	0.26%

6-Axle Articulated (2I)

G	106	1.11%
A	154	1.70%
B	260	1.40%

B Double (2J)

G	152	1.59%
A	204	2.25%
B	356	1.91%

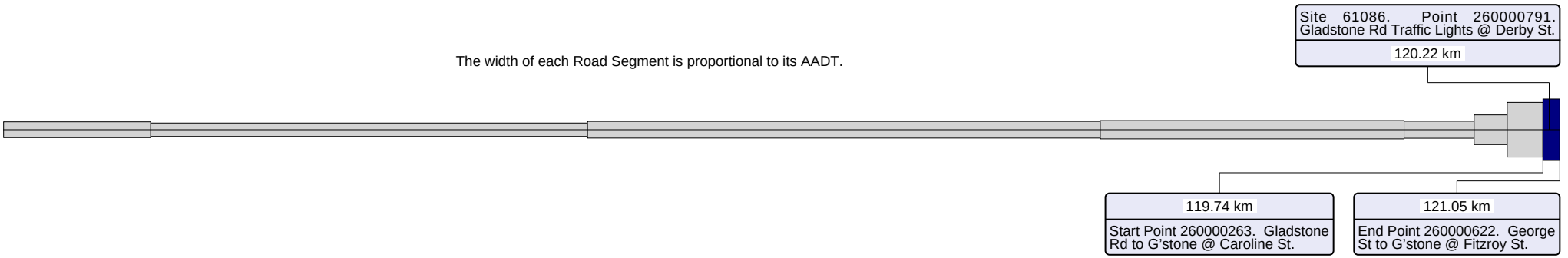
Double Road Trains (2K)

G	6	0.06%
A	6	0.07%
B	12	0.06%

Triple Road Trains (2L)

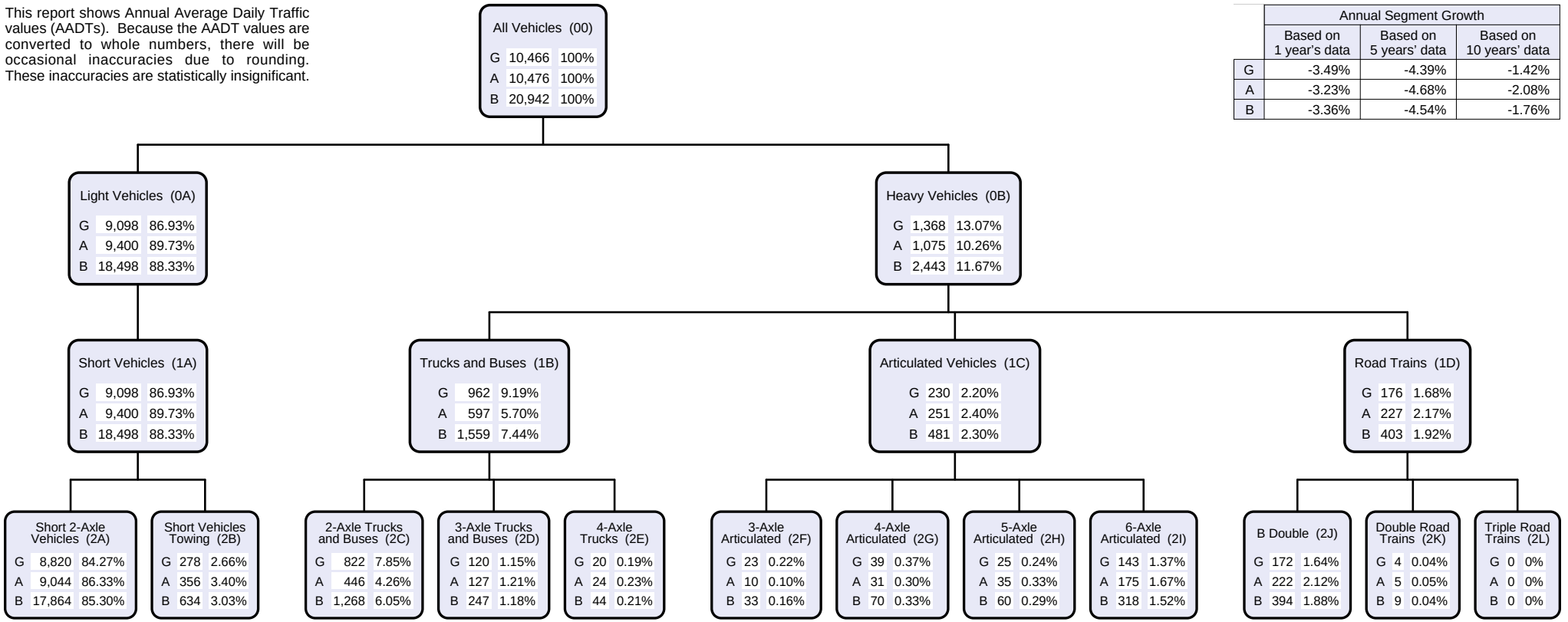
G	0	0%
A	0	0%
B	0	0%

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	-3.49%	-4.39%	-1.42%
A	-3.23%	-4.68%	-2.08%
B	-3.36%	-4.54%	-1.76%



Report Notes for AADT Segment Analysis Report (Complete)

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 it's Start Point and End Point (or Start and End Through Distance (TDist)) within the Road Section. These distances are measured in kilometres from the begining 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
Metropolitian 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.

AADT Segment Analysis Report (Complete)

Road Section 16A - CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)

Traffic Year 2017

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		
404	0.000 km	5.690 km	60039	3.070 km	Capricorn Hwy 1.5Km West Bruce Hwy	9,054	8,948	18,002	18.80380	18.58365	37.38745	2017	2
404	5.690 km	13.367 km	60010	8.690 km	Capricorn Hwy 3km West Gracemere	2,547	2,391	4,938	7.13696	6.69983	13.83679	2017	3
404	13.367 km	17.856 km	61457	14.580 km	Capricorn Hwy WiM Site at Kabra	2,079	2,040	4,119	3.40641	3.34251	6.74892	2017	4
404	17.856 km	51.620 km	60040	44.000 km	Capricorn Hwy 1Km East of Westwood	1,629	1,607	3,236	20.07557	19.80444	39.88001	2017	5
404	51.620 km	73.350 km	60045	64.000 km	Capricorn Hwy at 41 Mile Ck	1,370	1,371	2,741	10.86609	10.87402	21.74010	2017	6
404	73.350 km	106.380 km	150050	92.220 km	Capricorn Hway 300m E of Int 16A/462	1,341	1,302	2,643	16.16703	15.69685	31.86388	2017	7
								Totals	76.45586	75.00130	151.45716		

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		
404	0.000 km	5.690 km	60039	3.070 km	Capricorn Hwy 1.5Km West Bruce Hwy	993	10.97%	1,128	12.61%	2,121	11.78%	2.06231	2.34269	4.40500	2017	2
404	5.690 km	13.367 km	60010	8.690 km	Capricorn Hwy 3km West Gracemere	547	21.48%	562	23.50%	1,109	22.46%	1.53275	1.57478	3.10753	2017	3
404	13.367 km	17.856 km	61457	14.580 km	Capricorn Hwy WiM Site at Kabra	566	27.22%	582	28.53%	1,148	27.87%	0.92738	0.95360	1.88098	2017	4
404	17.856 km	51.620 km	60040	44.000 km	Capricorn Hwy 1Km East of Westwood	407	24.98%	411	25.58%	818	25.28%	5.01581	5.06511	10.08092	2017	5
404	51.620 km	73.350 km	60045	64.000 km	Capricorn Hwy at 41 Mile Ck	306	22.34%	356	25.97%	662	24.15%	2.42702	2.82360	5.25062	2017	6
404	73.350 km	106.380 km	150050	92.220 km	Capricorn Hway 300m E of Int 16A/462	348	25.95%	249	19.12%	597	22.59%	4.19547	3.00193	7.19740	2017	7
											Totals	16.16075	15.76170	31.92245		

Site 60039. Point 260000062. Cap Hwy(TC-60039)3Km West of Bruce Hwy.
3.07 km

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

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

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	1.81%	0.88%	2.09%
A	3.62%	3.10%	2.56%
B	2.70%	1.93%	2.31%

All Vehicles (00)

G	9,054	100%
A	8,948	100%
B	18,002	100%

Light Vehicles (0A)

G	8,061	89.03%
A	7,819	87.38%
B	15,880	88.21%

Heavy Vehicles (0B)

G	993	10.97%
A	1,128	12.61%
B	2,121	11.78%

Short Vehicles (1A)

G	8,061	89.03%
A	7,819	87.38%
B	15,880	88.21%

Trucks and Buses (1B)

G	699	7.72%
A	820	9.16%
B	1,519	8.44%

Articulated Vehicles (1C)

G	158	1.75%
A	172	1.92%
B	330	1.83%

Road Trains (1D)

G	136	1.50%
A	136	1.52%
B	272	1.51%

Short 2-Axle Vehicles (2A)

G	7,863	86.85%
A	7,635	85.33%
B	15,498	86.09%

Short Vehicles Towing (2B)

G	198	2.19%
A	184	2.06%
B	382	2.12%

2-Axle Trucks and Buses (2C)

G	596	6.58%
A	722	8.07%
B	1,318	7.32%

3-Axle Trucks and Buses (2D)

G	89	0.98%
A	85	0.95%
B	174	0.97%

4-Axle Trucks (2E)

G	14	0.15%
A	13	0.15%
B	27	0.15%

3-Axle Articulated (2F)

G	17	0.19%
A	22	0.25%
B	39	0.22%

4-Axle Articulated (2G)

G	23	0.25%
A	28	0.31%
B	51	0.28%

5-Axle Articulated (2H)

G	14	0.15%
A	14	0.16%
B	28	0.16%

6-Axle Articulated (2I)

G	104	1.15%
A	108	1.21%
B	212	1.18%

B Double (2J)

G	132	1.46%
A	132	1.48%
B	264	1.47%

Double Road Trains (2K)

G	4	0.04%
A	4	0.04%
B	8	0.04%

Triple Road Trains (2L)

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

Site 60010. Point 260000025. Capricorn Hwy(TC-60010)3km W of Gracemere.
8.69 km

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

5.69 km
Start Point 260000026. Capricorn Hwy to Duaring@Gavial-G'mere Rd.

13.37 km
End Point 260000027. Cap Hwy to Duaringa @ E Williams 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.

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	1.72%	-0.84%	0.51%
A	1.14%	-1.60%	-0.14%
B	1.44%	-1.21%	0.19%

All Vehicles (00)

G	2,547	100%
A	2,391	100%
B	4,938	100%

Light Vehicles (0A)

G	2,000	78.52%
A	1,830	76.54%
B	3,830	77.56%

Heavy Vehicles (0B)

G	547	21.48%
A	562	23.50%
B	1,109	22.46%

Short Vehicles (1A)

G	2,000	78.52%
A	1,830	76.54%
B	3,830	77.56%

Trucks and Buses (1B)

G	309	12.13%
A	336	14.05%
B	645	13.06%

Articulated Vehicles (1C)

G	115	4.52%
A	114	4.77%
B	229	4.64%

Road Trains (1D)

G	123	4.83%
A	112	4.68%
B	235	4.76%

Short 2-Axle Vehicles (2A)

G	1,913	75.11%
A	1,750	73.19%
B	3,663	74.18%

Short Vehicles Towing (2B)

G	87	3.42%
A	80	3.35%
B	167	3.38%

2-Axle Trucks and Buses (2C)

G	247	9.70%
A	280	11.71%
B	527	10.67%

3-Axle Trucks and Buses (2D)

G	54	2.12%
A	48	2.01%
B	102	2.07%

4-Axle Trucks (2E)

G	8	0.31%
A	8	0.33%
B	16	0.32%

3-Axle Articulated (2F)

G	10	0.39%
A	11	0.46%
B	21	0.43%

4-Axle Articulated (2G)

G	17	0.67%
A	18	0.75%
B	35	0.71%

5-Axle Articulated (2H)

G	11	0.43%
A	10	0.42%
B	21	0.43%

6-Axle Articulated (2I)

G	77	3.02%
A	75	3.14%
B	152	3.08%

B Double (2J)

G	108	4.24%
A	99	4.14%
B	207	4.19%

Double Road Trains (2K)

G	15	0.59%
A	13	0.54%
B	28	0.57%

Triple Road Trains (2L)

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

Site 61457. Point 260001013. WiM Site(TC-61457) Kabra.
14.58 km

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

13.37 km
Start Point 260000027. Cap Hwy to Duaringa @ E Williams Rd.

17.86 km
End Point 260000065. Cap Hwy to Duaringa @ Powerstation 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.

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	0.24%	-2.76%	-0.47%
A	-2.67%	-2.66%	-0.63%
B	-1.22%	-2.72%	-0.55%

All Vehicles (00)

G	2,079	100%
A	2,040	100%
B	4,119	100%

Light Vehicles (0A)

G	1,513	72.78%
A	1,457	71.42%
B	2,970	72.10%

Heavy Vehicles (0B)

G	566	27.22%
A	582	28.53%
B	1,148	27.87%

Short Vehicles (1A)

G	1,513	72.78%
A	1,457	71.42%
B	2,970	72.10%

Trucks and Buses (1B)

G	355	17.08%
A	353	17.30%
B	708	17.19%

Articulated Vehicles (1C)

G	102	4.91%
A	108	5.29%
B	210	5.10%

Road Trains (1D)

G	109	5.24%
A	121	5.93%
B	230	5.58%

Short 2-Axle Vehicles (2A)

G	1,433	68.93%
A	1,369	67.11%
B	2,802	68.03%

Short Vehicles Towing (2B)

G	80	3.85%
A	88	4.31%
B	168	4.08%

2-Axle Trucks and Buses (2C)

G	315	15.15%
A	318	15.59%
B	633	15.37%

3-Axle Trucks and Buses (2D)

G	33	1.59%
A	29	1.42%
B	62	1.51%

4-Axle Trucks (2E)

G	7	0.34%
A	6	0.29%
B	13	0.32%

3-Axle Articulated (2F)

G	14	0.67%
A	16	0.78%
B	30	0.73%

4-Axle Articulated (2G)

G	21	1.01%
A	20	0.98%
B	41	1.00%

5-Axle Articulated (2H)

G	9	0.43%
A	9	0.44%
B	18	0.44%

6-Axle Articulated (2I)

G	58	2.79%
A	63	3.09%
B	121	2.94%

B Double (2J)

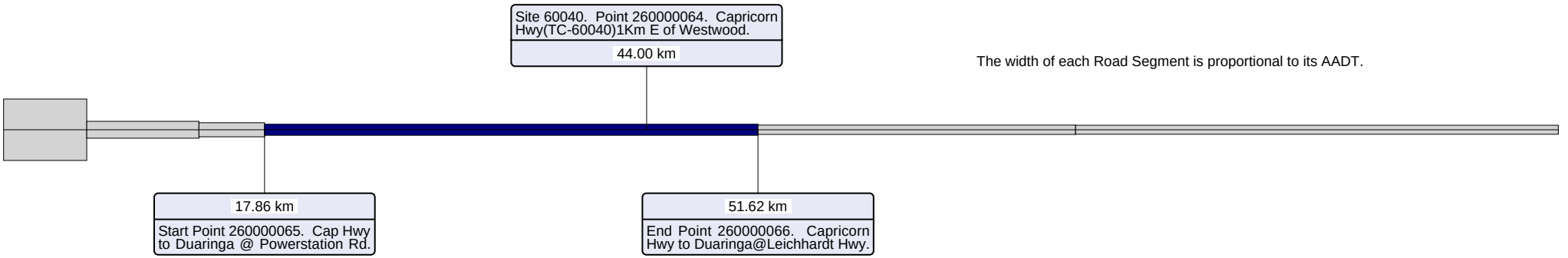
G	90	4.33%
A	98	4.80%
B	188	4.56%

Double Road Trains (2K)

G	19	0.91%
A	23	1.13%
B	42	1.02%

Triple Road Trains (2L)

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



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	-2.04%	-3.72%	-1.20%
A	-0.86%	-2.32%	-0.59%
B	-1.46%	-3.06%	-0.90%

All Vehicles (00)

G	1,629	100%
A	1,607	100%
B	3,236	100%

Light Vehicles (0A)

G	1,221	74.95%
A	1,196	74.42%
B	2,417	74.69%

Heavy Vehicles (0B)

G	407	24.98%
A	411	25.58%
B	818	25.28%

Short Vehicles (1A)

G	1,221	74.95%
A	1,196	74.42%
B	2,417	74.69%

Trucks and Buses (1B)

G	232	14.24%
A	205	12.76%
B	437	13.50%

Articulated Vehicles (1C)

G	76	4.67%
A	81	5.04%
B	157	4.85%

Road Trains (1D)

G	99	6.08%
A	125	7.78%
B	224	6.92%

Short 2-Axle Vehicles (2A)

G	1,163	71.39%
A	1,133	70.50%
B	2,296	70.95%

Short Vehicles Towing (2B)

G	58	3.56%
A	63	3.92%
B	121	3.74%

2-Axle Trucks and Buses (2C)

G	197	12.09%
A	177	11.01%
B	374	11.56%

3-Axle Trucks and Buses (2D)

G	29	1.78%
A	23	1.43%
B	52	1.61%

4-Axle Trucks (2E)

G	6	0.37%
A	5	0.31%
B	11	0.34%

3-Axle Articulated (2F)

G	10	0.61%
A	8	0.50%
B	18	0.56%

4-Axle Articulated (2G)

G	14	0.86%
A	13	0.81%
B	27	0.83%

5-Axle Articulated (2H)

G	6	0.37%
A	6	0.37%
B	12	0.37%

6-Axle Articulated (2I)

G	46	2.82%
A	54	3.36%
B	100	3.09%

B Double (2J)

G	75	4.60%
A	98	6.10%
B	173	5.35%

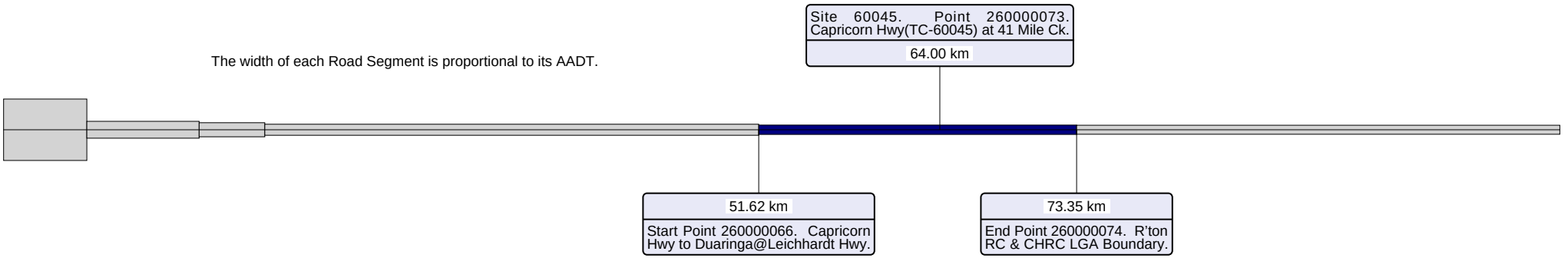
Double Road Trains (2K)

G	23	1.41%
A	27	1.68%
B	50	1.55%

Triple Road Trains (2L)

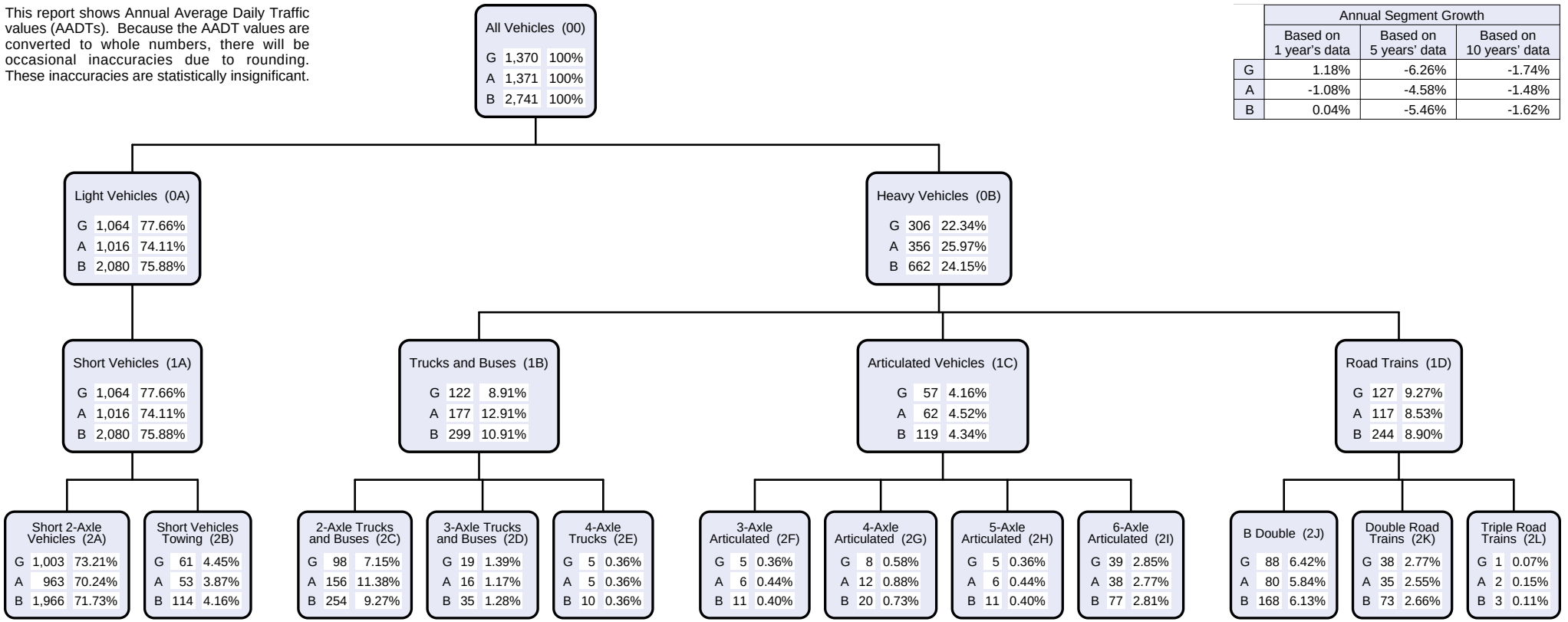
G	1	0.06%
A	0	0.00%
B	1	0.03%

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



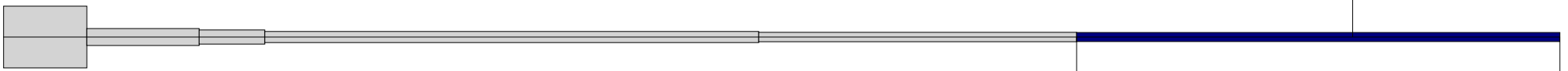
This report shows Annual Average Daily Traffic values (AADTs). Because the AADT values are converted to whole numbers, there will be occasional inaccuracies due to rounding. These inaccuracies are statistically insignificant.

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	1.18%	-6.26%	-1.74%
A	-1.08%	-4.58%	-1.48%
B	0.04%	-5.46%	-1.62%



Site 150050. Point 350001052. Capricorn Hway 300m E of Int 16A/462.
92.22 km

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



73.35 km
Start Point 350000069. CHRC / Rockhampton Regional Council Boundary.

106.38 km
End Point 350000070. Int Capricorn Hwy & Duaringa Connection 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.

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	3.39%	-4.64%	-1.02%
A	-14.40%	-5.83%	-1.13%
B	-6.21%	-5.24%	-1.08%

All Vehicles (00)

G	1,341	100%
A	1,302	100%
B	2,643	100%

Light Vehicles (0A)

G	995	74.20%
A	1,053	80.88%
B	2,048	77.49%

Heavy Vehicles (0B)

G	348	25.95%
A	249	19.12%
B	597	22.59%

Short Vehicles (1A)

G	995	74.20%
A	1,053	80.88%
B	2,048	77.49%

Trucks and Buses (1B)

G	174	12.98%
A	94	7.22%
B	268	10.14%

Articulated Vehicles (1C)

G	62	4.62%
A	53	4.07%
B	115	4.35%

Road Trains (1D)

G	112	8.35%
A	102	7.83%
B	214	8.10%

Short 2-Axle Vehicles (2A)

G	938	69.95%
A	995	76.42%
B	1,933	73.14%

Short Vehicles Towing (2B)

G	57	4.25%
A	58	4.45%
B	115	4.35%

2-Axle Trucks and Buses (2C)

G	150	11.19%
A	69	5.30%
B	219	8.29%

3-Axle Trucks and Buses (2D)

G	19	1.42%
A	20	1.54%
B	39	1.48%

4-Axle Trucks (2E)

G	5	0.37%
A	5	0.38%
B	10	0.38%

3-Axle Articulated (2F)

G	7	0.52%
A	3	0.23%
B	10	0.38%

4-Axle Articulated (2G)

G	10	0.75%
A	7	0.54%
B	17	0.64%

5-Axle Articulated (2H)

G	5	0.37%
A	4	0.31%
B	9	0.34%

6-Axle Articulated (2I)

G	40	2.98%
A	39	3.00%
B	79	2.99%

B Double (2J)

G	79	5.89%
A	73	5.61%
B	152	5.75%

Double Road Trains (2K)

G	32	2.39%
A	29	2.23%
B	61	2.31%

Triple Road Trains (2L)

G	1	0.07%
A	0	0.00%
B	1	0.04%

Report Notes for AADT Segment Analysis Report (Complete)

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 it's Start Point and End Point (or Start and End Through Distance (TDist)) within the Road Section. These distances are measured in kilometres from the begining 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
Metropolitian 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.

Traffic Analysis and Reporting System

AADT Segment Analysis Report (Complete)

Road Section 16B - CAPRICORN HIGHWAY (DUARINGA - EMERALD)

Traffic Year 2017

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		
404	0.000 km	36.040 km	150018	22.850 km	5km East of Bridgewater Ck	1,191	1,241	2,432	15.66713	16.32486	31.99199	2017	2
404	36.040 km	82.671 km	159727	77.250 km	Capricorn Hwy 2.4km W Yarrabee Mine Rd	1,226	1,249	2,475	20.86691	21.25837	42.12528	2017	3
404	82.671 km	86.150 km	159676	84.235 km	Capricorn Hwy 200m W of Int 16B/469	1,771	1,865	3,636	2.24888	2.36824	4.61712	2017	4
404	86.150 km	90.560 km	159701	89.410 km	Cap Hwy 1km W of Blackwater Mine CHPP	1,156	1,165	2,321	1.86076	1.87524	3.73600	2017	5
404	90.560 km	127.950 km	159648	120.653 km	Capricorn Hwy 50m W of Comet River	1,120	1,135	2,255	15.28503	15.48974	30.77477	2017	6
404	127.950 km	157.560 km	150024	150.000 km	Capricorn Hwy 400m W of Foley Rd	1,242	1,246	2,488	13.42310	13.46633	26.88943	2017	7
404	157.560 km	158.950 km	159697	157.840 km	Capricorn Hwy 200m W of Codenwarra Rd	4,227	3,609	7,836	2.14457	1.83103	3.97559	2017	8
404	158.950 km	159.550 km	159698	159.250 km	Capricorn Hwy 70m W Borilla St(Emerald)	4,178	4,621	8,799	0.91498	1.01200	1.92698	2017	9
								Totals	72.41135	73.62582	146.03717		

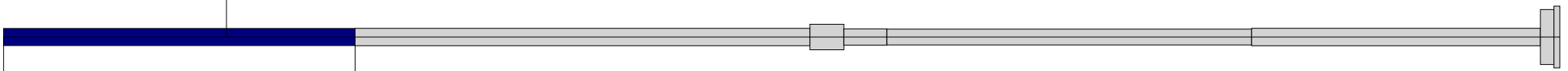
Road Segments Summary - Heavy Vehicles only

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		
404	0.000 km	36.040 km	150018	22.850 km	5km East of Bridgewater Ck	311	26.11%	265	21.35%	576	23.68%	4.09108	3.48597	7.57705	2017	2
404	36.040 km	82.671 km	159727	77.250 km	Capricorn Hwy 2.4km W Yarrabee Mine Rd	377	30.75%	229	18.33%	606	24.48%	6.41666	3.89765	10.31431	2017	3
404	82.671 km	86.150 km	159676	84.235 km	Capricorn Hwy 200m W of Int 16B/469	359	20.27%	375	20.11%	734	20.19%	0.45587	0.47619	0.93206	2017	4
404	86.150 km	90.560 km	159701	89.410 km	Cap Hwy 1km W of Blackwater Mine CHPP	202	17.47%	235	20.17%	437	18.83%	0.32515	0.37827	0.70342	2017	5
404	90.560 km	127.950 km	159648	120.653 km	Capricorn Hwy 50m W of Comet River	233	20.80%	215	18.94%	448	19.87%	3.17983	2.93418	6.11401	2017	6
404	127.950 km	157.560 km	150024	150.000 km	Capricorn Hwy 400m W of Foley Rd	453	36.47%	292	23.43%	745	29.94%	4.89587	3.15583	8.05170	2017	7
404	157.560 km	158.950 km	159697	157.840 km	Capricorn Hwy 200m W of Codenwarra Rd	796	18.83%	327	9.06%	1,123	14.33%	0.40385	0.16590	0.56975	2017	8
404	158.950 km	159.550 km	159698	159.250 km	Capricorn Hwy 70m W Borilla St(Emerald)	275	6.58%	394	8.53%	669	7.60%	0.06023	0.08629	0.14651	2017	9
											Totals	19.82853	14.58028	34.40881		

Site 150018. Point 350017703. 5km East of Bridgewater Ck.
22.85 km

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



0.00 km
Start Point 350000048. Int Capricorn Hwy & Duaringa Connection Rd.

36.04 km
End Point 350000049. Cap Hwy To Emerald @ Fitzroy Dev Rd(85C).

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	-10.25%	-6.63%	-2.70%
A	-5.41%	-5.09%	-1.86%
B	-7.84%	-5.86%	-2.28%

All Vehicles (00)

G	1,191	100%
A	1,241	100%
B	2,432	100%

Light Vehicles (0A)

G	879	73.80%
A	976	78.65%
B	1,855	76.27%

Heavy Vehicles (0B)

G	311	26.11%
A	265	21.35%
B	576	23.68%

Short Vehicles (1A)

G	879	73.80%
A	976	78.65%
B	1,855	76.27%

Trucks and Buses (1B)

G	133	11.17%
A	84	6.77%
B	217	8.92%

Articulated Vehicles (1C)

G	55	4.62%
A	53	4.27%
B	108	4.44%

Road Trains (1D)

G	123	10.33%
A	128	10.31%
B	251	10.32%

Short 2-Axle Vehicles (2A)

G	827	69.44%
A	918	73.97%
B	1,745	71.75%

Short Vehicles Towing (2B)

G	52	4.37%
A	58	4.67%
B	110	4.52%

2-Axle Trucks and Buses (2C)

G	110	9.24%
A	63	5.08%
B	173	7.11%

3-Axle Trucks and Buses (2D)

G	18	1.51%
A	16	1.29%
B	34	1.40%

4-Axle Trucks (2E)

G	5	0.42%
A	5	0.40%
B	10	0.41%

3-Axle Articulated (2F)

G	5	0.42%
A	3	0.24%
B	8	0.33%

4-Axle Articulated (2G)

G	9	0.76%
A	6	0.48%
B	15	0.62%

5-Axle Articulated (2H)

G	5	0.42%
A	6	0.48%
B	11	0.45%

6-Axle Articulated (2I)

G	36	3.02%
A	38	3.06%
B	74	3.04%

B Double (2J)

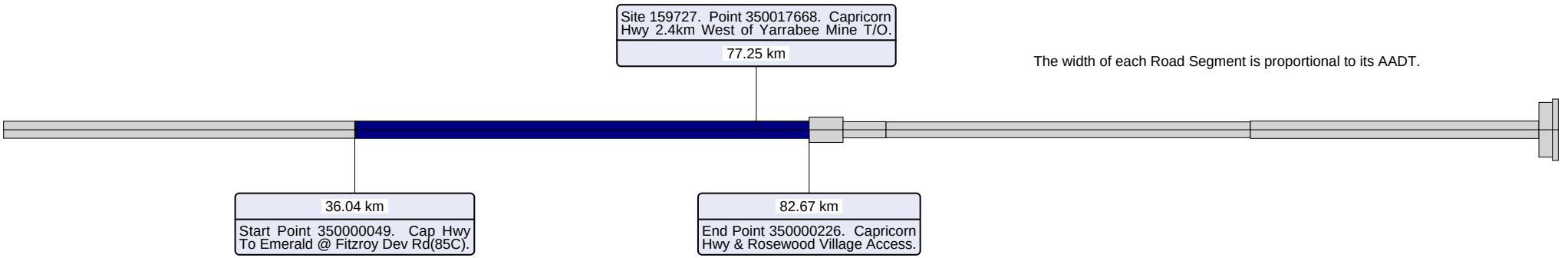
G	83	6.97%
A	85	6.85%
B	168	6.91%

Double Road Trains (2K)

G	39	3.27%
A	42	3.38%
B	81	3.33%

Triple Road Trains (2L)

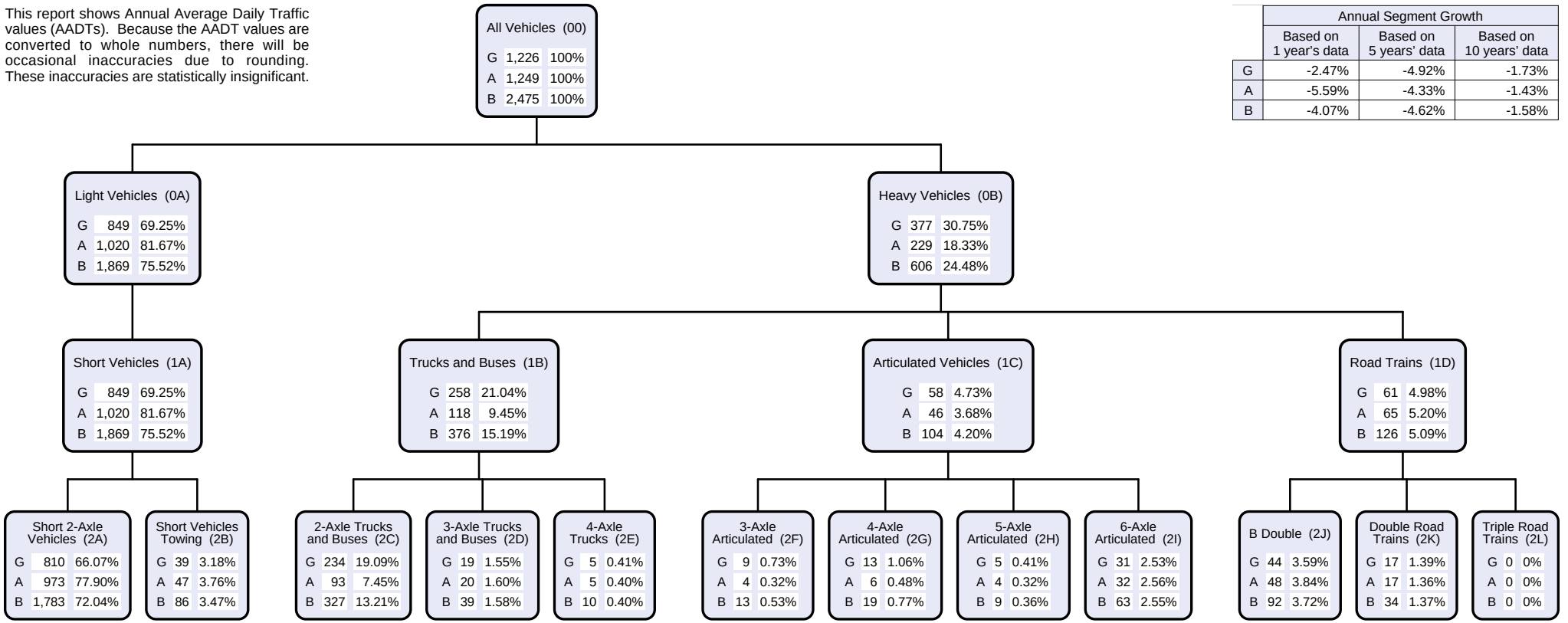
G	1	0.08%
A	1	0.08%
B	2	0.08%



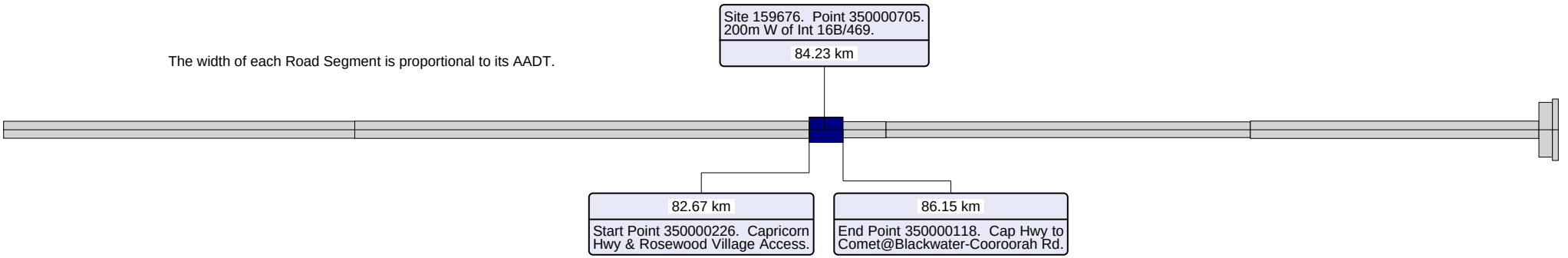
The width of each Road Segment is proportional to its AADT.

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	-2.47%	-4.92%	-1.73%
A	-5.59%	-4.33%	-1.43%
B	-4.07%	-4.62%	-1.58%

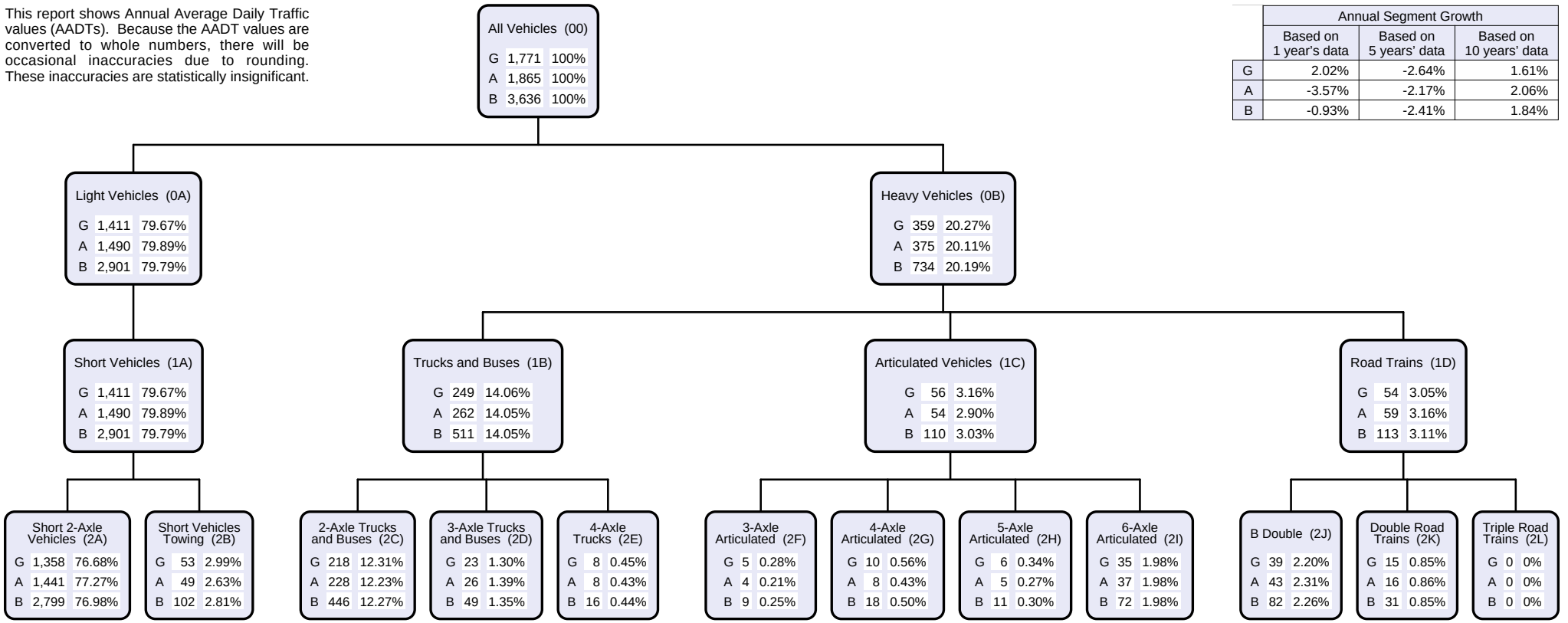


The width of each Road Segment is proportional to its AADT.

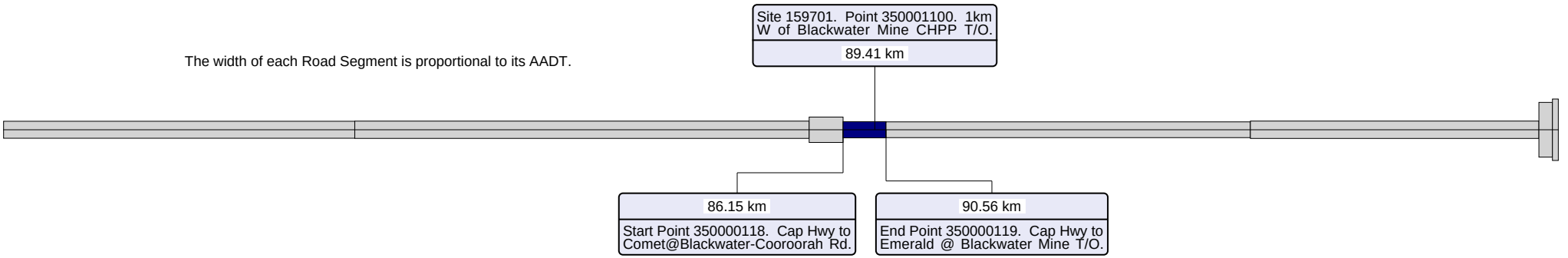


This report shows Annual Average Daily Traffic values (AADTs). Because the AADT values are converted to whole numbers, there will be occasional inaccuracies due to rounding. These inaccuracies are statistically insignificant.

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	2.02%	-2.64%	1.61%
A	-3.57%	-2.17%	2.06%
B	-0.93%	-2.41%	1.84%

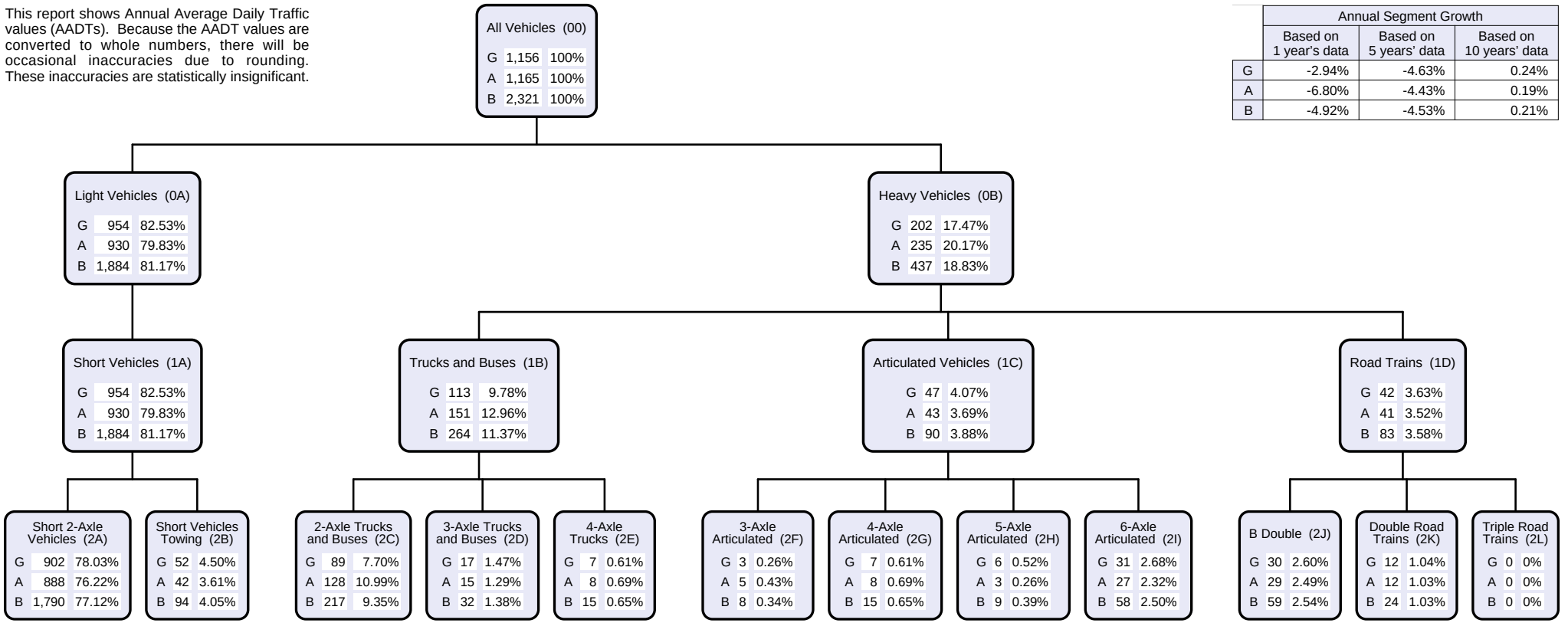


The width of each Road Segment is proportional to its AADT.

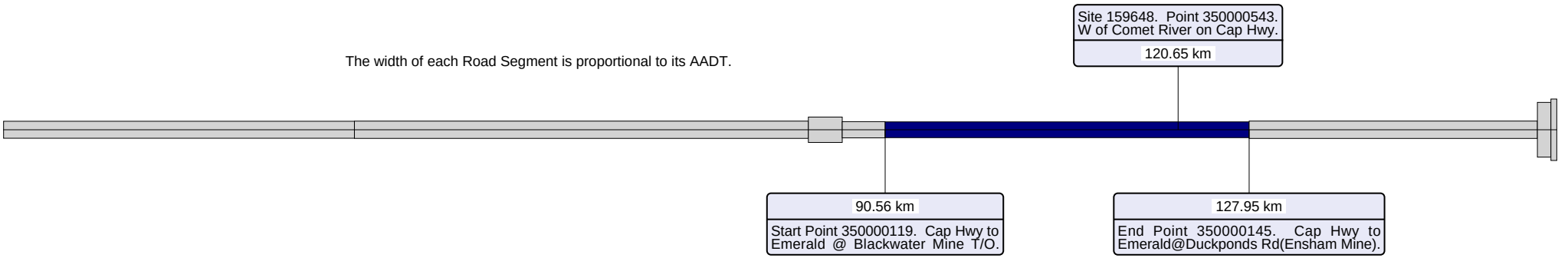


This report shows Annual Average Daily Traffic values (AADTs). Because the AADT values are converted to whole numbers, there will be occasional inaccuracies due to rounding. These inaccuracies are statistically insignificant.

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	-2.94%	-4.63%	0.24%
A	-6.80%	-4.43%	0.19%
B	-4.92%	-4.53%	0.21%

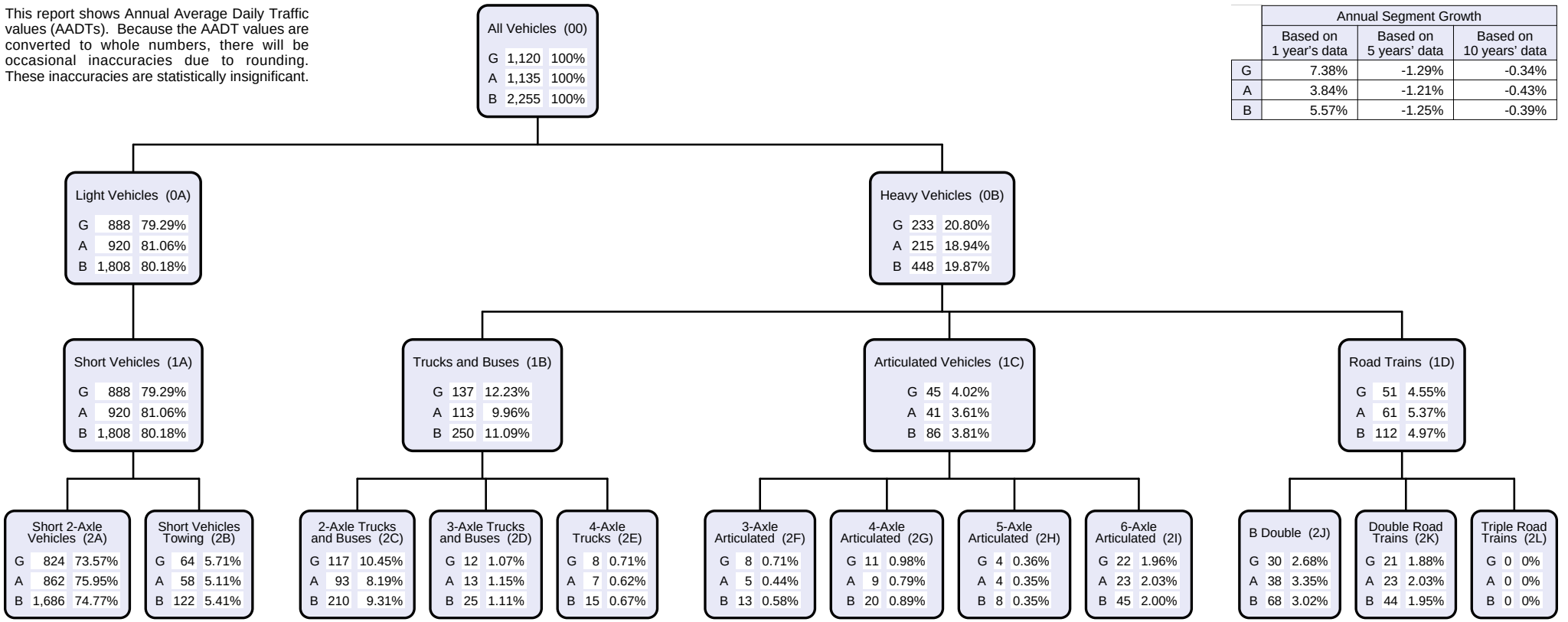


The width of each Road Segment is proportional to its AADT.

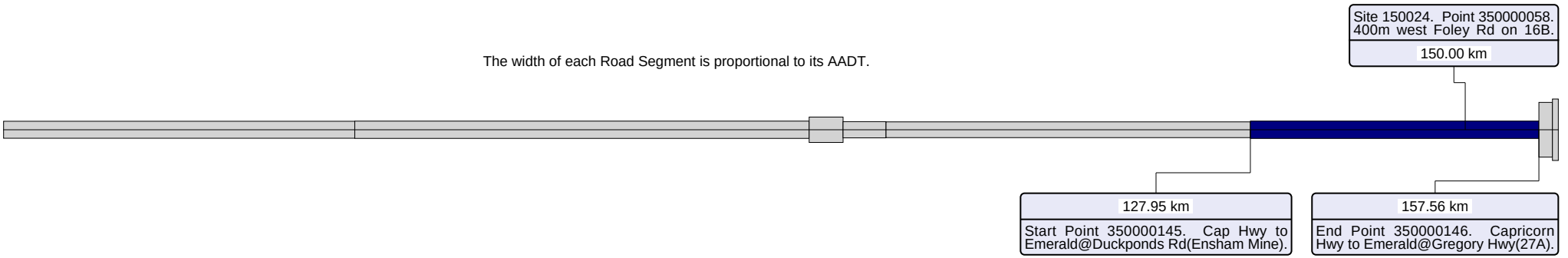


This report shows Annual Average Daily Traffic values (AADTs). Because the AADT values are converted to whole numbers, there will be occasional inaccuracies due to rounding. These inaccuracies are statistically insignificant.

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	7.38%	-1.29%	-0.34%
A	3.84%	-1.21%	-0.43%
B	5.57%	-1.25%	-0.39%



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	-7.31%	-6.10%	-3.27%
A	-5.53%	-5.68%	-3.17%
B	-6.43%	-5.89%	-3.22%

All Vehicles (00)

G	1,242	100%
A	1,246	100%
B	2,488	100%

Light Vehicles (0A)

G	788	63.45%
A	953	76.48%
B	1,741	69.98%

Heavy Vehicles (0B)

G	453	36.47%
A	292	23.43%
B	745	29.94%

Short Vehicles (1A)

G	788	63.45%
A	953	76.48%
B	1,741	69.98%

Trucks and Buses (1B)

G	341	27.46%
A	193	15.49%
B	534	21.46%

Articulated Vehicles (1C)

G	68	5.48%
A	53	4.25%
B	121	4.86%

Road Trains (1D)

G	44	3.54%
A	46	3.69%
B	90	3.62%

Short 2-Axle Vehicles (2A)

G	750	60.39%
A	909	72.95%
B	1,659	66.68%

Short Vehicles Towing (2B)

G	38	3.06%
A	44	3.53%
B	82	3.30%

2-Axle Trucks and Buses (2C)

G	311	25.04%
A	161	12.92%
B	472	18.97%

3-Axle Trucks and Buses (2D)

G	19	1.53%
A	23	1.85%
B	42	1.69%

4-Axle Trucks (2E)

G	11	0.89%
A	9	0.72%
B	20	0.80%

3-Axle Articulated (2F)

G	12	0.97%
A	6	0.48%
B	18	0.72%

4-Axle Articulated (2G)

G	20	1.61%
A	12	0.96%
B	32	1.29%

5-Axle Articulated (2H)

G	4	0.32%
A	4	0.32%
B	8	0.32%

6-Axle Articulated (2I)

G	32	2.58%
A	31	2.49%
B	63	2.53%

B Double (2J)

G	27	2.17%
A	30	2.41%
B	57	2.29%

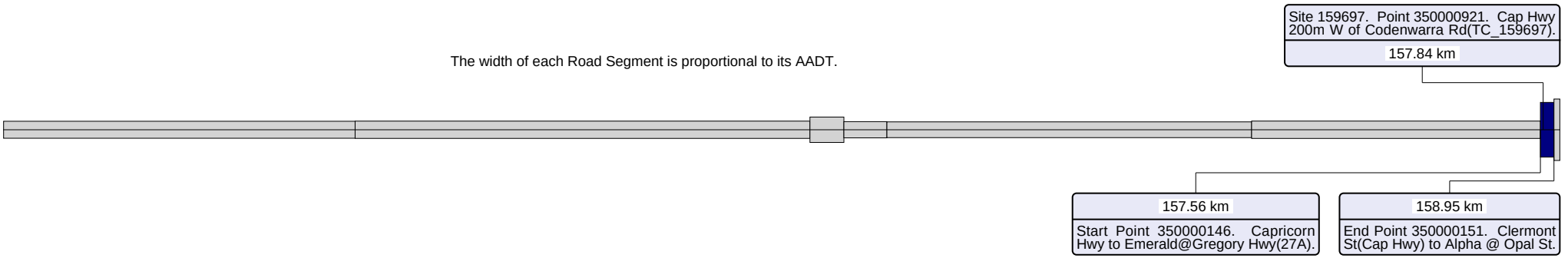
Double Road Trains (2K)

G	17	1.37%
A	16	1.28%
B	33	1.33%

Triple Road Trains (2L)

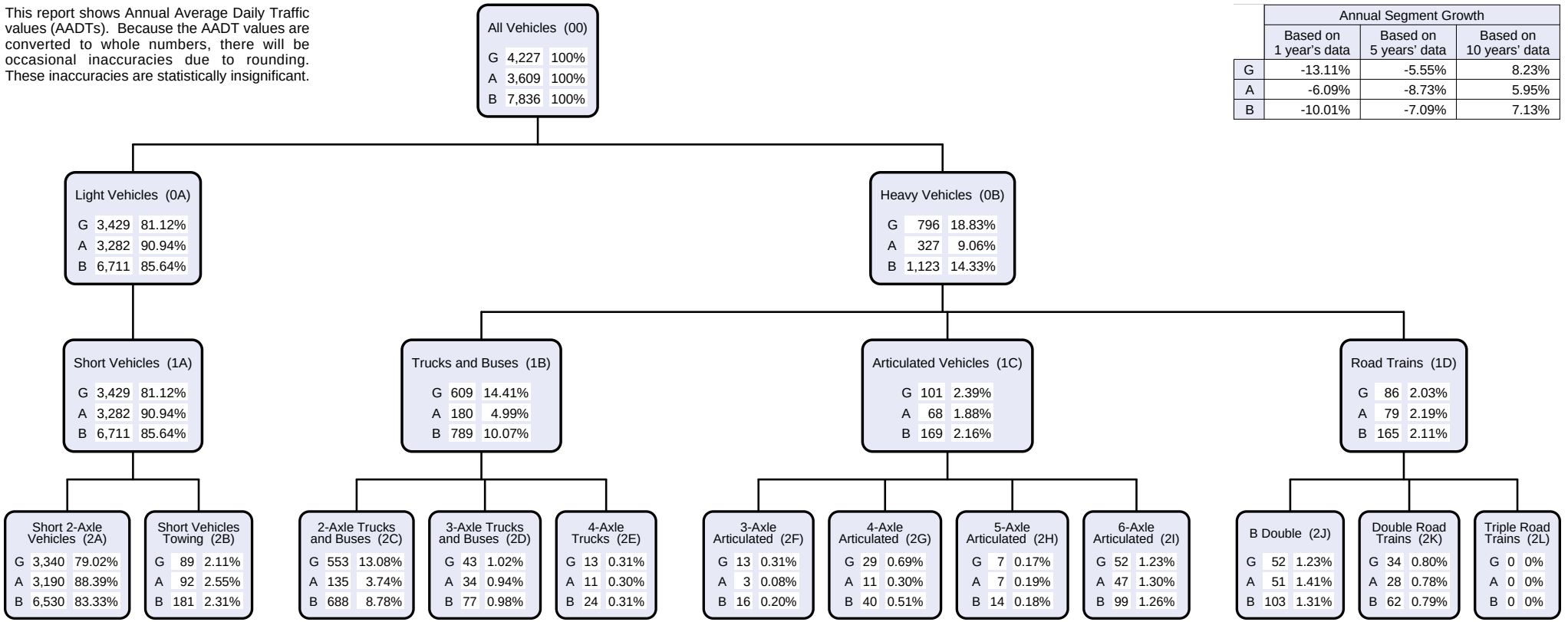
G	0	0%
A	0	0%
B	0	0%

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

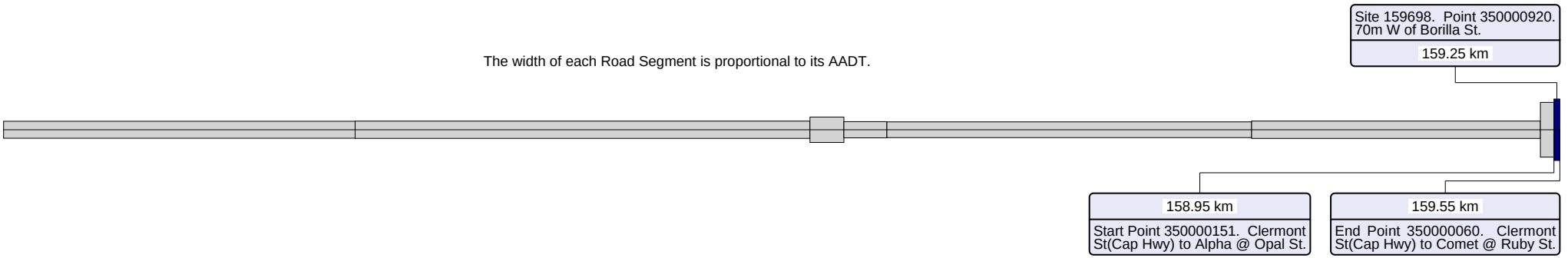


This report shows Annual Average Daily Traffic values (AADTs). Because the AADT values are converted to whole numbers, there will be occasional inaccuracies due to rounding. These inaccuracies are statistically insignificant.

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	-13.11%	-5.55%	8.23%
A	-6.09%	-8.73%	5.95%
B	-10.01%	-7.09%	7.13%

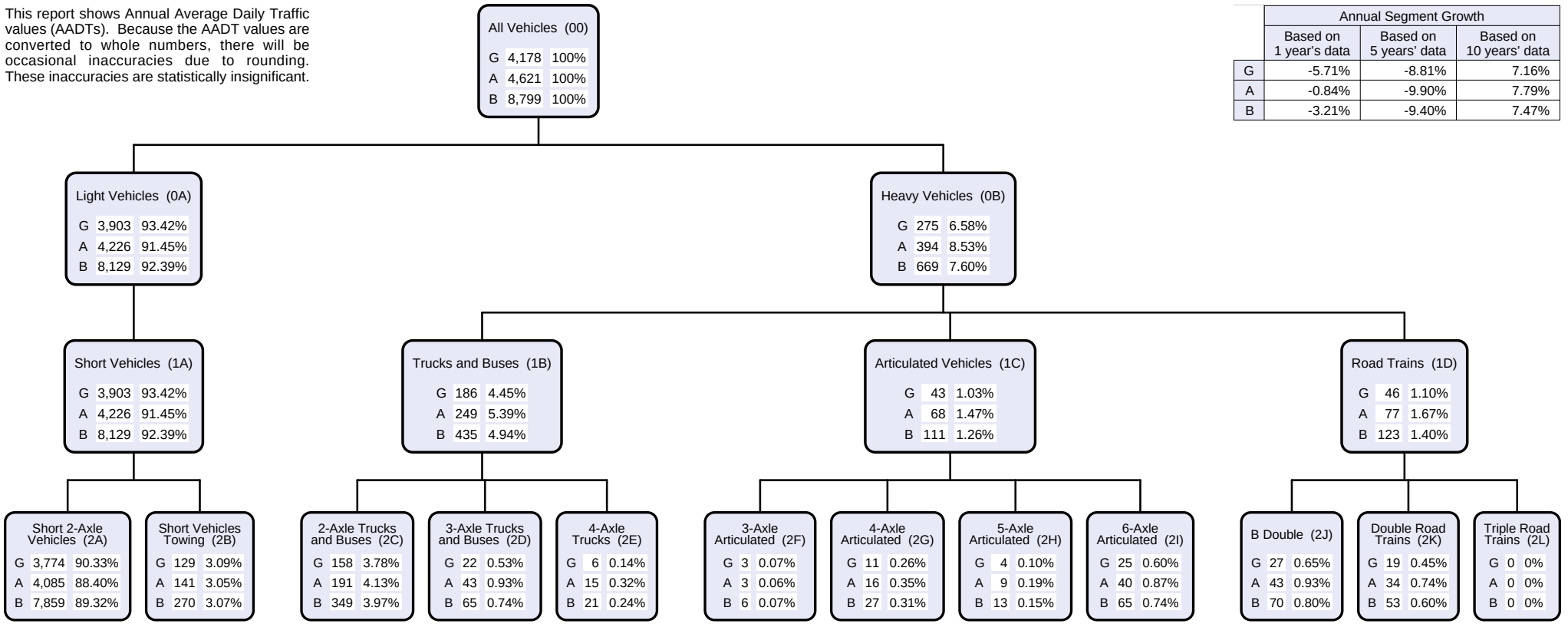


The width of each Road Segment is proportional to its AADT.



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	-5.71%	-8.81%	7.16%
A	-0.84%	-9.90%	7.79%
B	-3.21%	-9.40%	7.47%



Report Notes for AADT Segment Analysis Report (Complete)

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 it's Start Point and End Point (or Start and End Through Distance (TDist)) within the Road Section. These distances are measured in kilometres from the begining 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
Metropolitian 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.

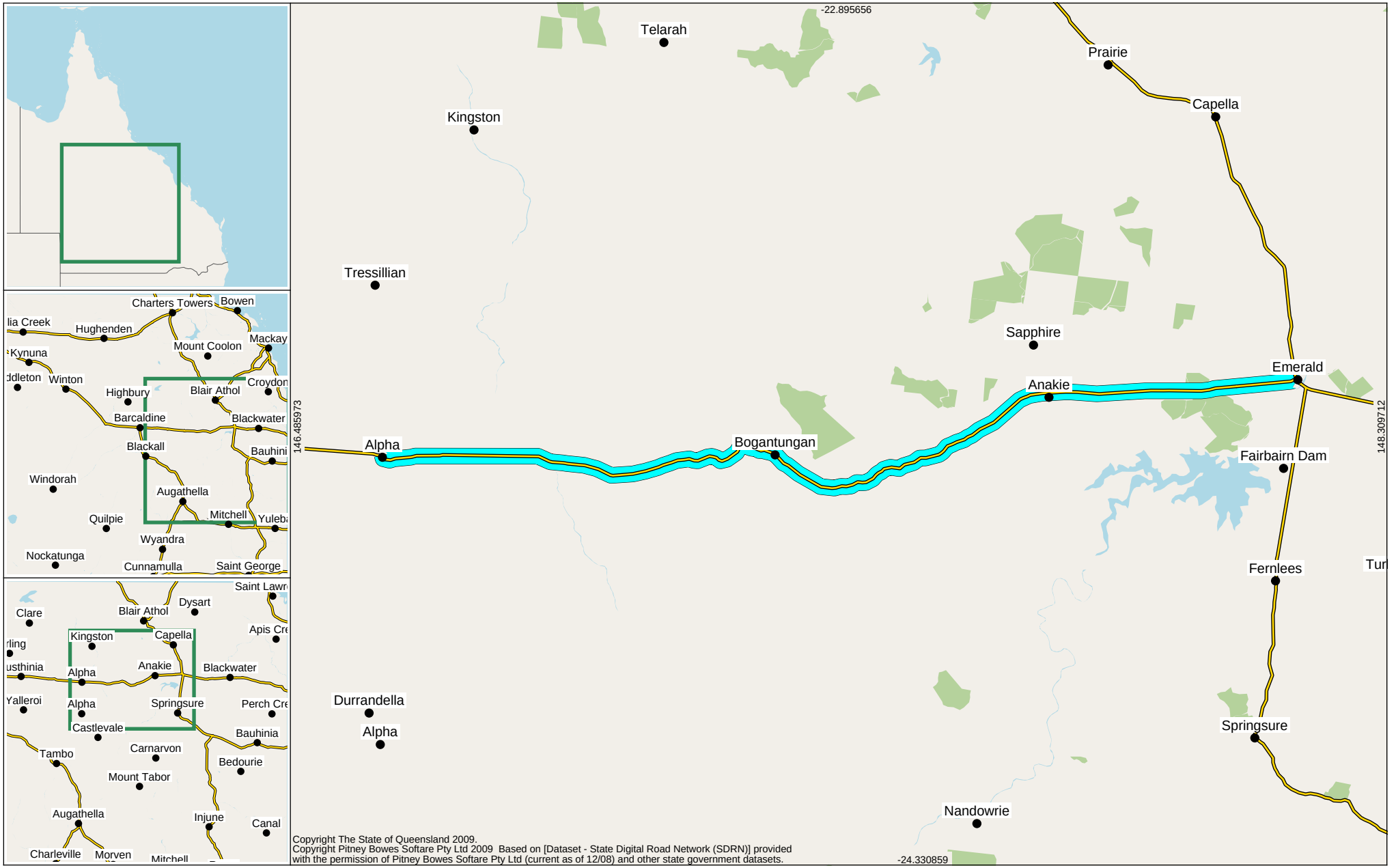
AADT Segment Summary - Heavy Vehicles only

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

AADT Segment Analysis Report (Complete)

Road Section 16C - CAPRICORN HIGHWAY (EMERALD - ALPHA)

Traffic Year 2017



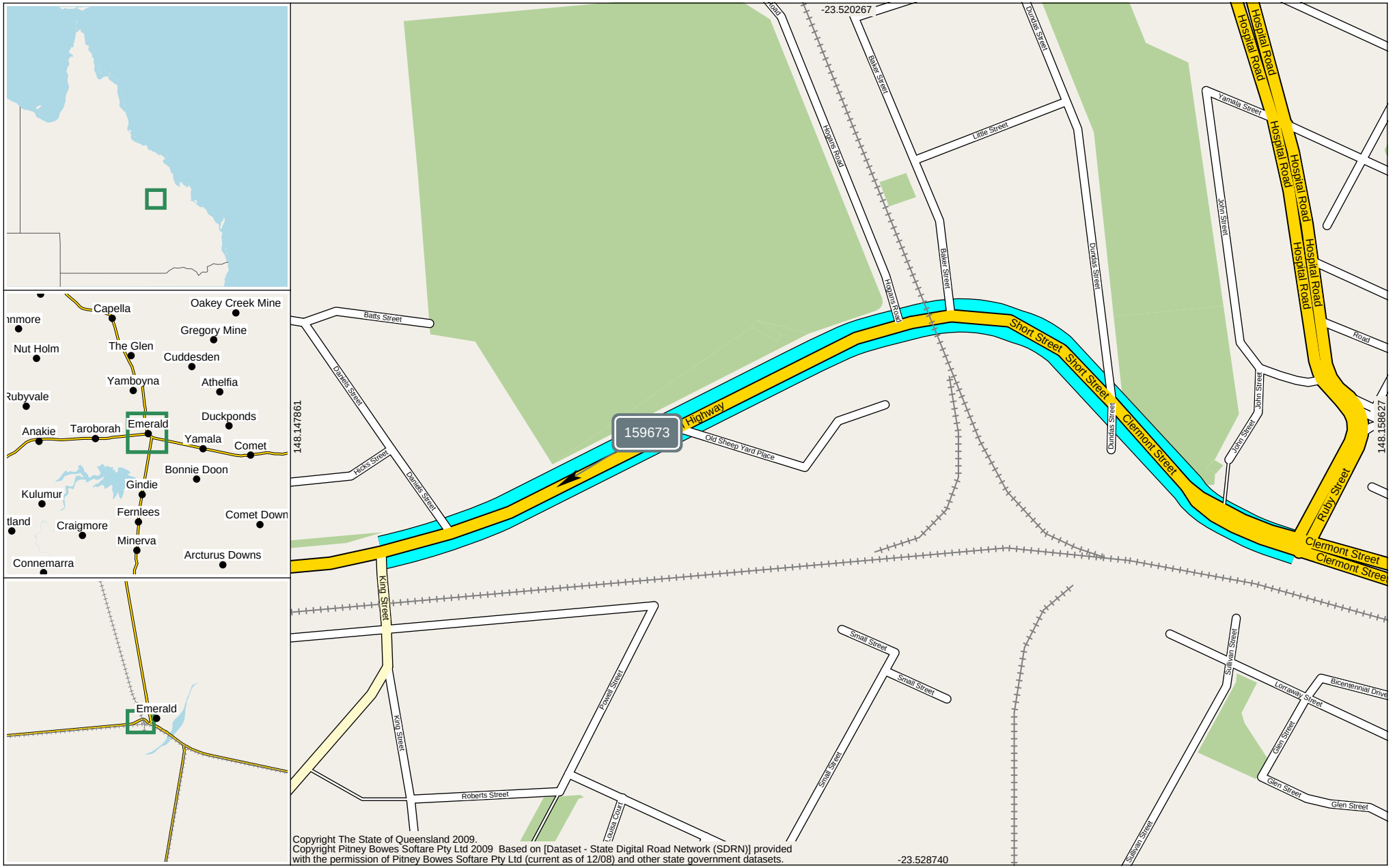
Road Segments Summary - All Vehicles

Region	Segment Start Tdist	Segment End Tdist	Site	Site Tdist	Description	AADT			VKT (Millions)			Data Year	Page
						G	A	B	G	A	B		
404	0.000 km	1.080 km	159673	0.890 km	Capricorn Hwy 200m E of Int.16C/Selma Rd	2,458	2,532	4,990	0.96894	0.99811	1.96706	2017	2
404	1.080 km	2.170 km	159674	1.325 km	Capricorn Hwy 250m W of Int.16C/Selma Rd	1,155	1,228	2,383	0.45952	0.48856	0.94808	2017	3
404	2.170 km	43.300 km	150014	6.400 km	Capricorn Hwy 500m West of Marshall Road	615	624	1,239	9.23266	9.36777	18.60043	2017	4
404	43.300 km	70.531 km	159568	43.800 km	Capricorn Hwy 500m W of Int.16C/5501	210	209	419	2.08726	2.07732	4.16457	2017	5
404	70.531 km	107.950 km	159715	85.451 km	250m W of Kelly's Creek	223	221	444	3.04572	3.01840	6.06412	2017	6
401	107.950 km	167.940 km	150030	159.500 km	Capricorn Highway 8km East of Alpha	204	212	416	4.46686	4.64203	9.10888	2017	7
								Totals	20.26095	20.59219	40.85314		

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		
404	0.000 km	1.080 km	159673	0.890 km	Capricorn Hwy 200m E of Int.16C/Selma Rd	362	14.73%	235	9.28%	597	11.96%	0.14270	0.09264	0.23534	2017	2
404	1.080 km	2.170 km	159674	1.325 km	Capricorn Hwy 250m W of Int.16C/Selma Rd	188	16.28%	166	13.52%	354	14.86%	0.07480	0.06604	0.14084	2017	3
404	2.170 km	43.300 km	150014	6.400 km	Capricorn Hwy 500m West of Marshall Road	138	22.44%	120	19.23%	258	20.82%	2.07172	1.80149	3.87321	2017	4
404	43.300 km	70.531 km	159568	43.800 km	Capricorn Hwy 500m W of Int.16C/5501	101	48.10%	45	21.53%	146	34.84%	1.00387	0.44727	1.45114	2017	5
404	70.531 km	107.950 km	159715	85.451 km	250m W of Kelly's Creek	66	29.60%	52	23.53%	118	26.58%	0.90142	0.71021	1.61164	2017	6
401	107.950 km	167.940 km	150030	159.500 km	Capricorn Highway 8km East of Alpha	65	31.86%	48	22.64%	113	27.16%	1.42326	1.05102	2.47429	2017	7
											Totals	5.61777	4.16868	9.78645		



Site 159673. Point 350000700. 200m East of Int. 16C/Selma Rd.

0.89 km

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

0.00 km

Start Point 350000036. Capricorn Hwy to Alpha @ Ruby St.

1.08 km

End Point 350000161. Capricorn Hwy to Alpha @ Selma 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.

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	-7.87%	-9.82%	6.87%
A	-5.98%	-9.67%	7.05%
B	-6.92%	-9.75%	6.96%

All Vehicles (00)

G	2,458	100%
A	2,532	100%
B	4,990	100%

Light Vehicles (0A)

G	2,095	85.23%
A	2,296	90.68%
B	4,391	88.00%

Heavy Vehicles (0B)

G	362	14.73%
A	235	9.28%
B	597	11.96%

Short Vehicles (1A)

G	2,095	85.23%
A	2,296	90.68%
B	4,391	88.00%

Trucks and Buses (1B)

G	296	12.04%
A	181	7.15%
B	477	9.56%

Articulated Vehicles (1C)

G	42	1.71%
A	31	1.22%
B	73	1.46%

Road Trains (1D)

G	24	0.98%
A	23	0.91%
B	47	0.94%

Short 2-Axle Vehicles (2A)

G	1,991	81.00%
A	2,185	86.30%
B	4,176	83.69%

Short Vehicles Towing (2B)

G	104	4.23%
A	111	4.38%
B	215	4.31%

2-Axle Trucks and Buses (2C)

G	260	10.58%
A	145	5.73%
B	405	8.12%

3-Axle Trucks and Buses (2D)

G	24	0.98%
A	24	0.95%
B	48	0.96%

4-Axle Trucks (2E)

G	12	0.49%
A	12	0.47%
B	24	0.48%

3-Axle Articulated (2F)

G	10	0.41%
A	3	0.12%
B	13	0.26%

4-Axle Articulated (2G)

G	13	0.53%
A	8	0.32%
B	21	0.42%

5-Axle Articulated (2H)

G	2	0.08%
A	3	0.12%
B	5	0.10%

6-Axle Articulated (2I)

G	17	0.69%
A	17	0.67%
B	34	0.68%

B Double (2J)

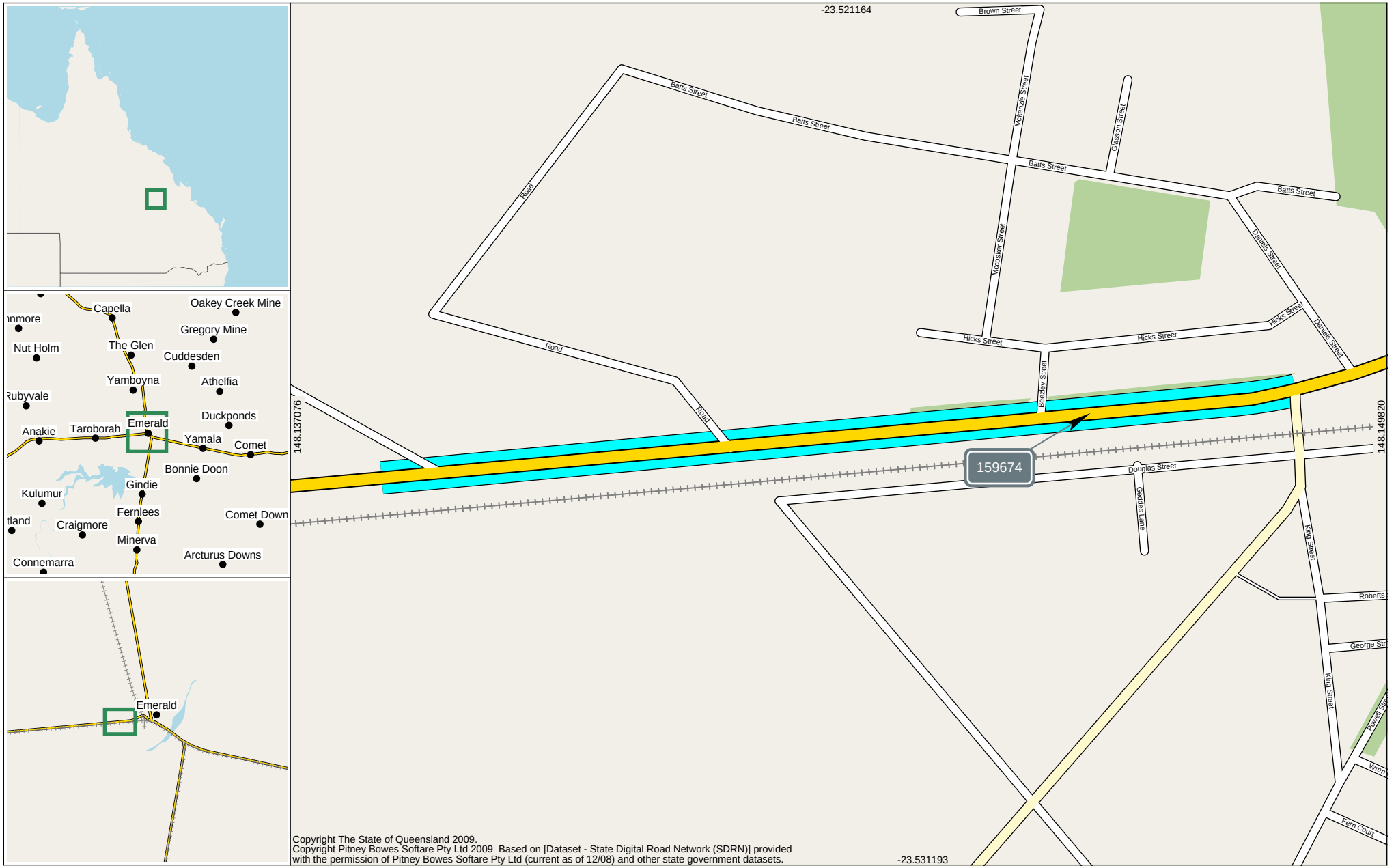
G	13	0.53%
A	12	0.47%
B	25	0.50%

Double Road Trains (2K)

G	11	0.45%
A	11	0.43%
B	22	0.44%

Triple Road Trains (2L)

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



Site 159674. Point 350000701. 250m West of Int.16C/Selma Rd.
1.32 km

1.08 km
Start Point 350000161. Capricorn Hwy to Alpha @ Selma Rd.

2.17 km
End Point 350000164. Capricorn Hwy to Alpha @ Tyson Rd.

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	-8.77%	-4.81%	3.03%
A	2.93%	-4.14%	3.62%
B	-3.09%	-4.47%	3.33%

All Vehicles (00)

G	1,155	100%
A	1,228	100%
B	2,383	100%

Light Vehicles (0A)

G	966	83.64%
A	1,061	86.40%
B	2,027	85.06%

Heavy Vehicles (0B)

G	188	16.28%
A	166	13.52%
B	354	14.86%

Short Vehicles (1A)

G	966	83.64%
A	1,061	86.40%
B	2,027	85.06%

Trucks and Buses (1B)

G	147	12.73%
A	118	9.61%
B	265	11.12%

Articulated Vehicles (1C)

G	26	2.25%
A	26	2.12%
B	52	2.18%

Road Trains (1D)

G	15	1.30%
A	22	1.79%
B	37	1.55%

Short 2-Axle Vehicles (2A)

G	921	79.74%
A	1,014	82.57%
B	1,935	81.20%

Short Vehicles Towing (2B)

G	45	3.90%
A	47	3.83%
B	92	3.86%

2-Axle Trucks and Buses (2C)

G	132	11.43%
A	98	7.98%
B	230	9.65%

3-Axle Trucks and Buses (2D)

G	10	0.87%
A	14	1.14%
B	24	1.01%

4-Axle Trucks (2E)

G	5	0.43%
A	6	0.49%
B	11	0.46%

3-Axle Articulated (2F)

G	5	0.43%
A	3	0.24%
B	8	0.34%

4-Axle Articulated (2G)

G	9	0.78%
A	6	0.49%
B	15	0.63%

5-Axle Articulated (2H)

G	2	0.17%
A	2	0.16%
B	4	0.17%

6-Axle Articulated (2I)

G	10	0.87%
A	15	1.22%
B	25	1.05%

B Double (2J)

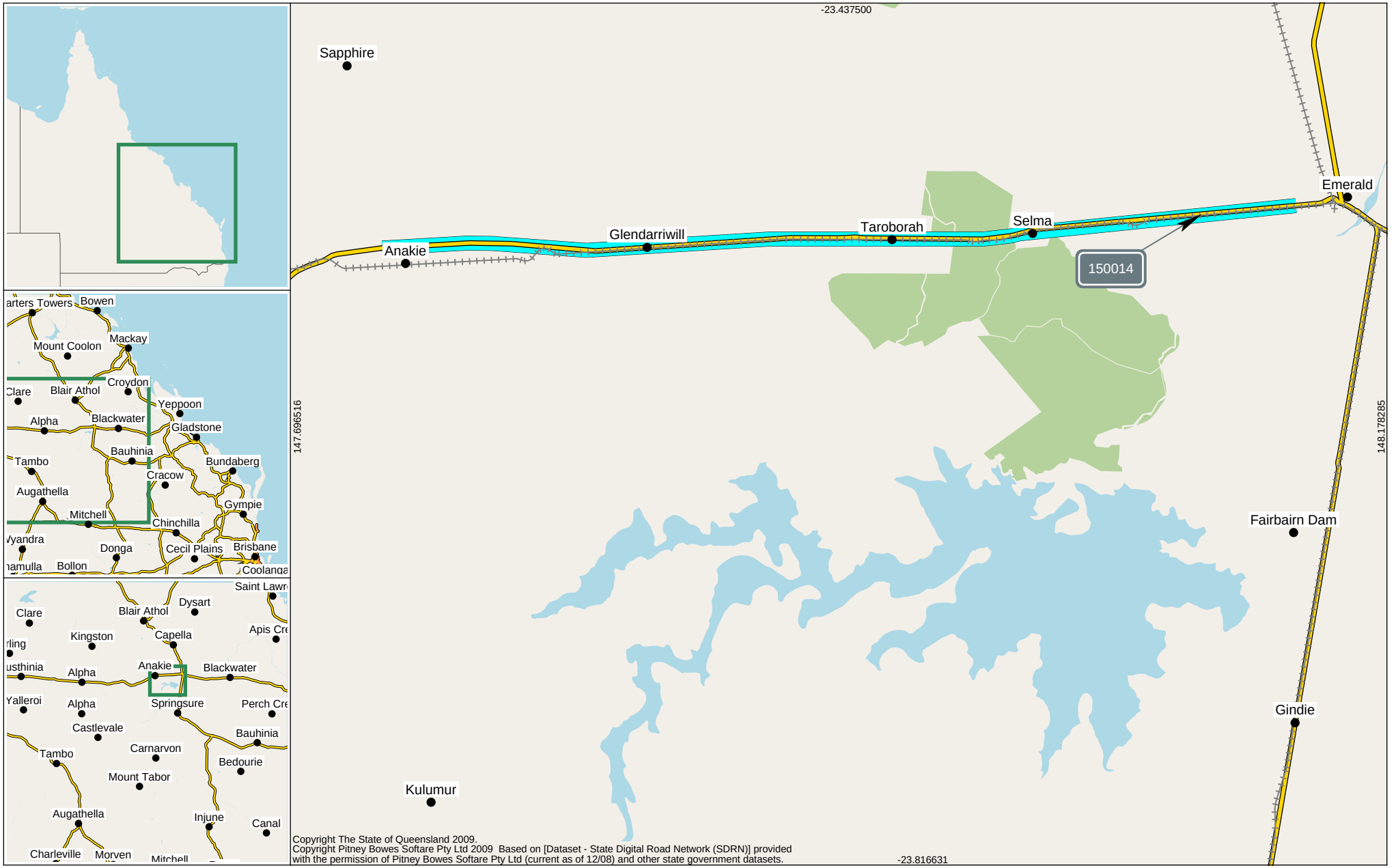
G	8	0.69%
A	11	0.90%
B	19	0.80%

Double Road Trains (2K)

G	7	0.61%
A	11	0.90%
B	18	0.76%

Triple Road Trains (2L)

G	0	0%
A	0	0%
B	0	0%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Blackwater
Alpha
Gladstone
Bauhinia
Tambo
Bundaberg
Cracow
Augathella
Gympie
Mitchell
Chinchilla
Donga
Cecil Plains
Brisbane
Bollon
Coolanga
Dysart
Clare
Capela
Kingston
Springsure
Castlevale
Carnarvon
Bedourie
Mount Tabor
Injune
Canal
Charleville
Morven
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Site 150014. Point 350001084. 500m East of Marshall Rd.

6.40 km

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

2.17 km

Start Point 350000164. Capricorn Hwy to Alpha @ Tyson Rd.

43.30 km

End Point 350000037. Cap Hwy to Alpha@Anakie-Sapphire 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.

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	-2.69%	-3.11%	-0.88%
A	-2.80%	-2.83%	-0.71%
B	-2.75%	-2.97%	-0.79%

All Vehicles (00)

G	615	100%
A	624	100%
B	1,239	100%

Light Vehicles (0A)

G	477	77.56%
A	504	80.77%
B	981	79.18%

Heavy Vehicles (0B)

G	138	22.44%
A	120	19.23%
B	258	20.82%

Short Vehicles (1A)

G	477	77.56%
A	504	80.77%
B	981	79.18%

Trucks and Buses (1B)

G	92	14.96%
A	77	12.34%
B	169	13.64%

Articulated Vehicles (1C)

G	25	4.07%
A	21	3.37%
B	46	3.71%

Road Trains (1D)

G	21	3.41%
A	22	3.53%
B	43	3.47%

Short 2-Axle Vehicles (2A)

G	440	71.54%
A	474	75.96%
B	914	73.77%

Short Vehicles Towing (2B)

G	37	6.02%
A	30	4.81%
B	67	5.41%

2-Axle Trucks and Buses (2C)

G	81	13.17%
A	66	10.58%
B	147	11.86%

3-Axle Trucks and Buses (2D)

G	7	1.14%
A	7	1.12%
B	14	1.13%

4-Axle Trucks (2E)

G	4	0.65%
A	4	0.64%
B	8	0.65%

3-Axle Articulated (2F)

G	6	0.98%
A	4	0.64%
B	10	0.81%

4-Axle Articulated (2G)

G	8	1.30%
A	6	0.96%
B	14	1.13%

5-Axle Articulated (2H)

G	1	0.16%
A	1	0.16%
B	2	0.16%

6-Axle Articulated (2I)

G	10	1.63%
A	10	1.60%
B	20	1.61%

B Double (2J)

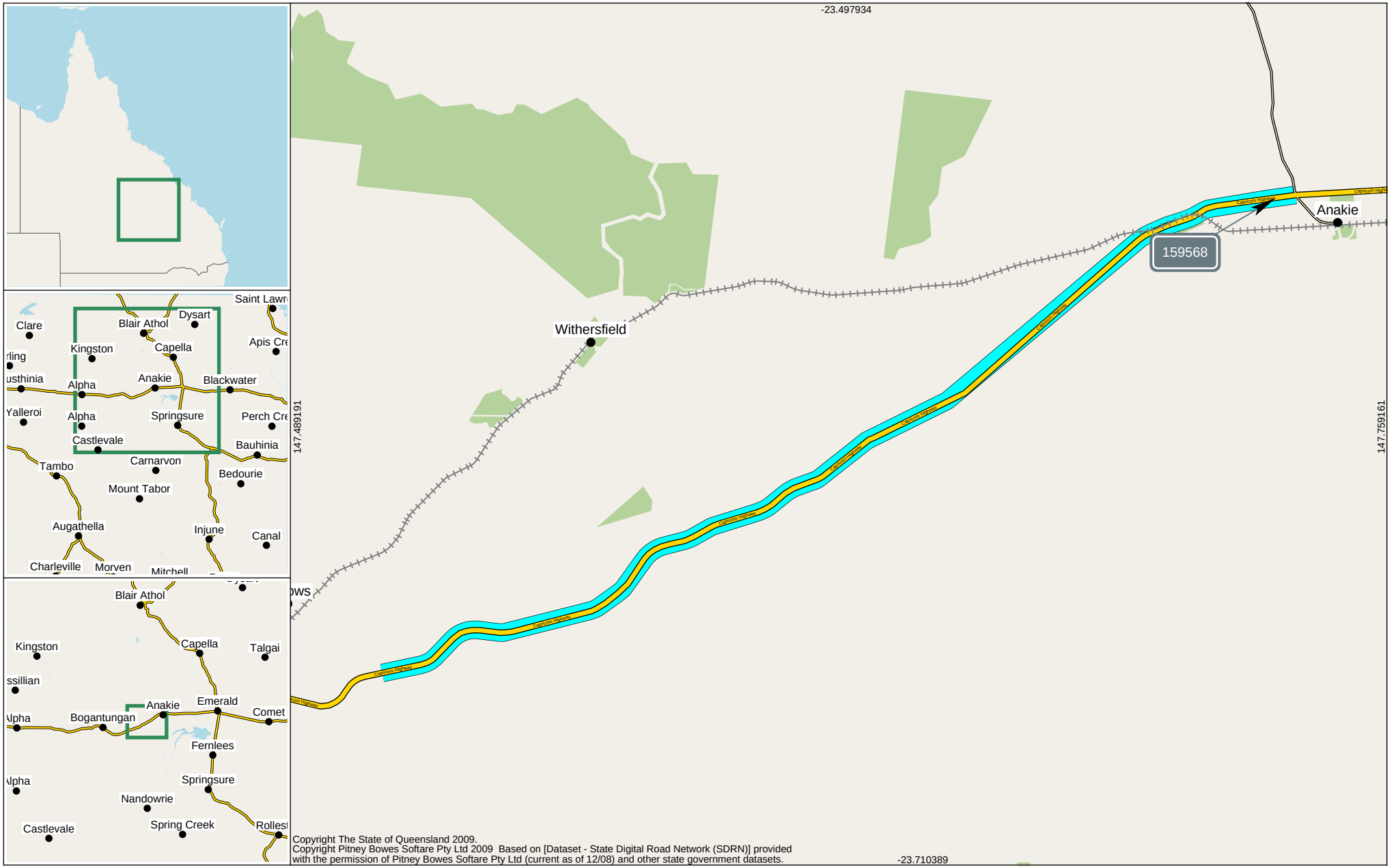
G	10	1.63%
A	11	1.76%
B	21	1.69%

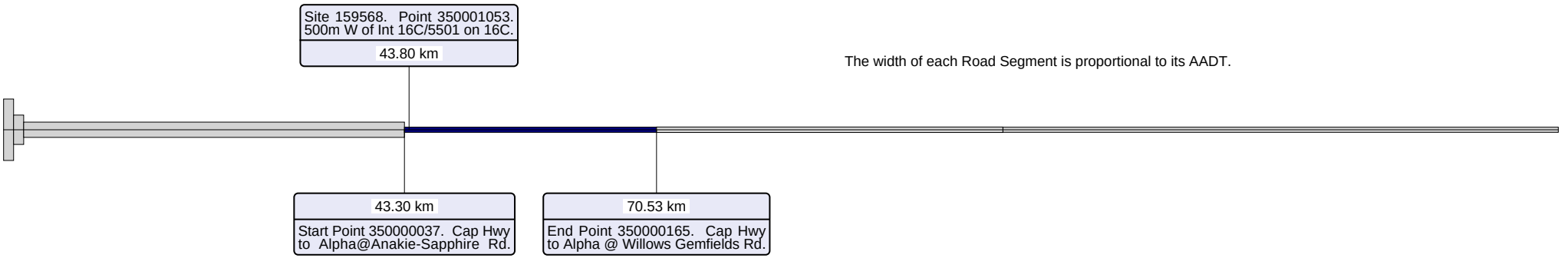
Double Road Trains (2K)

G	11	1.79%
A	11	1.76%
B	22	1.78%

Triple Road Trains (2L)

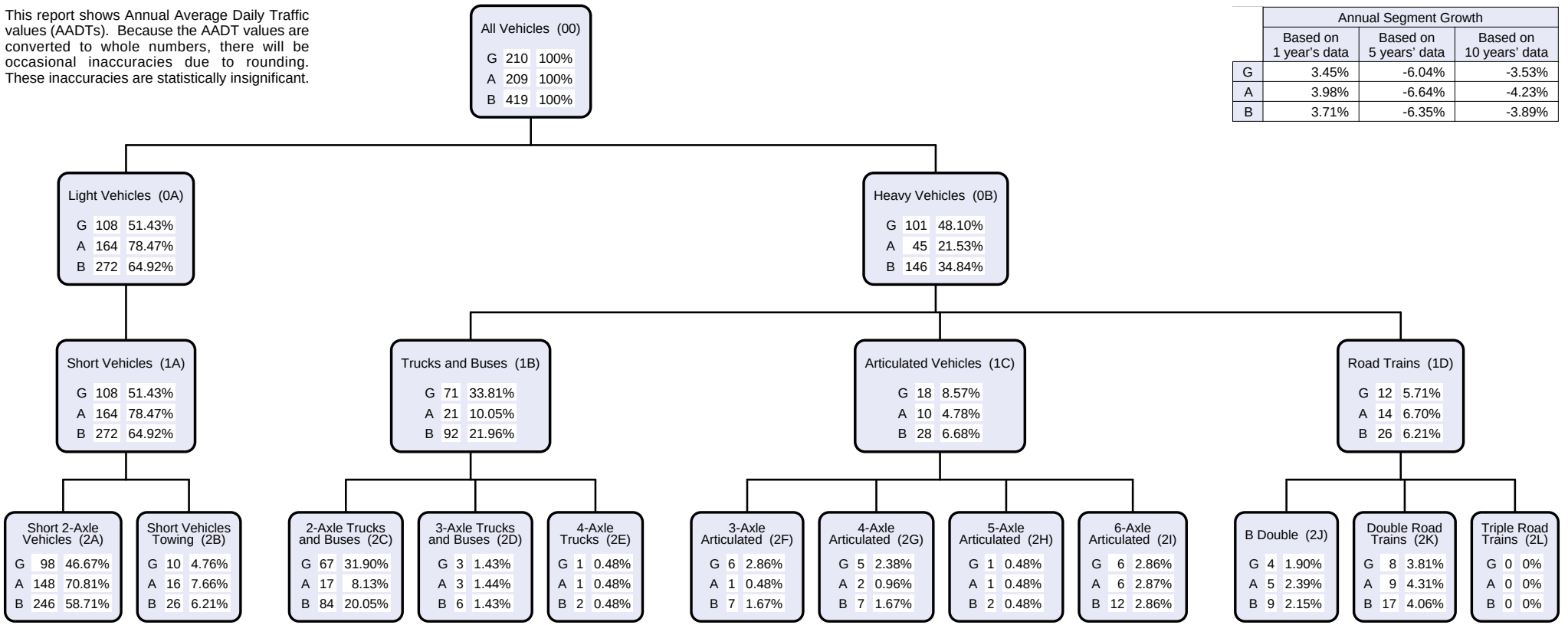
G	0	0%
A	0	0%
B	0	0%

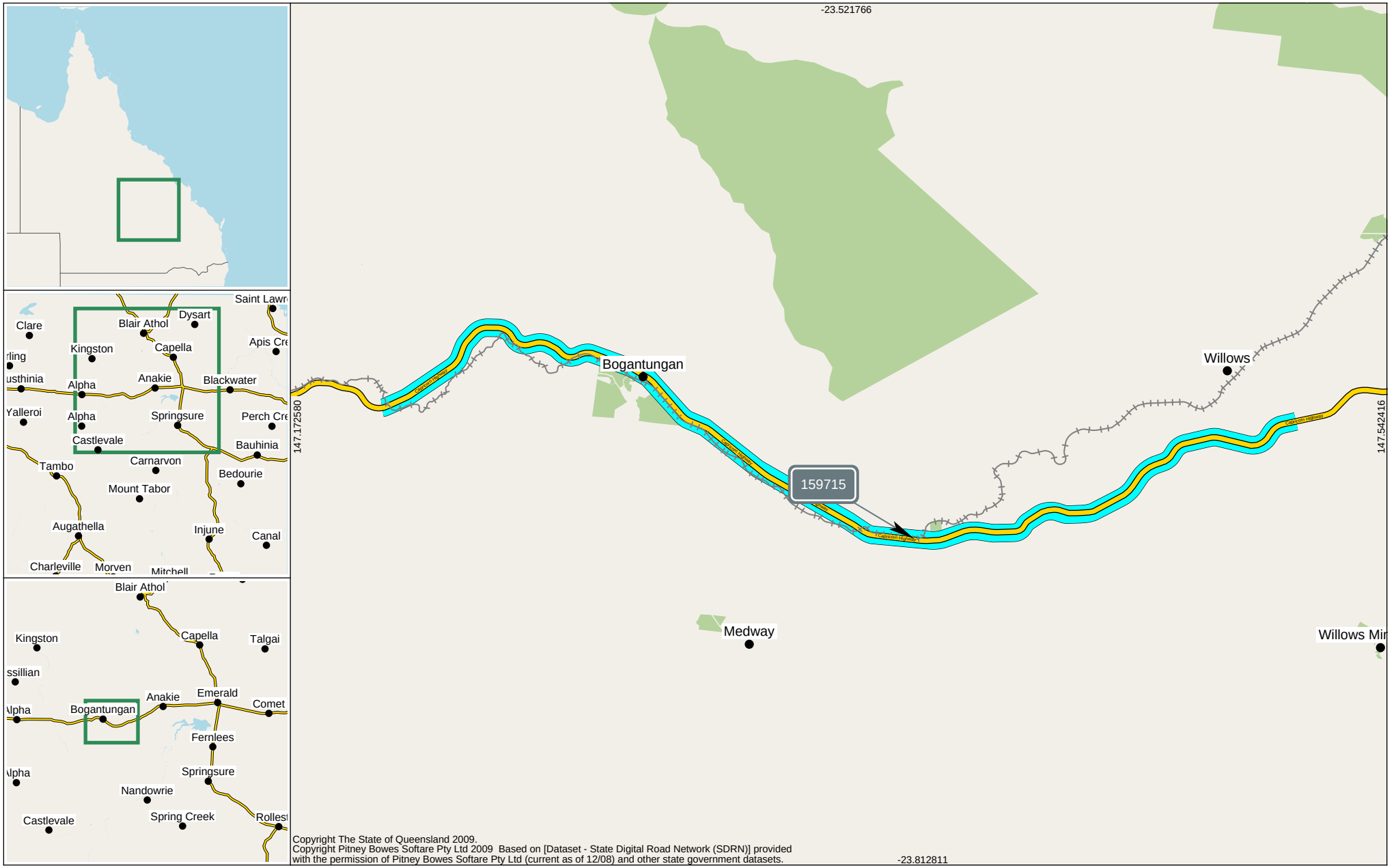


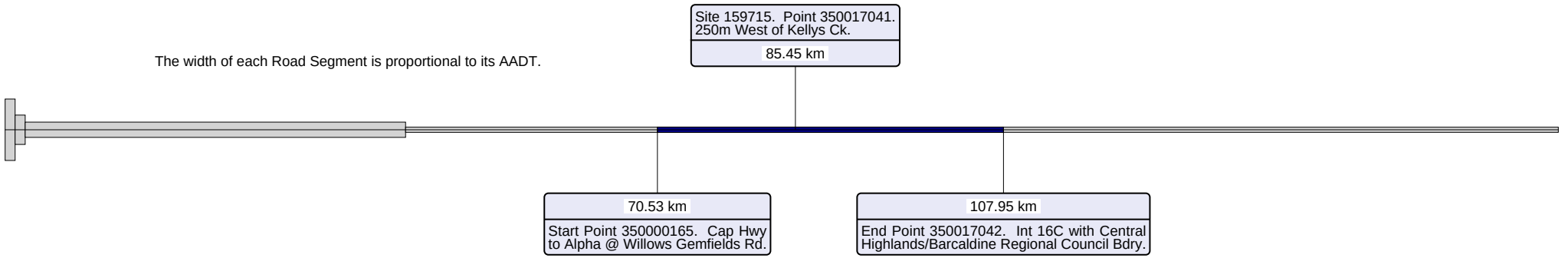


This report shows Annual Average Daily Traffic values (AADTs). Because the AADT values are converted to whole numbers, there will be occasional inaccuracies due to rounding. These inaccuracies are statistically insignificant.

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	3.45%	-6.04%	-3.53%
A	3.98%	-6.64%	-4.23%
B	3.71%	-6.35%	-3.89%

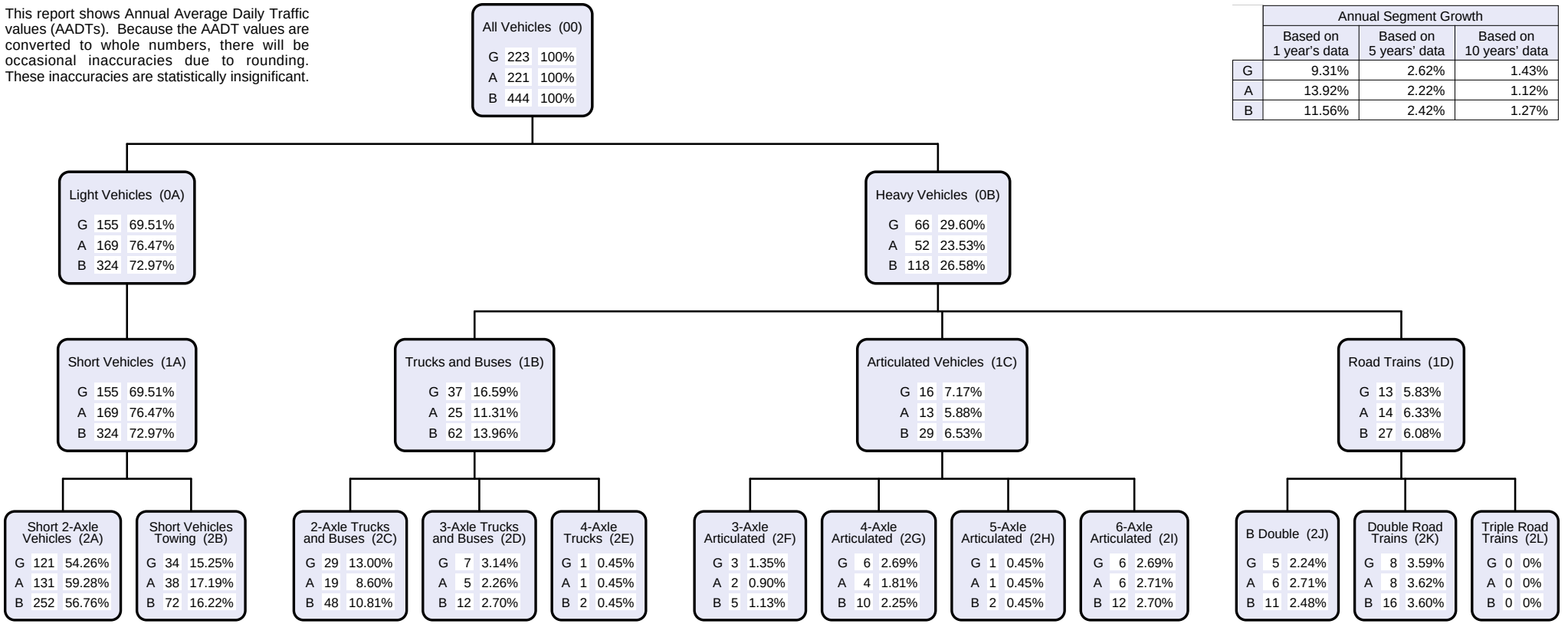


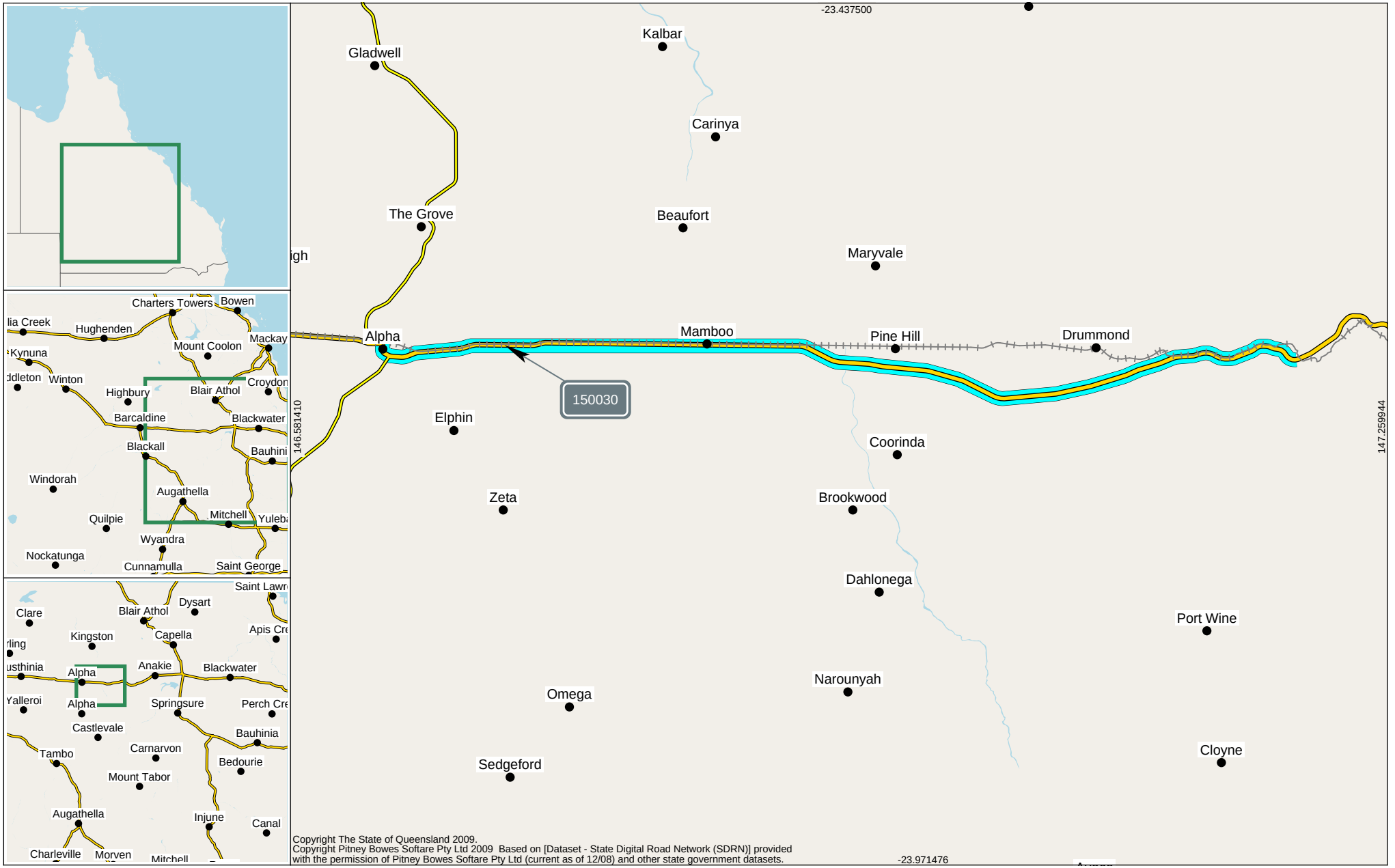




This report shows Annual Average Daily Traffic values (AADTs). Because the AADT values are converted to whole numbers, there will be occasional inaccuracies due to rounding. These inaccuracies are statistically insignificant.

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	9.31%	2.62%	1.43%
A	13.92%	2.22%	1.12%
B	11.56%	2.42%	1.27%

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Gladwell
Carinya
The Grove
Beaufort
Maryvale
Alpha
Mamboo
Pine Hill
Drummond
150030
Elphin
Coorinda
146.581410
147.259944
Zeta
Brookwood
Dahlonega
Port Wine
Narounyah
Omega
Sedgeford
Cloyne
-23.971476
Charters Towers
Bowen
Hughenden
Mount Coolon
Mackay
Kynuna
Winton
Highbury
Blair Athol
Croydon
Barcaldine
Blackwater
Blackall
Bauhinia
Windorah
Augathella
Quilpie
Mitchell
Wyandra
Nockatunga
Cunnamulla
Saint George
Clare
Dysart
Kingston
Capella
Anakie
Springsure
Castlevale
Carnarvon
Tambo
Bedourie
Mount Tabor
Injune
Canal
Charleville
Morven
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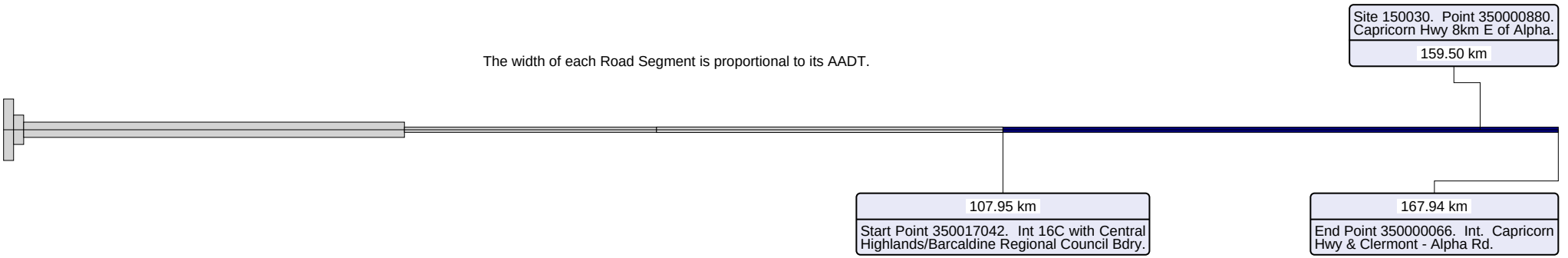
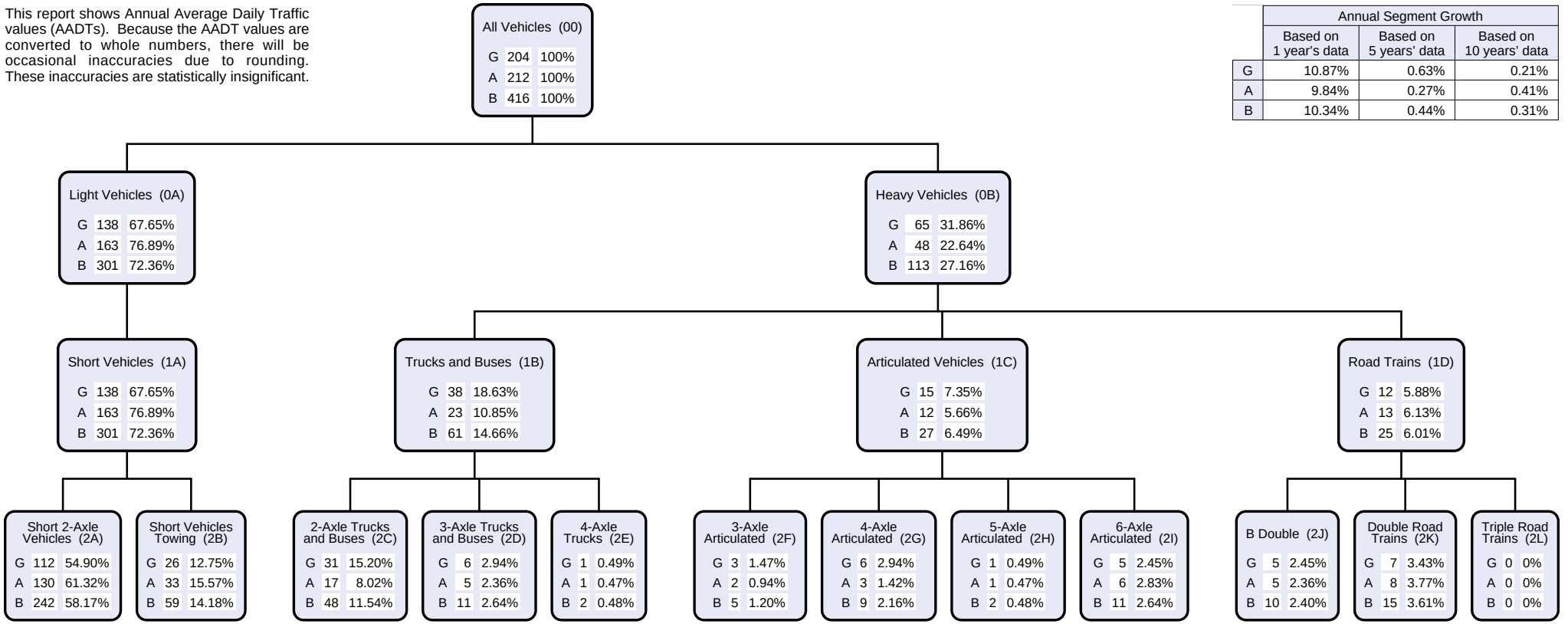
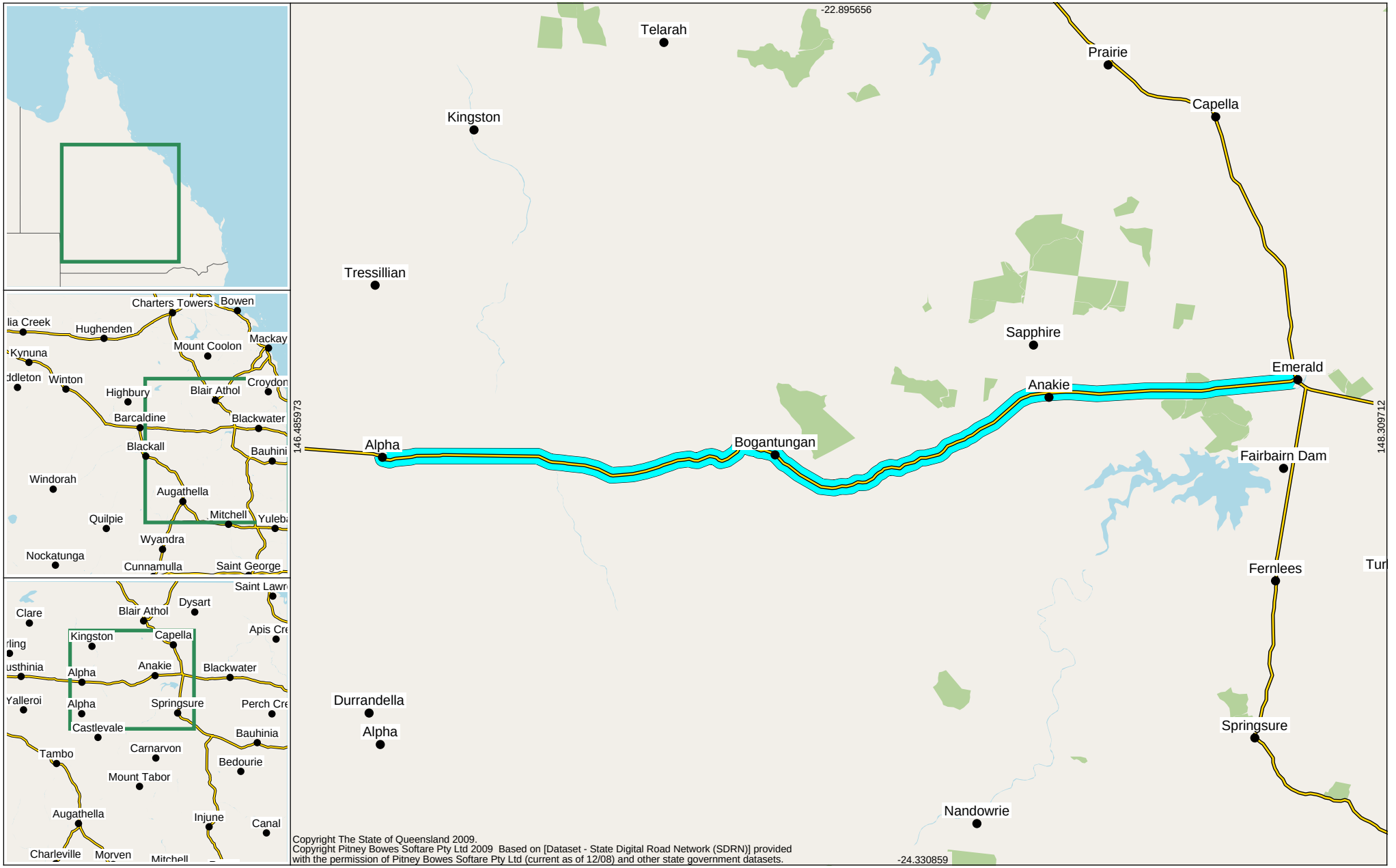
The width of each Road Segment is proportional to its AADT.



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	10.87%	0.63%	0.21%
A	9.84%	0.27%	0.41%
B	10.34%	0.44%	0.31%

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Capella
Kingston
Tressillian
Sapphire
Emerald
Anakie
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Alpha
Bogantungan
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Fairbairn Dam
Fernlees
Springsure
Durrandella
Alpha
Nandowrie
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Charters Towers
Bowen
Hughenden
Mount Coolon
Mackay
Winton
Highbury
Blair Athol
Croydon
Barcaldine
Blackwater
Blackall
Bauhinia
Windorah
Augathella
Quilpie
Mitchell
Wyandra
Nockatunga
Cunnamulla
Saint George
Dysart
Clare
Kingston
Capella
Anakie
Blackwater
Alpha
Springsure
Castlevale
Bauhinia
Carnarvon
Tambo
Bedourie
Mount Tabor
Augathella
Injune
Canal
Charleville
Morven
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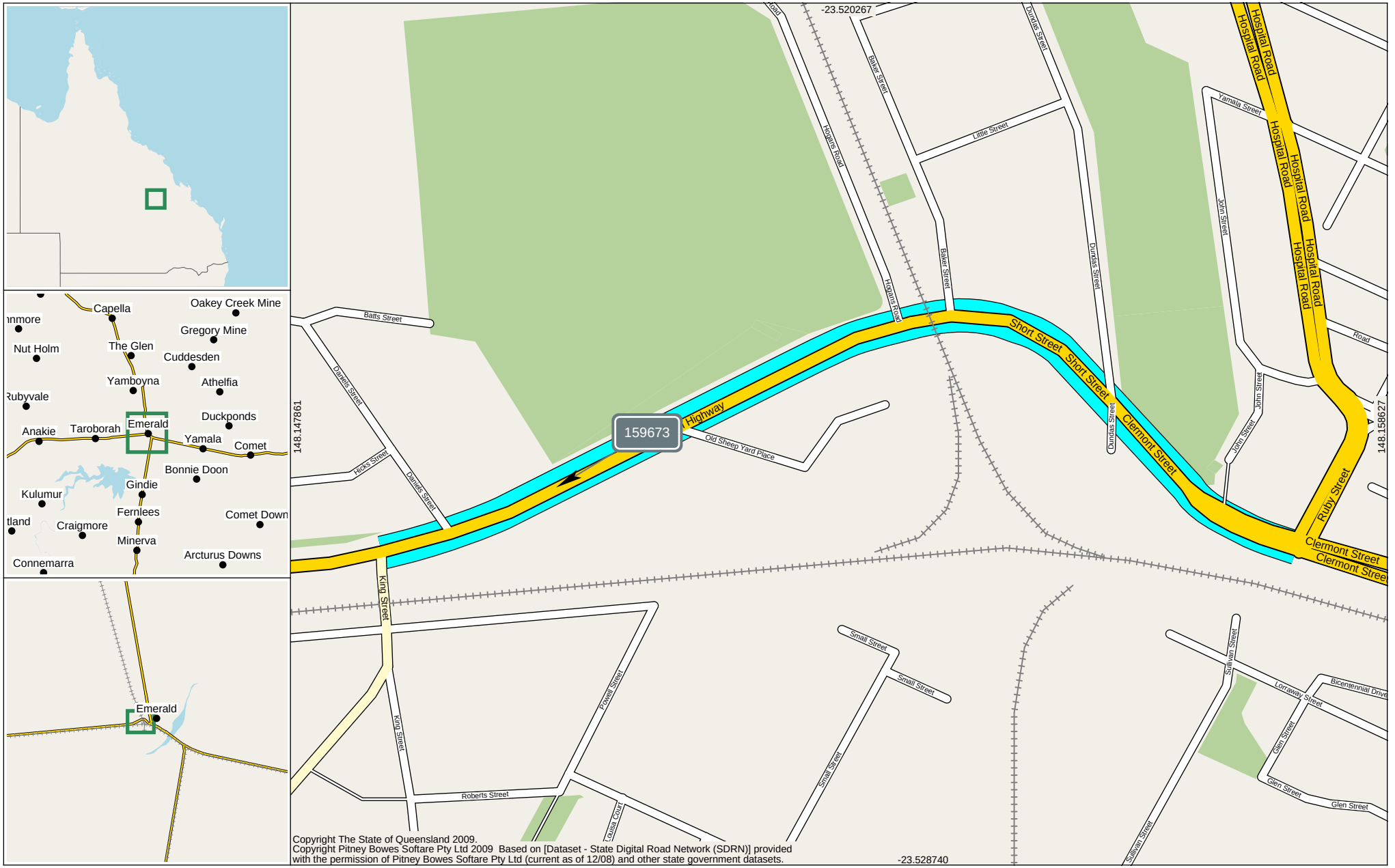
Road Segments Summary - All Vehicles

Region	Segment Start Tdist	Segment End Tdist	Site	Site Tdist	Description	AADT			VKT (Millions)			Data Year	Page
						G	A	B	G	A	B		
404	0.000 km	1.080 km	159673	0.890 km	Capricorn Hwy 200m E of Int.16C/Selma Rd	2,458	2,532	4,990	0.96894	0.99811	1.96706	2017	2
404	1.080 km	2.170 km	159674	1.325 km	Capricorn Hwy 250m W of Int.16C/Selma Rd	1,155	1,228	2,383	0.45952	0.48856	0.94808	2017	3
404	2.170 km	43.300 km	150014	6.400 km	Capricorn Hwy 500m West of Marshall Road	615	624	1,239	9.23266	9.36777	18.60043	2017	4
404	43.300 km	70.531 km	159568	43.800 km	Capricorn Hwy 500m W of Int.16C/5501	210	209	419	2.08726	2.07732	4.16457	2017	5
404	70.531 km	107.950 km	159715	85.451 km	250m W of Kelly's Creek	223	221	444	3.04572	3.01840	6.06412	2017	6
401	107.950 km	167.940 km	150030	159.500 km	Capricorn Highway 8km East of Alpha	204	212	416	4.46686	4.64203	9.10888	2017	7
								Totals	20.26095	20.59219	40.85314		

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		
404	0.000 km	1.080 km	159673	0.890 km	Capricorn Hwy 200m E of Int.16C/Selma Rd	362	14.73%	235	9.28%	597	11.96%	0.14270	0.09264	0.23534	2017	2
404	1.080 km	2.170 km	159674	1.325 km	Capricorn Hwy 250m W of Int.16C/Selma Rd	188	16.28%	166	13.52%	354	14.86%	0.07480	0.06604	0.14084	2017	3
404	2.170 km	43.300 km	150014	6.400 km	Capricorn Hwy 500m West of Marshall Road	138	22.44%	120	19.23%	258	20.82%	2.07172	1.80149	3.87321	2017	4
404	43.300 km	70.531 km	159568	43.800 km	Capricorn Hwy 500m W of Int.16C/5501	101	48.10%	45	21.53%	146	34.84%	1.00387	0.44727	1.45114	2017	5
404	70.531 km	107.950 km	159715	85.451 km	250m W of Kelly's Creek	66	29.60%	52	23.53%	118	26.58%	0.90142	0.71021	1.61164	2017	6
401	107.950 km	167.940 km	150030	159.500 km	Capricorn Highway 8km East of Alpha	65	31.86%	48	22.64%	113	27.16%	1.42326	1.05102	2.47429	2017	7
											Totals	5.61777	4.16868	9.78645		



Site 159673. Point 350000700. 200m East of Int. 16C/Selma Rd.

0.89 km

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

0.00 km

Start Point 350000036. Capricorn Hwy to Alpha @ Ruby St.

1.08 km

End Point 350000161. Capricorn Hwy to Alpha @ Selma 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.

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	-7.87%	-9.82%	6.87%
A	-5.98%	-9.67%	7.05%
B	-6.92%	-9.75%	6.96%

All Vehicles (00)

G	2,458	100%
A	2,532	100%
B	4,990	100%

Light Vehicles (0A)

G	2,095	85.23%
A	2,296	90.68%
B	4,391	88.00%

Heavy Vehicles (0B)

G	362	14.73%
A	235	9.28%
B	597	11.96%

Short Vehicles (1A)

G	2,095	85.23%
A	2,296	90.68%
B	4,391	88.00%

Trucks and Buses (1B)

G	296	12.04%
A	181	7.15%
B	477	9.56%

Articulated Vehicles (1C)

G	42	1.71%
A	31	1.22%
B	73	1.46%

Road Trains (1D)

G	24	0.98%
A	23	0.91%
B	47	0.94%

Short 2-Axle Vehicles (2A)

G	1,991	81.00%
A	2,185	86.30%
B	4,176	83.69%

Short Vehicles Towing (2B)

G	104	4.23%
A	111	4.38%
B	215	4.31%

2-Axle Trucks and Buses (2C)

G	260	10.58%
A	145	5.73%
B	405	8.12%

3-Axle Trucks and Buses (2D)

G	24	0.98%
A	24	0.95%
B	48	0.96%

4-Axle Trucks (2E)

G	12	0.49%
A	12	0.47%
B	24	0.48%

3-Axle Articulated (2F)

G	10	0.41%
A	3	0.12%
B	13	0.26%

4-Axle Articulated (2G)

G	13	0.53%
A	8	0.32%
B	21	0.42%

5-Axle Articulated (2H)

G	2	0.08%
A	3	0.12%
B	5	0.10%

6-Axle Articulated (2I)

G	17	0.69%
A	17	0.67%
B	34	0.68%

B Double (2J)

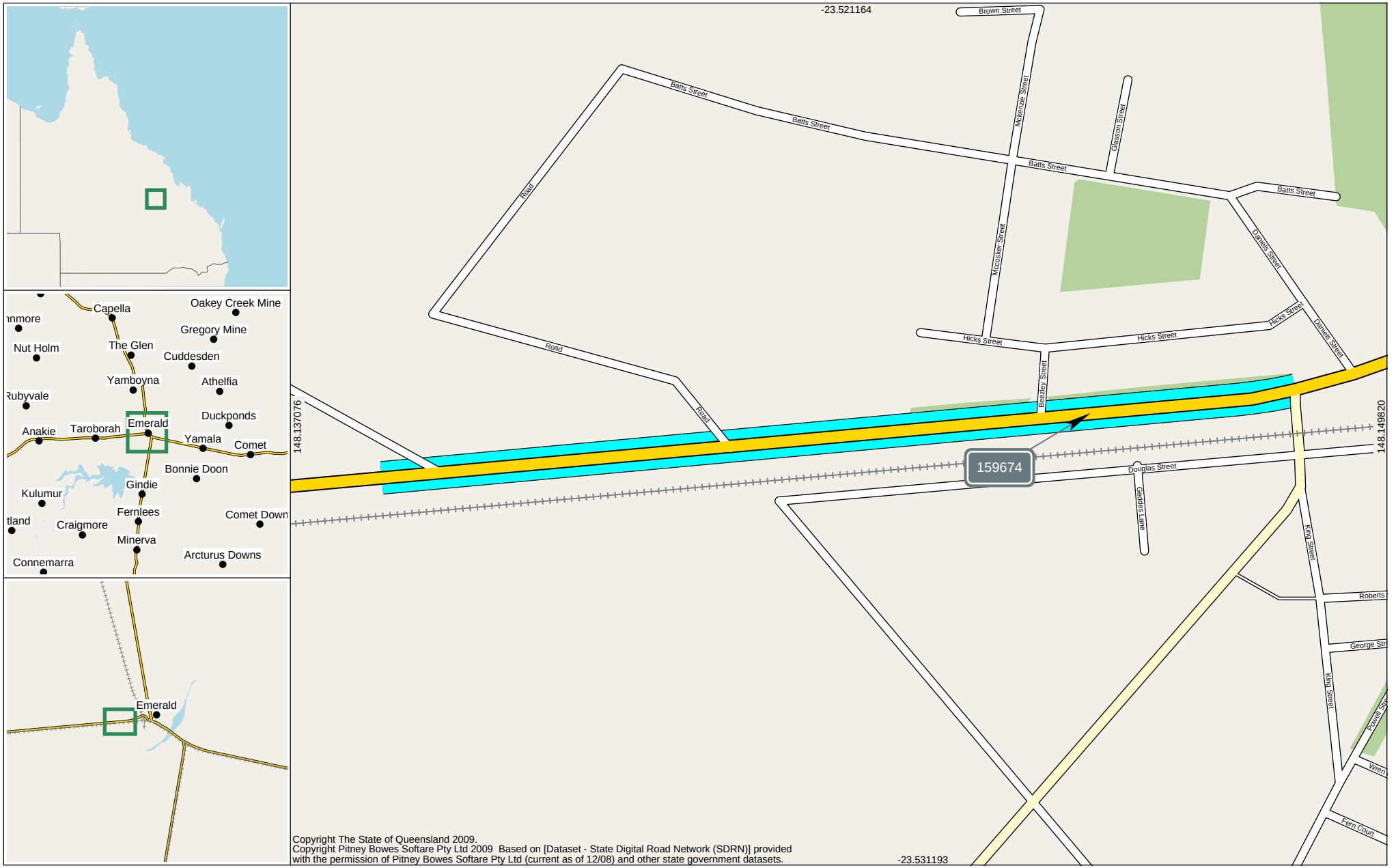
G	13	0.53%
A	12	0.47%
B	25	0.50%

Double Road Trains (2K)

G	11	0.45%
A	11	0.43%
B	22	0.44%

Triple Road Trains (2L)

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



Site 159674. Point 350000701. 250m West of Int.16C/Selma Rd.

1.32 km

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

1.08 km

Start Point 350000161. Capricorn Hwy to Alpha @ Selma Rd.

2.17 km

End Point 350000164. Capricorn Hwy to Alpha @ Tyson 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.

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	-8.77%	-4.81%	3.03%
A	2.93%	-4.14%	3.62%
B	-3.09%	-4.47%	3.33%

All Vehicles (00)

G	1,155	100%
A	1,228	100%
B	2,383	100%

Light Vehicles (0A)

G	966	83.64%
A	1,061	86.40%
B	2,027	85.06%

Heavy Vehicles (0B)

G	188	16.28%
A	166	13.52%
B	354	14.86%

Short Vehicles (1A)

G	966	83.64%
A	1,061	86.40%
B	2,027	85.06%

Trucks and Buses (1B)

G	147	12.73%
A	118	9.61%
B	265	11.12%

Articulated Vehicles (1C)

G	26	2.25%
A	26	2.12%
B	52	2.18%

Road Trains (1D)

G	15	1.30%
A	22	1.79%
B	37	1.55%

Short 2-Axle Vehicles (2A)

G	921	79.74%
A	1,014	82.57%
B	1,935	81.20%

Short Vehicles Towing (2B)

G	45	3.90%
A	47	3.83%
B	92	3.86%

2-Axle Trucks and Buses (2C)

G	132	11.43%
A	98	7.98%
B	230	9.65%

3-Axle Trucks and Buses (2D)

G	10	0.87%
A	14	1.14%
B	24	1.01%

4-Axle Trucks (2E)

G	5	0.43%
A	6	0.49%
B	11	0.46%

3-Axle Articulated (2F)

G	5	0.43%
A	3	0.24%
B	8	0.34%

4-Axle Articulated (2G)

G	9	0.78%
A	6	0.49%
B	15	0.63%

5-Axle Articulated (2H)

G	2	0.17%
A	2	0.16%
B	4	0.17%

6-Axle Articulated (2I)

G	10	0.87%
A	15	1.22%
B	25	1.05%

B Double (2J)

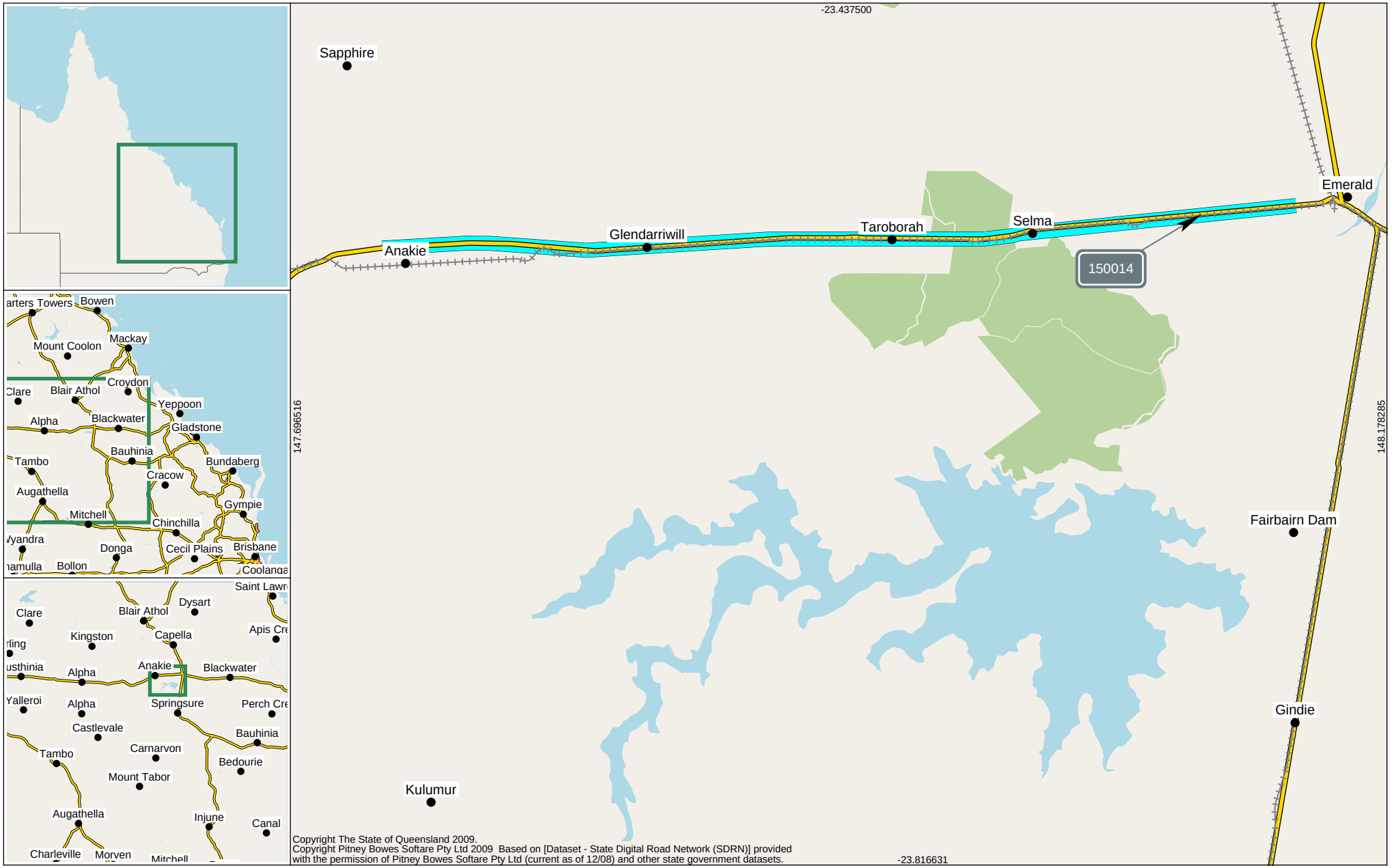
G	8	0.69%
A	11	0.90%
B	19	0.80%

Double Road Trains (2K)

G	7	0.61%
A	11	0.90%
B	18	0.76%

Triple Road Trains (2L)

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



Site 150014. Point 350001084. 500m East of Marshall Rd.

6.40 km

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

2.17 km

Start Point 350000164. Capricorn Hwy to Alpha @ Tyson Rd.

43.30 km

End Point 350000037. Cap Hwy to Alpha@Anakie-Sapphire 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.

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	-2.69%	-3.11%	-0.88%
A	-2.80%	-2.83%	-0.71%
B	-2.75%	-2.97%	-0.79%

All Vehicles (00)

G	615	100%
A	624	100%
B	1,239	100%

Light Vehicles (0A)

G	477	77.56%
A	504	80.77%
B	981	79.18%

Heavy Vehicles (0B)

G	138	22.44%
A	120	19.23%
B	258	20.82%

Short Vehicles (1A)

G	477	77.56%
A	504	80.77%
B	981	79.18%

Trucks and Buses (1B)

G	92	14.96%
A	77	12.34%
B	169	13.64%

Articulated Vehicles (1C)

G	25	4.07%
A	21	3.37%
B	46	3.71%

Road Trains (1D)

G	21	3.41%
A	22	3.53%
B	43	3.47%

Short 2-Axle Vehicles (2A)

G	440	71.54%
A	474	75.96%
B	914	73.77%

Short Vehicles Towing (2B)

G	37	6.02%
A	30	4.81%
B	67	5.41%

2-Axle Trucks and Buses (2C)

G	81	13.17%
A	66	10.58%
B	147	11.86%

3-Axle Trucks and Buses (2D)

G	7	1.14%
A	7	1.12%
B	14	1.13%

4-Axle Trucks (2E)

G	4	0.65%
A	4	0.64%
B	8	0.65%

3-Axle Articulated (2F)

G	6	0.98%
A	4	0.64%
B	10	0.81%

4-Axle Articulated (2G)

G	8	1.30%
A	6	0.96%
B	14	1.13%

5-Axle Articulated (2H)

G	1	0.16%
A	1	0.16%
B	2	0.16%

6-Axle Articulated (2I)

G	10	1.63%
A	10	1.60%
B	20	1.61%

B Double (2J)

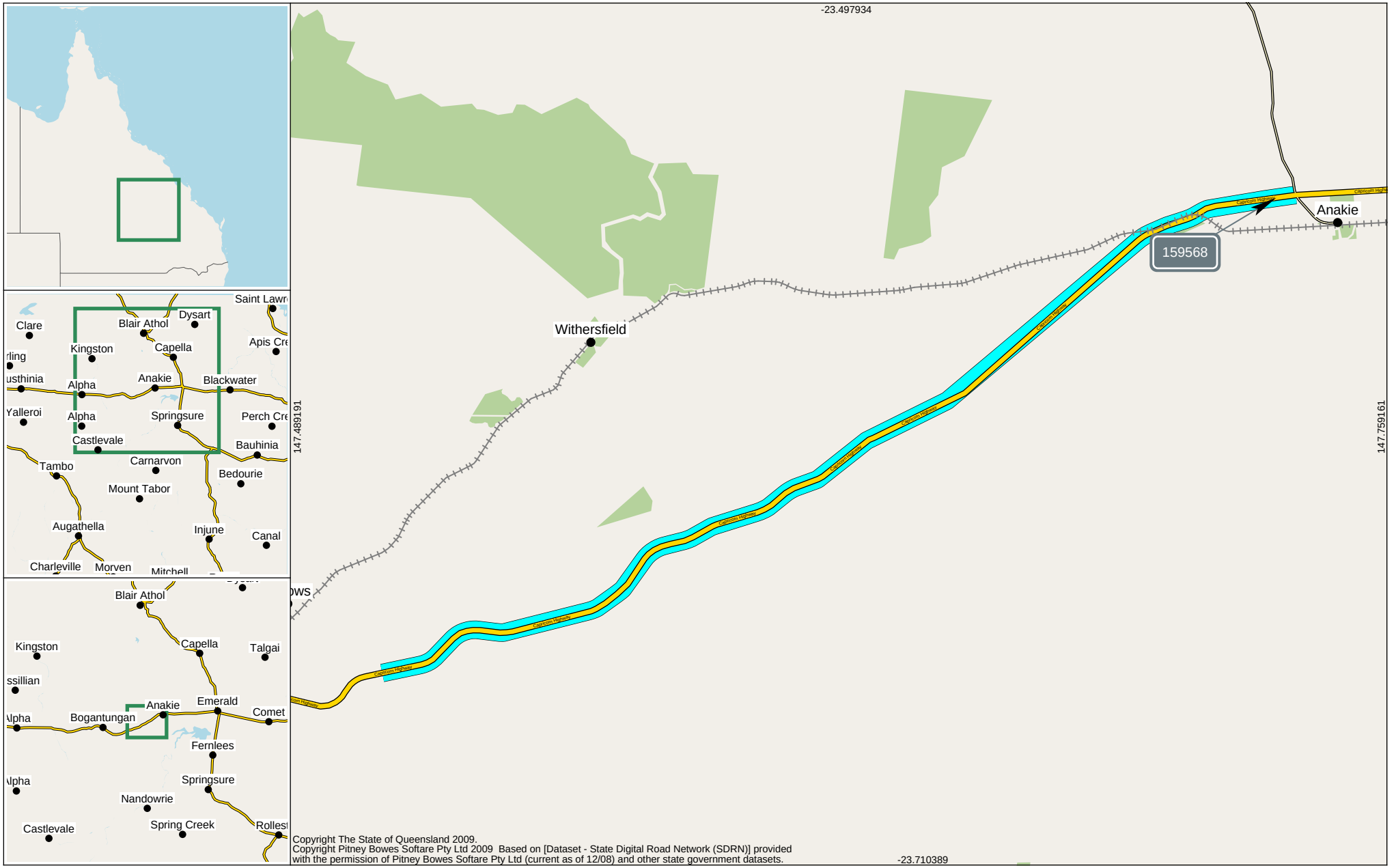
G	10	1.63%
A	11	1.76%
B	21	1.69%

Double Road Trains (2K)

G	11	1.79%
A	11	1.76%
B	22	1.78%

Triple Road Trains (2L)

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



Site 159568. Point 350001053. 500m W of Int 16C/5501 on 16C.
43.80 km

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

43.30 km
Start Point 350000037. Cap Hwy to Alpha@Anakie-Sapphire Rd.

70.53 km
End Point 350000165. Cap Hwy to Alpha @ Willows Gemfields 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.

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	3.45%	-6.04%	-3.53%
A	3.98%	-6.64%	-4.23%
B	3.71%	-6.35%	-3.89%

All Vehicles (00)

G	210	100%
A	209	100%
B	419	100%

Light Vehicles (0A)

G	108	51.43%
A	164	78.47%
B	272	64.92%

Heavy Vehicles (0B)

G	101	48.10%
A	45	21.53%
B	146	34.84%

Short Vehicles (1A)

G	108	51.43%
A	164	78.47%
B	272	64.92%

Trucks and Buses (1B)

G	71	33.81%
A	21	10.05%
B	92	21.96%

Articulated Vehicles (1C)

G	18	8.57%
A	10	4.78%
B	28	6.68%

Road Trains (1D)

G	12	5.71%
A	14	6.70%
B	26	6.21%

Short 2-Axle Vehicles (2A)

G	98	46.67%
A	148	70.81%
B	246	58.71%

Short Vehicles Towing (2B)

G	10	4.76%
A	16	7.66%
B	26	6.21%

2-Axle Trucks and Buses (2C)

G	67	31.90%
A	17	8.13%
B	84	20.05%

3-Axle Trucks and Buses (2D)

G	3	1.43%
A	3	1.44%
B	6	1.43%

4-Axle Trucks (2E)

G	1	0.48%
A	1	0.48%
B	2	0.48%

3-Axle Articulated (2F)

G	6	2.86%
A	1	0.48%
B	7	1.67%

4-Axle Articulated (2G)

G	5	2.38%
A	2	0.96%
B	7	1.67%

5-Axle Articulated (2H)

G	1	0.48%
A	1	0.48%
B	2	0.48%

6-Axle Articulated (2I)

G	6	2.86%
A	6	2.87%
B	12	2.86%

B Double (2J)

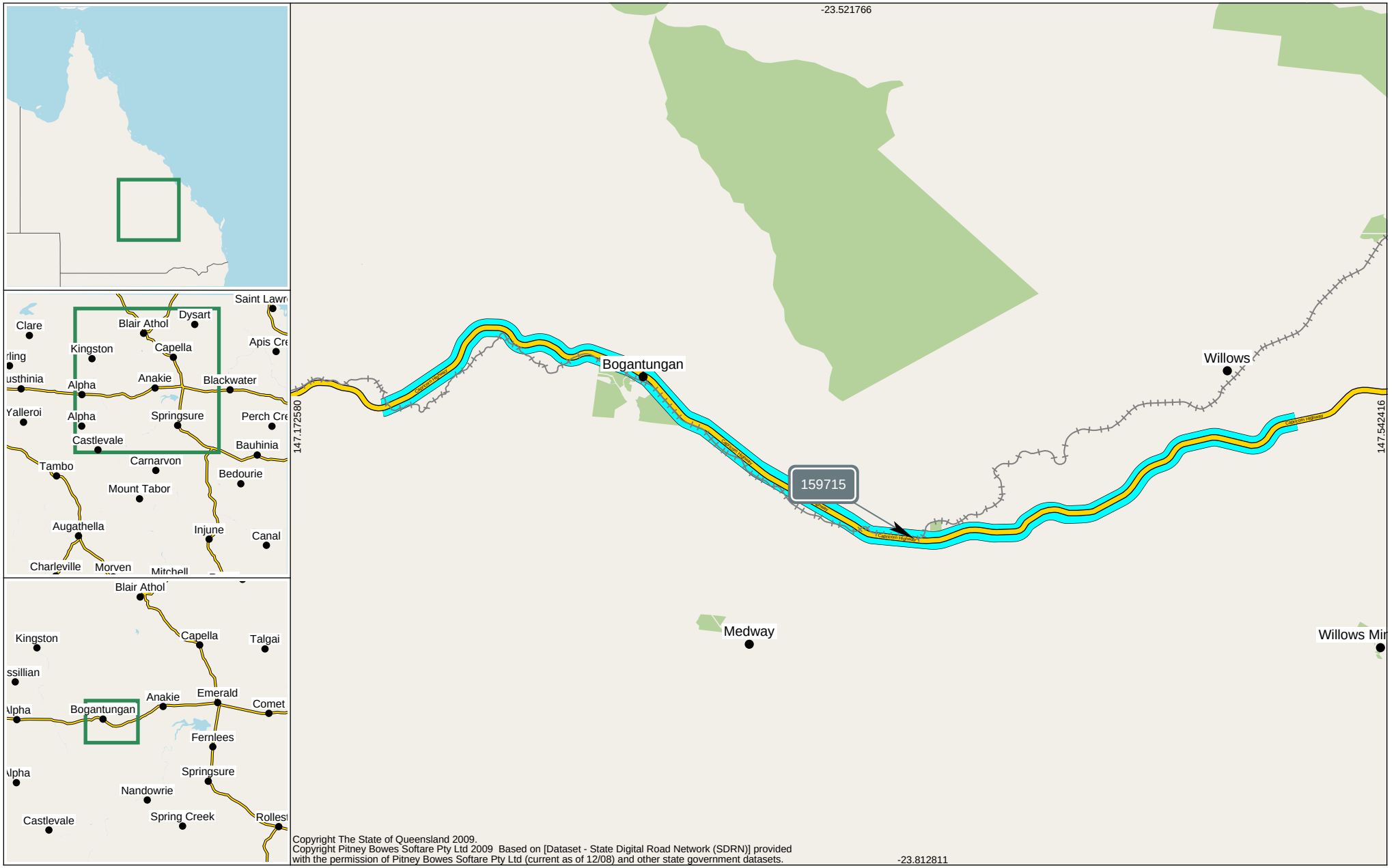
G	4	1.90%
A	5	2.39%
B	9	2.15%

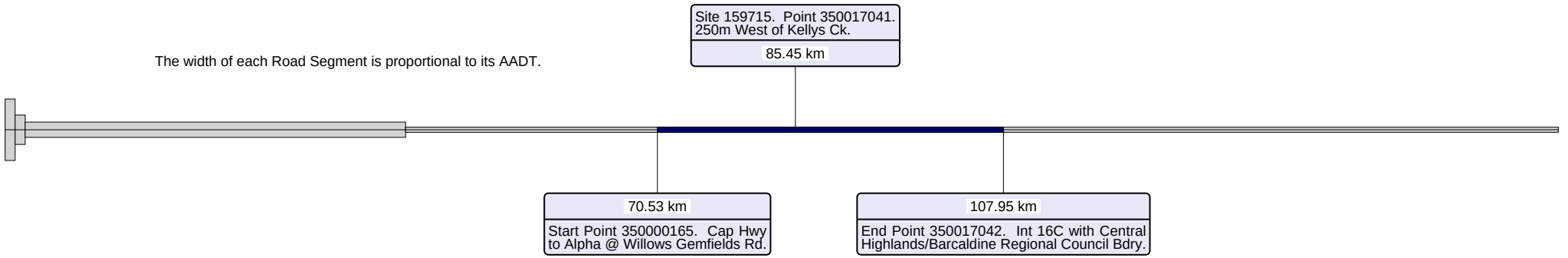
Double Road Trains (2K)

G	8	3.81%
A	9	4.31%
B	17	4.06%

Triple Road Trains (2L)

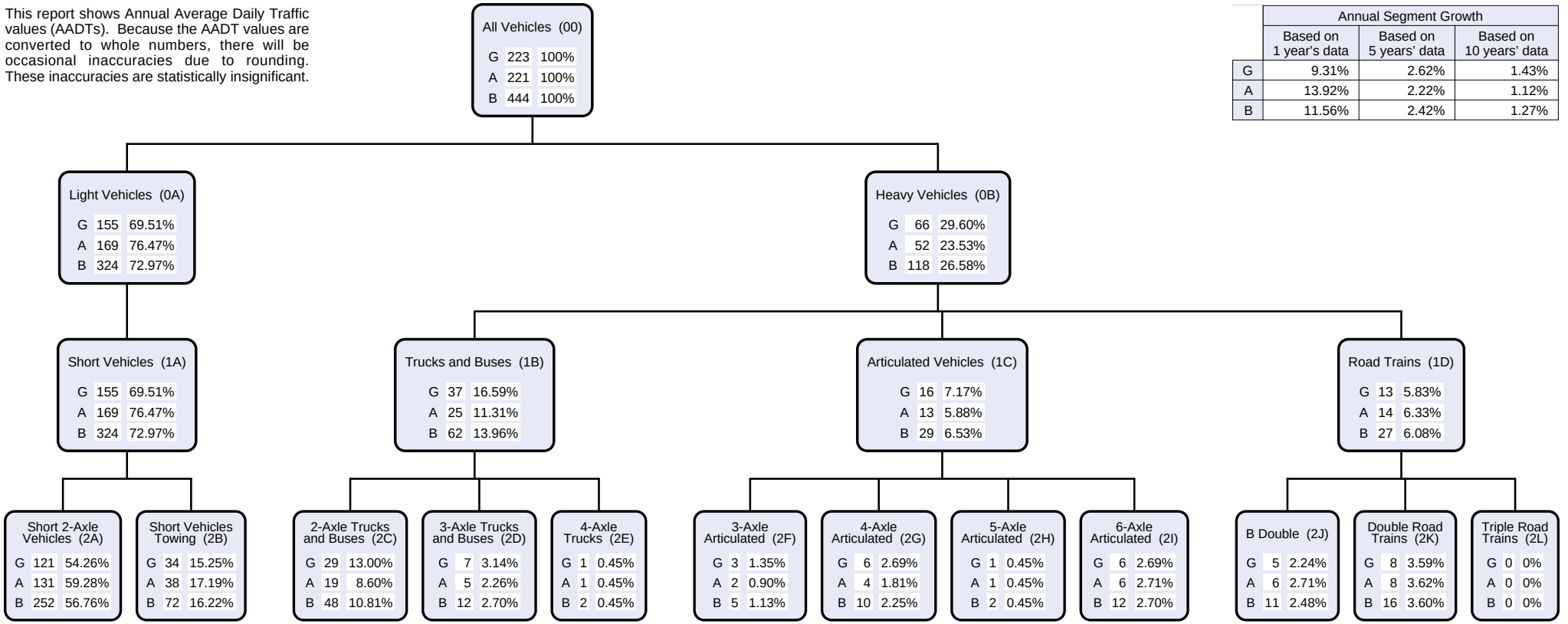
G	0	0%
A	0	0%
B	0	0%

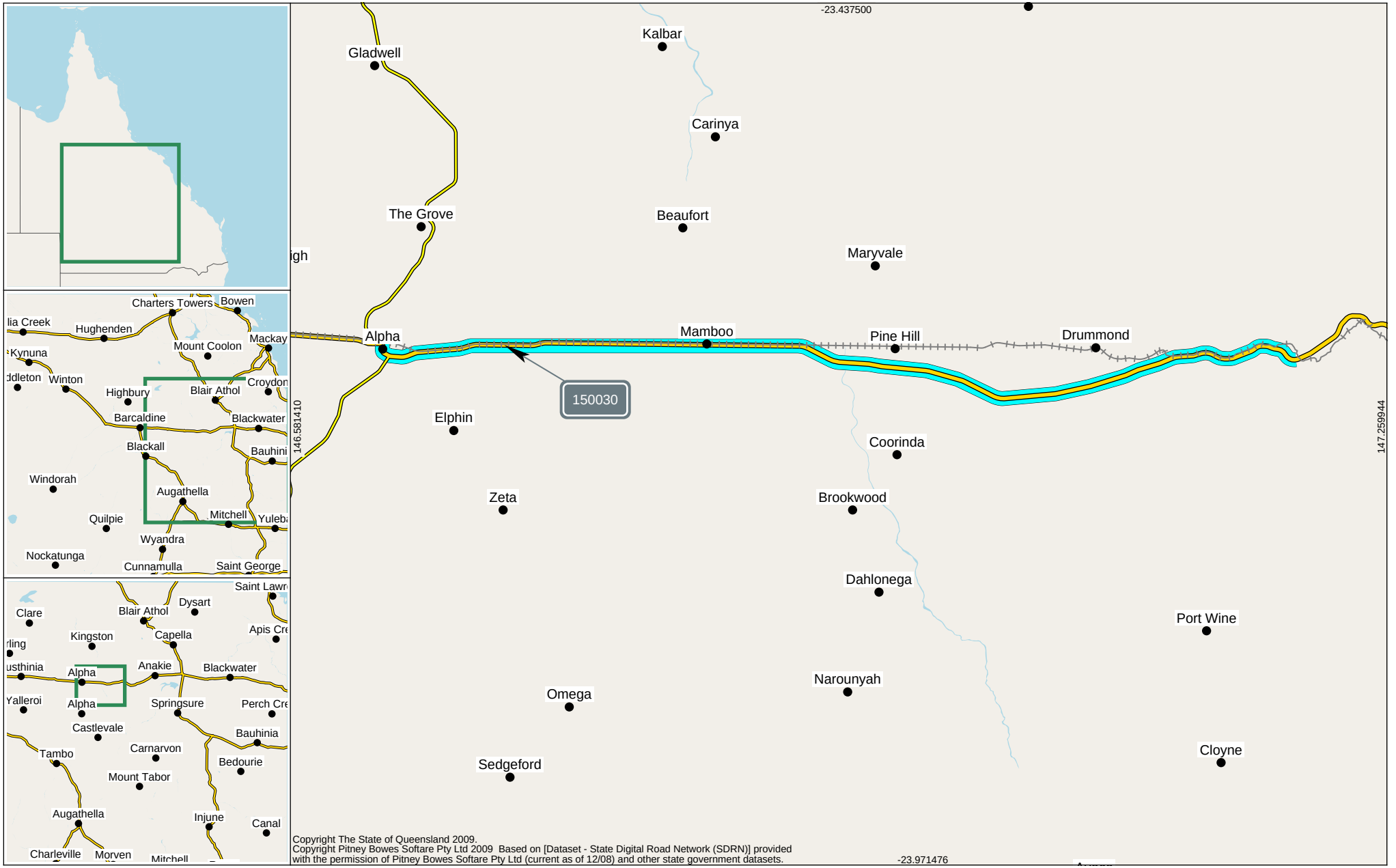




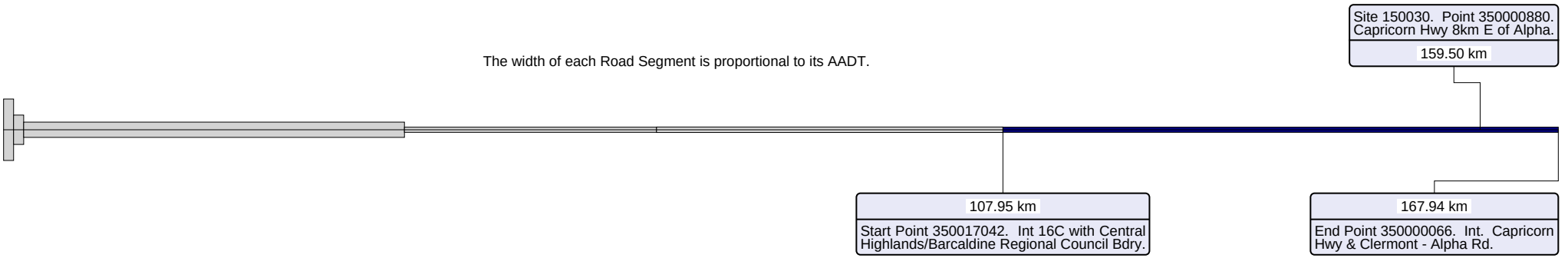
This report shows Annual Average Daily Traffic values (AADTs). Because the AADT values are converted to whole numbers, there will be occasional inaccuracies due to rounding. These inaccuracies are statistically insignificant.

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	9.31%	2.62%	1.43%
A	13.92%	2.22%	1.12%
B	11.56%	2.42%	1.27%



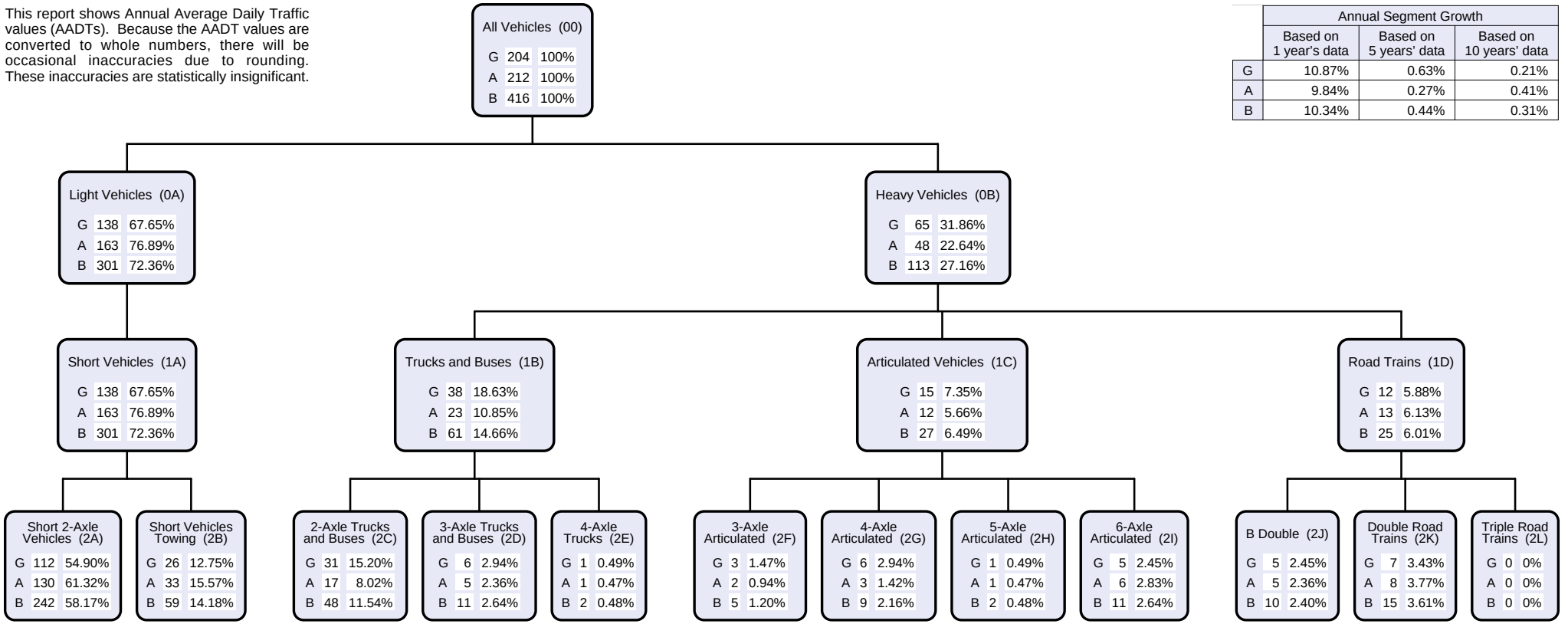


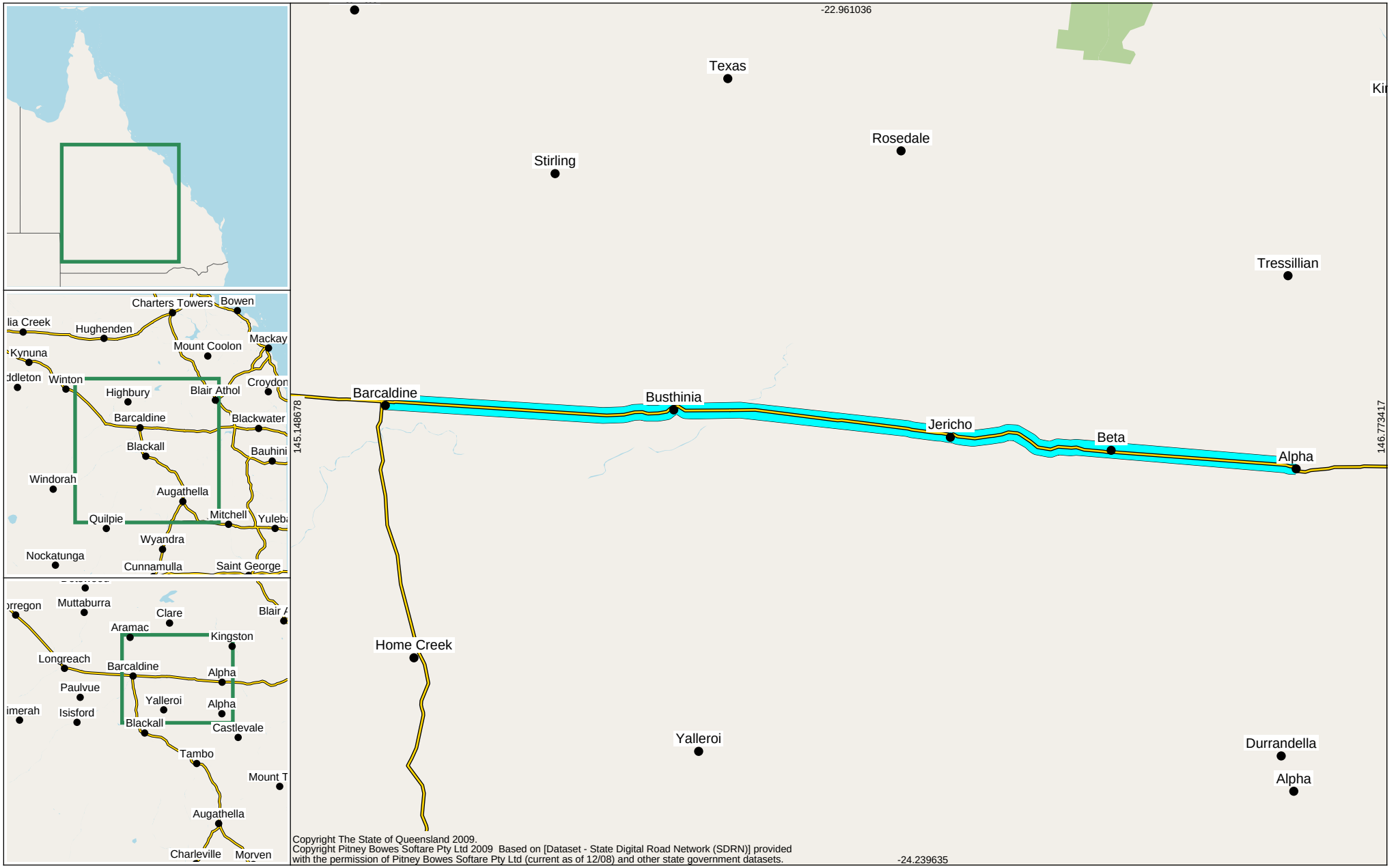
The width of each Road Segment is proportional to its AADT.



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	10.87%	0.63%	0.21%
A	9.84%	0.27%	0.41%
B	10.34%	0.44%	0.31%





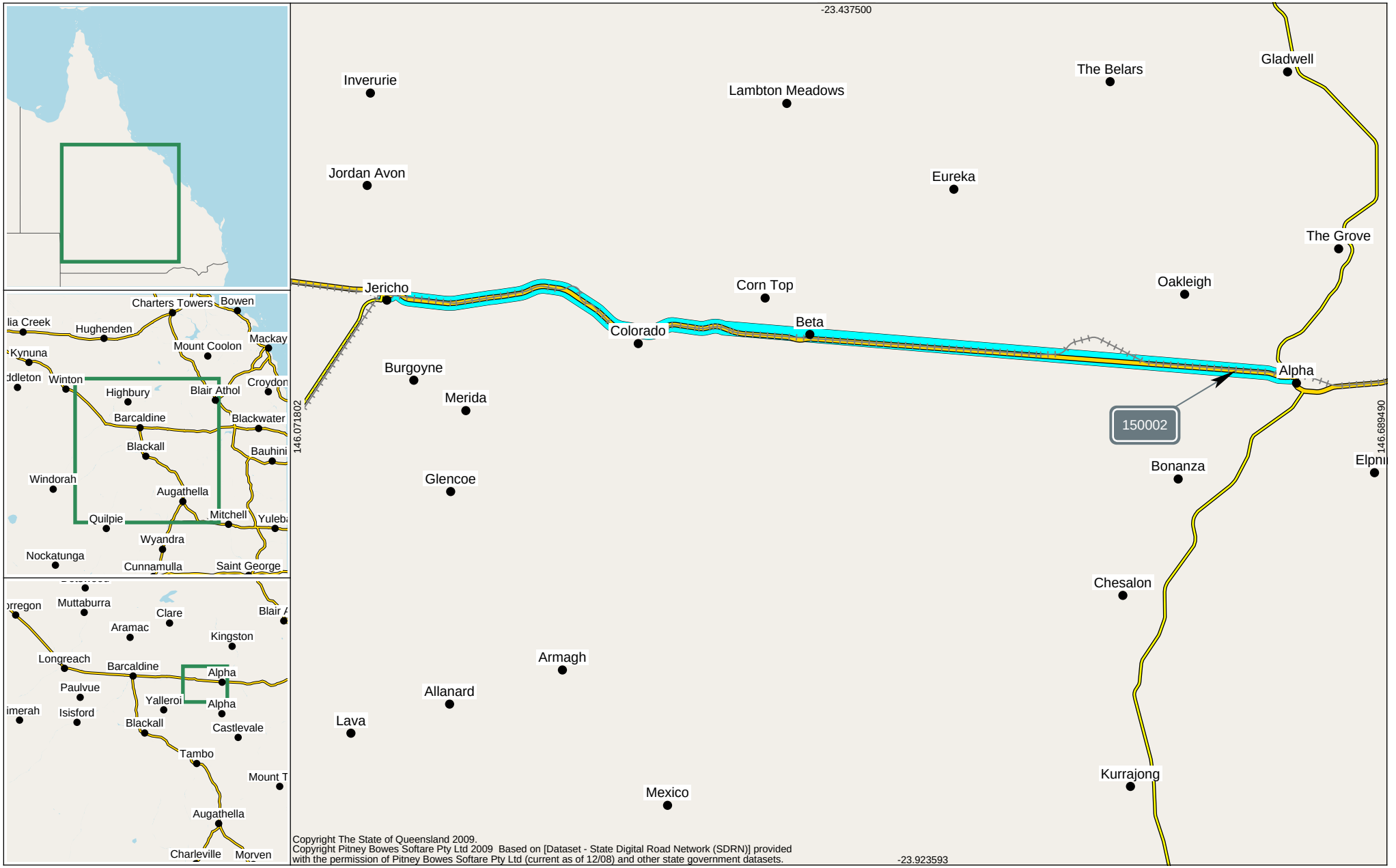
Road Segments Summary - All Vehicles

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	54.270 km	150002	3.500 km	Capricorn Hwy 16D 3.5km West of Alpha	189	205	394	3.74382	4.06075	7.80457	2017	2
401	54.270 km	80.650 km	150003	64.270 km	Capricorn Hwy 16D 10km West of Jericho	157	167	324	1.51171	1.60799	3.11970	2017	3
401	80.650 km	140.490 km	70007	134.740 km	5.75km east of Barcaldine	184	194	378	4.01885	4.23727	8.25612	2017	4
								Totals	9.27438	9.90602	19.18039		

Road Segments Summary - Heavy Vehicles only

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

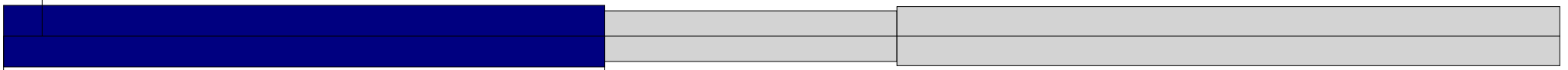
Region	Segment Start Tdist	Segment End Tdist	Site	Site Tdist	Description	HV AADT						HV VKT (Millions)			Data Year	Page
						G		A		B						
						AADT	HV %	AADT	HV %	AADT	HV %	G	A	B		
401	0.000 km	54.270 km	150002	3.500 km	Capricorn Hwy 16D 3.5km West of Alpha	54	28.57%	65	31.71%	119	30.20%	1.06966	1.28756	2.35722	2017	2
401	54.270 km	80.650 km	150003	64.270 km	Capricorn Hwy 16D 10km West of Jericho	49	31.21%	35	20.96%	84	25.93%	0.47181	0.33700	0.80881	2017	3
401	80.650 km	140.490 km	70007	134.740 km	5.75km east of Barcaldine	43	23.37%	77	39.69%	120	31.75%	0.93919	1.68180	2.62099	2017	4
											Totals	2.48066	3.30636	5.78702		



Site 150002. Point 350001089. Capricorn Hwy 16D 3.5km West of Alpha.

3.50 km

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



0.00 km

Start Point 350000004. Cap Hwy to Barcaldine @ Clerm-Alpha Rd.

54.27 km

End Point 350000005. Int. Capricorn Hwy & Blackall-Jericho 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.

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	11.83%	-0.40%	0.02%
A	13.89%	0.83%	0.89%
B	12.89%	0.23%	0.46%

All Vehicles (00)

G	189	100%
A	205	100%
B	394	100%

Light Vehicles (0A)

G	135	71.43%
A	139	67.80%
B	274	69.54%

Heavy Vehicles (0B)

G	54	28.57%
A	65	31.71%
B	119	30.20%

Short Vehicles (1A)

G	135	71.43%
A	139	67.80%
B	274	69.54%

Trucks and Buses (1B)

G	31	16.40%
A	36	17.56%
B	67	17.01%

Articulated Vehicles (1C)

G	12	6.35%
A	17	8.29%
B	29	7.36%

Road Trains (1D)

G	11	5.82%
A	12	5.85%
B	23	5.84%

Short 2-Axle Vehicles (2A)

G	107	56.61%
A	110	53.66%
B	217	55.08%

Short Vehicles Towing (2B)

G	28	14.81%
A	29	14.15%
B	57	14.47%

2-Axle Trucks and Buses (2C)

G	25	13.23%
A	30	14.63%
B	55	13.96%

3-Axle Trucks and Buses (2D)

G	5	2.65%
A	5	2.44%
B	10	2.54%

4-Axle Trucks (2E)

G	1	0.53%
A	1	0.49%
B	2	0.51%

3-Axle Articulated (2F)

G	2	1.06%
A	4	1.95%
B	6	1.52%

4-Axle Articulated (2G)

G	4	2.12%
A	6	2.93%
B	10	2.54%

5-Axle Articulated (2H)

G	1	0.53%
A	1	0.49%
B	2	0.51%

6-Axle Articulated (2I)

G	5	2.65%
A	6	2.93%
B	11	2.79%

B Double (2J)

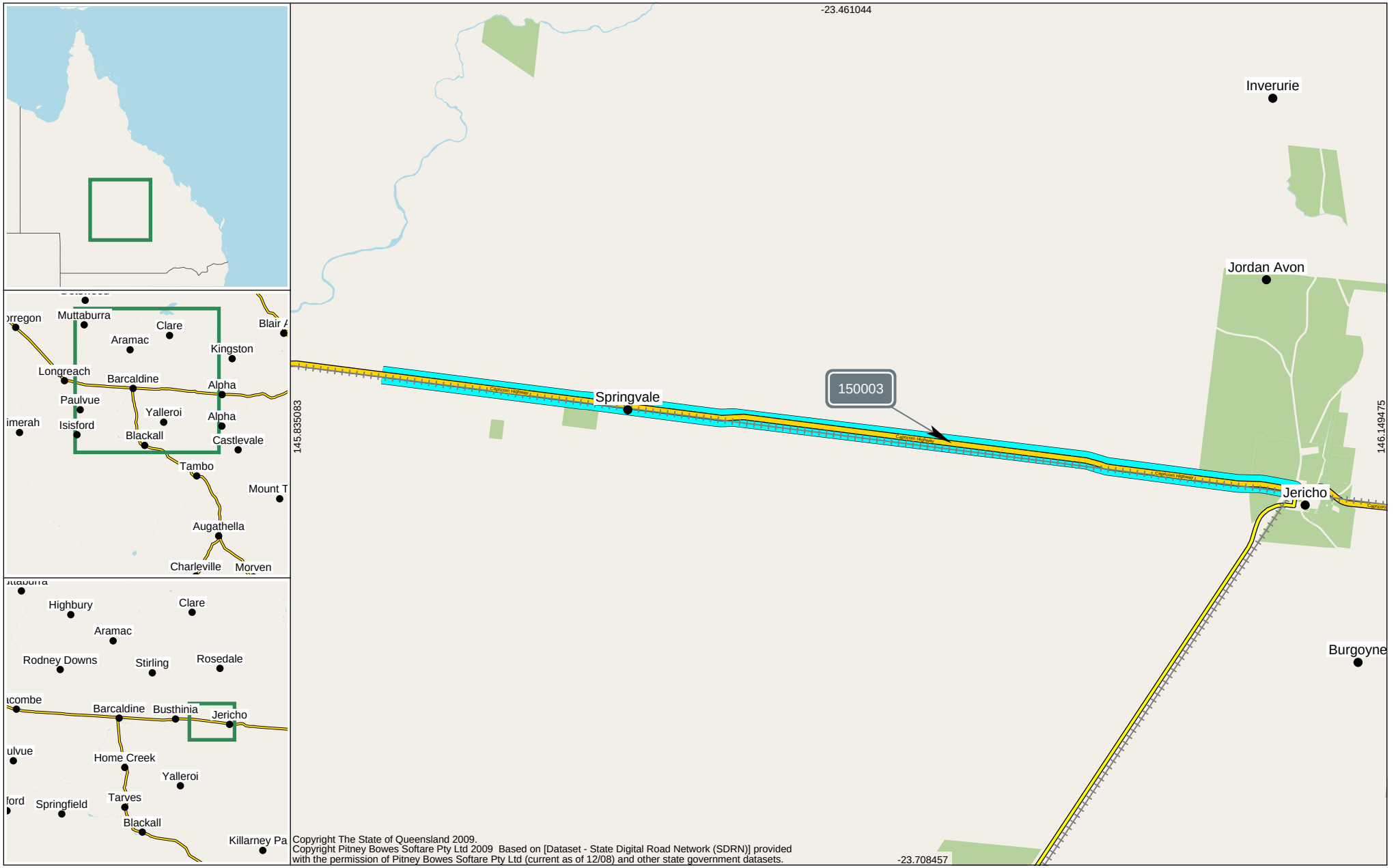
G	4	2.12%
A	4	1.95%
B	8	2.03%

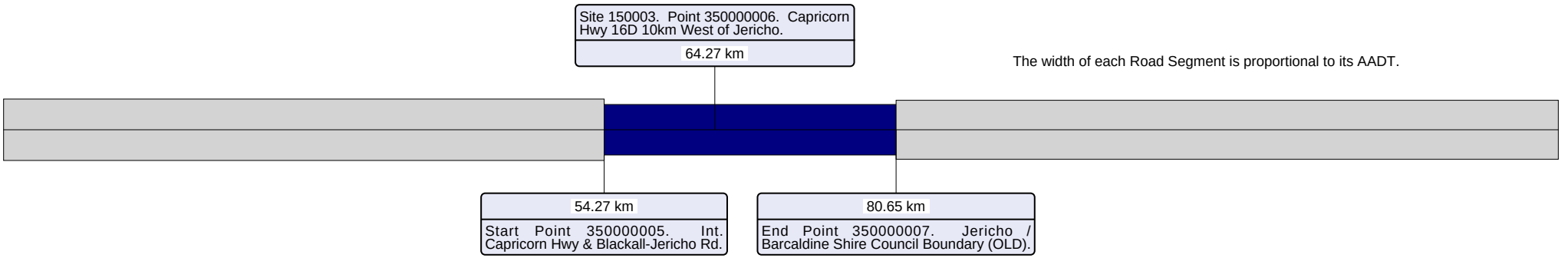
Double Road Trains (2K)

G	6	3.17%
A	7	3.41%
B	13	3.30%

Triple Road Trains (2L)

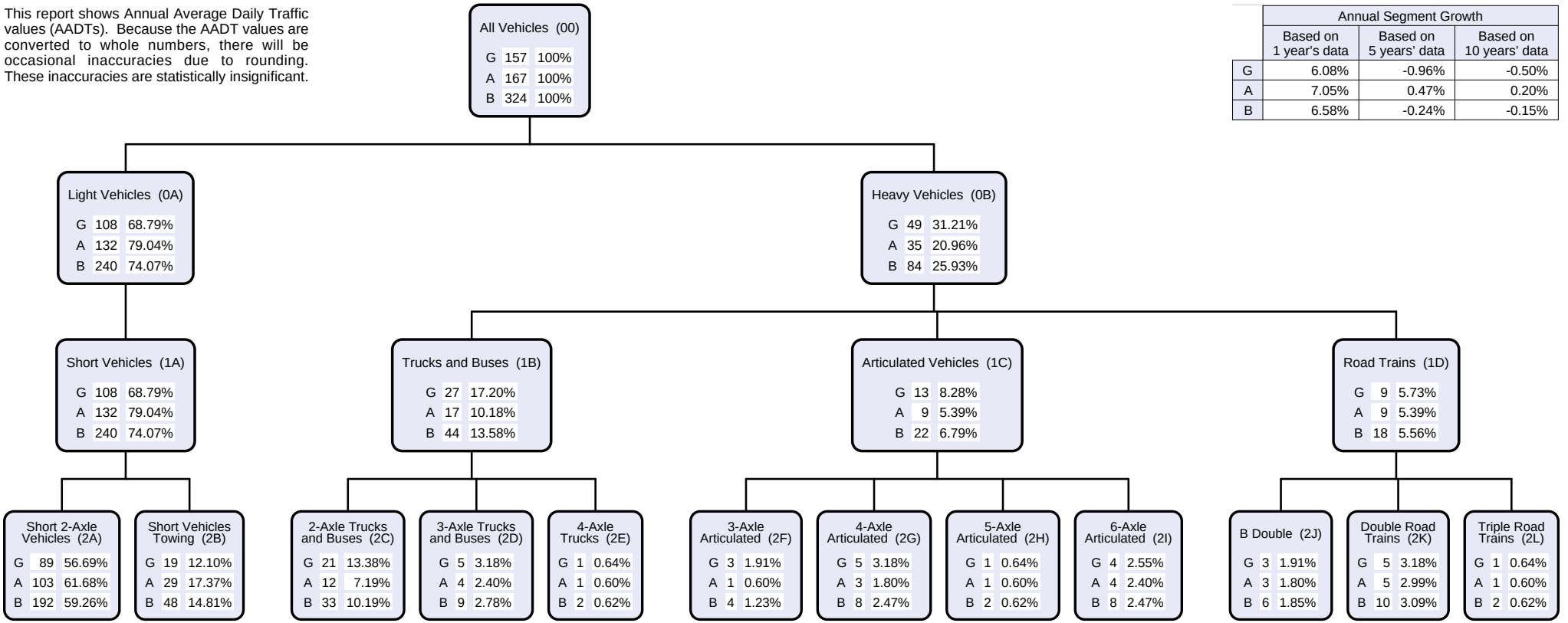
G	1	0.53%
A	1	0.49%
B	2	0.51%

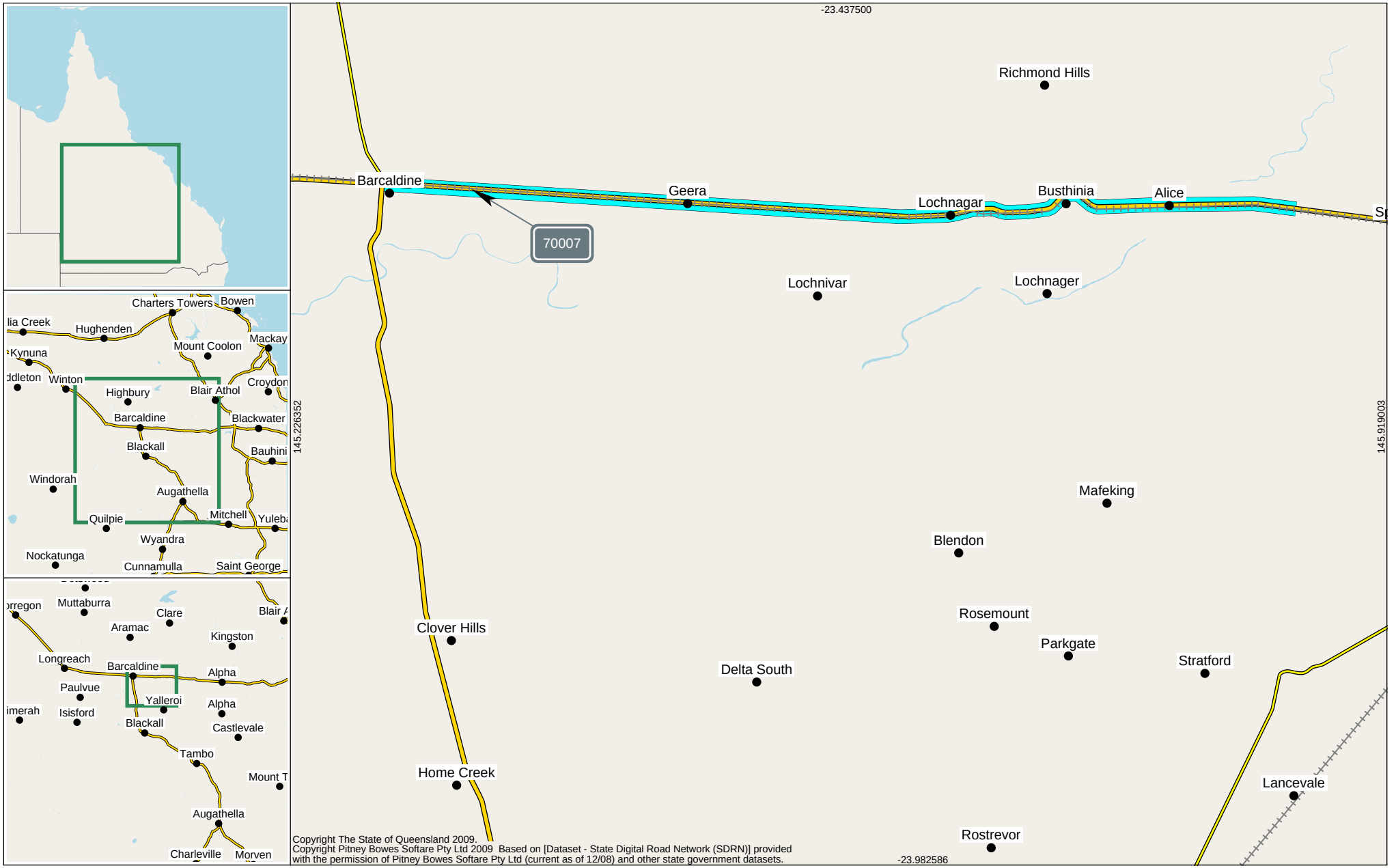




This report shows Annual Average Daily Traffic values (AADTs). Because the AADT values are converted to whole numbers, there will be occasional inaccuracies due to rounding. These inaccuracies are statistically insignificant.

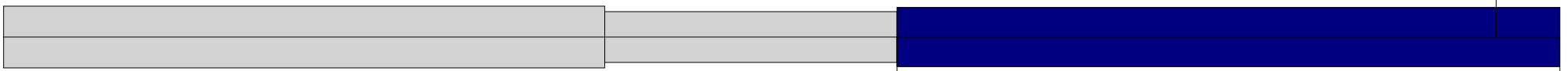
	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	6.08%	-0.96%	-0.50%
A	7.05%	0.47%	0.20%
B	6.58%	-0.24%	-0.15%





Site 70007. Point 270000017. 5.75km east of Barcaldine (Site ID 70007).
134.74 km

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



80.65 km
Start Point 270000018. Old Jericho / Barcaldine Shire Boundary.

140.49 km
End Point 270000019. Int 13D/13E/16D Emerald Leg.

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.

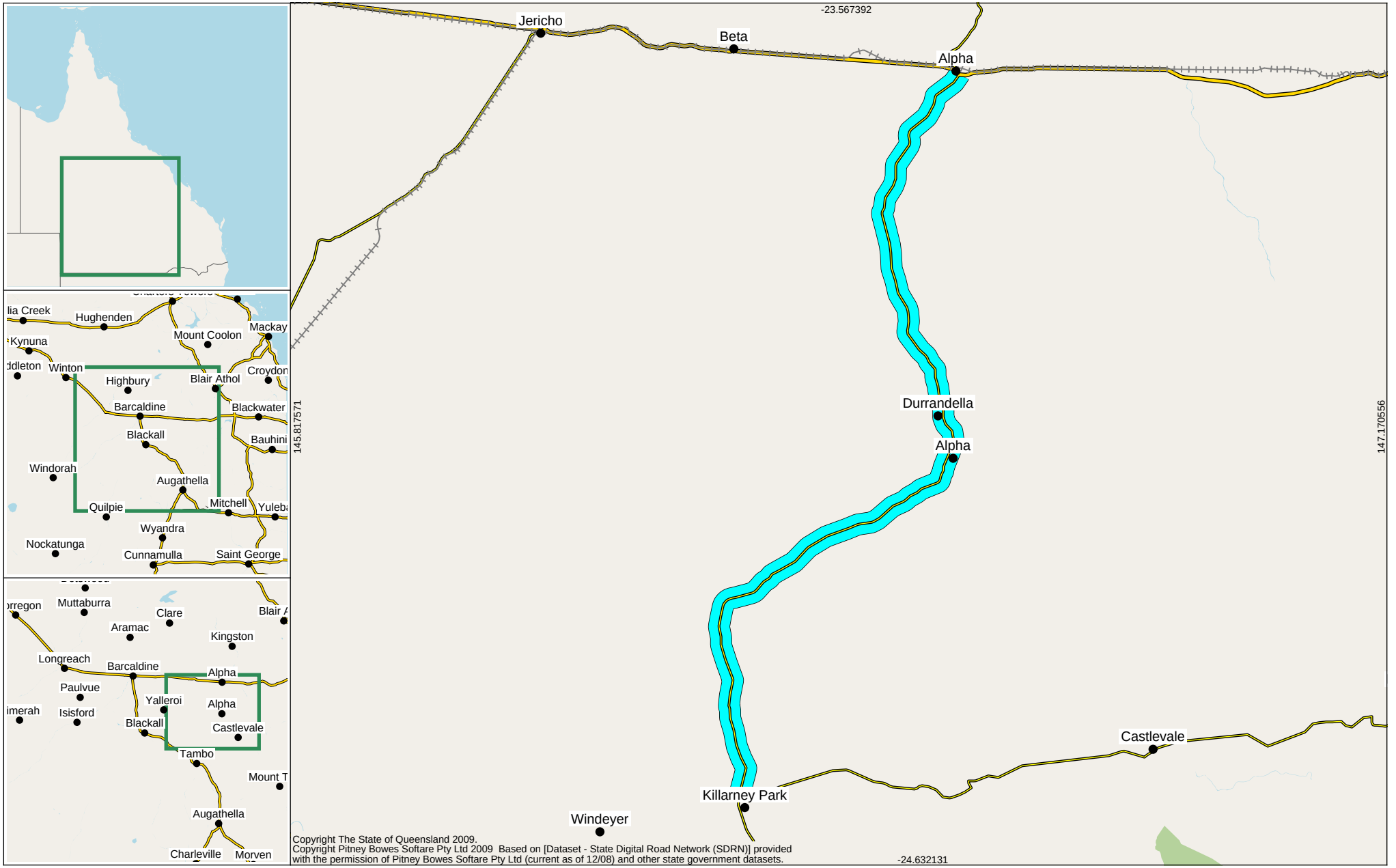
	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	-3.66%	-3.00%	-0.32%
A	-3.00%	-0.93%	0.27%
B	-3.32%	-1.97%	-0.03%

- **All Vehicles (00)**: G 184 100% | A 194 100% | B 378 100%
  - **Light Vehicles (0A)**: G 144 78.26% | A 118 60.82% | B 262 69.31%
    - **Short Vehicles (1A)**: G 144 78.26% | A 118 60.82% | B 262 69.31%
      - Short 2-Axle Vehicles (2A): G 121 65.76% | A 97 50.00% | B 218 57.67%
      - Short Vehicles Towing (2B): G 23 12.50% | A 21 10.82% | B 44 11.64%
  - **Heavy Vehicles (0B)**: G 43 23.37% | A 77 39.69% | B 120 31.75%
    - **Trucks and Buses (1B)**: G 21 11.41% | A 48 24.74% | B 69 18.25%
      - 2-Axle Trucks and Buses (2C): G 16 8.70% | A 43 22.16% | B 59 15.61%
      - 3-Axle Trucks and Buses (2D): G 4 2.17% | A 4 2.06% | B 8 2.12%
      - 4-Axle Trucks (2E): G 1 0.54% | A 1 0.52% | B 2 0.53%
    - **Articulated Vehicles (1C)**: G 10 5.43% | A 17 8.76% | B 27 7.14%
      - 3-Axle Articulated (2F): G 1 0.54% | A 5 2.58% | B 6 1.59%
      - 4-Axle Articulated (2G): G 3 1.63% | A 6 3.09% | B 9 2.38%
      - 5-Axle Articulated (2H): G 1 0.54% | A 1 0.52% | B 2 0.53%
      - 6-Axle Articulated (2I): G 5 2.72% | A 5 2.58% | B 10 2.65%
    - **Road Trains (1D)**: G 12 6.52% | A 12 6.19% | B 24 6.35%
      - B Double (2J): G 4 2.17% | A 4 2.06% | B 8 2.12%
      - Double Road Trains (2K): G 6 3.26% | A 6 3.09% | B 12 3.17%
      - Triple Road Trains (2L): G 2 1.09% | A 2 1.03% | B 4 1.06%

AADT Segment Analysis Report (Complete)

Road Section 443 - ALPHA - TAMBO ROAD

Traffic Year 2017



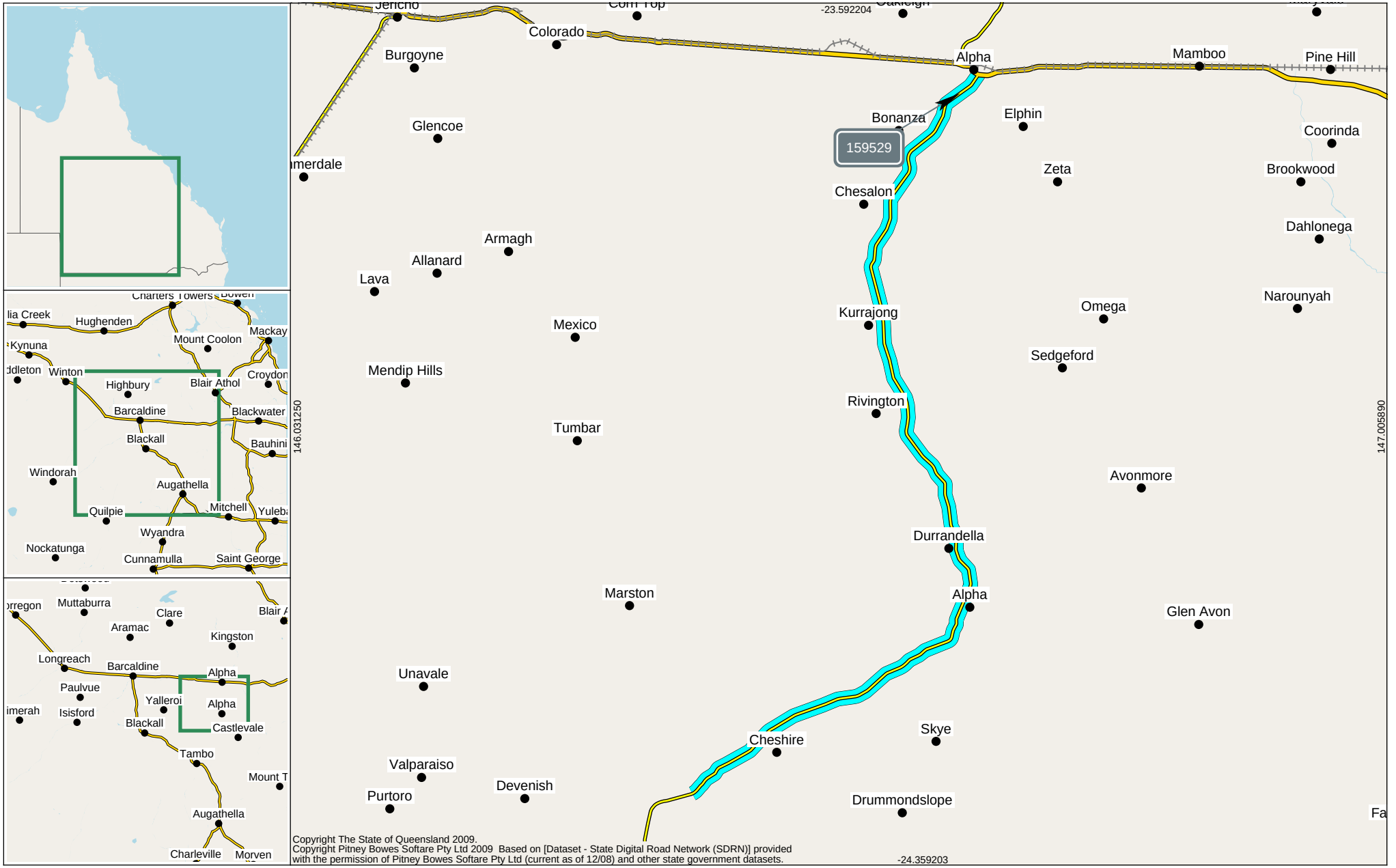
Road Segments Summary - All Vehicles

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	90.313 km	159529	2.500 km	2.5 km South of Alpha	36	37	73	1.18671	1.21968	2.40639	2017	2
401	90.313 km	120.915 km	70061	120.270 km	650m north intersect. with springsure Rd	20	20	40	0.22339	0.22339	0.44679	2017	3
								Totals	1.41011	1.44307	2.85318		

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	90.313 km	159529	2.500 km	2.5 km South of Alpha	8	22.22%	12	32.43%	20	27.40%	0.26371	0.39557	0.65928	2017	2
401	90.313 km	120.915 km	70061	120.270 km	650m north intersect. with springsure Rd	11	55.00%	11	55.00%	22	55.00%	0.12287	0.12287	0.24573	2017	3
											Totals	0.38658	0.51844	0.90502		



Site 159529. Point 350001091. 2.5km South of Alpha.

2.50 km

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

0.00 km

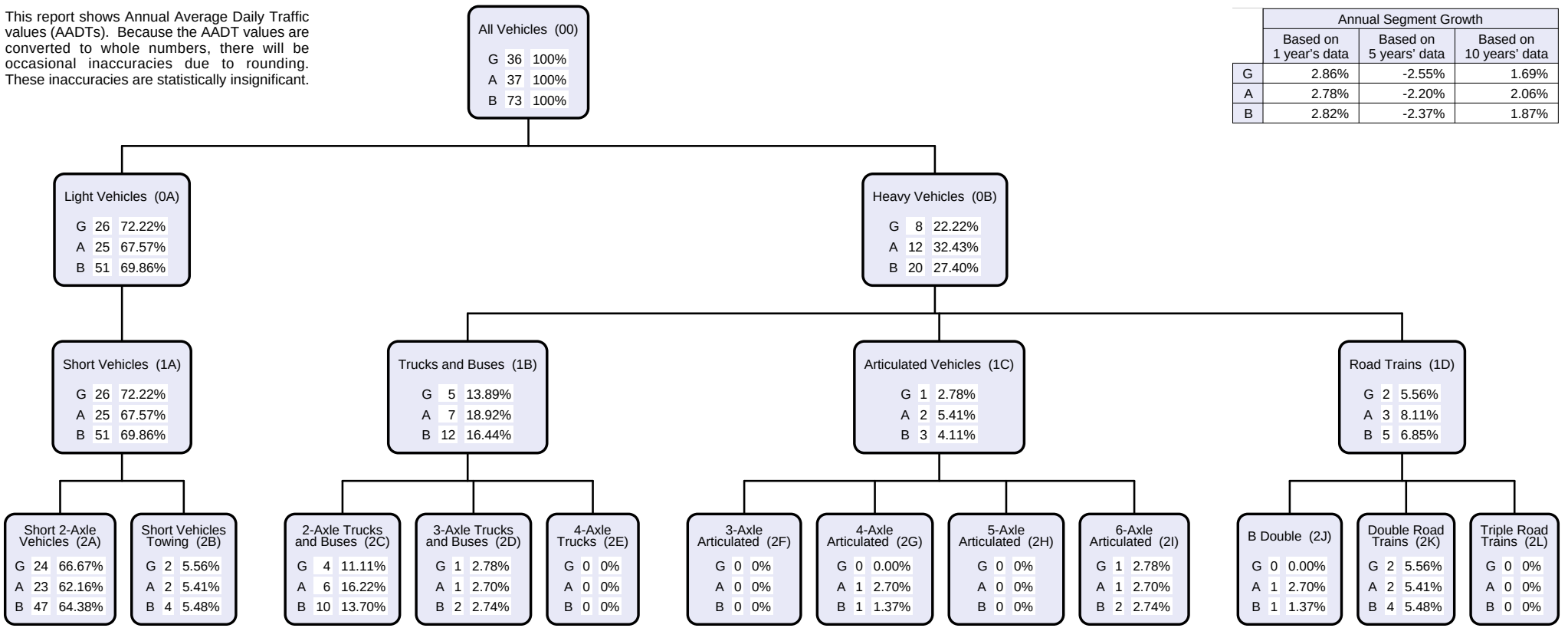
Start Point 350000233. Int. Alpha - Tambo Rd & Capricorn Hway.

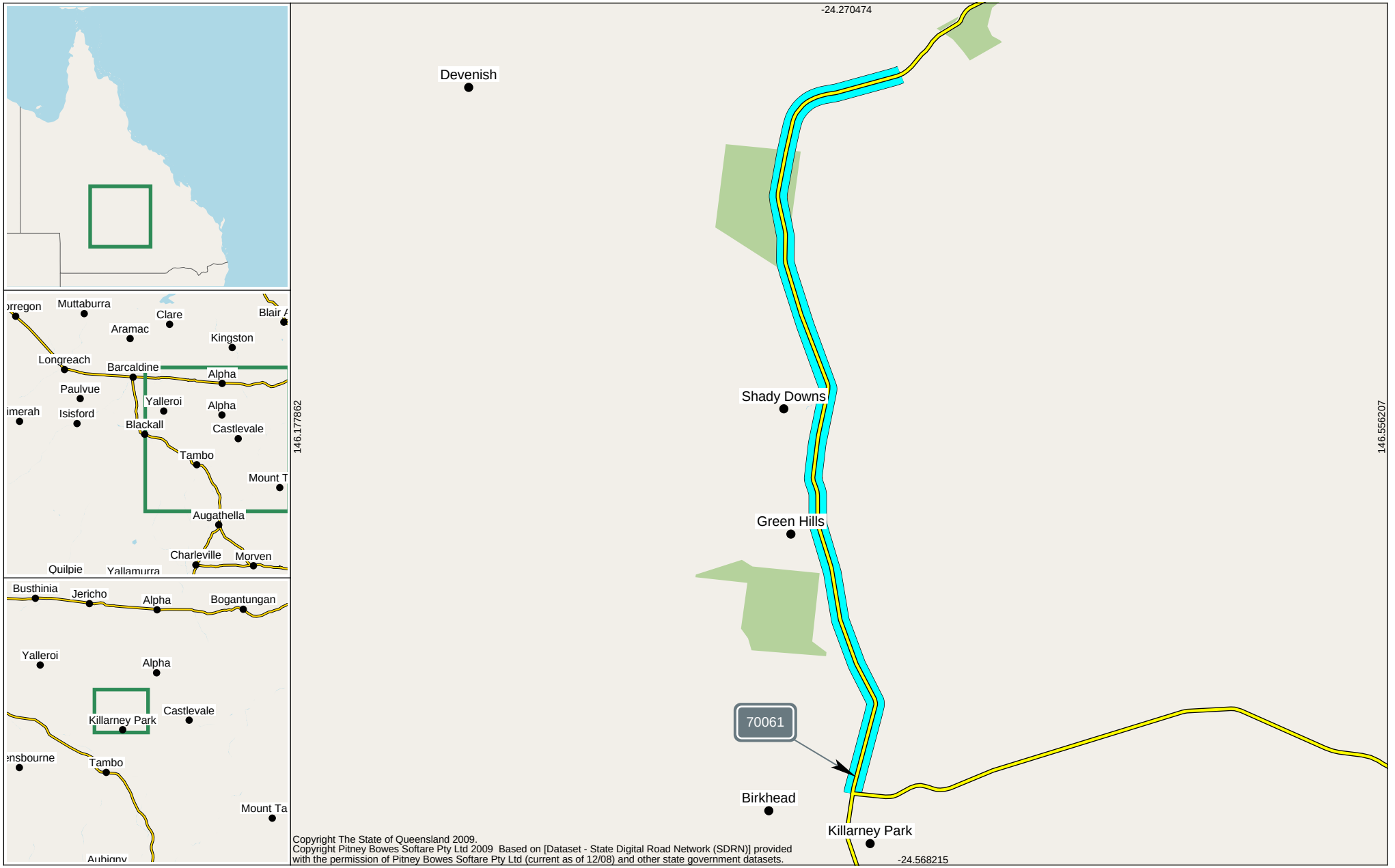
90.31 km

End Point 350000234. Barcaldine / Blackall Tambo Regional Council 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.

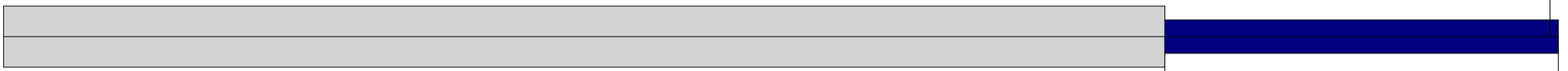
	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	2.86%	-2.55%	1.69%
A	2.78%	-2.20%	2.06%
B	2.82%	-2.37%	1.87%





Site 70061. Point 270000067. 650m north intersect. with springsure Rd (Site ID 70061).
120.27 km

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



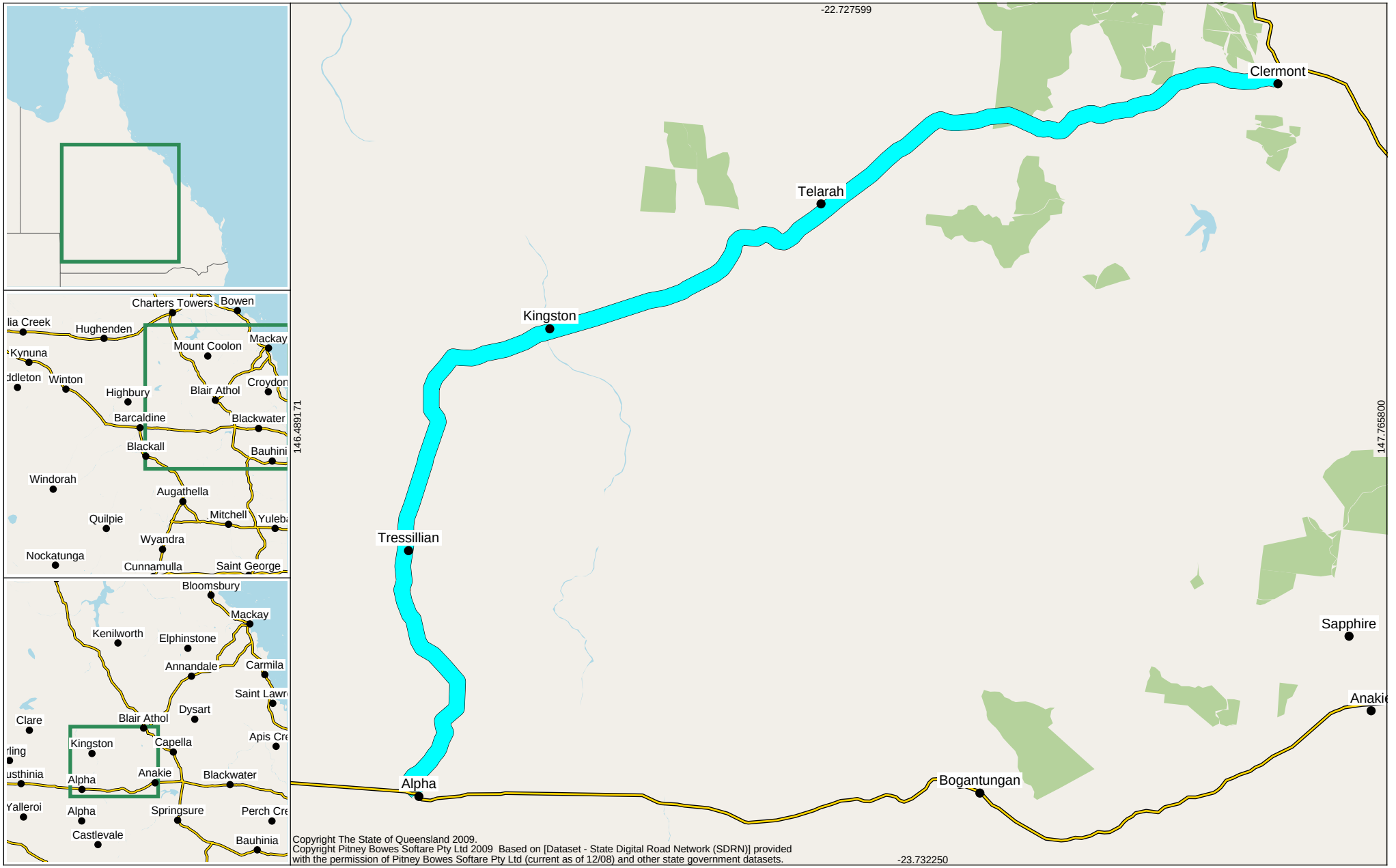
90.31 km
Start Point 270000068. Barcaldine & Blackall_Tambo Council Boundary.

120.92 km
End Point 270000069. 443 & 87A 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.

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	5.26%	-1.93%	0.71%
A	0.00%	-1.61%	0.83%
B	2.56%	-1.78%	0.76%

- All Vehicles (00): G 20 100%, A 20 100%, B 40 100%
  - Light Vehicles (0A): G 10 50%, A 10 50%, B 20 50%
    - Short Vehicles (1A): G 10 50%, A 10 50%, B 20 50%
      - Short 2-Axle Vehicles (2A): G 9 45%, A 9 45%, B 18 45%
      - Short Vehicles Towing (2B): G 1 5%, A 1 5%, B 2 5%
  - Heavy Vehicles (0B): G 11 55%, A 11 55%, B 22 55%
    - Trucks and Buses (1B): G 7 35.00%, A 6 30.00%, B 13 32.50%
      - 2-Axle Trucks and Buses (2C): G 6 30.00%, A 5 25.00%, B 11 27.50%
      - 3-Axle Trucks and Buses (2D): G 1 5%, A 1 5%, B 2 5%
      - 4-Axle Trucks (2E): G 0 0%, A 0 0%, B 0 0%
    - Articulated Vehicles (1C): G 2 10%, A 2 10%, B 4 10%
      - 3-Axle Articulated (2F): G 0 0%, A 0 0%, B 0 0%
      - 4-Axle Articulated (2G): G 1 5%, A 1 5%, B 2 5%
      - 5-Axle Articulated (2H): G 0 0%, A 0 0%, B 0 0%
      - 6-Axle Articulated (2I): G 1 5%, A 1 5%, B 2 5%
    - Road Trains (1D): G 2 10.00%, A 3 15.00%, B 5 12.50%
      - B Double (2J): G 1 5%, A 1 5%, B 2 5%
      - Double Road Trains (2K): G 1 5%, A 1 5%, B 2 5%
      - Triple Road Trains (2L): G 0 0.00%, A 1 5.00%, B 1 2.50%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Kingston
Tressillian
Alpha
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Anakie
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Charters Towers
Bowen
Hughenden
Mount Coolon
Mackay
Winton
Highbury
Blair Athol
Croydon
Barcaldine
Blackwater
Blackall
Bauhinia
Windorah
Augathella
Quilpie
Mitchell
Wyandra
Nockatunga
Cunnamulla
Saint George
Bloomsbury
Kenilworth
Elphinstone
Annandale
Carmila
Dysart
Clare
Capella
Kingston
Anakie
Springsure
Castlevale
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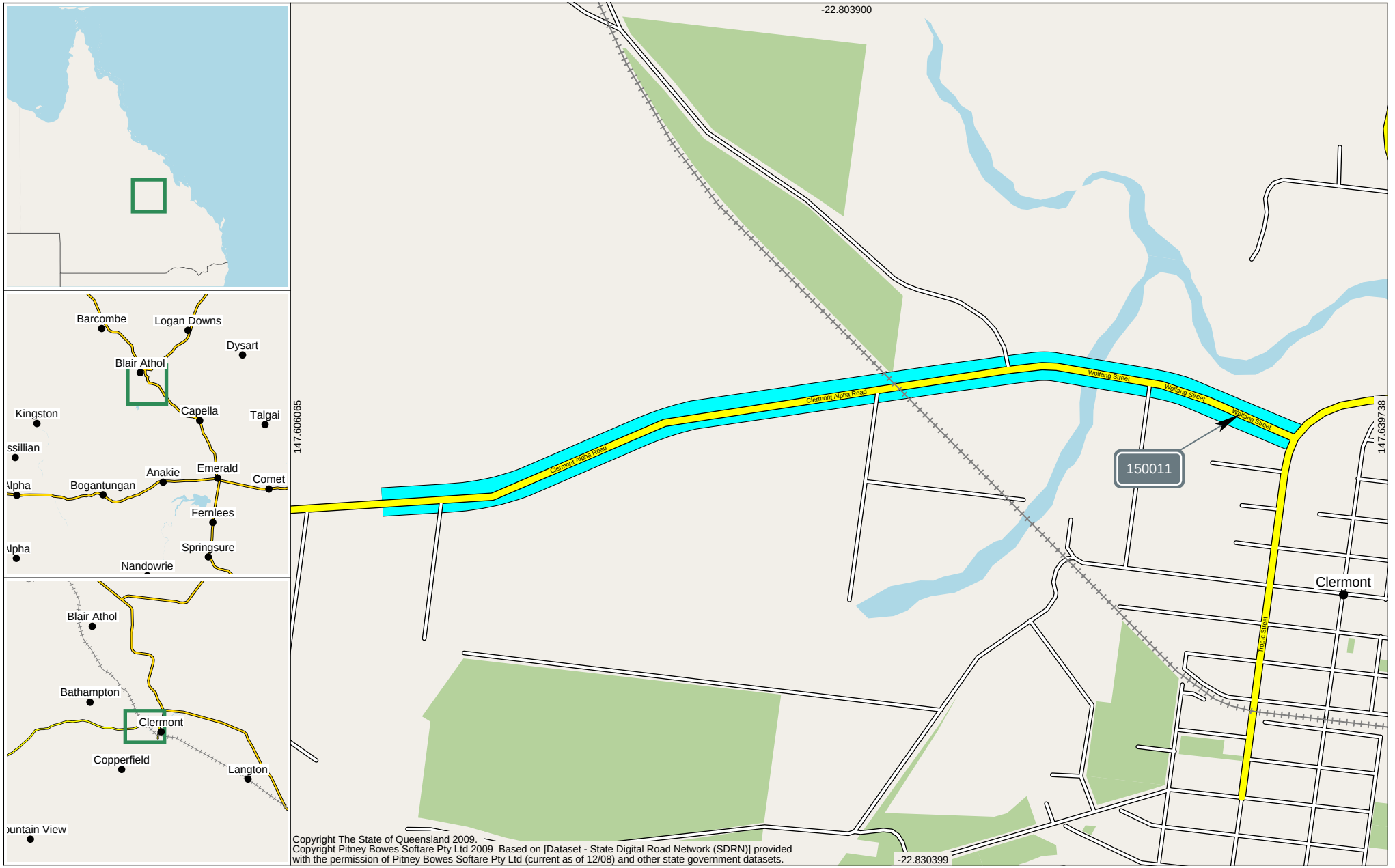
Road Segments Summary - All Vehicles

Region	Segment Start Tdist	Segment End Tdist	Site	Site Tdist	Description	AADT			VKT (Millions)			Data Year	Page
						G	A	B	G	A	B		
405	0.000 km	3.000 km	150011	0.195 km	Clermont-Alpha Rd 350m W Cler Connect Rd	265	267	532	0.29018	0.29236	0.58254	2016	2
405	3.000 km	44.400 km	159563	4.620 km	Clermont Alpha Rd 4km from Clermont	66	65	131	0.99733	0.98221	1.97954	2016	3
405	44.400 km	148.600 km	159647	66.740 km	100m W of Mistake Ck State School	18	16	34	0.68459	0.60853	1.29312	2016	4
401	148.600 km	178.540 km	159564	173.850 km	Clermont Alpha Rd 5 km Nth of Alpha	33	34	67	0.36063	0.37156	0.73218	2017	5
								Totals	2.33272	2.25466	4.58739		

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		
405	0.000 km	3.000 km	150011	0.195 km	Clermont-Alpha Rd 350m W Cler Connect Rd	47	17.74%	40	14.98%	87	16.35%	0.05146	0.04380	0.09527	2016	2
405	3.000 km	44.400 km	159563	4.620 km	Clermont Alpha Rd 4km from Clermont	14	21.21%	17	26.15%	31	23.66%	0.21155	0.25689	0.46844	2016	3
405	44.400 km	148.600 km	159647	66.740 km	100m W of Mistake Ck State School	4	22.22%	2	12.50%	6	17.65%	0.15213	0.07607	0.22820	2016	4
401	148.600 km	178.540 km	159564	173.850 km	Clermont Alpha Rd 5 km Nth of Alpha	11	33.33%	5	14.71%	16	23.88%	0.12021	0.05464	0.17485	2017	5
											Totals	0.53536	0.43139	0.96675		



Site 150011. Point 350000027. West of Clermont Connection Road.

0.20 km

0.00 km
Start Point 350000028. Clermont-Alpha Rd @ Clermont Connection.

3.00 km
End Point 350000029.

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%	3.02%	2.24%
A	0.00%	2.31%	2.06%
B	0.00%	2.66%	2.15%

All Vehicles (00)

G	265	100%
A	267	100%
B	532	100%

Light Vehicles (0A)

G	220	83.02%
A	227	85.02%
B	447	84.02%

Heavy Vehicles (0B)

G	47	17.74%
A	40	14.98%
B	87	16.35%

Short Vehicles (1A)

G	220	83.02%
A	227	85.02%
B	447	84.02%

Trucks and Buses (1B)

G	37	13.96%
A	32	11.99%
B	69	12.97%

Articulated Vehicles (1C)

G	4	1.51%
A	4	1.50%
B	8	1.50%

Road Trains (1D)

G	6	2.26%
A	4	1.50%
B	10	1.88%

Short 2-Axle Vehicles (2A)

G	209	78.87%
A	216	80.90%
B	425	79.89%

Short Vehicles Towing (2B)

G	11	4.15%
A	11	4.12%
B	22	4.14%

2-Axle Trucks and Buses (2C)

G	33	12.45%
A	28	10.49%
B	61	11.47%

3-Axle Trucks and Buses (2D)

G	3	1.13%
A	3	1.12%
B	6	1.13%

4-Axle Trucks (2E)

G	1	0.38%
A	1	0.37%
B	2	0.38%

3-Axle Articulated (2F)

G	1	0.38%
A	1	0.37%
B	2	0.38%

4-Axle Articulated (2G)

G	1	0.38%
A	1	0.37%
B	2	0.38%

5-Axle Articulated (2H)

G	1	0.38%
A	1	0.37%
B	2	0.38%

6-Axle Articulated (2I)

G	1	0.38%
A	1	0.37%
B	2	0.38%

B Double (2J)

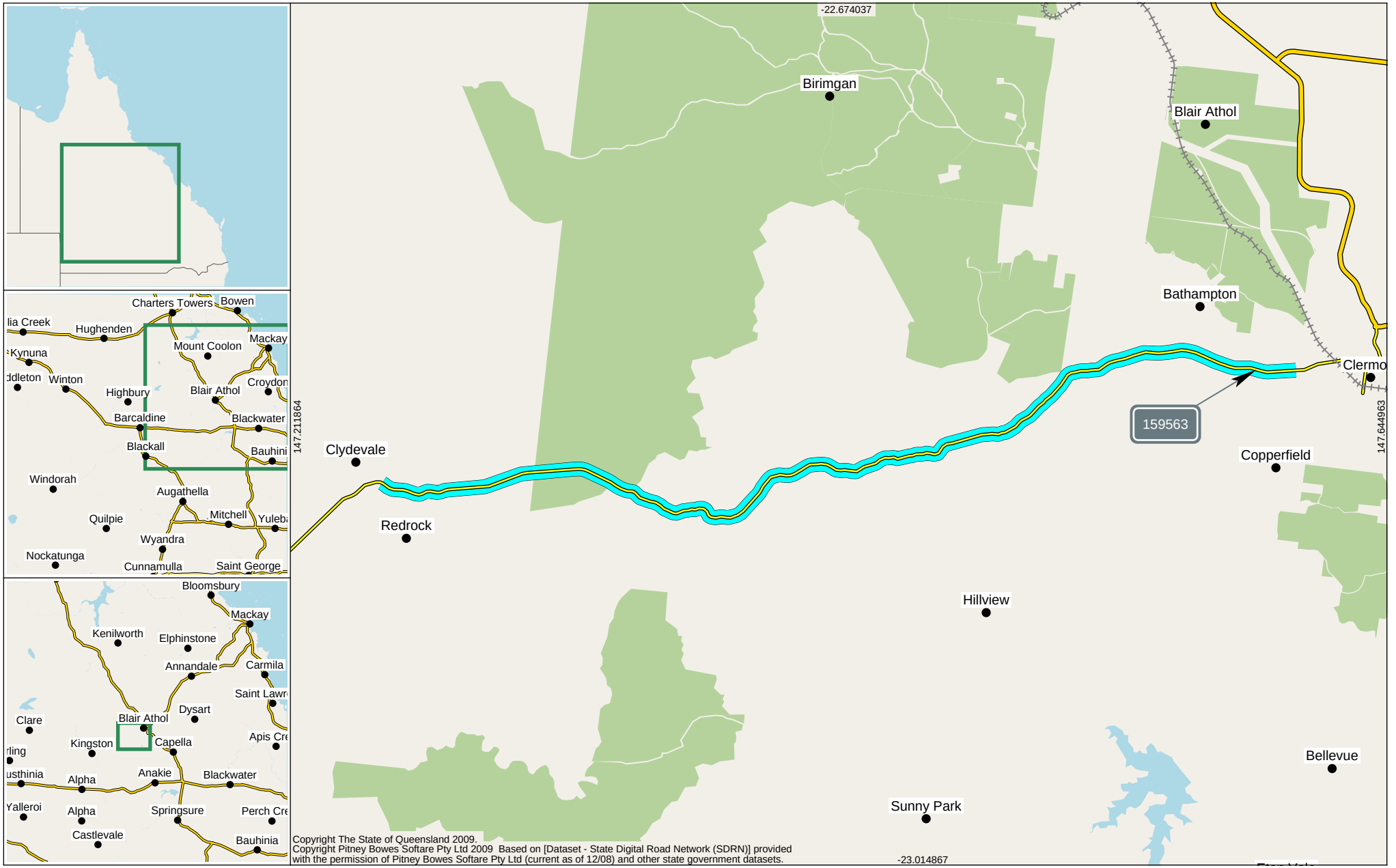
G	2	0.75%
A	2	0.75%
B	4	0.75%

Double Road Trains (2K)

G	3	1.13%
A	2	0.75%
B	5	0.94%

Triple Road Trains (2L)

G	1	0.38%
A	0	0.00%
B	1	0.19%



Site 159563. Point 350000296. 4.62 km from Clermont.

4.62 km

3.00 km
Start Point 350000029.

44.40 km
End Point 350000540. Int Clermont - Alpha Rd & Pioneer-Clydevale Rd.

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%	7.73%	4.67%
A	0.00%	7.96%	4.26%
B	0.00%	7.84%	4.46%

All Vehicles (00)

G	66	100%
A	65	100%
B	131	100%

Light Vehicles (0A)

G	52	78.79%
A	48	73.85%
B	100	76.34%

Heavy Vehicles (0B)

G	14	21.21%
A	17	26.15%
B	31	23.66%

Short Vehicles (1A)

G	52	78.79%
A	48	73.85%
B	100	76.34%

Trucks and Buses (1B)

G	9	13.64%
A	13	20.00%
B	22	16.79%

Articulated Vehicles (1C)

G	1	1.52%
A	1	1.54%
B	2	1.53%

Road Trains (1D)

G	4	6.06%
A	3	4.62%
B	7	5.34%

Short 2-Axle Vehicles (2A)

G	49	74.24%
A	46	70.77%
B	95	72.52%

Short Vehicles Towing (2B)

G	3	4.55%
A	2	3.08%
B	5	3.82%

2-Axle Trucks and Buses (2C)

G	8	12.12%
A	12	18.46%
B	20	15.27%

3-Axle Trucks and Buses (2D)

G	1	1.52%
A	1	1.54%
B	2	1.53%

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	1.52%
A	1	1.54%
B	2	1.53%

B Double (2J)

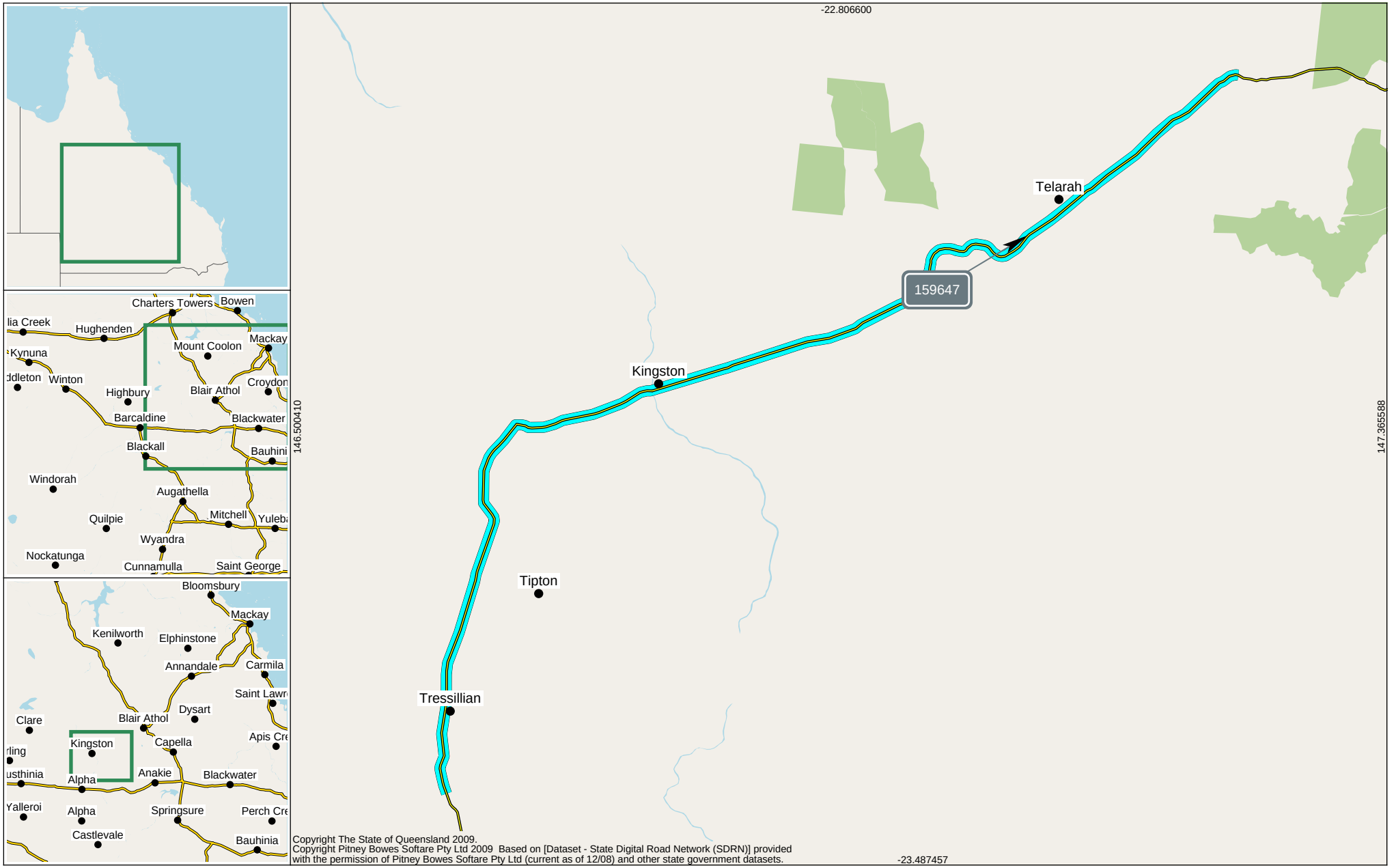
G	1	1.52%
A	1	1.54%
B	2	1.53%

Double Road Trains (2K)

G	2	3.03%
A	1	1.54%
B	3	2.29%

Triple Road Trains (2L)

G	1	1.52%
A	1	1.54%
B	2	1.53%



Site 159647. Point 350000541. 100m W of Mistake Ck State School.
66.74 km

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

44.40 km
Start Point 350000540. Int Clermont - Alpha Rd & Pioneer-Clydevale Rd.

148.60 km
End Point 350000211. Int. Clermont Alpha Rd & Hobartville 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.

	Annual Segment Growth		
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	0.00%	5.07%	-0.39%
A	0.00%	1.35%	-3.36%
B	0.00%	3.20%	-1.94%

All Vehicles (00)
G 18 100%
A 16 100%
B 34 100%

Light Vehicles (0A)
G 14 77.78%
A 13 81.25%
B 27 79.41%

Heavy Vehicles (0B)
G 4 22.22%
A 2 12.50%
B 6 17.65%

Short Vehicles (1A)
G 14 77.78%
A 13 81.25%
B 27 79.41%

Trucks and Buses (1B)
G 3 16.67%
A 2 12.50%
B 5 14.71%

Articulated Vehicles (1C)
G 0 0%
A 0 0%
B 0 0%

Road Trains (1D)
G 1 5.56%
A 0 0.00%
B 1 2.94%

Short 2-Axle Vehicles (2A)
G 13 72.22%
A 12 75.00%
B 25 73.53%

Short Vehicles Towing (2B)
G 1 5.56%
A 1 6.25%
B 2 5.88%

2-Axle Trucks and Buses (2C)
G 3 16.67%
A 2 12.50%
B 5 14.71%

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%

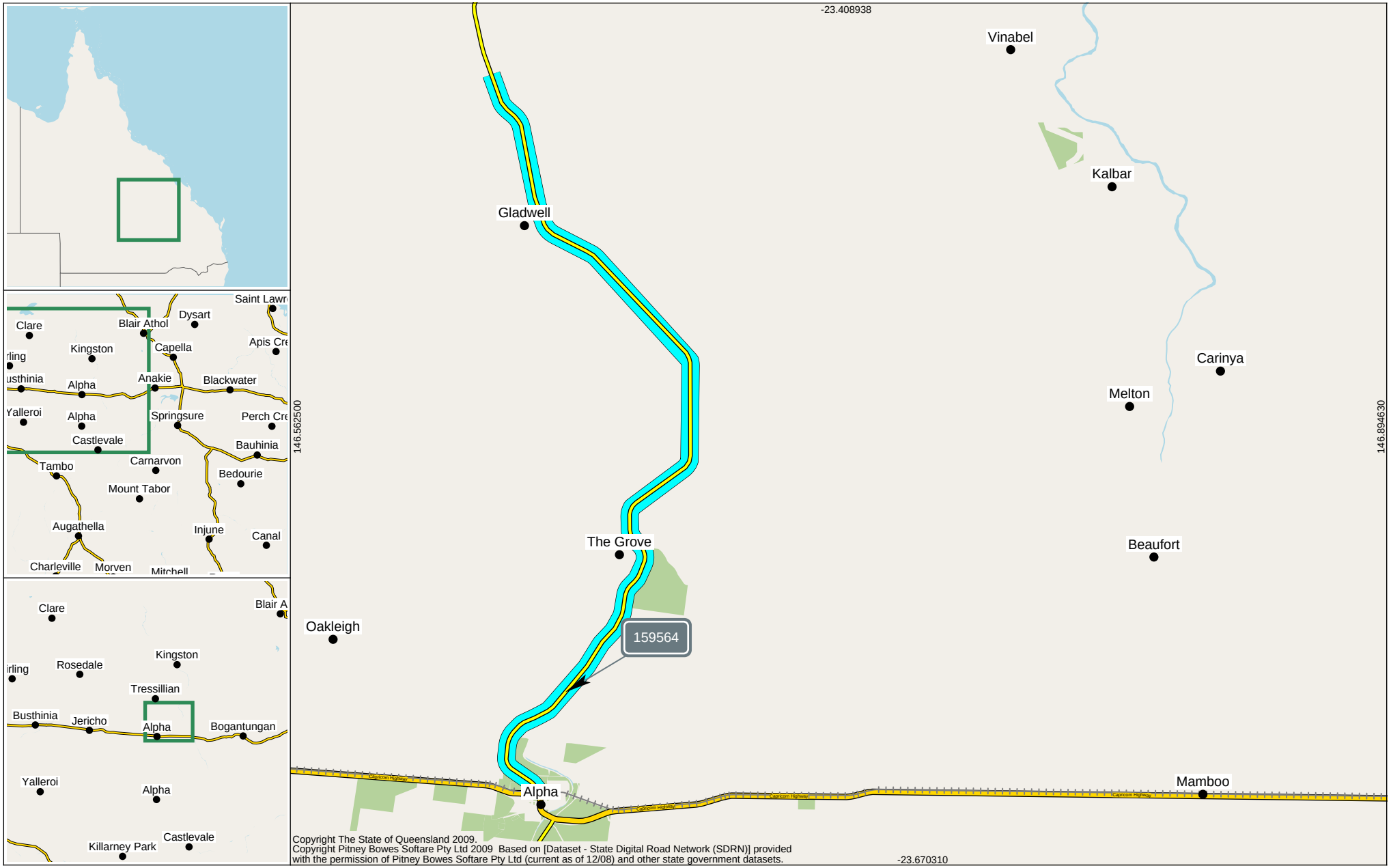
5-Axle Articulated (2H)
G 0 0%
A 0 0%
B 0 0%

6-Axle Articulated (2I)
G 0 0%
A 0 0%
B 0 0%

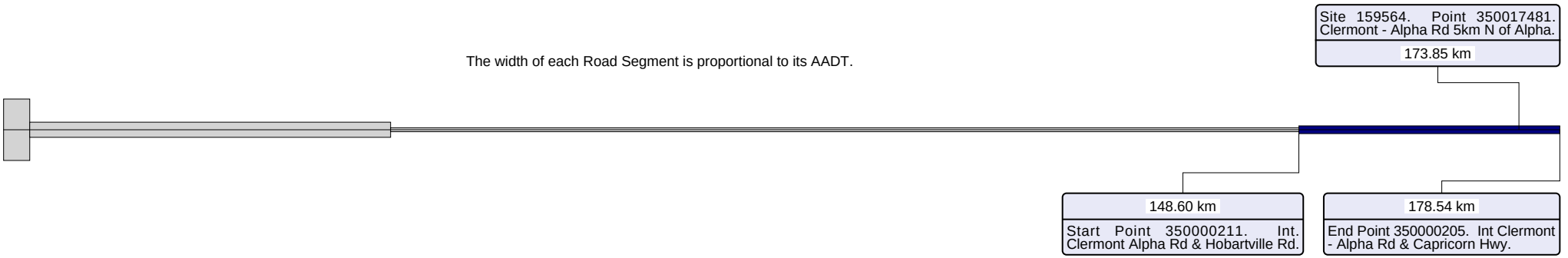
B Double (2J)
G 0 0%
A 0 0%
B 0 0%

Double Road Trains (2K)
G 1 5.56%
A 0 0.00%
B 1 2.94%

Triple Road Trains (2L)
G 0 0%
A 0 0%
B 0 0%

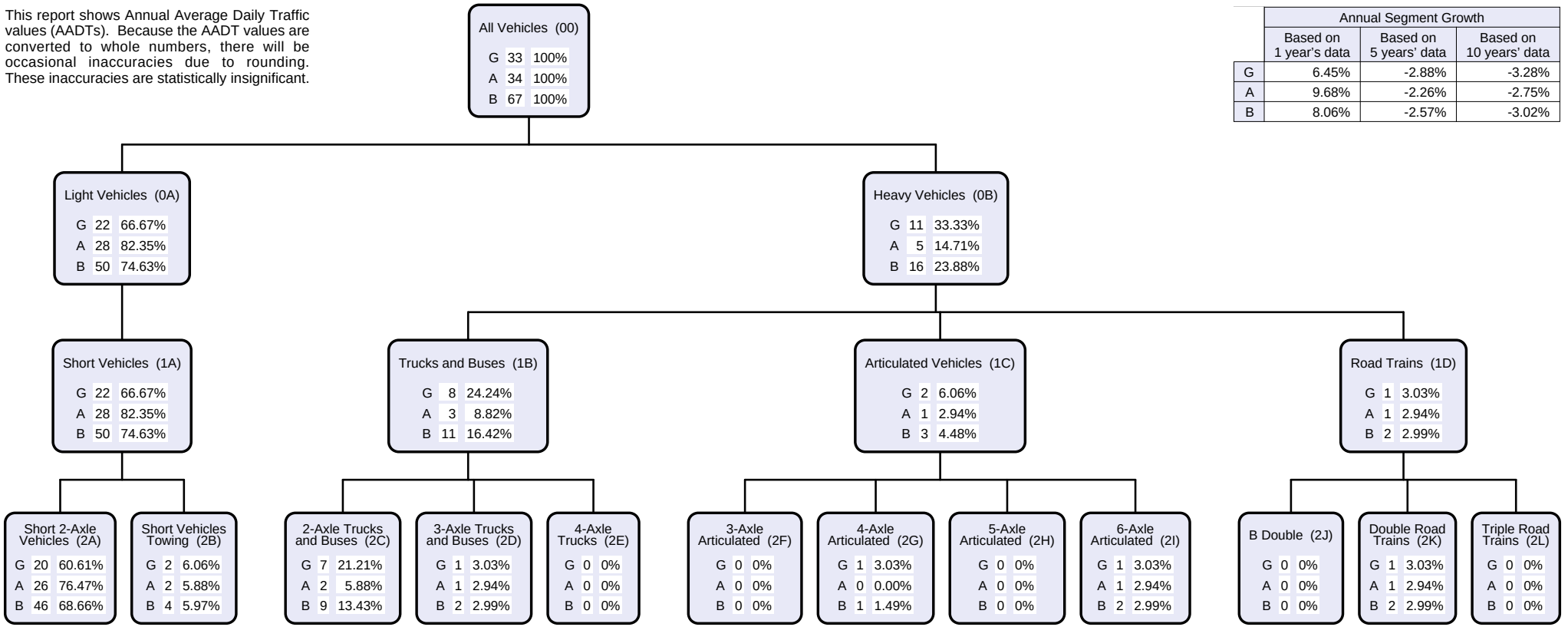


The width of each Road Segment is proportional to its AADT.



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	6.45%	-2.88%	-3.28%
A	9.68%	-2.26%	-2.75%
B	8.06%	-2.57%	-3.02%



Report Notes for AADT Segment Analysis Report (Complete)

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 it's Start Point and End Point (or Start and End Through Distance (TDist)) within the Road Section. These distances are measured in kilometres from the begining 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
Metropolitian 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.

C. PEAK HOUR TRAFFIC VOLUME DIAGRAMS

C

Galilee Power Project - Appendix C: Workforce Traffic Generation

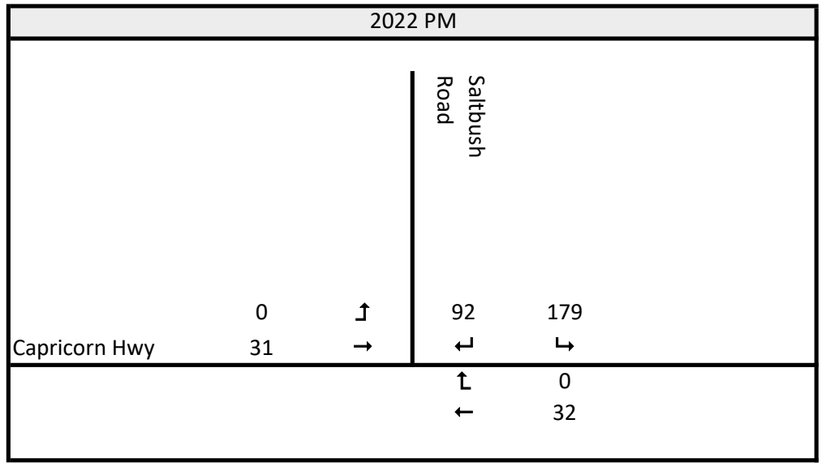
Location	2022				2023				2032				2042			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	To Site	From Site	To Site	From Site	To Site	From Site	To Site	From Site	To Site	From Site	To Site	From Site	To Site	From Site	To Site	From Site
Alpha	126	0	0	126	193	0	0	193	120	0	0	120	120	0	0	120
Jericho	92	0	0	92	53	0	0	53	0	0	0	0	0	0	0	0
Total	218	0	0	218	246	0	0	246	120	0	0	120	120	0	0	120

D. INTERSECTION TURN WARRANT ASSESSMENT

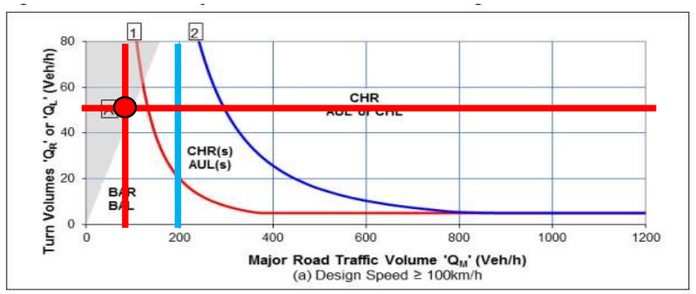
D

GTAconsultants

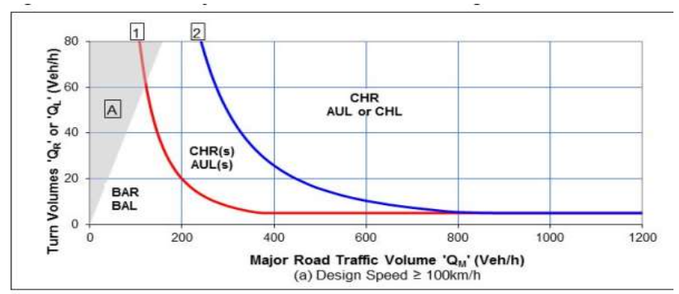
2022 PM



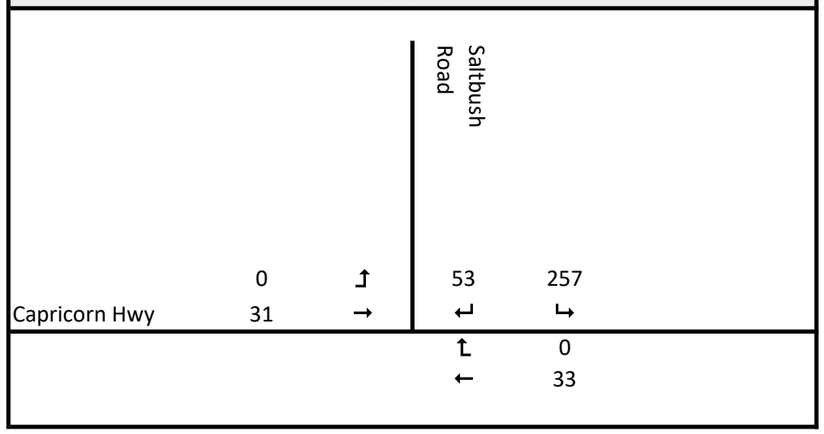
2022 AM	Left onto Saltbush Rd	Right onto Saltbush Rd
Ql/r	92	179
Qm	31	155
Turn Treatmen	BAL	CHR (s)



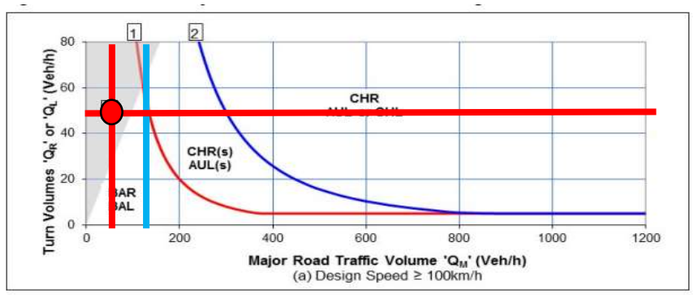
2022 PM	Left onto Saltbush Rd	Right onto Saltbush Rd
Ql/r	0	0
Qm	31	63
Turn Treatmen	N/A	N/A



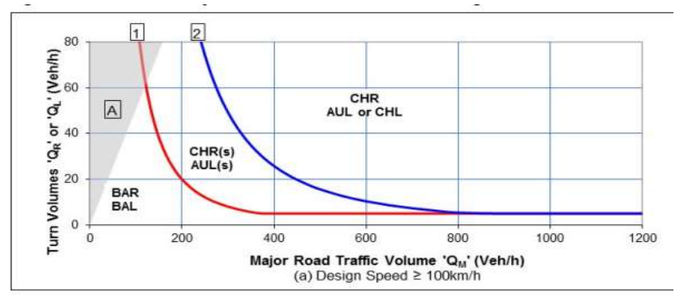
2023 PM



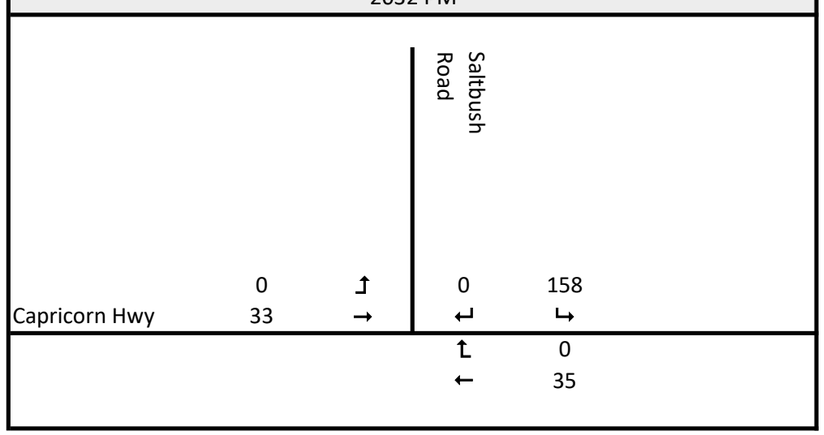
2023 AM	Left onto Saltbush Rd	Right onto Saltbush Rd
Ql/r	53	257
Qm	31	117
Turn Treatmen	BAL	CHR (s)



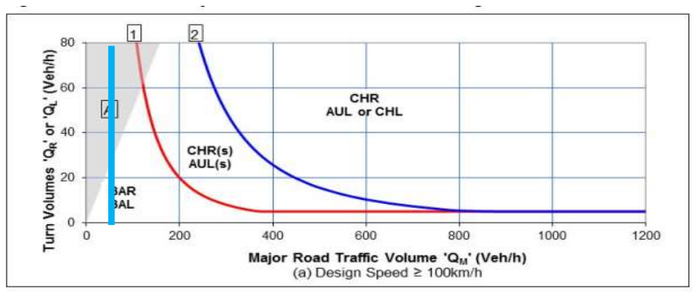
2023 PM	Left onto Saltbush Rd	Right onto Saltbush Rd
Ql/r	0	0
Qm	31	64
Turn Treatmen	N/A	N/A



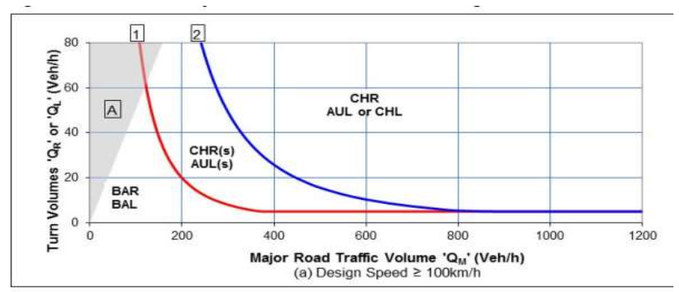
2032 PM



2032 AM	Left onto Saltbush Rd	Right onto Saltbush Rd
Ql/r	0	158
Qm	33	68
Turn Treatmen	N/A	BAR



2032 PM	Left onto Saltbush Rd	Right onto Saltbush Rd
Ql/r	0	0
Qm	33	68
Turn Treatmen	N/A	N/A



E. INTERSECTION CONCEPT DESIGN

LOCALITY PLAN
(SCALE 1:4000)

REFER CAPRICORN HIGHWAY WESTERN TIE-IN INSET

REFER SALTBUSH ROAD INTERFACE INSET

REFER CAPRICORN HIGHWAY EASTERN TIE-IN INSET

N

SALTBUSH ROAD INTERFACE
(SCALE 1:1000)

CENTRAL WESTERN SYSTEM RAIL LINE

CENTRAL WESTERN SYSTEM RAIL LINE

CAPRICORN HIGHWAY

SALTBUSH ROAD

6.5

1.5 8.0 1.5

PROPOSED RAIL LEVEL CROSSING TREATMENT (FLASHING LIGHTS)
REFER TO SHEET 3 FOR RAIL CROSSING ARRANGEMENTS

56.0m
TO ACCOMMODATE 1x TYPE II ROAD TRAIN

RURAL BASIC LEFT-TURN TREATMENT (BAL)
PER AUSTROADS PART 4A, SECTION 8.2.1

CHANNELISED T-JUNCTION - SHORT LANE TYPE (CHR(S))
PER AUSTROADS PART 4A, SECTION 7.5.2

PROPOSED NEW
LINE MARKING

PROPOSED NEW
EDGE OF ROAD

7.0
3.2
1.0

12.0

CAPRICORN HIGHWAY

1.0
3.2
3.2
1.0

115.0

150.0

35.0
TAPER

TOTAL LENGTH OF AUXILIARY LANE INCLUDING TAPER,
DIVERGE / DECELERATION AND STORAGE

CAPRICORN HIGH WAY
WESTERN TIE-IN
(SCALE 1:1000)

TIE BACK INTO EXISTING CARRIAGEWAY

1.0
3.2
3.2
1.0

CONTINUES FROM ABOVE

CAPRICORN HIGH WAY
EASTERN TIE-IN
(SCALE 1:1000)

TIE BACK INTO EXISTING CARRIAGEWAY

1.0
3.2
3.2
1.0

GTA consultants
www.gta.com.au

Melbourne	03 9851 9600
Sydney	02 8448 1800
Brisbane	07 3113 5000
Adelaide	08 8334 3600
Perth	08 6169 1000

PRELIMINARY PLAN
FOR DISCUSSION PURPOSES ONLY
SUBJECT TO CHANGE WITHOUT NOTIFICATION

WARNING
BEWARE OF UNDERGROUND SERVICES
THE LOCATIONS OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.

DESIGNED	H.TRUONG
DESIGN CHECK	A.TIERNEY
APPROVED BY	T.ROBERTSON
DATE ISSUED	29 JUNE 2020
SCALE	A3 0 5 10 20 1:1000
CAD FILE NO.	Q163320-SK04-P1.DWG

GALILEE POWER STATION PROJECT
CAPRICORN HIGHWAY / SALTBUSH ROAD INTERSECTION CONCEPT DESIGN - TYPE I ROAD TRAIN DESIGN VEHICLE (AERIAL IMAGE FROM QUEENSLAND GLOBE)

DRAWING NO. Q163320-SK04 SHEET 1 OF 3 ISSUE P1

P:\Q16300-16399\Q16320 GALILEE POWER PROJECT\CAD\Q163320-SK04-P1.DWG PLOTTED BY HENRY TRUONG ON 29/06/2020 AT 15:24

CENTRAL WESTERN SYSTEM RAIL LINE

SALTBUSH ROAD

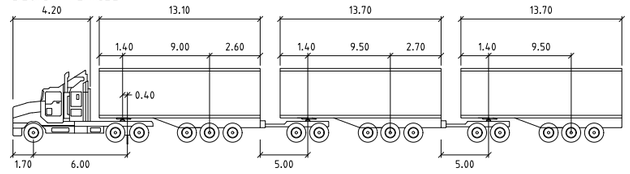
CAPRICORN HIGHWAY

SWEPT PATH KEY

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 500mm CLEARANCE FROM VEHICLE BODY

ASSUMED SPEED 10km/h

DESIGN VEHICLE



A-TRIPLE (TYPE II ROAD TRAIN)

	meters		
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		

N

CENTRAL WESTERN SYSTEM RAIL LINE

SALTBUSH ROAD

CAPRICORN HIGHWAY

GTAconsultants
www.gta.com.au

Melbourne	03 9851 9600
Sydney	02 8448 1800
Brisbane	07 3113 5000
Adelaide	08 8334 3600
Perth	08 6169 1000

PRELIMINARY PLAN
FOR DISCUSSION PURPOSES ONLY
SUBJECT TO CHANGE WITHOUT NOTIFICATION

WARNING
BEWARE OF UNDERGROUND SERVICES
THE LOCATIONS OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.

DESIGNED	H.TRUONG
DESIGN CHECK	A.TIERNEY
APPROVED BY	T.ROBERTSON
DATE ISSUED	29 JUNE 2020

SCALE A3 0 5 10 20 1:1000

CAD FILE NO. Q163320-SK04-P1.DWG

GALILEE POWER STATION PROJECT
CAPRICORN HIGHWAY / SALTBUSH ROAD INTERSECTION
SWEPT PATH ASSESSMENT

DRAWING NO. Q163320-SK04 SHEET 2 OF 3 ISSUE P1

NOTE: LIGHTING REQUIREMENTS FOR THE RAIL CROSSING TO BE DETERMINED BY SUITABLY QUALIFIED LIGHTING CONSULTANT

SALTBUSH ROAD

RAIL X

'RAIL X' PAVEMENT MARKING (INSTALLED PER AS1742.7 REQUIREMENTS)

YELLOW BOX MARKING (INSTALLED PER AS1742.7 REQUIREMENTS)

STOP LINE

KEEP TRACKS CLEAR

G7-67-2

3.5m MINIMUM CLEARANCE FROM RAIL LINE

3.0

3.5m MINIMUM CLEARANCE FROM RAIL LINE

3.0

R6-25

RAIL CROSSING

KEEP TRACKS CLEAR

G7-67-2

STOP LINE

STOP ON RED SIGNAL

R6-9

'RAIL X' PAVEMENT MARKING (INSTALLED PER AS1742.7 REQUIREMENTS)

X RAIL

W7-4

ON SIDE ROAD

W8-3(L)

W7-4

ON SIDE ROAD

W8-3(R)

50.0

50.0

CAPRICORN HIGHWAY

N

P:\Q16300-16399\Q163320 GALILEE POWER PROJECT\CAD\Q163320-SK04_2-P1.DWG PLOTTED BY HENRY TRUONG ON 29/06/2020 AT 15:24

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Melbourne	03 9851 9600
Sydney	02 8448 1800
Brisbane	07 3113 5000
Adelaide	08 8334 3600
Perth	08 6169 1000

PRELIMINARY PLAN
FOR DISCUSSION PURPOSES ONLY
SUBJECT TO CHANGE WITHOUT NOTIFICATION

WARNING
BEWARE OF UNDERGROUND SERVICES
THE LOCATIONS OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.

DESIGNED	H.TRUONG
DESIGN CHECK	A.TIERNEY
APPROVED BY	T.ROBERTSON
DATE ISSUED	29 JUNE 2020

SCALE A3 0 2.5 5 10 1:500

CAD FILE NO. Q163320-SK04_2-P1.DWG

GALILEE POWER STATION PROJECT
CAPRICORN HIGHWAY / SALTBUSH ROAD INTERSECTION RAIL CROSSING ON SIDE ROAD CONTROLLED BY FLASHING LIGHTS ARRANGEMENTS

DRAWING NO. Q163320-SK04 SHEET 3 OF 3 ISSUE P1

F. PAVEMENT IMPACT ASSESSMENT

F

PAVEMENT IMPACT ASSESSMENT - BASE SCENARIO

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					SAR4																								
Road Name	ID	DIRECTION	TdistStart	TdistEnd	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
GLADSTONE - MT LARCOM ROAD	181	G	0	1.409	0%	0%	0%	6%	6%	6%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
GLADSTONE - MT LARCOM ROAD	181	A	0	1.409	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GLADSTONE - MT LARCOM ROAD	181	G	1.409	2.277	0%	0%	0%	6%	6%	6%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
GLADSTONE - MT LARCOM ROAD	181	A	1.409	2.277	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GLADSTONE - MT LARCOM ROAD	181	G	2.277	3.2	0%	0%	0%	6%	6%	6%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
GLADSTONE - MT LARCOM ROAD	181	A	2.277	3.2	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GLADSTONE - MT LARCOM ROAD	181	A	3.2	3.258	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GLADSTONE - MT LARCOM ROAD	181	G	3.2	3.258	0%	0%	0%	6%	6%	6%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
GLADSTONE - MT LARCOM ROAD	181	G	3.258	3.37	0%	0%	0%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
GLADSTONE - MT LARCOM ROAD	181	A	3.258	3.37	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GLADSTONE - MT LARCOM ROAD	181	A	3.37	3.756	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GLADSTONE - MT LARCOM ROAD	181	G	3.37	3.756	0%	0%	0%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
GLADSTONE - MT LARCOM ROAD	181	A	3.756	3.892	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GLADSTONE - MT LARCOM ROAD	181	G	3.756	3.892	0%	0%	0%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
GLADSTONE - MT LARCOM ROAD	181	G	3.892	4.625	0%	0%	0%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
GLADSTONE - MT LARCOM ROAD	181	A	3.892	4.625	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GLADSTONE - MT LARCOM ROAD	181	A	4.625	7.063	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GLADSTONE - MT LARCOM ROAD	181	G	4.625	7.063	0%	0%	0%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%
GLADSTONE - MT LARCOM ROAD	181	A	7.063	9.325	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GLADSTONE - MT LARCOM ROAD	181	G	7.063	9.325	0%	0%	0%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%
GLADSTONE - MT LARCOM ROAD	181	G	9.325	12.292	0%	0%	0%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%
GLADSTONE - MT LARCOM ROAD	181	A	9.325	12.292	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GLADSTONE - MT LARCOM ROAD	181	G	12.292	32.14	0%	0%	0%	9%	9%	9%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
GLADSTONE - MT LARCOM ROAD	181	A	12.292	32.14	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	G	0	11.445	0%	0%	0%	5%	5%	5%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	A	0	11.445	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	G	11.445	45.42	0%	0%	0%	4%	4%	4%	4%	4%	4%	4%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	A	11.445	45.42	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	A	45.42	85.308	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	G	45.42	85.308	0%	0%	0%	5%	5%	5%	5%	5%	5%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	A	45.42	85.308	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	G	45.42	85.308	0%	0%	0%	5%	5%	5%	5%	5%	5%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	G	85.308	108.938	0%	0%	0%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	A	85.308	108.938	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	A	108.938	114.088	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	G	108.938	114.088	0%	0%	0%	4%	4%	4%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	G	114.088	114.388	0%	0%	0%	4%	4%	4%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	A	114.088	114.388	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	A	114.388	116.961	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	G	114.388	116.961	0%	0%	0%	4%	4%	4%	4%	4%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	A	116.961	119.737	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	G	116.961	119.737	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	G	119.737	121.051	0%	0%	0%	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	A	119.737	121.051	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	G	0	0.738	0%	0%	0%	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	A	0	0.738	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	A	0.738	5.495	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	G	0.738	5.495	0%	0%	0%	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	G	5.495	5.69	0%	0%	0%	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	A	5.495	5.69	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	A	5.69	5.97	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	G	5.69	5.97	0%	0%	0%	4%	4%	4%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	G	5.97	9.39	0%	0%	0%	4%	4%	4%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	A	5.97	9.39	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	A	9.39	10	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	G	9.39	10	0%	0%	0%	4%	4%	4%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	G	10	13.367	0%	0%	0%	4%	4%	4%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	A	10	13.367	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	A	13.367	17.856	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	G	13.367	17.856	0%	0%	0%	5%	5%	5%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	G	17.856	51.62	0%	0%	0%	6%	6%	6%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	A	17.856	51.62	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	G	51.62	73.35	0%	0%	0%	6%	6%	6%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%

CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	A	51.62	73.35	0%	0%	0%	1%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	A	73.35	106.38	0%	0%	0%	1%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	G	73.35	106.38	0%	0%	0%	6%	6%	6%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	A	0	36.04	0%	0%	0%	1%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	G	0	36.04	0%	0%	0%	7%	7%	7%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	A	36.04	82.671	0%	0%	0%	1%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	G	36.04	82.671	0%	0%	0%	8%	8%	8%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	G	82.671	86.15	0%	0%	0%	6%	6%	6%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	A	82.671	86.15	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	G	86.15	90.56	0%	0%	0%	9%	9%	9%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	A	86.15	90.56	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	A	90.56	127.95	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	G	90.56	127.95	0%	0%	0%	9%	9%	9%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	A	127.95	157.46	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	G	127.95	157.46	0%	0%	0%	11%	11%	11%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	A	157.46	157.56	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	G	157.46	157.56	0%	0%	0%	11%	11%	11%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	G	157.56	157.78	0%	0%	0%	3%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	A	157.56	157.78	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	A	157.78	158.64	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	G	157.78	158.64	0%	0%	0%	3%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	A	158.64	158.95	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	G	158.64	158.95	0%	0%	0%	3%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	A	158.95	159.55	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	G	158.95	159.55	0%	0%	0%	2%	2%	2%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
CAPRICORN HIGHWAY (EMERALD - ALPHA)	16C	A	0	1.08	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (EMERALD - ALPHA)	16C	G	0	1.08	0%	0%	0%	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%	1%
CAPRICORN HIGHWAY (EMERALD - ALPHA)	16C	G	1.08	2.17	0%	0%	0%	8%	8%	8%	6%	6%	6%	6%	6%	5%	5%	5%	5%	5%	5%	5%	5%	5%	4%	4%	4%	4%	4%
CAPRICORN HIGHWAY (EMERALD - ALPHA)	16C	A	1.08	2.17	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
CAPRICORN HIGHWAY (EMERALD - ALPHA)	16C	G	2.17	43.3	0%	0%	0%	17%	17%	17%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
CAPRICORN HIGHWAY (EMERALD - ALPHA)	16C	A	2.17	43.3	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
CAPRICORN HIGHWAY (EMERALD - ALPHA)	16C	G	43.3	70.531	0%	0%	0%	28%	28%	28%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%
CAPRICORN HIGHWAY (EMERALD - ALPHA)	16C	A	43.3	70.531	0%	0%	0%	2%	2%	2%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
CAPRICORN HIGHWAY (EMERALD - ALPHA)	16C	A	70.531	107.95	0%	0%	0%	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
CAPRICORN HIGHWAY (EMERALD - ALPHA)	16C	G	70.531	107.95	0%	0%	0%	25%	25%	25%	19%	19%	19%	19%	19%	19%	18%	18%	18%	18%	18%	18%	18%	18%	17%	17%	17%	17%	17%
CAPRICORN HIGHWAY (EMERALD - ALPHA)	16C	G	107.95	167.94	0%	0%	0%	24%	24%	24%	19%	19%	19%	19%	19%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%
CAPRICORN HIGHWAY (EMERALD - ALPHA)	16C	A	107.95	167.94	0%	0%	0%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
CAPRICORN HIGHWAY (ALPHA - BARCALDINE)	16D	A	0	54.27	0%	0%	0%	8%	8%	7%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
CAPRICORN HIGHWAY (ALPHA - BARCALDINE)	16D	G	0	54.27	0%	0%	0%	47%	47%	47%	28%	27%	27%	27%	27%	27%	27%	27%	26%	26%	26%	26%	26%	26%	26%	25%	25%	25%	25%
CAPRICORN HIGHWAY (ALPHA - BARCALDINE)	16D	G	54.27	80.65	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (ALPHA - BARCALDINE)	16D	A	54.27	80.65	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (ALPHA - BARCALDINE)	16D	A	80.65	139.7	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (ALPHA - BARCALDINE)	16D	G	80.65	139.7	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (ALPHA - BARCALDINE)	16D	G	139.7	140.49	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (ALPHA - BARCALDINE)	16D	A	139.7	140.49	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

PAVEMENT IMPACT ASSESSMENT - FGD OPTION 1

					SAR4																							
Road Name	ID	DIRECTION	TdistStart	TdistEnd	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
GLADSTONE - MT LARCOM ROAD	181	G	0	1.409	0%	0%	0%	6%	6%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
GLADSTONE - MT LARCOM ROAD	181	A	0	1.409	0%	0%	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
GLADSTONE - MT LARCOM ROAD	181	G	1.409	2.277	0%	0%	0%	6%	6%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
GLADSTONE - MT LARCOM ROAD	181	A	1.409	2.277	0%	0%	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
GLADSTONE - MT LARCOM ROAD	181	G	2.277	3.2	0%	0%	0%	6%	6%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
GLADSTONE - MT LARCOM ROAD	181	A	2.277	3.2	0%	0%	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
GLADSTONE - MT LARCOM ROAD	181	A	3.2	3.258	0%	0%	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
GLADSTONE - MT LARCOM ROAD	181	G	3.2	3.258	0%	0%	0%	6%	6%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
GLADSTONE - MT LARCOM ROAD	181	G	3.258	3.37	0%	0%	0%	5%	5%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
GLADSTONE - MT LARCOM ROAD	181	A	3.258	3.37	0%	0%	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
GLADSTONE - MT LARCOM ROAD	181	A	3.37	3.756	0%	0%	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
GLADSTONE - MT LARCOM ROAD	181	G	3.37	3.756	0%	0%	0%	5%	5%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
GLADSTONE - MT LARCOM ROAD	181	A	3.756	3.892	0%	0%	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
GLADSTONE - MT LARCOM ROAD	181	G	3.756	3.892	0%	0%	0%	5%	5%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
GLADSTONE - MT LARCOM ROAD	181	G	3.892	4.625	0%	0%	0%	5%	5%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
GLADSTONE - MT LARCOM ROAD	181	A	3.892	4.625	0%	0%	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
GLADSTONE - MT LARCOM ROAD	181	A	4.625	7.063	0%	0%	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
GLADSTONE - MT LARCOM ROAD	181	G	4.625	7.063	0%	0%	0%	6%	6%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%
GLADSTONE - MT LARCOM ROAD	181	A	7.063	9.325	0%	0%	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
GLADSTONE - MT LARCOM ROAD	181	G	7.063	9.325	0%	0%	0%	6%	6%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%
GLADSTONE - MT LARCOM ROAD	181	G	9.325	12.292	0%	0%	0%	6%	6%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%
GLADSTONE - MT LARCOM ROAD	181	A	9.325	12.292	0%	0%	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
GLADSTONE - MT LARCOM ROAD	181	G	12.292	32.14	0%	0%	0%	9%	9%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%
GLADSTONE - MT LARCOM ROAD	181	A	12.292	32.14	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	G	0	11.445	0%	0%	0%	5%	5%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	A	0	11.445	0%	0%	0%	0%	0%	0%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	G	11.445	45.42	0%	0%	0%	4%	4%	6%	6%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	4%	4%	4%	4%	4%	4%	4%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	A	11.445	45.42	0%	0%	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	0%	0%	0%	0%	0%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	A	45.42	85.308	0%	0%	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	G	45.42	85.308	0%	0%	0%	5%	5%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	6%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	G	85.308	108.938	0%	0%	0%	3%	3%	4%	4%	4%	4%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	A	85.308	108.938	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	A	108.938	114.088	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	G	108.938	114.088	0%	0%	0%	4%	4%	5%	5%	5%	5%	5%	5%	5%	5%	5%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	G	114.088	114.388	0%	0%	0%	4%	4%	5%	5%	5%	5%	5%	5%	5%	5%	5%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	A	114.088	114.388	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	A	114.388	116.961	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	G	114.388	116.961	0%	0%	0%	4%	4%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	4%	4%	4%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	A	116.961	119.737	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	G	116.961	119.737	0%	0%	0%	1%	1%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	G	119.737	121.051	0%	0%	0%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	A	119.737	121.051	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	G	0	0.738	0%	0%	0%	3%	3%	4%	4%	4%	4%	4%	4%	4%	4%	4%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	A	0	0.738	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	A	0.738	5.495	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	G	0.738	5.495	0%	0%	0%	3%	3%	4%	4%	4%	4%	4%	4%	4%	4%	4%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	G	5.495	5.69	0%	0%	0%	3%	3%	4%	4%	4%	4%	4%	4%	4%	4%	4%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	A	5.495	5.69	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	A	5.69	5.97	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	G	5.69	5.97	0%	0%	0%	4%	4%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	G	5.97	9.39	0%	0%	0%	4%	4%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	A	5.97	9.39	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	A	9.39	10	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	G	9.39	10	0%	0%	0%	4%	4%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	G	10	13.367	0%	0%	0%	4%	4%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	A	10	13.367	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	A	13.367	17.856	0%	0%	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	G	13.367	17.856	0%	0%	0%	5%	5%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	G	17.856	51.62	0%	0%	0%	6%	6%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	A	17.856	51.62	0%	0%	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	G	51.62	73.35	0%	0%	0%	6%	6%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%

CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	A	51.62	73.35	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	A	73.35	106.38	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	G	73.35	106.38	0%	0%	0%	6%	6%	8%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	A	0	36.04	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	G	0	36.04	0%	0%	0%	7%	7%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	A	36.04	82.671	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	G	36.04	82.671	0%	0%	0%	8%	8%	11%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	G	82.671	86.15	0%	0%	0%	6%	6%	7%	7%	7%	7%	7%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	A	82.671	86.15	0%	0%	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	G	86.15	90.56	0%	0%	0%	9%	9%	12%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	A	86.15	90.56	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	A	90.56	127.95	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	G	90.56	127.95	0%	0%	0%	9%	9%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	A	127.95	157.46	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	G	127.95	157.46	0%	0%	0%	11%	11%	14%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	A	157.46	157.56	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	G	157.46	157.56	0%	0%	0%	11%	11%	14%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	G	157.56	157.78	0%	0%	0%	3%	2%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	1%	1%	1%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	A	157.56	157.78	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	A	157.78	158.64	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	G	157.78	158.64	0%	0%	0%	3%	2%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	1%	1%	1%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	A	158.64	158.95	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	G	158.64	158.95	0%	0%	0%	3%	2%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	1%	1%	1%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	A	158.95	159.55	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	G	158.95	159.55	0%	0%	0%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%	1%	1%
CAPRICORN HIGHWAY (EMERALD - ALPHA)	16C	A	0	1.08	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (EMERALD - ALPHA)	16C	G	0	1.08	0%	0%	0%	3%	3%	4%	4%	3%	3%	3%	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%
CAPRICORN HIGHWAY (EMERALD - ALPHA)	16C	G	1.08	2.17	0%	0%	0%	8%	8%	10%	10%	9%	9%	9%	9%	9%	8%	8%	8%	8%	8%	8%	7%	7%	7%	7%	7%	7%	7%
CAPRICORN HIGHWAY (EMERALD - ALPHA)	16C	A	1.08	2.17	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
CAPRICORN HIGHWAY (EMERALD - ALPHA)	16C	G	2.17	43.3	0%	0%	0%	17%	17%	22%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%
CAPRICORN HIGHWAY (EMERALD - ALPHA)	16C	A	2.17	43.3	0%	0%	0%	1%	1%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
CAPRICORN HIGHWAY (EMERALD - ALPHA)	16C	G	43.3	70.531	0%	0%	0%	28%	28%	35%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%
CAPRICORN HIGHWAY (EMERALD - ALPHA)	16C	A	43.3	70.531	0%	0%	0%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
CAPRICORN HIGHWAY (EMERALD - ALPHA)	16C	A	70.531	107.95	0%	0%	0%	3%	3%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
CAPRICORN HIGHWAY (EMERALD - ALPHA)	16C	G	70.531	107.95	0%	0%	0%	25%	25%	32%	30%	30%	30%	30%	30%	29%	29%	29%	29%	29%	28%	28%	28%	28%	28%	27%	27%	27%	27%
CAPRICORN HIGHWAY (EMERALD - ALPHA)	16C	G	107.95	167.94	0%	0%	0%	24%	24%	31%	30%	30%	30%	29%	29%	29%	29%	29%	29%	29%	29%	29%	28%	28%	28%	28%	28%	28%	28%
CAPRICORN HIGHWAY (EMERALD - ALPHA)	16C	A	107.95	167.94	0%	0%	0%	2%	2%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
CAPRICORN HIGHWAY (ALPHA - BARCALDINE)	16D	A	0	54.27	0%	0%	0%	8%	8%	8%	6%	6%	6%	6%	6%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
CAPRICORN HIGHWAY (ALPHA - BARCALDINE)	16D	G	0	54.27	0%	0%	0%	47%	47%	47%	32%	32%	32%	32%	32%	31%	31%	31%	31%	31%	31%	30%	30%	30%	30%	30%	30%	30%	29%
CAPRICORN HIGHWAY (ALPHA - BARCALDINE)	16D	G	54.27	80.65	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (ALPHA - BARCALDINE)	16D	A	54.27	80.65	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (ALPHA - BARCALDINE)	16D	A	80.65	139.7	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (ALPHA - BARCALDINE)	16D	G	80.65	139.7	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (ALPHA - BARCALDINE)	16D	G	139.7	140.49	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (ALPHA - BARCALDINE)	16D	A	139.7	140.49	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

PAVEMENT IMPACT ASSESSMENT - FGD OPTION 2

GTAconsultants

					SAR4																							
Road Name	ID	IRECTIO	TdistStart	TdistEnd	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
GLADSTONE - MT LARCOM ROAD	181	G	0	1.409	0%	0%	0%	6%	6%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
GLADSTONE - MT LARCOM ROAD	181	A	0	1.409	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GLADSTONE - MT LARCOM ROAD	181	G	1.409	2.277	0%	0%	0%	6%	6%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
GLADSTONE - MT LARCOM ROAD	181	A	1.409	2.277	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GLADSTONE - MT LARCOM ROAD	181	G	2.277	3.2	0%	0%	0%	6%	6%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
GLADSTONE - MT LARCOM ROAD	181	A	2.277	3.2	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GLADSTONE - MT LARCOM ROAD	181	A	3.2	3.258	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GLADSTONE - MT LARCOM ROAD	181	G	3.2	3.258	0%	0%	0%	6%	6%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
GLADSTONE - MT LARCOM ROAD	181	G	3.258	3.37	0%	0%	0%	5%	5%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%
GLADSTONE - MT LARCOM ROAD	181	A	3.258	3.37	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GLADSTONE - MT LARCOM ROAD	181	A	3.37	3.756	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GLADSTONE - MT LARCOM ROAD	181	G	3.37	3.756	0%	0%	0%	5%	5%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%
GLADSTONE - MT LARCOM ROAD	181	A	3.756	3.892	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GLADSTONE - MT LARCOM ROAD	181	G	3.756	3.892	0%	0%	0%	5%	5%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%
GLADSTONE - MT LARCOM ROAD	181	G	3.892	4.625	0%	0%	0%	5%	5%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%
GLADSTONE - MT LARCOM ROAD	181	A	3.892	4.625	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GLADSTONE - MT LARCOM ROAD	181	A	4.625	7.063	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GLADSTONE - MT LARCOM ROAD	181	G	4.625	7.063	0%	0%	0%	6%	6%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%
GLADSTONE - MT LARCOM ROAD	181	A	7.063	9.325	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GLADSTONE - MT LARCOM ROAD	181	G	7.063	9.325	0%	0%	0%	6%	6%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%
GLADSTONE - MT LARCOM ROAD	181	G	9.325	12.292	0%	0%	0%	6%	6%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%
GLADSTONE - MT LARCOM ROAD	181	A	9.325	12.292	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GLADSTONE - MT LARCOM ROAD	181	G	12.292	32.14	0%	0%	0%	9%	9%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%
GLADSTONE - MT LARCOM ROAD	181	A	12.292	32.14	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	G	0	11.445	0%	0%	0%	5%	5%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	A	0	11.445	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	G	11.445	45.42	0%	0%	0%	4%	4%	7%	7%	7%	7%	7%	7%	7%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	5%	5%	5%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	A	11.445	45.42	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	A	45.42	85.308	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	G	45.42	85.308	0%	0%	0%	5%	5%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	8%	8%	8%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	G	85.308	108.938	0%	0%	0%	3%	3%	5%	5%	5%	5%	5%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	A	85.308	108.938	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	A	108.938	114.088	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	G	108.938	114.088	0%	0%	0%	4%	4%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	5%	5%	5%	5%	5%	5%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	G	114.088	114.388	0%	0%	0%	4%	4%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	5%	5%	5%	5%	5%	5%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	A	114.088	114.388	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	A	114.388	116.961	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	G	114.388	116.961	0%	0%	0%	4%	4%	7%	7%	7%	7%	7%	7%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	A	116.961	119.737	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	G	116.961	119.737	0%	0%	0%	1%	1%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	G	119.737	121.051	0%	0%	0%	3%	3%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	A	119.737	121.051	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	G	0	0.738	0%	0%	0%	3%	3%	5%	5%	5%	5%	5%	5%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	A	0	0.738	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	A	0.738	5.495	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	G	0.738	5.495	0%	0%	0%	3%	3%	5%	5%	5%	5%	5%	5%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	G	5.495	5.69	0%	0%	0%	3%	3%	5%	5%	5%	5%	5%	5%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	A	5.495	5.69	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	A	5.69	5.97	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	G	5.69	5.97	0%	0%	0%	4%	4%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	G	5.97	9.39	0%	0%	0%	4%	4%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	A	5.97	9.39	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	A	9.39	10	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	G	9.39	10	0%	0%	0%	4%	4%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	G	10	13.367	0%	0%	0%	4%	4%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	A	10	13.367	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	A	13.367	17.856	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	G	13.367	17.856	0%	0%	0%	5%	5%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	G	17.856	51.62	0%	0%	0%	6%	6%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%

CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	A	17.856	51.62	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	G	51.62	73.35	0%	0%	0%	6%	6%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	A	51.62	73.35	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	A	73.35	106.38	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	0%	0%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	G	73.35	106.38	0%	0%	0%	6%	6%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	A	0	36.04	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	G	0	36.04	0%	0%	0%	7%	7%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	A	36.04	82.671	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	G	36.04	82.671	0%	0%	0%	8%	8%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	G	82.671	86.15	0%	0%	0%	6%	6%	9%	9%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	7%	7%	7%	7%	7%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	A	82.671	86.15	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	G	86.15	90.56	0%	0%	0%	9%	9%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	A	86.15	90.56	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	A	90.56	127.95	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	G	90.56	127.95	0%	0%	0%	9%	9%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	A	127.95	157.46	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	G	127.95	157.46	0%	0%	0%	11%	11%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	A	157.46	157.56	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	G	157.46	157.56	0%	0%	0%	11%	11%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	G	157.56	157.78	0%	0%	0%	3%	2%	3%	3%	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	A	157.56	157.78	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	A	157.78	158.64	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	G	157.78	158.64	0%	0%	0%	3%	2%	3%	3%	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	A	158.64	158.95	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	G	158.64	158.95	0%	0%	0%	3%	2%	3%	3%	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	A	158.95	159.55	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	G	158.95	159.55	0%	0%	0%	2%	2%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	1%	1%	1%
CAPRICORN HIGHWAY (EMERALD - ALPHA)	16C	A	0	1.08	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (EMERALD - ALPHA)	16C	G	0	1.08	0%	0%	0%	3%	3%	5%	5%	4%	4%	4%	4%	4%	4%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	2%	2%
CAPRICORN HIGHWAY (EMERALD - ALPHA)	16C	G	1.08	2.17	0%	0%	0%	8%	8%	12%	12%	12%	12%	11%	11%	11%	11%	10%	10%	10%	10%	10%	9%	9%	9%	9%	9%	9%	9%
CAPRICORN HIGHWAY (EMERALD - ALPHA)	16C	A	1.08	2.17	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
CAPRICORN HIGHWAY (EMERALD - ALPHA)	16C	G	2.17	43.3	0%	0%	0%	17%	17%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%
CAPRICORN HIGHWAY (EMERALD - ALPHA)	16C	A	2.17	43.3	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
CAPRICORN HIGHWAY (EMERALD - ALPHA)	16C	G	43.3	70.531	0%	0%	0%	28%	28%	43%	43%	43%	43%	43%	43%	43%	43%	43%	43%	43%	43%	43%	43%	43%	43%	43%	43%	43%	43%
CAPRICORN HIGHWAY (EMERALD - ALPHA)	16C	A	43.3	70.531	0%	0%	0%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
CAPRICORN HIGHWAY (EMERALD - ALPHA)	16C	A	70.531	107.95	0%	0%	0%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
CAPRICORN HIGHWAY (EMERALD - ALPHA)	16C	G	70.531	107.95	0%	0%	0%	25%	25%	39%	39%	38%	38%	38%	38%	37%	37%	37%	37%	36%	36%	36%	36%	35%	35%	35%	35%	35%	34%
CAPRICORN HIGHWAY (EMERALD - ALPHA)	16C	G	107.95	167.94	0%	0%	0%	24%	24%	38%	38%	38%	38%	37%	37%	37%	37%	37%	37%	37%	37%	36%	36%	36%	36%	36%	36%	36%	36%
CAPRICORN HIGHWAY (ALPHA - BARCALDINE)	16D	A	0	54.27	0%	0%	0%	8%	8%	7%	5%	5%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
CAPRICORN HIGHWAY (ALPHA - BARCALDINE)	16D	G	0	54.27	0%	0%	0%	47%	47%	47%	32%	32%	32%	32%	32%	31%	31%	31%	31%	31%	31%	30%	30%	30%	30%	30%	30%	30%	29%
CAPRICORN HIGHWAY (ALPHA - BARCALDINE)	16D	G	54.27	80.65	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (ALPHA - BARCALDINE)	16D	A	54.27	80.65	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (ALPHA - BARCALDINE)	16D	A	80.65	139.7	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (ALPHA - BARCALDINE)	16D	G	80.65	139.7	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (ALPHA - BARCALDINE)	16D	G	139.7	140.49	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (ALPHA - BARCALDINE)	16D	A	139.7	140.49	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

PAVEMENT IMPACT ASSESSMENT - FDG OPTION 3

GTAconsultants

					SAR4																							
Road Name	ID	DIRECTION	TdistStart	TdistEnd	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
GLADSTONE - MT LARCOM ROAD	181	G	0	1.409	0%	0%	0%	6%	6%	6%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
GLADSTONE - MT LARCOM ROAD	181	A	0	1.409	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GLADSTONE - MT LARCOM ROAD	181	G	1.409	2.277	0%	0%	0%	6%	6%	6%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
GLADSTONE - MT LARCOM ROAD	181	A	1.409	2.277	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GLADSTONE - MT LARCOM ROAD	181	G	2.277	3.2	0%	0%	0%	6%	6%	6%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
GLADSTONE - MT LARCOM ROAD	181	A	2.277	3.2	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GLADSTONE - MT LARCOM ROAD	181	A	3.2	3.258	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GLADSTONE - MT LARCOM ROAD	181	G	3.2	3.258	0%	0%	0%	6%	6%	6%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
GLADSTONE - MT LARCOM ROAD	181	G	3.258	3.37	0%	0%	0%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
GLADSTONE - MT LARCOM ROAD	181	A	3.258	3.37	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GLADSTONE - MT LARCOM ROAD	181	A	3.37	3.756	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GLADSTONE - MT LARCOM ROAD	181	G	3.37	3.756	0%	0%	0%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
GLADSTONE - MT LARCOM ROAD	181	A	3.756	3.892	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GLADSTONE - MT LARCOM ROAD	181	G	3.756	3.892	0%	0%	0%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
GLADSTONE - MT LARCOM ROAD	181	G	3.892	4.625	0%	0%	0%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
GLADSTONE - MT LARCOM ROAD	181	A	3.892	4.625	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GLADSTONE - MT LARCOM ROAD	181	A	4.625	7.063	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GLADSTONE - MT LARCOM ROAD	181	G	4.625	7.063	0%	0%	0%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%
GLADSTONE - MT LARCOM ROAD	181	A	7.063	9.325	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GLADSTONE - MT LARCOM ROAD	181	G	7.063	9.325	0%	0%	0%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%
GLADSTONE - MT LARCOM ROAD	181	G	9.325	12.292	0%	0%	0%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%
GLADSTONE - MT LARCOM ROAD	181	A	9.325	12.292	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GLADSTONE - MT LARCOM ROAD	181	G	12.292	32.14	0%	0%	0%	9%	9%	9%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
GLADSTONE - MT LARCOM ROAD	181	A	12.292	32.14	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	G	0	11.445	0%	0%	0%	5%	5%	5%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	A	0	11.445	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	G	11.445	45.42	0%	0%	0%	4%	4%	4%	4%	4%	4%	4%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	A	11.445	45.42	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	A	45.42	85.308	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	G	45.42	85.308	0%	0%	0%	5%	5%	5%	5%	5%	5%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	A	45.42	85.308	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	G	45.42	85.308	0%	0%	0%	5%	5%	5%	5%	5%	5%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	G	85.308	108.938	0%	0%	0%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	A	85.308	108.938	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	A	108.938	114.088	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	G	108.938	114.088	0%	0%	0%	4%	4%	4%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	G	114.088	114.388	0%	0%	0%	4%	4%	4%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	A	114.088	114.388	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	A	114.388	116.961	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	G	114.388	116.961	0%	0%	0%	4%	4%	4%	4%	4%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	A	116.961	119.737	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	G	116.961	119.737	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	G	119.737	121.051	0%	0%	0%	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	A	119.737	121.051	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	G	0	0.738	0%	0%	0%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	2%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	A	0	0.738	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	A	0.738	5.495	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	G	0.738	5.495	0%	0%	0%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	2%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	G	5.495	5.69	0%	0%	0%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	2%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	A	5.495	5.69	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	A	5.69	5.97	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	G	5.69	5.97	0%	0%	0%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	3%	3%	3%	3%	3%	3%	3%	3%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	G	5.97	9.39	0%	0%	0%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	3%	3%	3%	3%	3%	3%	3%	3%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	A	5.97	9.39	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	A	9.39	10	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	G	9.39	10	0%	0%	0%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	3%	3%	3%	3%	3%	3%	3%	3%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	G	10	13.367	0%	0%	0%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	3%	3%	3%	3%	3%	3%	3%	3%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	A	10	13.367	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	A	13.367	17.856	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	G	13.367	17.856	0%	0%	0%	5%	5%	5%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	G	17.856	51.62	0%	0%	0%	6%	6%	6%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	A	17.856	51.62	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	G	51.62	73.35	0%	0%	0%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%

CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	A	51.62	73.35	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	A	73.35	106.38	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	0%
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)	16A	G	73.35	106.38	0%	0%	0%	6%	6%	6%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	A	0	36.04	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	G	0	36.04	0%	0%	0%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	A	36.04	82.671	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	G	36.04	82.671	0%	0%	0%	8%	8%	8%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	G	82.671	86.15	0%	0%	0%	6%	6%	6%	5%	5%	5%	5%	5%	5%	5%	5%	5%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	A	82.671	86.15	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	G	86.15	90.56	0%	0%	0%	9%	9%	9%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	A	86.15	90.56	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	A	90.56	127.95	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	G	90.56	127.95	0%	0%	0%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	A	127.95	157.46	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	G	127.95	157.46	0%	0%	0%	11%	11%	11%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	A	157.46	157.56	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	G	157.46	157.56	0%	0%	0%	11%	11%	11%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	G	157.56	157.78	0%	0%	0%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	A	157.56	157.78	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	A	157.78	158.64	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	G	157.78	158.64	0%	0%	0%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	A	158.64	158.95	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	G	158.64	158.95	0%	0%	0%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	A	158.95	159.55	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (DUARINGA - EMERALD)	16B	G	158.95	159.55	0%	0%	0%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
CAPRICORN HIGHWAY (EMERALD - ALPHA)	16C	A	0	1.08	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (EMERALD - ALPHA)	16C	G	0	1.08	0%	0%	0%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	1%	1%
CAPRICORN HIGHWAY (EMERALD - ALPHA)	16C	G	1.08	2.17	0%	0%	0%	8%	8%	8%	7%	7%	7%	7%	6%	6%	6%	6%	6%	6%	6%	6%	5%	5%	5%	5%	5%	5%	5%
CAPRICORN HIGHWAY (EMERALD - ALPHA)	16C	A	1.08	2.17	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
CAPRICORN HIGHWAY (EMERALD - ALPHA)	16C	G	2.17	43.3	0%	0%	0%	17%	17%	17%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%
CAPRICORN HIGHWAY (EMERALD - ALPHA)	16C	A	2.17	43.3	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
CAPRICORN HIGHWAY (EMERALD - ALPHA)	16C	G	43.3	70.531	0%	0%	0%	28%	28%	28%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
CAPRICORN HIGHWAY (EMERALD - ALPHA)	16C	A	43.3	70.531	0%	0%	0%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
CAPRICORN HIGHWAY (EMERALD - ALPHA)	16C	A	70.531	107.95	0%	0%	0%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
CAPRICORN HIGHWAY (EMERALD - ALPHA)	16C	G	70.531	107.95	0%	0%	0%	25%	25%	25%	22%	22%	22%	22%	22%	22%	22%	21%	21%	21%	21%	21%	21%	21%	20%	20%	20%	20%	20%
CAPRICORN HIGHWAY (EMERALD - ALPHA)	16C	G	107.95	167.94	0%	0%	0%	24%	24%	24%	22%	22%	22%	22%	22%	22%	22%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%
CAPRICORN HIGHWAY (EMERALD - ALPHA)	16C	A	107.95	167.94	0%	0%	0%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
CAPRICORN HIGHWAY (ALPHA - BARCALDINE)	16D	A	0	54.27	0%	0%	0%	8%	8%	25%	25%	25%	25%	25%	25%	25%	25%	25%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	23%
CAPRICORN HIGHWAY (ALPHA - BARCALDINE)	16D	G	0	54.27	0%	0%	0%	47%	47%	47%	32%	32%	32%	32%	32%	31%	31%	31%	31%	31%	31%	30%	30%	30%	30%	30%	30%	30%	29%
CAPRICORN HIGHWAY (ALPHA - BARCALDINE)	16D	G	54.27	80.65	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (ALPHA - BARCALDINE)	16D	A	54.27	80.65	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (ALPHA - BARCALDINE)	16D	A	80.65	139.7	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (ALPHA - BARCALDINE)	16D	G	80.65	139.7	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (ALPHA - BARCALDINE)	16D	G	139.7	140.49	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAPRICORN HIGHWAY (ALPHA - BARCALDINE)	16D	A	139.7	140.49	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

G. PAVEMENT IMPACT ASSESSMENT CONTRIBUTIONS

PAVEMENT IMACT ASSESSMENT - CONTRIBUTIONS SUMMARY

BASE SCENARIO

ROAD ID	Year1	Year2	Year3	Year4	Year5	Year6	Year7	Year8	Year9	Year10	Year11	Year12	Year13	Year14	Year15	Year16	Year17	Year18	Year19	Year20	Year21	Year22	Year23	Year24	Year25	TOTAL
181	$ 9,771	$ 9,771	$ 20,439	$ 8,720	$ 8,720	$ 8,720	$ 8,720	$ 8,720	$ 8,720	$ 8,720	$ 8,720	$ 8,720	$ 8,720	$ 8,720	$ 8,720	$ 8,720	$ 8,720	$ 8,720	$ 8,720	$ 8,720	$ 8,720	$ 8,720	$ -	$ -	$ -	$ 205,653
10E	$ 2,532	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,532
16A	$ 7,902	$ 7,902	$ 16,917	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 32,721
16B	$ 14,631	$ 14,631	$ 31,304	$ 13,886	$ 13,886	$ 13,886	$ 13,886	$ 13,886	$ 13,886	$ 13,886	$ 13,886	$ 13,886	$ 13,886	$ 13,886	$ 13,886	$ 13,886	$ 13,886	$ 13,886	$ 13,886	$ 13,886	$ 13,886	$ 13,886	$ -	$ -	$ -	$ 324,407
16C	$ 48,674	$ 48,674	$ 104,206	$ 47,420	$ 47,420	$ 47,420	$ 47,420	$ 47,420	$ 47,420	$ 47,420	$ 47,420	$ 47,420	$ 47,420	$ 47,329	$ 47,329	$ 47,329	$ 47,329	$ 47,329	$ 47,329	$ 47,329	$ 47,329	$ 47,329	$ -	$ -	$ -	$ 1,101,622
16D	$ 14,742	$ 14,742	$ 26,241	$ 4,521	$ 4,521	$ 4,521	$ 4,521	$ 4,521	$ 4,521	$ 4,521	$ 4,521	$ 4,521	$ 4,521	$ 4,521	$ 4,521	$ 4,521	$ 4,521	$ 4,521	$ 4,521	$ 4,521	$ 4,521	$ 4,521	$ -	$ -	$ -	$ 141,620
TOTAL	$ 98,253	$ 95,721	$ 199,106	$ 74,546	$ 74,546	$ 74,546	$ 74,546	$ 74,546	$ 74,546	$ 74,546	$ 74,546	$ 74,546	$ 74,456	$ 74,456	$ 74,456	$ 74,456	$ 74,456	$ 74,456	$ 74,456	$ 74,456	$ 74,456	$ 74,456	$ -	$ -	$ -	$ 1,808,554

FGD OPTION 1

ROAD ID	Year1	Year2	Year3	Year4	Year5	Year6	Year7	Year8	Year9	Year10	Year11	Year12	Year13	Year14	Year15	Year16	Year17	Year18	Year19	Year20	Year21	Year22	Year23	Year24	Year25	Total
181	$ 9,771	$ 9,771	$ 24,919	$ 13,519	$ 13,519	$ 13,519	$ 13,519	$ 13,519	$ 13,519	$ 13,519	$ 13,519	$ 13,519	$ 13,519	$ 13,519	$ 13,519	$ 13,519	$ 13,519	$ 13,519	$ 13,519	$ 13,519	$ 13,519	$ 13,519	$ -	$ -	$ -	$ 301,332
10E	$ 2,532	$ -	$ 25,681	$ 13,533	$ 13,533	$ 13,533	$ 13,533	$ 13,533	$ 9,189	$ 5,351	$ 5,351	$ 5,351	$ 5,351	$ 5,351	$ 5,351	$ 5,351	$ 5,351	$ 5,351	$ 5,351	$ 5,351	$ 5,351	$ 5,351	$ -	$ -	$ -	$ 174,635
16A	$ 7,902	$ 7,902	$ 27,745	$ 12,743	$ 12,743	$ 12,743	$ 12,743	$ 12,743	$ 12,743	$ 12,743	$ 12,743	$ 12,743	$ 12,743	$ 12,743	$ 12,743	$ 12,743	$ 12,743	$ 12,743	$ 12,743	$ 12,743	$ 12,743	$ 12,743	$ -	$ -	$ -	$ 285,657
16B	$ 14,631	$ 14,631	$ 39,152	$ 22,082	$ 22,082	$ 22,082	$ 22,082	$ 22,082	$ 22,082	$ 22,082	$ 22,082	$ 22,082	$ 22,082	$ 22,082	$ 22,082	$ 22,082	$ 22,082	$ 22,082	$ 22,082	$ 22,082	$ 22,082	$ 22,082	$ -	$ -	$ -	$ 487,973
16C	$ 48,674	$ 48,674	$ 130,432	$ 73,645	$ 73,645	$ 73,645	$ 73,645	$ 73,645	$ 73,645	$ 73,645	$ 73,645	$ 73,645	$ 73,645	$ 73,645	$ 73,645	$ 73,645	$ 73,645	$ 73,645	$ 73,645	$ 73,645	$ 73,645	$ 73,645	$ -	$ -	$ -	$ 1,627,036
16D	$ 14,742	$ 14,742	$ 29,030	$ 11,831	$ 11,831	$ 11,831	$ 11,831	$ 11,831	$ 11,831	$ 11,831	$ 11,831	$ 11,831	$ 11,831	$ 11,831	$ 11,831	$ 11,831	$ 11,831	$ 11,831	$ 11,831	$ 11,831	$ 11,831	$ 11,831	$ -	$ -	$ -	$ 283,308
TOTAL	$ 98,253	$ 95,721	$ 276,959	$ 147,353	$ 147,353	$ 147,353	$ 147,353	$ 147,353	$ 143,009	$ 139,172	$ 139,172	$ 139,172	$ 139,172	$ 139,172	$ 139,172	$ 139,172	$ 139,172	$ 139,172	$ 139,172	$ 139,172	$ 139,172	$ 139,172	$ -	$ -	$ -	$ 3,159,942

FGD OPTION 2

ROAD ID	Year1	Year2	Year3	Year4	Year5	Year6	Year7	Year8	Year9	Year10	Year11	Year12	Year13	Year14	Year15	Year16	Year17	Year18	Year19	Year20	Year21	Year22	Year23	Year24	Year25	Total
181	$ 9,771	$ 9,771	$ 28,280	$ 16,880	$ 16,880	$ 16,880	$ 16,880	$ 16,880	$ 16,880	$ 16,880	$ 16,880	$ 16,880	$ 16,880	$ 16,880	$ 16,880	$ 16,880	$ 16,880	$ 16,880	$ 16,880	$ 16,880	$ 16,880	$ 16,880	$ -	$ -	$ -	$ 368,540
10E	$ 2,532	$ -	$ 29,351	$ 17,893	$ 17,893	$ 17,893	$ 17,893	$ 17,893	$ 17,893	$ 17,893	$ 17,893	$ 17,893	$ 17,893	$ 17,893	$ 17,893	$ 17,893	$ 17,893	$ 17,893	$ 17,893	$ 17,893	$ 17,033	$ 17,033	$ -	$ -	$ -	$ 370,134
16A	$ 7,902	$ 7,902	$ 31,857	$ 19,678	$ 19,678	$ 19,678	$ 19,678	$ 19,678	$ 19,678	$ 19,678	$ 19,678	$ 19,678	$ 19,678	$ 19,678	$ 19,678	$ 19,678	$ 19,678	$ 19,678	$ 19,678	$ 19,678	$ 19,678	$ 19,678	$ -	$ -	$ -	$ 421,545
16B	$ 14,631	$ 14,631	$ 45,038	$ 27,968	$ 27,968	$ 27,968	$ 27,968	$ 27,968	$ 27,968	$ 27,968	$ 27,968	$ 27,968	$ 27,968	$ 27,968	$ 27,968	$ 27,968	$ 27,968	$ 27,968	$ 27,968	$ 27,968	$ 27,968	$ 27,968	$ -	$ -	$ -	$ 605,701
16C	$ 48,674	$ 48,674	$ 150,101	$ 119,172	$ 119,172	$ 119,172	$ 119,172	$ 119,172	$ 119,172	$ 119,172	$ 119,172	$ 119,172	$ 119,172	$ 119,172	$ 119,172	$ 119,172	$ 119,172	$ 119,172	$ 119,172	$ 119,172	$ 119,172	$ 119,172	$ -	$ -	$ -	$ 2,511,722
16D	$ 14,742	$ 14,742	$ 31,122	$ 13,924	$ 13,924	$ 13,924	$ 13,924	$ 13,924	$ 13,924	$ 13,924	$ 13,924	$ 13,924	$ 13,924	$ 13,924	$ 13,924	$ 13,924	$ 13,924	$ 13,924	$ 13,924	$ 13,924	$ 13,924	$ 13,924	$ -	$ -	$ -	$ 325,154
TOTAL	$ 98,253	$ 95,721	$ 315,749	$ 215,515	$ 215,515	$ 215,515	$ 215,515	$ 215,515	$ 215,515	$ 215,515	$ 215,515	$ 215,515	$ 215,515	$ 215,515	$ 215,515	$ 215,515	$ 215,515	$ 215,515	$ 215,515	$ 215,515	$ 214,656	$ 214,656	$ -	$ -	$ -	$ 4,602,795

FGD OPTION 3

ROAD ID	Year1	Year2	Year3	Year4	Year5	Year6	Year7	Year8	Year9	Year10	Year11	Year12	Year13	Year14	Year15	Year16	Year17	Year18	Year19	Year20	Year21	Year22	Year23	Year24	Year25	Total
181	$ 9,771	$ 9,771	$ 20,439	$ 8,720	$ 8,720	$ 8,720	$ 8,720	$ 8,720	$ 8,720	$ 8,720	$ 8,720	$ 8,720	$ 8,720	$ 8,720	$ 8,720	$ 8,720	$ 8,720	$ 8,720	$ 8,720	$ 8,720	$ 8,720	$ 8,720	$ -	$ -	$ -	$ 205,653
10E	$ 2,532	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,532
16A	$ 7,902	$ 7,902	$ 16,917	$ 7,698	$ 7,698	$ 7,698	$ 7,698	$ 7,698	$ 7,698	$ 7,698	$ 7,698	$ 7,698	$ 7,698	$ 7,698	$ 7,698	$ 7,698	$ 7,698	$ 7,698	$ 7,698	$ 7,698	$ 7,698	$ 7,698	$ -	$ -	$ -	$ 178,987
16B	$ 14,631	$ 14,631	$ 31,304	$ 13,886	$ 13,886	$ 13,886	$ 13,886	$ 13,886	$ 13,886	$ 13,886	$ 13,886	$ 13,886	$ 13,886	$ 13,886	$ 13,886	$ 13,886	$ 13,886	$ 13,886	$ 13,886	$ 13,886	$ 13,886	$ 13,886	$ -	$ -	$ -	$ 324,407
16C	$ 48,674	$ 48,674	$ 104,206	$ 47,420	$ 47,420	$ 47,420	$ 47,420	$ 47,420	$ 47,420	$ 47,420	$ 47,420	$ 47,420	$ 47,420	$ 47,420	$ 47,420	$ 47,420	$ 47,420	$ 47,420	$ 47,420	$ 47,420	$ 47,420	$ 47,329	$ -	$ -	$ -	$ 1,102,438
16D	$ 14,742	$ 14,742	$ 30,774	$ 13,575	$ 13,575	$ 13,575	$ 13,575	$ 13,575	$ 13,575	$ 13,575	$ 13,575	$ 13,575	$ 13,575	$ 13,575	$ 13,575	$ 13,575	$ 13,575	$ 13,575	$ 13,575	$ 13,575	$ 13,575	$ 13,575	$ -	$ -	$ -	$ 318,180
TOTAL	$ 98,253	$ 95,721	$ 203,640	$ 91,299	$ 91,299	$ 91,299	$ 91,299	$ 91,299	$ 91,299	$ 91,299	$ 91,299	$ 91,299	$ 91,299	$ 91,299	$ 91,299	$ 91,299	$ 91,299	$ 91,299	$ 91,299	$ 91,299	$ 91,299	$ 91,208	$ -	$ -	$ -	$ 2,132,197

H. SIDRA ASSESSMENT MOVEMENT SUMMARY

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MOVEMENT SUMMARY

Site: 102 [Saltbush Road / Capricorn Highway (2022 AM)] Network: N101 [2022 AM]

New Site
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Capricorn Hwy														
5	T1	32	0.0	32	0.0	0.017	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
6	R2	179	48.6	179	48.6	0.147	6.7	LOS A	2.5	26.4	0.29	0.58	0.29	49.5
Approach		211	41.2	211	41.2	0.147	5.7	NA	2.5	26.4	0.24	0.49	0.24	51.9
North: Saltbush Rd														
7	L2	1	100.0	1	100.0	0.003	3.6	LOS A	0.0	0.1	0.14	0.52	0.14	45.8
9	R2	1	100.0	1	100.0	0.003	7.9	LOS A	0.0	0.1	0.14	0.52	0.14	44.9
Approach		2	100.0	2	100.0	0.003	5.8	LOS A	0.0	0.1	0.14	0.52	0.14	45.4
West: Capricorn Hwy														
10	L2	92	0.0	92	0.0	0.065	5.5	LOS A	1.3	9.1	0.00	0.44	0.00	52.9
11	T1	31	0.0	31	0.0	0.065	0.0	LOS A	1.3	9.1	0.00	0.44	0.00	56.2
Approach		123	0.0	123	0.0	0.065	4.2	NA	1.3	9.1	0.00	0.44	0.00	54.1
All Vehicles		336	26.5	336	26.5	0.147	5.1	NA	2.5	26.4	0.15	0.47	0.15	52.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Saltbush Road OLX (2022 AM)]

Network: N101 [2022 AM]

New Site
Site Category: (None)
Pedestrian Crossing (Signals) - Fixed Time Isolated Cycle Time = 1200 seconds (Site User-Given Phase Times)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Saltbush Rd														
2	T1	285	32.1	285	32.1	0.222	3.4	LOS A	4.3	40.0	0.09	0.09	0.09	54.4
Approach		285	32.1	285	32.1	0.222	3.4	LOS A	4.3	40.0	0.09	0.09	0.09	54.4
North: Saltbush Rd														
8	T1	1	0.0	1	0.0	0.001	2.7	LOS A	0.0	0.2	0.07	0.04	0.07	55.2
Approach		1	0.0	1	0.0	0.001	2.7	LOS A	0.0	0.2	0.07	0.04	0.07	55.2
All Vehicles		286	32.0	286	32.0	0.222	3.4	LOS A	4.3	40.0	0.09	0.08	0.09	54.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate
P1	South Full Crossing	53	595.3	LOS F	1.8	1.8	1.00	1.00
All Pedestrians		53	595.3	LOS F			1.00	1.00

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 102 [Saltbush Road / Capricorn Highway (2023 AM)]

Network: N101 [2023 AM]

New Site
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total	HV	Arrival Flows Total	HV	Deg. Satn	Average Delay	Level of Service	Aver. Back of Queue Vehicles	Distance	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
East: RoadName														
5	T1	33	0.0	33	0.0	0.017	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
6	R2	257	32.7	257	32.7	0.193	6.3	LOS A	4.6	44.9	0.24	0.57	0.24	49.8
Approach		290	29.0	290	29.0	0.193	5.6	NA	4.6	44.9	0.21	0.50	0.21	51.5
North: RoadName														
7	L2	1	100.0	1	100.0	0.004	3.6	LOS A	0.0	0.1	0.15	0.52	0.15	45.1
9	R2	1	100.0	1	100.0	0.004	9.4	LOS A	0.0	0.1	0.15	0.52	0.15	44.2
Approach		2	100.0	2	100.0	0.004	6.5	LOS A	0.0	0.1	0.15	0.52	0.15	44.6
West: RoadName														
10	L2	53	0.0	53	0.0	0.044	5.5	LOS A	0.9	6.6	0.00	0.37	0.00	53.9
11	T1	31	0.0	31	0.0	0.044	0.0	LOS A	0.9	6.6	0.00	0.37	0.00	56.7
Approach		84	0.0	84	0.0	0.044	3.5	NA	0.9	6.6	0.00	0.37	0.00	55.4
All Vehicles		376	22.9	376	22.9	0.193	5.1	NA	4.6	44.9	0.16	0.47	0.16	52.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Saltbush Road OLX (2023 AM)]

Network: N101 [2023 AM]

New Site
Site Category: (None)
Pedestrian Crossing (Signals) - Fixed Time Isolated Cycle Time = 1200 seconds (Site User-Given Phase Times)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total	HV	Arrival Flows Total	HV	Deg. Satn	Average Delay	Level of Service	Aver. Back of Queue Vehicles	Distance	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: RoadName														
2	T1	326	27.1	326	27.1	0.263	3.6	LOS A	4.3	40.0	0.10	0.09	0.10	54.1
Approach		326	27.1	326	27.1	0.263	3.6	LOS A	4.3	40.0	0.10	0.09	0.10	54.1
North: RoadName														
8	T1	1	0.0	1	0.0	0.001	2.7	LOS A	0.0	0.2	0.07	0.04	0.07	55.2
Approach		1	0.0	1	0.0	0.001	2.7	LOS A	0.0	0.2	0.07	0.04	0.07	55.2
All Vehicles		327	27.0	327	27.0	0.263	3.6	LOS A	4.3	40.0	0.10	0.09	0.10	54.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate
P1	South Full Crossing	53	595.3	LOS F	1.8	1.8	1.00	1.00
All Pedestrians		53	595.3	LOS F			1.00	1.00

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 102 [Saltbush Road / Capricorn Highway (2032 AM)]

Network: N101 [2032 AM]

New Site
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total	HV	Arrival Flows Total	HV	Deg. Satn	Average Delay	Level of Service	Aver. Back of Queue Vehicles	Distance	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
East: RoadName														
5	T1	35	0.0	35	0.0	0.018	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
6	R2	158	24.1	158	24.1	0.112	5.9	LOS A	0.2	2.0	0.13	0.56	0.13	50.3
Approach		193	19.7	193	19.7	0.112	4.9	NA	0.2	2.0	0.11	0.46	0.11	52.9
North: RoadName														
7	L2	1	100.0	1	100.0	0.003	3.7	LOS A	0.0	0.1	0.15	0.51	0.15	46.5
9	R2	1	100.0	1	100.0	0.003	6.6	LOS A	0.0	0.1	0.15	0.51	0.15	45.6
Approach		2	100.0	2	100.0	0.003	5.1	LOS A	0.0	0.1	0.15	0.51	0.15	46.1
West: RoadName														
10	L2	1	0.0	1	0.0	0.017	5.5	LOS A	0.0	0.0	0.00	0.02	0.00	59.7
11	T1	33	0.0	33	0.0	0.017	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	59.8
Approach		34	0.0	34	0.0	0.017	0.2	NA	0.0	0.0	0.00	0.02	0.00	59.8
All Vehicles		229	17.5	229	17.5	0.112	4.2	NA	0.2	2.0	0.09	0.40	0.09	54.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Saltbush Road OLX (2032 AM)]

Network: N101 [2032 AM]

New Site
Site Category: (None)
Pedestrian Crossing (Signals) - Fixed Time Isolated Cycle Time = 1200 seconds (Site User-Given Phase Times)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total	HV	Arrival Flows Total	HV	Deg. Satn	Average Delay	Level of Service	Aver. Back of Queue Vehicles	Distance	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: RoadName														
2	T1	166	24.1	166	24.1	0.139	3.1	LOS A	4.1	40.0	0.08	0.07	0.08	54.8
Approach		166	24.1	166	24.1	0.139	3.1	LOS A	4.1	40.0	0.08	0.07	0.08	54.8
North: RoadName														
8	T1	1	0.0	1	0.0	0.001	2.7	LOS A	0.0	0.2	0.07	0.04	0.07	55.2
Approach		1	0.0	1	0.0	0.001	2.7	LOS A	0.0	0.2	0.07	0.04	0.07	55.2
All Vehicles		167	23.9	167	23.9	0.139	3.1	LOS A	4.1	40.0	0.08	0.07	0.08	54.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate
P1	South Full Crossing	53	595.3	LOS F	1.8	1.8	1.00	1.00
All Pedestrians		53	595.3	LOS F			1.00	1.00

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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