



GEORGE TOWN & LOW HEAD ROAD NETWORK PLAN

GEORGE TOWN COUNCIL
MARCH 2025

Adopted 27 May 2025
Minute Ref: 69/25





George Town & Low Head Road Network Plan

GEORGE TOWN COUNCIL

- Final
- May 2025

Traffic & Civil Services
ABN 72617648601
1 Cooper Crescent
RIVERSIDE
Launceston TAS 7250 Australia
P: +61 3 634 8168
M: 0456 535 746
E: Richard.burk@trafficandcivil.com.au
W: www.trafficandcivil.com.au

Contents

1. Background	6
2. References	8
2.1 Technical References	8
2.2 George Town Area Structural Plan (July 2021)	8
3. George Town Road Network	12
3.1 Main Road and Goulburn Street	12
3.2 Low Head Road	14
3.3 Agnes Street	15
3.4 Anne Street	15
3.5 North Street	16
3.6 Cimitiere Street	17
3.7 South Street	18
3.8 Friend Street	19
4. Objectives and Methodology	20
4.1 General Objectives for George Town and Low Head	20
4.2 Methodology for George Town and Low Head	21
4.2.1 Development of land use capacity of the area	21
4.2.2 Provision of cost-effective transport infrastructure to support development	23
4.2.3 Provision of cost-effective transport infrastructure to support development	26
4.2.4 Efficient access	26
4.2.5 Integration	26
5. Tas. Planning Scheme – George Town	27
6. 2024 Road Network Operation	28
6.1 Northeast Tasmania growth rates	28
6.2 George Town and Low Head growth rates	28
6.3 Traffic Data	29
6.4 Crash Data as an indicator of existing road network safety	30
7. Forecast Traffic Generation	31
8. Intersection Analysis	32
8.1 Results of Analysis	32
8.2 Discussion of results	32
9. General Road Network Guidelines	33
9.1 Traffic Networks as a System	33
9.2 Network Management	33
9.2.1 Road types	33
9.2.2 Tasmanian Approved B Double Route Network	33



9.2.3	Vulnerable Road users	33
9.3	Design of new urban networks	34
9.3.1	Design Layout – Tributary	34
9.3.2	Safety in new subdivisions	34
9.3.3	Residential area planning	34
9.4	Liveability, Safety and Amenity Guidelines	35
9.5	Road Design	35
9.5.1	Arterial Roads – Main Road, Goulburn Street and Low Head Road	35
9.5.2	Collector Roads	35
9.5.3	Residential Streets	35
9.6	Services	36
9.7	Road users	36
9.7.1	Design Vehicle	36
9.7.2	Provide pedestrian refuge islands on Collector Roads	36
9.7.3	Provide separate off-road cycling paths or shared use trails	36
9.8	Intelligent Transport Systems	36
9.9	Local Area Traffic Management (LATM)	36
10.	Road Network Plans	37
10.1	Target Road Network Plan – Low Head	38
10.1.1	Low Head Road Network Plan	38
10.1.2	Intervention Treatments for Low Head	39
10.1.3	Intervention Justifications at Low Head	39
10.2	Target Road Network Plan – George Town	40
10.2.1	George Town Road Network Plan	40
10.2.2	Potential Minor Collector Roads	41
10.2.3	Intervention Treatments for George Town	42
10.2.4	Intervention Justifications at George Town	43
10.3	Target Road Network Plan – South George Town	48
10.3.1	George Town Road Network Plan	48
10.3.2	Intervention Treatments for South George Town	49
10.3.3	Intervention Justifications at South George Town	49
10.4	George Town Area Structure Plan	51
10.4.1	Macquarie Street Entrance MN1	51
10.4.2	Alternative Access MN2	51
10.4.3	Pedestrian Crossings MN3	52
10.4.4	Bicycle Lanes MN4	52
10.4.5	Gaps in Road Network	52
11.	Recommendations and Conclusions	53
11.1	Assumptions	53
11.2	South George Town, George Town and Low Head Road Network Plan	54
11.3	George Town Area Structure Plan	57



Appendices	58
Appendix A - DPAC Local Government Road Hierarchy June 2015	59
Appendix B - Tas. 26m B Double Network	61
Appendix C - Road Network Guidelines	62
Appendix D - Intelligent Transport Systems	74
Appendix E - Local Area Traffic Management	76
Appendix F - Level of Service Descriptions	78
Appendix G - Traffic Count Data	79
Appendix H - TCS Traffic Surveys	91
Appendix I - Intersection Analysis	99
Appendix J - Warrant for Traffic Signals	103
Appendix K - Council Rd 10 Year Crash History	104
Appendix L – GTASP Road Infrastructure	113

Document history and status

Revision	Date issued	Reviewed by	Approved by	Date approved	Revision type
1	3 rd Aug 2024	R Burk	R Burk	3 rd Aug 2024	Draft
2	24 th Mar 2025	R Burk	R Burk	24 th Mar 2025	Draft 2

Distribution of copies

Revision	Copy no	Quantity	Issued to
Draft	1	1	Tamara Burt, GTC
Draft 2	1	1	Tamara Burt, GTC

Printed:	16 May 2025
Last saved:	16 May 2025 11:03 AM
File name:	GT RNP
Author:	Richard Burk
Project manager:	Richard Burk
Name of organisation:	GT RNP
Name of project:	GT RNP
Name of document:	GT RNP
Document version:	Draft 2
Project number:	

1. Background

George Town Council has requested a review of the road transport network at George Town and Low Head to provide for sustainable development of the network and the region and follows development of the George Town Area Structure Plan (GTASP) - July 2021.

Accordingly, the GTASP has been referenced regarding the recommended actions and planning principles presented for road infrastructure, see Figure 1.

Figure 1 Road Infrastructure Actions & Principles

Recommended Actions	
<i>Macquarie Street Entrance</i>	
MN1. Devise a concept plan for Macquarie Street entrance from Main Road to improve wayfinding and entry to the town centre. The entry point should be easily identifiable through an art installation and landscaping.	
<i>Alternative Access</i>	
MN2. Investigate the construction of a new road south of Victoria Street to provide a secondary vehicle route for residential traffic and commercial vehicles from Franklin Street to travel to Main Road.	
<i>Pedestrian Crossings</i>	
MN3. Investigate and identify a minimum of six additional pedestrian crossings across Low Head Road, Goulburn Street and Main Road at locations that connect with street junctions and the pedestrian and cycling network. Pedestrian crossings are to be marked and signed.	
<i>Bicycle Lane</i>	
MN4. On the road, bicycle lanes to be marked where off-road paths are not possible to correspond with identified routes. Community consultation to determine the path to be marked.	
<i>Gaps in Road Network</i>	
MN5. Construct permeable streets addressing gaps in the movement network.	
<i>Street Trees</i>	
MN6. Continue street tree planting incrementally along the primary walking and cycling route (where the road reserve has capacity) of George Town to improve the greening of the SP Area.	
MN7. Revise the road design standards to incorporate sufficient width to plant street trees as part of new development.	
<i>Bus Stops</i>	
MN8. Investigate where to locate additional bus stop locations adjacent to pedestrian and cycle linkages. Additional stops will become available as the population increases.	
Planning Principles	
P11. Main Road, Goulburn Street, Low Head Road remain the primary arterial road for vehicle movements to Bellbuoy Beach Road, Low Head, the East Tamar Highway and Bridport Road.	
P12. Provide an alternative route for vehicle movements originating from industrial activities and residential uses via Victoria Street to reduce traffic volumes and improve safety adjacent to the school.	
P13. New subdivision serviced to facilitate a grid road pattern and cul-de-sac not supported unless it furthers connection and linkages to the walking network.	
P14. Provide pedestrian crossings over the primary arterial road, near public transport stops, school & linkages.	
P15. Street Trees planted to green and define the streetscape.	
P16. Improved convenience for residents to access public transportation by increasing the intervals of bus stops.	

Road Infrastructure

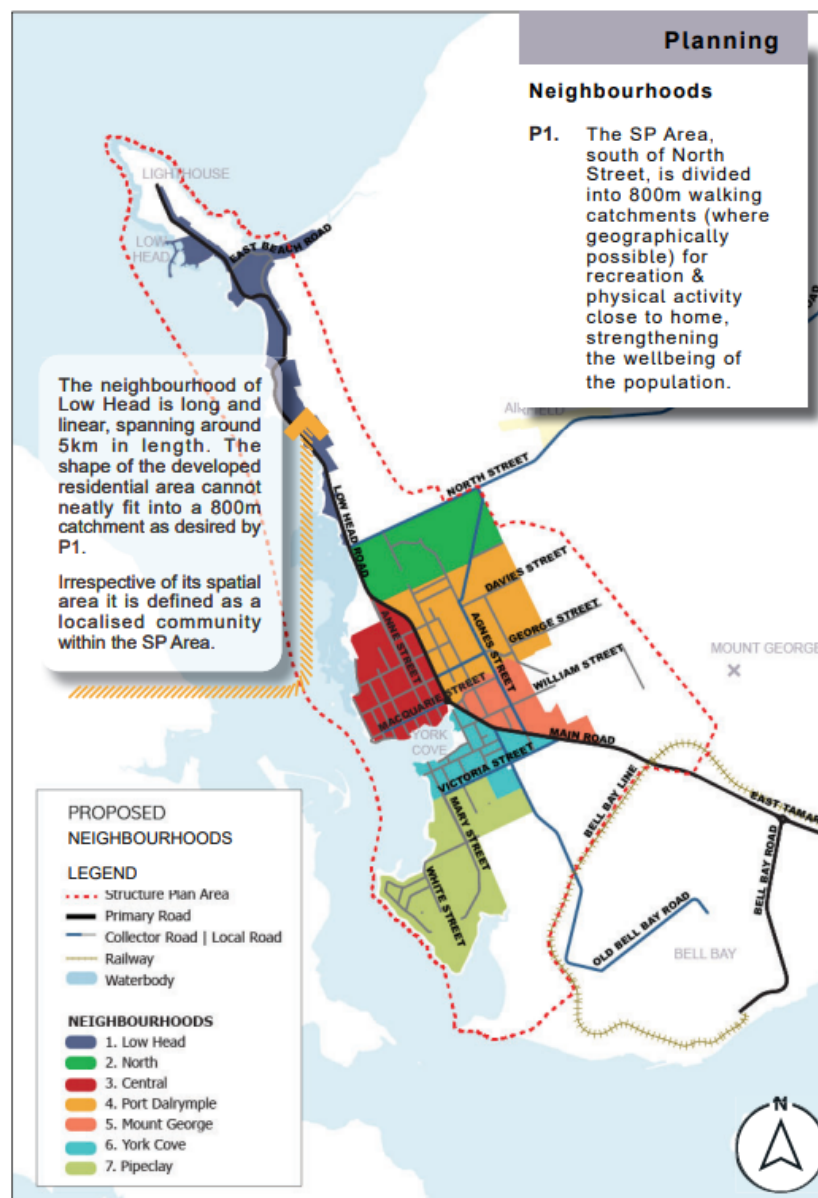
Source: George Town Area Structure Plan (July 2021)

Accordingly, GTC has commissioned TCS to prepare a road network management plan for George Town and Low Head. In this report the road network has been assessed in terms of three regions:

- Low Head (North of North Road)
- George Town (South of North Road to North of Main Road)
- South George Town (Southeast of Macquarie Street to South Road)

These regions correlate with the Neighbourhoods referenced in the GTASP, see Figure 2.

Figure 2 Neighbourhoods



Source: George Town Area Structure Plan (July 2021)



2. References

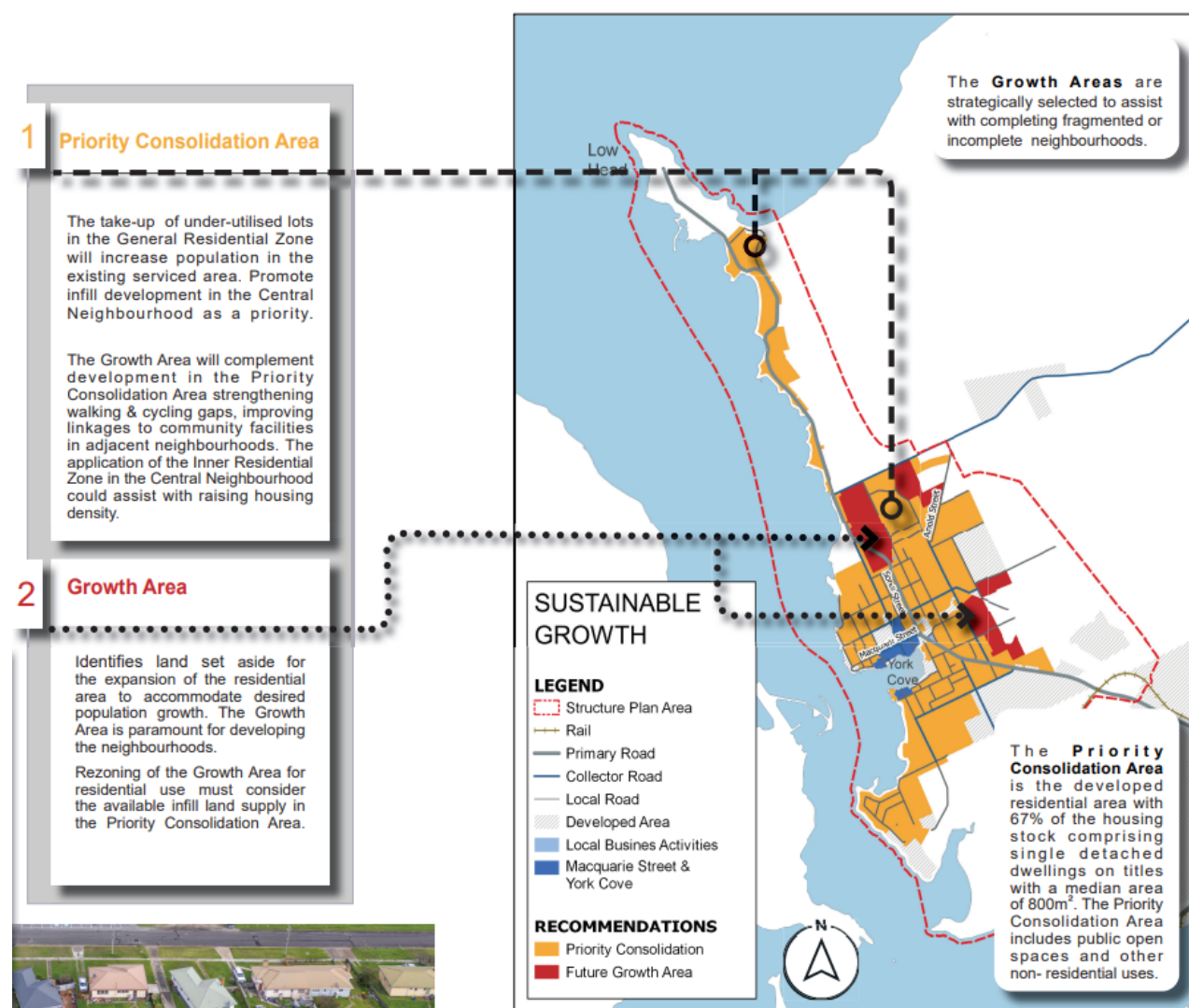
2.1 Technical References

- Road Hierarchy & Management Targets – South George Town (Jan 2024) -TCS
- George Town Area Structure Plan (July 2021)
- Traffic Engineering and Management by K.W. Ogden and S.Y. Taylor (TE&M)
- Local Government Road Hierarchy (Local Government Division of Department of Premier and Cabinet), see Appendix A.
- Austroads Safe Systems Assessment Framework (Research Report AP-R509-16)
- Austroads Guide Traffic Management (latest versions)
 - Part 6: Intersection, Interchanges & Crossings
 - Part 7: Traffic Management in Activity Centres
 - Part 8: Local Area Traffic Management
 - Part 12: Traffic Impacts of Developments
 - Part 13: Road Environment Safety
- Austroads Guide to Road Design (latest versions)
 - Part 4A: Unsignalised and signalised Intersections
 - Part 6A: Pedestrian and Cyclist Paths

2.2 George Town Area Structure Plan (July 2021)

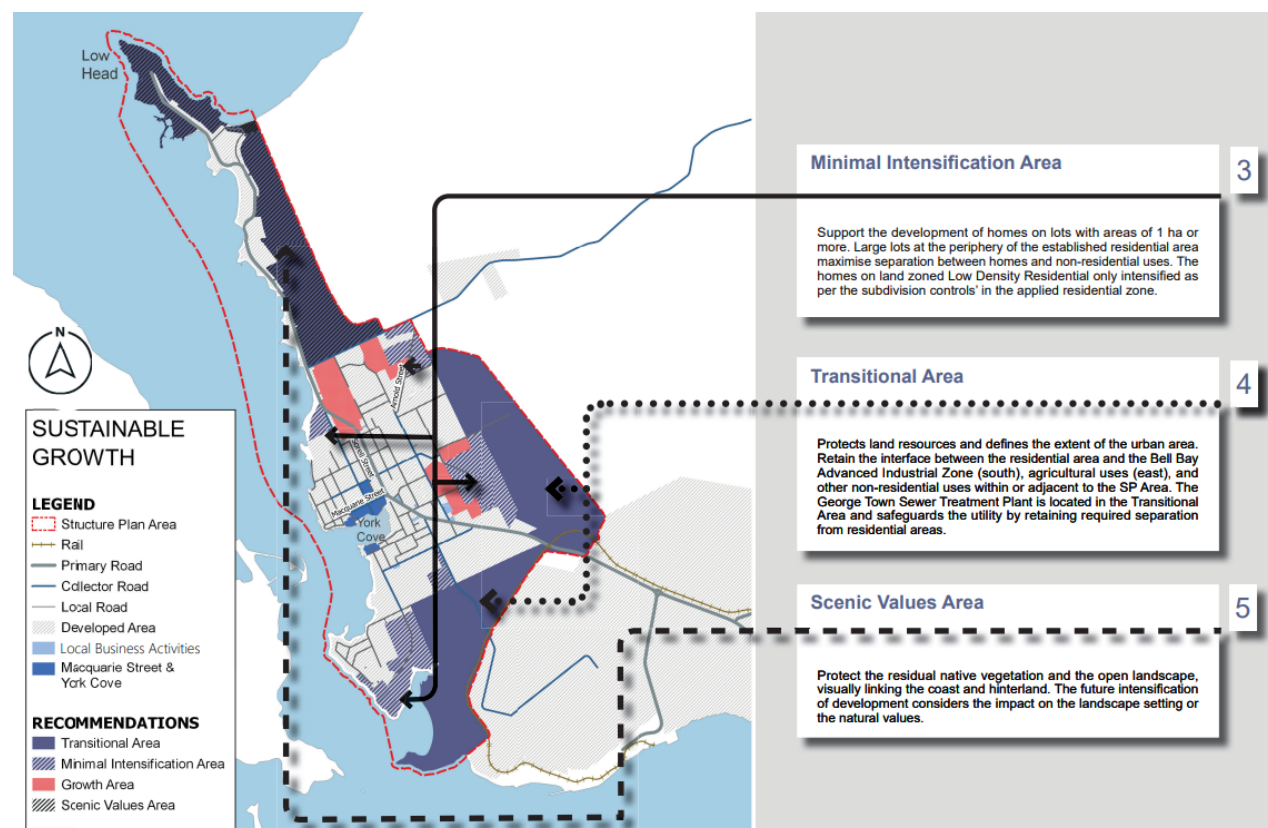
The GTASP provides helpful input on identified sustainable growth areas that need to be considered in the development of a road network plan. These growth areas are shown in Figures 3,4 & 5.

Figure 3 - Growth and Consolidation Areas



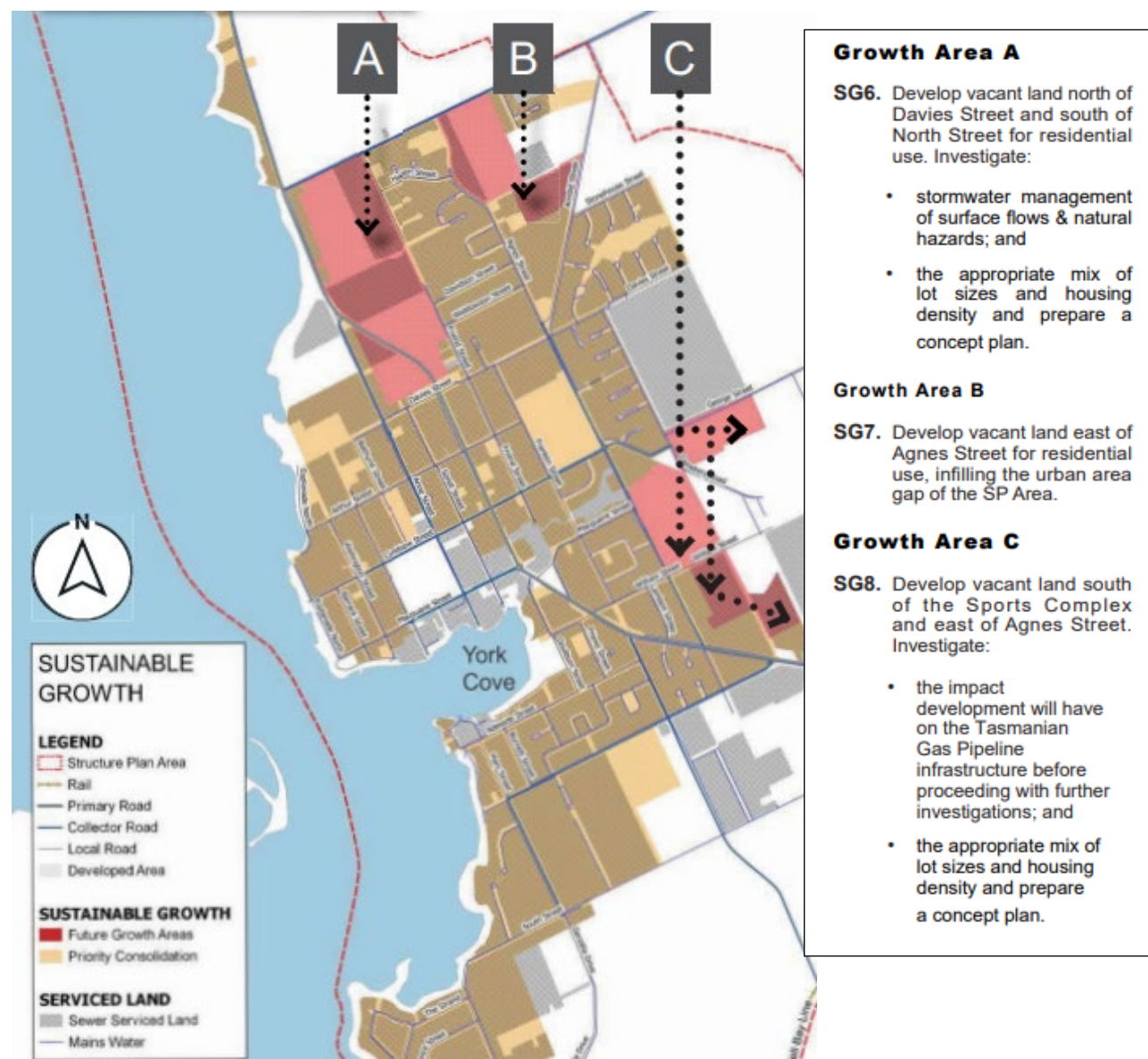
Source: George Town Area Structure Plan (July 2021)

Figure 4 – Transition and Growth Areas



Source: George Town Area Structure Plan (July 2021)

Figure 5 – Growth Areas A, B & C



Source: George Town Area Structure Plan (July 2021)

Implications for Road Network Plan:

Area A

- Growing importance Low Head Road junctions with North and Anne Streets
- Growing importance of North and Friend Street

Area B

- Increasing use of Agnes and Arnold Streets

Area C

- Growing importance of Agnes and Cimitiere Street as a connection to the Goerge Town CBD.

3. George Town Road Network

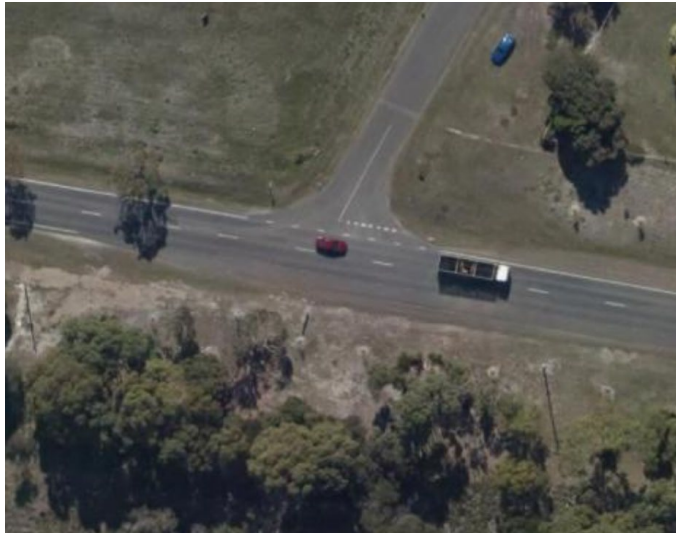
This section of the report provides a snapshot of sites of interest in the existing road network.

3.1 Main Road and Goulburn Street

Main Road and Goulburn Street together with Low Head Road constitute the North - South Sub Arterial spine through George Town and on to Low Head. North Street and Old Bell Bay Road are the only other access roads to the Township.

Main Road varies in width, see Figure 6 and 7, but is generally fit for purpose.

Figure 6 – Main Road approaching Mt George Road junction



Source: List Map



Source: Google Maps



Figure 7 – Main Road Southern approach to Macquarie Street intersection



Source: List Map



3.2 Low Head Road

Low Head Road has many simple junctions, the most important of which are Anne Street junction which provides direct access to the George Town CBD and North Street. Both Anne and North Street connect to growth areas, see Figure 5. Upgrade of the Anne Street and North Street junctions with Low Head Road to basic right (BAR) layout is both warranted and recommended.

Upgrading to BAR requires widening of the through lane opposite a junction to 6.5m to allow through traffic to pass a propped right turner. BARs minimise delay for through traffic and minimise rear end crash risk.

Figure 8 indicates that a BAR can be retrofitted at the Anne Street junction.

Figure 8.1 – Aerial view of Low Head Road / to Anne Street junction



Source: List Map

Figure 8.2 – Low Head Road Northern approach to Anne Street junction



**The Low Head Road
South bound lane should
be widened to fit a Basic
Right turn facility.**



3.3 Agnes Street

Agnes Street is wide and generally straight, see Figure 9, and suitable for functioning as a Collector Road and would support the development of Growth Areas B & C, see Figure 5.

Figure 9 – Agnes St Looking North from Main Road intersection.



3.4 Anne Street

Anne Street is wide and generally straight, see Figure 10, and suitable for functioning as a Collector Road and would support the development of Growth Areas A & B, see Figure 5.

Figure 10 – Anne Street Northern approach to George Town





3.5 North Street

North Street is narrow but generally straight, see Figure 11.2, and with widening is suitable for functioning as a Collector Road and would support the development of Growth Area A, see Figure 5.

Figure 11.1 – Low Head Road approach North Street junction



Source: Google Maps

The Low Head Road North bound lane should be widened to fit a Basic Right turn facility.

Figure 11.2 – North Road approach Agnes Street



North Street has a seal width of 6m and should be widened to support growing function as an Urban Collector Road.



3.6 Cimitiere Street

Cimitiere Street has a trafficable width of 8.9m and is generally straight, see Figure 12, and suitable for functioning as a Minor Collector Road and would support the development of Growth Area C, see Figure 5.

Figure 12.1– Aerial view of the Cimitiere / Goulburn Street intersection



Source: List Map

Figure 12.2 – Cimitiere Street Eastern approach to Goulburn Street



Source: Google Maps



3.7 South Street

South Street is typically 11.6m wide and generally straight, see Figure 13, and suitable for functioning as a Collector Road if connected to Main Road.

Figure 13.1 – Aerial View of South / Mary Street intersection



Source: List Map

Figure 13.2 – South Street Eastern approach to Mary Street intersection



Source: Google Maps



3.8 Friend Street

Friend Street has suitable width to function as a local through road or Minor Collector Road and would support the development of Growth Area A, see Figure 5.

Figure 14 shows the standard of the North Street approach to Friend Street.

Figure 14 – North Street approach to Friend Street junction



4. Objectives and Methodology

4.1 General Objectives for George Town and Low Head

The following primary objectives were identified:

- **Development of land use capacity of the area**
 - Consistent with TPS and potential rezoning opportunities
 - Consideration of ultimate development needs of the whole area.
 - Respond to topography & environmental constraints
- **Provision of cost-effective transport infrastructure to support development**
 - Appropriate functional road hierarchy for cost effective development.
 - Appropriate use of traffic management facilities
- **Efficient access**
 - Multimodal access and integration with surrounding road network
 - Provide for pedestrians and cyclists
 - Heavy vehicles e.g Waste Management, Public Transport & Emergency Services
 - Appropriate connections with major traffic generating sites e.g. residential areas, educational facilities (schools) and commercial centres (shopping)
- **Integration**
 - Respond to constraints (brownfield areas) and opportunities (greenfield areas) to achieve the best integration possible for the situation.



4.2 Methodology for George Town and Low Head

The following methodology has been applied to assist in the development of a suitable Road Network plan for George Town and Low Head:

4.2.1 Development of land use capacity of the area

- Consider impact of Growth Areas A, B & C, see Figure 5
- Respond to topography & environmental constraints, see Figures 15 & 16.

Figure 15 – Topography at George Town, South of North Street



George Town is constrained to the:

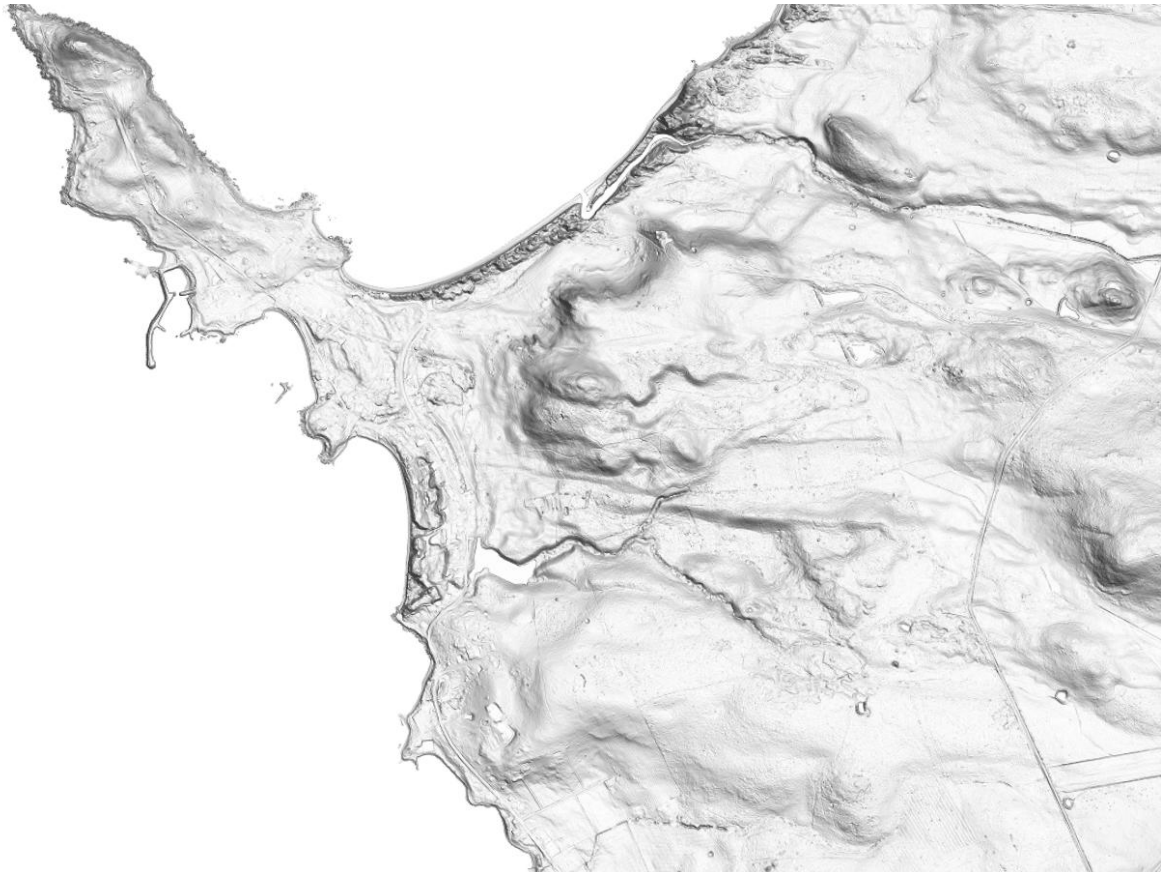
- **East by Mount George and The Buffalo**
- **South by the Bell Bay Industrial precinct**
- **West by the Tamar Estuary**

Source: The List, DPIPWE

Figure 16 – Topography at Low Head, North of North Street

Low Head is constrained to the:

- **North by Bass Strait**
- **West by the Tamar Estuary**



Source: The List, DPIPWE

4.2.2 Provision of cost-effective transport infrastructure to support development

Low Head

Review of the existing road hierarchy servicing Low Head shows dependence on Low Head Road for access, see Figures 17 - 19.

Figure 17 – Low Head Road Network



Figure 18 – Low Head Aerial View



Figure 19– Aerial view of gravel driveways between Low Head & Old Aerodrome Rd



Dependence on one access limits land use development and concentrates flow on one road which maximises risk of bottlenecks in the system due to increasing traffic, car crashes, and natural disasters etc

Ultimately a road connection between Low Head and Old Aerodrome Road would help optimise land use development and allow circulation and alternative emergency access.

George Town

The road network at George Town has alternative routes through the township, see Figure 20.

Figure 20 – Alternative routes through George Town



Alternative routes maximise land use development and decentralise traffic flow which reduces risk of bottlenecks in the system due to increasing traffic, car crashes, and natural disasters etc.



4.2.3 Provision of cost-effective transport infrastructure to support development

Guidance of development proposals towards achieving efficient and cost-effective land use and infrastructure development.

Use of traffic management facilities to support road network objectives e.g intersection treatments and provisions for vulnerable road users.

4.2.4 Efficient access

Cater for pedestrians and cyclists, providing footpaths both sides of major collector roads and one side of other urban roads.

Identify existing and potential heavy vehicle / public transport routes to guide intersection design and design vehicle selection.

Appropriate connections with major traffic generating sites e.g. residential areas, educational facilities (schools) and commercial centres (shopping). Proposed links and management of traffic management facilities cater for such connections.

4.2.5 Integration

Respond to constraints (brownfield areas) and opportunities (greenfield areas) to achieve the best integration possible for the situation.

The proposed links and management allow options for brownfield and greenfield site development and integration with surrounding suburbs.

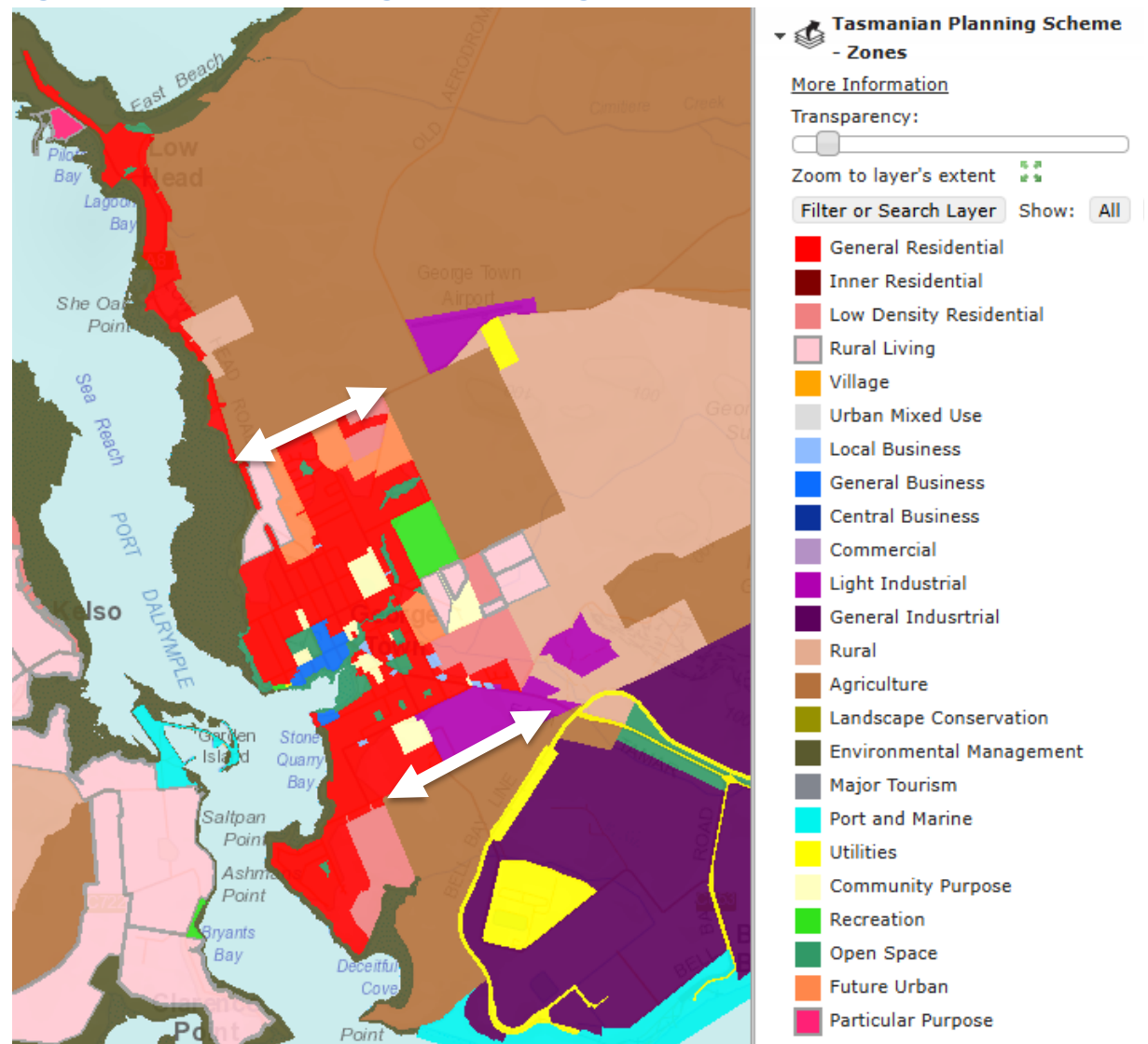
The proposed Road Network Plan is also informed by the following:

- Road Network Guidelines – Appendix C
- Intelligent Transport Systems – Appendix D
- Local Area Traffic Management – Appendix E

5. Tas. Planning Scheme – George Town

Figure 21 shows the relevant TPS land use zoning within the study area. There is abundant land that could be rezoned subject to demand which could impact the road network plan.

Figure 21 – Tasmanian Planning Scheme – George Town



Source: The List, DPIPWE

It is noted that:

- Future Urban zoning abuts the Southern side of North Street, inferring future Urban Collector Road function.
- Residential & Industrial zoning and land suitable for rezoning about a future South Street connection to Main Road inferring future Urban Collector Road function.

6. 2024 Road Network Operation

This section provides a snapshot of existing characteristics of the road network

6.1 Northeast Tasmania growth rates

From review of other towns within Northeast Tasmania there is evidence of the following growth rates:

- Population growth: - 2.1%
- Traffic (vpd): around 1.0%

6.2 George Town and Low Head growth rates

Population data provide evidence for the following growth rates at George Town:

- Population growth: - 2.14%, see Figure 22.
- Traffic (vpd): up to 1.0%, inferred from traffic count data, see Appendix G.
 - Bridport Main Road has a growth rate of 0.7%
 - East Tamar Hwy has a growth rate of 1.83% at Hillwood
 - East Tamar Hwy has an apparent growth rate of 4.0% North of Bell Bay Main Road since 2017 which seems extremely high. This rate has been discounted as it is clearly atypical as an indication of long-term growth.

Figure 22 – Population Data – George Town Urban Area

Population		
George Town Structure Plan Area	4740 people	
George Town Municipality	6764 people	7117 people 2020 Australian Bureau of Statistics, Estimated Resident Population
George Town Urban Area	90% of Structure Plan Area	Current Growth Rate: 2.14% in 2020 for the municipality .
Low Head Locality	10% of Structure Plan Area	Population target 10,000 for the municipality. 75% population in SP Area.

Source: Australian Bureau of Statistics, Community Profile 2016

Source: George Town Area Structure Plan July 2021

6.3 Traffic Data

Traffic data has been sourced from GTC records, DSG records and TCS records and traffic surveys and is summarised in Figure 23. See Appendix G for DSG and GTC data and Appendix H for data supplied by TCS.

Figure 23– Traffic Data Summary

Roads at George Town - Estimated AADT						
Authority	Road	Location	Year	AADT (vpd)	CVs	CAG
GTC	Agnes	North of Arnold Street	2020	840		
		South of Arnold Street	2020	1100		
		Port Dalrymple School	2023	2372		
	Anne	Low Head Road junction #50	2024	860		
			2022	500		
	Arnold	Agnes Street junction	2021	1046		
			2020	660		
	Franklin	Main Road	2021	2200		
		Victoria Street	2021	600		
	Macquarie	CBD	2019	4715		
	Mt George		2022	99		
	Old Aerodrome		2022	240		
	Victoria	East of Edgar Street Main Road junction	2017	1369		
			2021	1500		
			2021	600		
	Low Head Road	Pilot Station	2023	419		
		North of Anne St	2024	2000		
		South of Anne St	2024	1200		
	Main Road	Near Mt George Rd	2023	5314		
		North of Victoria Street	2021	2900		
		South of Victoria Street	2021	3400		
	Thompson Ave	CPT Eng	2024	193		
		Franklin intersection	2024	382		
DSG	East Tamar Hwy	Hillwood		5863	10%	1.8%
	Bell Bay MR	East Tamar Hwy Rabt	2017	2201	30%	0.3%
			2023	2246		
	Bell Bay MR	South of Mobil Road	2023	1100	75%	0%
	Bridport MR	East Tamar Hwy Jcn	2014	1135	27%	0.7%
			2023	1212		

CAG | Compound Annual Growth

CVs | Commercial Vehicles



6.4 Crash Data as an indicator of existing road network safety

Generally, the reported crash history provides evidence that the road network is operating relatively safely and as expected for the level of traffic exposure. Appendix H contains crash history details for the various roads reviewed and spatial distribution of crashes.

The crash data collated is summarised in Figure 24. See Appendix K for detailed crash histories for each road.

Figure 24– 10 Year Reported Crash History Summary

10 Year Reported Crash History											
Road	Crashes	PDO	First Aid	Minor Injury	Serious Injury	Fatal	Crash Propensity	Worst Intersection	Intersection Layout	Crash Severity	Crash Propensity
Anne Street	17	13	2	2	0	0	Cross Driveways	Arthur Street	Cross	3PDO, M	Cross
Goulburn Street	20	11	1	8	0	0	Cross Rear End	Cimitiere Street Arthur Street	Cross Cross & Is's	3PDO, 3M 2PDO, 2M	Cross Mix
Low Head Road	14	8	1	3	2	0	Cross	Davies Street	Cross	FA, 2M, S	Cross
Macquarie Street	33	30	0	2	1	0	Mix	Anne Street	Cross	2PDO	Right
Main Road	12	4	1	6	1	0	Same Lane	Agnes Street	Offset Ys	PDO, FA, M	Mix
Victoria Street	11	7	4	0	0	0	Cross	Franklin Street	Roundabout	6PDO, 4FA	Cross
Total	107	73	9	21	4	0					

PDO | Property Damage Only crash
FA | First Aid applied as a result of crash
M | Minor injury crash
S | Serious injury crash

7. Forecast Traffic Generation

Projected traffic based on assumed compound annual growth rate of 1.0% has been calculated and summarised in Figure 25, for 2034 and 2044.

Except for Main Road and Macquarie Street traffic activity is low for the foreseeable future.

Figure 25 – Projected traffic activity at George Town and Low Head

Authority	Road	Location	Year	AADT (vpd)	Growth Rate	AADT 2034 (vpd)	AADT 2044 (vpd)
GTC	Agnes	North of Arnold Street	2020	840	Compound Annual Growth Rate of 1.0%	970	1070
		South of Arnold Street	2020	1100		1260	1400
		Port Dalrymple School	2023	2372		2650	2900
	Anne	Low Head Road junction #50	2024	860		970	1070
			2022	500			
	Cimitiere			500			
	Goulburn			1500			
	Arnold	Agnes Street junction	2021	1046		760	840
			2020	660			
	Franklin	Main Road	2021	2200		680	750
		Victoria Street	2021	600			
	Macquarie	CBD	2019	4715		5400	5940
	Mt George		2022	99		120	130
	Old Aerodrome		2022	240		280	310
	Victoria	East of Edgar Street Main Road junction	2017	1369		1700	1870
			2021	1500		690	760
			2021	600			
DSG	Low Head Road	Pilot Station	2023	419		460	510
		North of Anne St	2024	2000		2200	2420
	Main Road	South of Anne St	2024	1200		1300	1430
		Near Mt George Rd	2023	5314		5800	6400
	East Tamar Hwy	Nth of Bell Bay MR Rabt	2017	3997		3200	3500
			2023	5078		3740	4120
	Bell Bay MR	East Tamar Hwy Rabt	2017	2201			
			2023	2246			
	Bell Bay MR	South of Mobil Road	2023	1100			
	Bridport MR	East Tamar Hwy Jcn	2014	1135			
			2023	1212			



8. Intersection Analysis

Based on the traffic projections in Figure 25, analysis of only two intersections has been undertaken for this report. These intersections are:

- Main Road / Macquarie Street / Goulburn Street Roundabout
- Macquarie Street / Anne Street Intersection

Each intersection has been analysed with SIDRA 8 Intersection Analysis software. The intersection models and movement summaries are attached in Appendix I.

8.1 Results of Analysis

Main Rd / Macquarie St / Goulburn St Roundabout

- would operate at LOS A by 2034 on all approaches

Macquarie Street / Anne Street Intersection

- would operate at LOS A by 2034 on all approaches.

See Appendix F for LOS descriptions.

8.2 Discussion of results

For these busiest of intersections at George Town there are no traffic capacity issues.

Accordingly by inference there are no capacity issues with the balance of the road network.

None of the intersections are near the threshold for traffic signals, see Appendix J for typical warrants for traffic signals.



9. General Road Network Guidelines

This section considers general road network guidelines to consider when preparing a road network plan. Also see Appendix C for additional background considerations

9.1 Traffic Networks as a System

See Appendix C.1.

9.2 Network Management

Typical road function classifications by traffic volume are as follows:

- Arterial Roads > 10,000 vpd
- Major Collector Roads – 3,000 to 10,000 vpd
- Minor Collector Roads – 1,000 to 3,000 vpd

See Appendix A for DPAC Local Government Road Hierarchy Classifications - June 2015

9.2.1 Road types

- Main Road – Sub Arterial Road providing regional connection.
- Major Collector – 11m minimum road width
- Minor Collector – 8.9m minimum road width
- Local Through Streets – 8.9m and 6.9m

9.2.2 Tasmanian Approved B Double Route Network

The roads within the study area not part of the Tas. 26m B Double network, see Appendix B. Design intersection upgrades to cater for general access vehicles as appropriate e.g

- Triaxle semi-trailers
- Coaches (14m)
- Buses (11m)
- Medium Rigid Vehicles (8.8m) e.g firefighting or garbage trucks.

9.2.3 Vulnerable Road users.

Needs of cyclists and pedestrians to be considered in separate report.



9.3 Design of new urban networks

9.3.1 Design Layout – Tributary

Introduce loop roads into the road network plan to increase:

- land use development opportunities
- internal traffic circulation and access efficiency
- integration with surrounding road network,

9.3.2 Safety in new subdivisions

- Distinguish between the arterial, local street and pathway networks as each have different road functions and network needs.
- Preserve sight lines (avoid planting trees and shrubs, building fences and placing infrastructure that limits sight distance) for junctions and accesses.
- Avoid long straights as this encourages speeding.
- Provide safe pedestrian facilities.
- Provide roundabouts at busy intersections and not allow cross intersections.
- Consider median turn lanes on major collector / arterial roads.
- Stagger T junctions to advantage to allow head-to-head right turns.

9.3.3 Residential area planning

- Arterial networks should bound residential precincts.
- Effective street lengths should be less than 200-250m.
- Where demand justifies, cater for pedestrian and cycle demands separately.
- Minimise traffic on residential streets.
- Number of lots abutting streets with minimal traffic flows should be maximised.



9.4 Liveability, Safety and Amenity Guidelines

Residential precincts need to be bounded by traffic routes and/or natural barriers.

Cyclist and pedestrian demands should be catered for separately.

To maximise the liveability, safety and amenity of the local area, road and street network layout should be such that:

- A minimum of 60% of lots should abut residential streets with less than 300vpd passing traffic.
- A minimum of 80% of lots should abut residential streets with less than 600 vpd passing traffic.
- A maximum of 5% of single dwelling lots should abut residential streets with between 1,000-2,000 vpd passing traffic.
- A maximum of 1% of single dwelling lots should abut local streets or collectors with less than 3,000 vpd passing traffic, and
- No single dwelling lot should abut a route with more than 3,000 vpd passing traffic.

9.5 Road Design

Based on speed limit or General Urban Speed Limit (GUSL) – 50km/h as applicable.

9.5.1 Arterial Roads – Main Road, Goulburn Street and Low Head Road

- Simplify access to major intersections and minimise residential access.

9.5.2 Collector Roads

- Reduce the *effective length* of the road to less than 200-250m, by installing traffic calming devices, such as roundabouts and median islands etc.
- Restrict overtaking by use of median islands, barrier lines or changes in road priority.
- Use collector roads to provide access to enclaves e.g. residential and light industrial to cater for transport efficiency and accessibility.

9.5.3 Residential Streets

- Limit distant visibility with Urban Design. Adequate sight distance visibility should be maintained for access and junction safety.
- Good night-time visibility must be maintained.



- Local streets can be designed by landscape architects and urban designers, with construction materials, road geometry, texture etc. that indicate to a driver that they are driving within a local area.
- Local streets should aim to have an effective length of 250m or less in order to prevent vehicles accelerating to high speeds.

9.6 Services

Road reservation widths should be selected to suit needs of road and services. Service infrastructure includes above and below ground services in addition to overland flow paths for stormwater runoff which may vary in width depending on topography.

Service design layers should be superimposed on proposed outline development plans to establish where wider road reservations may be required.

9.7 Road users

9.7.1 Design Vehicle

- Arterial and Major Collector roundabouts - tri-axle semi-trailer combinations.
- Roundabouts on residential streets should be designed for metro buses or 8.8m rigid trucks as applicable.

9.7.2 Provide pedestrian refuge islands on Collector Roads.

9.7.3 Provide separate off-road cycling paths or shared use trails.

This especially applies in residential areas.

9.8 Intelligent Transport Systems

See Appendix D for background information.

9.9 Local Area Traffic Management (LATM)

See Appendix E for typical process to follow for implementing LATM and typical traffic management devices applicable.



10. Road Network Plans

The following road network plans have been prepared based on

- Anticipated growth areas and compound annual growth rate of 1%
- Recent traffic data
- Reported Crash Data
- Examination of the existing road infrastructure

10.1 Target Road Network Plan – Low Head

10.1.1 Low Head Road Network Plan

The proposed Road Network Plan for Low Head is shown in Figure 26.

Figure 26 – Target Road Network Plan – Low Head





10.1.2 Intervention Treatments for Low Head

The recommended interventions are summarised in Figure 27.

Figure 27 – Recommended interventions for Low Head

Priority Road	Side Road	Existing Intersection 2024	Recommended	Intervention By Year	Priority
Low Head					
Low Head Road					
	East Beach Road	Simple Jcn.	NA		
	Gunns Parade	Simple Jcn.	NA		
	Lagoon Beach Rd	Simple Y Jcn	NA		
	Mckenzie Drive	Simple Jcn.	NA		
	William Parish Dr	Simple Jcn.	NA		

10.1.3 Intervention Justifications at Low Head

The existing intersections are adequate for current and future operation over the next 10 years as through traffic volumes are low and intersection turning movements are typically low.

Maintenance of the existing junctions is the main priority to ensure sight lines, junction signage and delineation (line marking) are maintained.

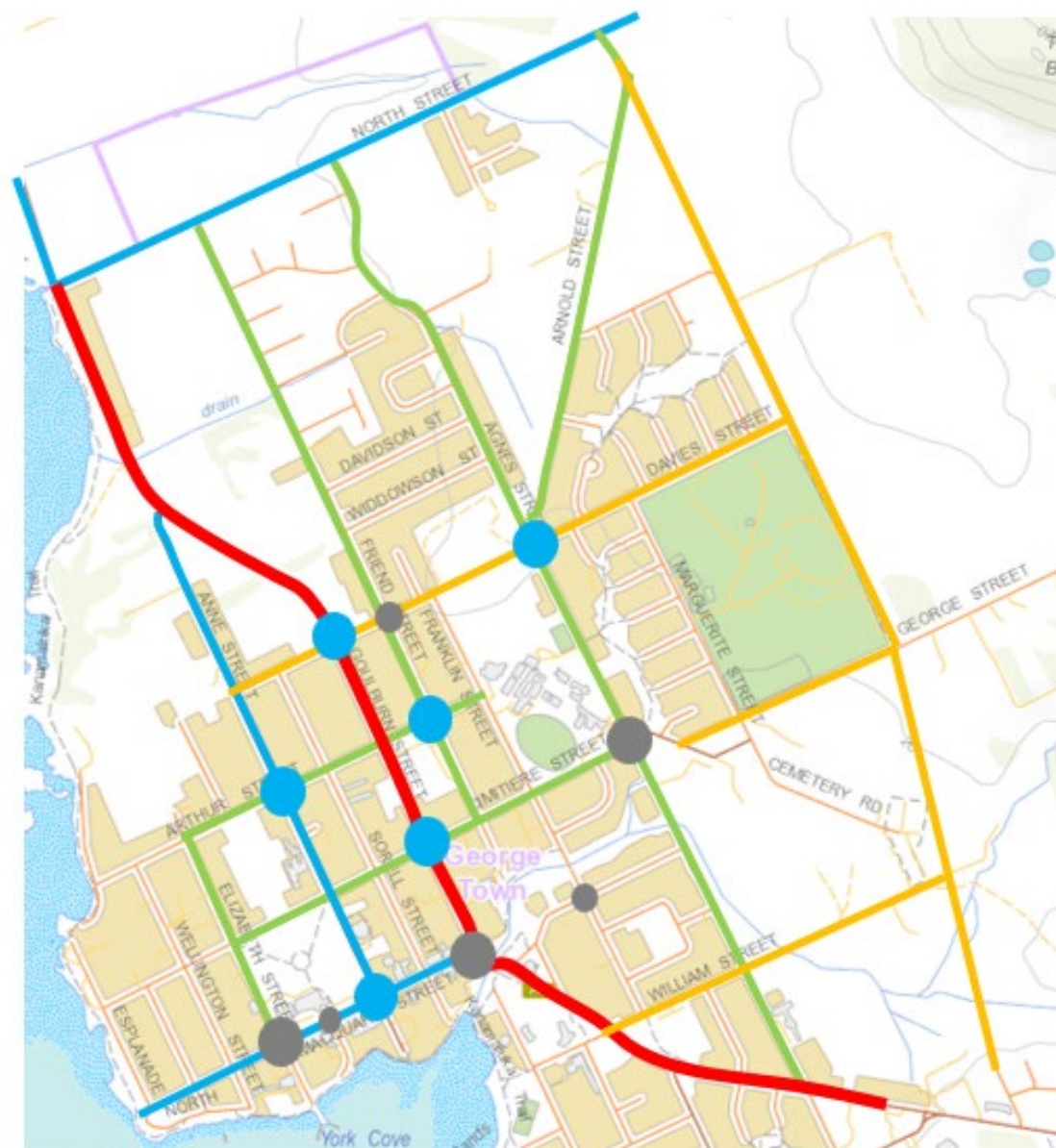
Accordingly, no specific treatments are proposed at Low Head.

10.2 Target Road Network Plan – George Town

10.2.1 George Town Road Network Plan

The proposed Road Network Plan for George Town is shown in Figure 28.

Figure 28 –Target Road Network Plan – George Town



Legend:

- Sub Arterial (Main, Low Head Rd)
- Collector (Anne, Cimitiere, Macquarie, North)
- Minor Collector
- Potential Minor Collectors
- Roundabout
- Proposed Roundabout



10.2.2 Potential Minor Collector Roads

Eastern Boundary Road (North Street to Main Road via Pembroke Street)

This potential link between North Street and Main Road would have a very minor collector function as it would not connect primary origins & destinations i.e urban areas to the CBD. However, it would support efficient land use development to the Southeast and Northeast of George Town.

- **Development of Southeast George Town**

The Main Road / Pembroke Street / William Street loop that would result would provide for efficient development of the Low Density Residential and Rural Living zone in the area. The Southern section of a potential Eastern Boundary Road could be developed from Main Road to George Street by extension of Pembroke Street towards the North. William Street and George Street would ultimately become Minor Collector Roads.

- **Development of Northeast George Town**

Similarly, a Northern loop could be created involving Davies Street, Keystone Drive and Arnold Street connection to North Street.

The main advantage of the Eastern Boundary route is that it allows for efficient development and while it would not generate a significant volume of through traffic, construction to a Minor Collector Road standard is recommended.

Davies Street

In the event of an Eastern Boundary Road, Davies Street would provide connection to Anne Street and Davies Street would have a Minor Collector function as it would connect primary origins & destinations i.e urban areas to the CBD.

Wellington Street

Wellington Street does not have a Collector Function and Elizabeth Street already provides local North – South through flow. Upgrading of Wellington Street to a Collector Road is not considered necessary or desirable.

Potential East West Link between Davies and North Street

Such a link between Low Head Road and Arnold Street would not have a collector function as it would not connect primary origins & destinations i.e urban areas to the CBD. The connection would be another East West link in a grid network and operate as a residential street. The linkage is acceptable but not required for collector function.

In summary, a consequence of an Eastern Boundary Road is that Davies, George and William Streets would become minor collector roads as indicated in Figure 28.

10.2.3 Intervention Treatments for George Town

The recommended interventions are summarised in Figure 29.

Figure 29 – Recommended interventions for George Town

Priority Road	Side Road	Existing Intersection 2024	Recommended	Intervention by Year	Priority
George Town					
Low Head Road					
	North Street	Simple Jcn.	BAR Jcn	2034	7
	Anne Street	Simple Y Jcn	BAR Jcn	2034	8
Goulburn Street					
	Davies	BAR Int.	Roundabout	2034	6
	Arthur	Adverse Int.	BAR Int.	2030	2
	Cimitiere	BAR Int.	Roundabout	2034	9
Main Road					
	Macquarie Street	Roundabout	NA		
	William Street	BAR Int.	NA		
	Agnes Street	BAR Int.	NA		
Agnes Street					
	Arnold Street	Simple Jcn.	Roundabout	2034	11
	Cimitiere Street	Roundabout	NA		
	William Street	Simple Int.	NA		
Friend Street					
	Davies	Roundabout	NA		
Anne Street					
	Arthur Street	BAR Int.	Roundabout	2034	10
	Cimitiere Street	BAR Int.	NA		
North Street					
	Friend Street	Simple Jcn.	NA		
	Agnes Street	Simple Jcn.	NA		
	Arnold Street	Simple Jcn.	NA		
Arthur Street					
	Friend Street	Simple Int.	Roundabout	2040	12
	Franklin Street	Simple Jcn.	NA		
Cimitiere Street					
	Elizabeth Street	BAR Int.	NA		
	Friend Street	Simple Int.	NA		
	Franklin Street	Simple Int.	NA		
	Agnes Street	Roundabout	NA		
Macquarie Street					
	Esplanade	Simple Jcn.	NA		
	Elizabeth Street	Roundabout	NA		
	Bathurst Street	Roundabout	NA		
	Anne Street	Simple Int.	Roundabout	2030	1



10.2.4 Intervention Justifications at George Town

Macquarie Street / Anne Street - Roundabout – Priority 1

A roundabout is recommended for the following reasons:

- Macquarie Street and Anne Street have Collector Road functions and an intersection with four legs. Four leg intersections between Collector Roads have elevated crash risk that can be effectively reduced by management with a roundabout.
- Helps traffic circulation along the Macquarie Street CBD at George Town. In combination with the Elizabeth Street roundabout to the West and the Main Street roundabout to the East, provides for efficient circulation of traffic.
- The existing intersection does not provide well for through traffic as there is only one lane in each direction. This means propped right turners delay through traffic. A Roundabout would minimise delays for through traffic.
- Provides another opportunity to provide pedestrian refuge islands at the roundabout splitter islands which is a desirable outcome in CBDs.
- It is noted that the reported crash history for this intersection is low however a roundabout would provide several operational benefits for the George Town CBD and supports proposed Road Network development at George Town.

Goulburn Street / Arthur Street – BAR Intersection – Priority 2

A BAR intersection is recommended for the following reasons:

- The intersection has a reported crash history with 2 Minor Injury and 2 Property Damage Only crashes, see Appendix M.3.
- Goulburn Street has a Sub Arterial function through George Town. BAR right turn facilities are the Austroads default standard layout for the situation. The site has an unusual layout where pedestrian refuge islands are provided on both priority road approaches, see Figure 30. The default standard is Basic Right turn facilities on the priority road approaches. In this case it appears priority has been given to pedestrians crossing Goulburn Street being on the desire line to Port Dalrymple School. However, the footpaths and access ramps do not align at all with the pedestrian refuge islands creating a confusing situation for pedestrians crossing the road and turning traffic. The pedestrian refuge islands need to be set further back from the intersection with pedestrian access ramps and connections made for safe operation.
- Supports proposed Road Network development at South George Town.

Figure 30 – Aerial view of Goulburn / Arthur Street intersection



Pedestrian refuge islands on both priority road approaches to the intersection.

Source: The List, DPIPWE

Goulburn Road / Davies Street – Roundabout – Priority 6

A roundabout is recommended for the following reasons:

- The intersection has a disappointing 5 year reported crash history with 1 Serious Injury, 2 Minor Injuries and a First Aid Crash and a propensity for Cross Intersection crashes, see Appendix M.2
- Goulburn Road has a Sub Arterial function and is the first four leg intersection encountered on the Northern approach to George Town and as such a suitable location for a gateway treatment for entering the built-up centre of George Town. The Main Street – Goulburn Road / Macquarie Street roundabout is the partnering gateway on the Southern approach. Together these two roundabouts would further define and calm the sub arterial spine through the centre of George Town.
- Four leg intersections between Sub Arterial and Collector Roads have an elevated crash risk that can be effectively reduced by management with a roundabout.
- Has a traffic calming function that helps reduce through speeds. George Town would benefit from calming of Goulburn Road traffic on the Northern approach to the town which is highly desirable in an urban residential situation.
- The reported crash history for this intersection is a concern and a roundabout would provide operational benefits for traffic passing through George Town and supports proposed Road Network development at George Town.



Low Head / North Street – BAR – Priority 7

A BAR junction is recommended for the following reasons:

- Austroads junction warrant. Low Head Road has a sub arterial function. The default junction standard for junctions between major roads is BAR i.e a Basic Right turn facility.
- North Street has a growing Collector Road function and provides access to George Town Airport, Bell Buoy Beach, and Beechford.
- Supports proposed Road Network development at South George Town.

Low Head / Anne Street – BAR – Priority 8

A BAR junction is recommended for the following reasons:

- Austroads junction warrant. Low Head Road has a sub arterial function. The default junction standard for junctions between major roads is BAR i.e a Basic Right turn facility.
- Anne Street has a Collector Road function and provides direct access to George Medical Centre & Hospital and the George Town CBD.
- Supports proposed Road Network development at South George Town.

Goulburn Road / Cimitiere Street – Roundabout – Priority 9

A roundabout is recommended for the following reasons:

- The intersection has a disappointing 5 year reported crash history with 3 Minor Injury and 3 Property Damage Only crashes and a propensity for Cross Intersection crashes, see Appendix M.2
- Goulburn Road has a Sub Arterial function and Cimitiere Street has an identified Collector Road function. Together the Main Street roundabout and proposed Davies Street roundabouts would further define and calm the sub arterial spine through the centre of George Town.
- Four leg intersections between Sub Arterial and Collector Roads have a high crash risk that can be effectively reduced by management with a roundabout.
- The reported crash history for this intersection is a concern and a roundabout would provide operational benefits for traffic passing through George Town and supports proposed Road Network development at George Town.



Anne Street / Arthur Street – Roundabout – Priority 10

A roundabout is recommended for the following reasons:

- Anne Street (Collector) and Arthur Street (Minor Collector) intersect to form a four-leg intersection. Four leg intersections between Collector Roads have a high crash risk that can be effectively reduced by management with a roundabout.
- Has a traffic calming function that helps reduce through speeds. Anne Street is relatively long and a slow point measure such as a roundabout serves to calm through speeds which is highly desirable in an urban residential situation.
- It is noted that the reported crash history for this intersection is low with 1 Major Injury and 3 Property Damage Only crashes over 5 years, but with a Cross Intersection crash propensity however a roundabout would reduce crash risk and support proposed Road Network development at George Town.

Agnes Street / Arnold Street - Roundabout – Priority 11

A roundabout is recommended for the following reasons:

- Both streets have a Minor Collector Road function.
- Agnes Street is a long street where a slow point measure such as a roundabout serves to calm through speeds which is highly desirable in an urban residential situation.
- A roundabout would also support operation of the road at school times North of the nearby Port Dalrymple School. A roundabout would assist by acting as a turning point for parents arriving and departing in a School Zone where on street parking and associated access can be an issue. This proposal would partner well with the Agnes / Cimitiere Street roundabout South of the school.
- Provides another opportunity to provide pedestrian refuge islands at the roundabout splitter islands which is a desirable outcome near schools.
- The intersection crash history has not been referenced however a roundabout would provide traffic calming and operational benefits for Port Dalrymple School traffic and supports proposed Road Network development at George Town.



Arthur / Friend Street – Roundabout – Priority 12

A roundabout is recommended for the following reasons:

- Both roads have a Minor Collector function.
- Four leg intersections between Collector Roads have an elevated crash risk that can be effectively reduced by management with a roundabout.
- Provides another opportunity to provide pedestrian refuge islands at the roundabout splitter islands which is a desirable outcome near schools.
- The intersection crash history has not been referenced however a roundabout would provide traffic calming and operational benefits for Port Dalrymple School traffic and supports proposed Road Network development at George Town.

North Street (Low Head Road to Arnold Street)

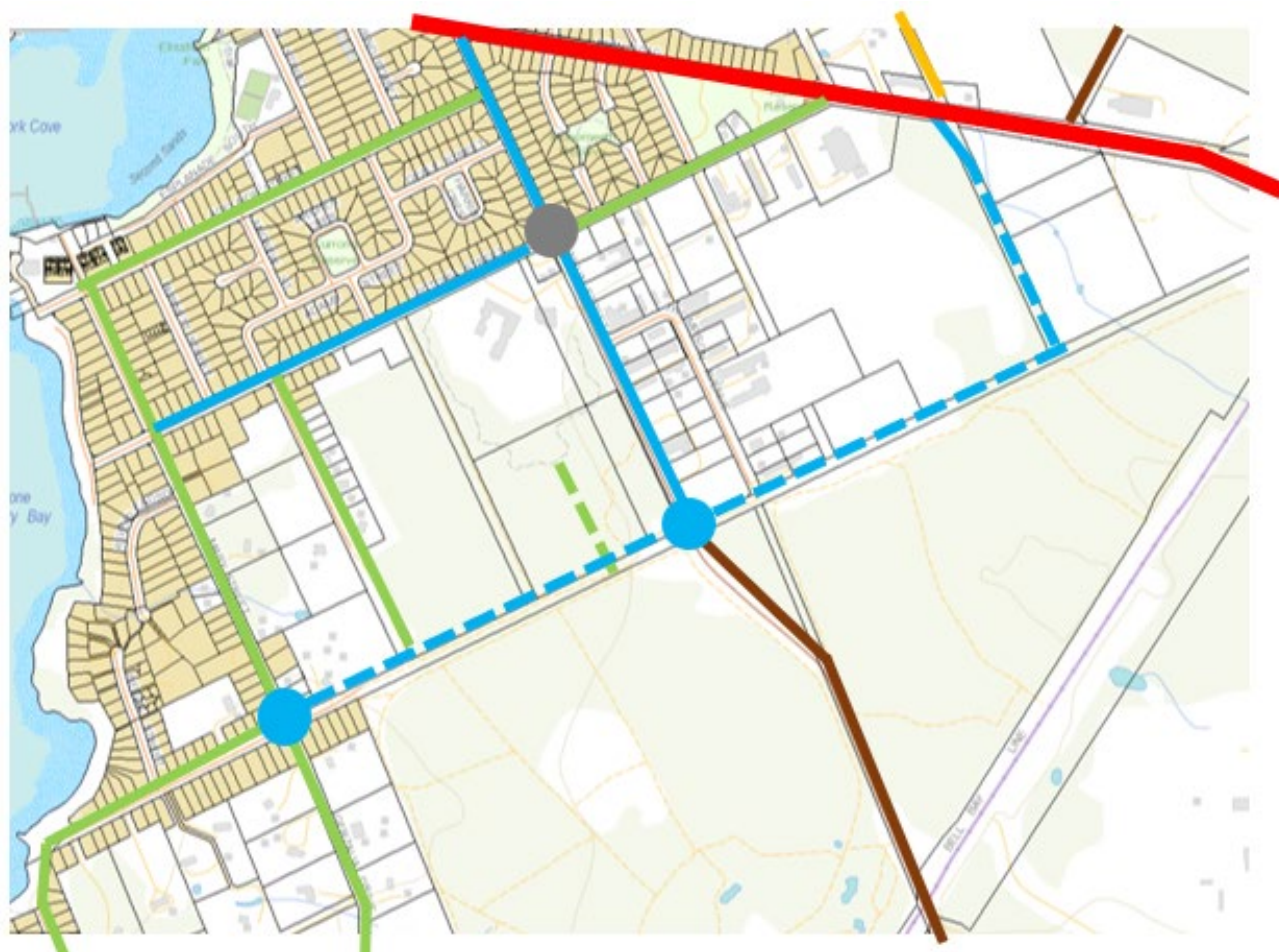
- North Street has previously functioned as a low volume rural collector road providing access to Bell Buoy Beach, Beechford and the George Town Airport. Recent urban residential development, Village zoning and associated access to North Street means the road has a growing Urban Collector Road function. High growth areas have been identified in the George Town Area Structure Plan, beside North Street, see Figure 5, which reinforce that North Street has an increasingly transport function.
- The existing road has a seal width of less than 6m which is substandard for the growing function of the road.
- Upgrading of North Street to Urban Collector Road standard with a road width of 11.0m is recommended which would allow BAR right turn facilities for the Friend, Agnes and Arnold Street junctions.
- LGAT Urban Roads Standard Drawing TSD-R06 is the road cross section design standard. It is noted that kerb and channel has recently been installed on the Southern side though no road widening has been undertaken. Provision of kerb and channel and footpath on the Northern side of the road could be left until the adjacent land is rezoned for residential use.

10.3 Target Road Network Plan – South George Town

10.3.1 George Town Road Network Plan

The proposed Road Network Plan for South George Town is shown in Figure 31.

Figure 31 – Target Road Network Plan – South George Town



Legend:

- **Sub Arterial (Main Rd)**
- **Collector (Franklin St & Victoria St.)**
- **Minor Collector (Adelaide St & Mary St.)**
- **Rural access (Old Bell Bay Road)**
- - - **Proposed Collector (South St & Pembroke St.)**
- **Roundabout**
- **Proposed Roundabout**

10.3.2 Intervention Treatments for South George Town

The recommended interventions are summarised in Figure 32.

Figure 32 – Recommended interventions for South George Town

Priority Road	Side Road	Existing Intersection 2024	Recommended	Intervention By Year	Priority
South George Town					3
Main Road					
	Franklin Street	Roundabout	NA		
	Victoria Street	BAR	NA		
	South Street	BAR Jcn (Prop.)	BAR Jcn,	2030	
	Mount George Rd	BAR Jcn	NA		5
Franklin Street					
	Adelaide Street	Simple Jcn.	NA		
	Victoria Street	Roundabout	NA		
	South Street	BAR Jcn (Prop.)	Roundabout	2034	
Mary Street					4
	Adelaide Street	Simple Int. One Way	NA		
	Victoria Street	Simple Int.	NA		
	South Street	Simple Int.	Roundabout	2030	

10.3.3 Intervention Justifications at South George Town

Main Street / South Street – BAR Junction – Priority 3

A BAR junction is recommended for the following reasons:

- Austroads junction warrant. Main Road is the primary access to George Town and hence classified with a sub arterial function. The default junction standard for junctions between major roads is BAR i.e with a Basic Right turn facility.
- South Street would have a Collector Road function once connected to Main Road providing direct access to the residential precinct along the Eastern Shore of the Tamar Estuary at South George Town and industrial land uses on the West side of Main Road.
- Supports proposed Road Network development at South George Town.



Mary / South Street / Gerzalia Drive – Roundabout – Priority 4

A roundabout is recommended for the following reasons:

- Mary Street has and South Street will have Collector Road functions and intersect to form a four-leg intersection. Four leg intersections between Collector Roads have an elevated crash risk that can be effectively reduced by management with a roundabout.
- Has a traffic calming function that helps reduce through speeds. Both Streets are relatively long and a slow point measure such as a roundabout serves to calm through speeds which is highly desirable in an urban residential situation.
- Supports proposed Road Network development at South George Town.

Franklin / South Street – Roundabout – Priority 5

A roundabout is recommended for the following reasons:

- Franklin Street has and South Street will have Collector Road function and potentially intersect to form a four-leg intersection. Four leg intersections between Collector Roads have an elevated crash risk that can be effectively reduced by management with a roundabout.
- Both streets will operate with a mix of light (90%) and heavy vehicles (10%) involving turning movements.
- Supports proposed Road Network development at South George Town.

South (Main Road to Mary Street)

- See previous report prepared for Council *Road Hierarchy & Management Targets – South George Town (Jan 2024) -TCS*. This report identifies South Street as a potential Urban Collector Road.



10.4 George Town Area Structure Plan

Responses to recommended actions for road infrastructure described in the GTASP, also see Appendix L:

Recommended Actions

Macquarie Street Entrance

MN1. Devise a concept plan for Macquarie Street entrance from Main Road to improve wayfinding and entry to the town centre. The entry point should be easily identifiable through an art installation and landscaping.

Alternative Access

MN2. Investigate the construction of a new road south of Victoria Street to provide a secondary vehicle route for residential traffic and commercial vehicles from Franklin Street to travel to Main Road.

Pedestrian Crossings

MN3. Investigate and identify a minimum of six additional pedestrian crossings across Low Head Road, Goulburn Street and Main Road at locations that connect with street junctions and the pedestrian and cycling network. Pedestrian crossings are to be marked and signed.

Bicycle Lane

MN4. On the road, bicycle lanes to be marked where off-road paths are not possible to correspond with identified routes. Community consultation to determine the path to be marked.

Gaps in Road Network

MN5. Construct permeable streets addressing gaps in the movement network.

Source: George Town Area Structure Plan (July 2021)

10.4.1 Macquarie Street Entrance MN1

There is a pedestrian refuge in the Macquarie Street median at this location to be considered however there is scope to provide a wayfinding facility.

10.4.2 Alternative Access MN2

Development of South Street as a Collector Road that intersects with Main Road is recommended.



10.4.3 Pedestrian Crossings MN3

A number of roundabouts are proposed on Goulburn Street which provide opportunities to include pedestrian refuges within the approach splitter islands, see Figure 28. Additional midblock pedestrian refuge islands could also be included.

10.4.4 Bicycle Lanes MN4

Provision of bicycle lanes will be considered as part of the companion report *George Town Pedestrian and Cyclist Network Plan*

10.4.5 Gaps in Road Network

The gaps in the network identified include:

South Street – This road exists in various states at various locations and as such not well connected with the surrounding road network. This report recommends development of this road as a Collector Road which would create land use development opportunities and better residential access to the Pipeclay Bay residential precinct. Also provides public transport benefits.

North Street – This road exists and is not technically a ‘Gap in the Road Network’. However, it is a gap in the network in the sense that the standard of the road does not match its function which is growing and will continue to grow based on Land Use Zoning and Growth Area status identified in the GTASP, see Figure 5.

Development of South and North Streets responds to this Road Infrastructure recommendation in the GTSP.

11. Recommendations and Conclusions

11.1 Assumptions

This report develops a road network plan for management of George Town, South George Town and Low Head.

Ongoing traffic growth and demand for land use development triggers the need to revisit the road network planning to cater for sustainable development. Ongoing development and development opportunities has triggered revisiting the road network serving George Town and Low Head.

This report begins with a review of traffic activity levels and reported crash histories broadly across the road network focussing on the links and intersections.

Forecast population growth for the region is 2% and at this level of growth typical compound annual traffic growth of up to 1% is indicated for George Town. Lower growth is forecast for Low Head.

Current traffic volumes on the major road have been collated and accordingly traffic activity levels for 10 and 20 years future can be reasonably estimated.

From consideration of current traffic and projected traffic growth rates there are no traffic capacity issues likely in the next 20 years as traffic levels are typically less than 10% of capacity apart from Main Road (5,300vpd in 2023 South of George Town) which operates at less than 25% of capacity and Macquarie Street (4,715 vpd in 2029) which operate at 50% of capacity.

Typically, the volume of traffic at George Town intersections is in the low range where intersections operate at Level of Service A. Accordingly minimal intersection analysis has been necessary to assess intersection performance.

The Main Road / Macquarie Street and Macquarie /Anne Street intersections were analysed with SIDRA Intersection Analysis software because they are the busier intersections and were found to be operating at LOS A by 2034.

Accordingly, there are no traffic capacity issues expected over the next 20 years and emphasis has therefore been on providing for link upgrades and safe operation of the network and identification of sites where traffic safety and operation can be improved.

The road network planning approach taken in this report has been to provide for a sustainable road transport system with the following goals:



Development of land use capacity

- Caters for ultimate development potential, see Figure 5.
- Responds to topographic and environmental constraints.

Provision of cost-effective transport infrastructure to support development

- Reviews the existing road network servicing George Town and Low Head to identify key links and/or nodes improvement opportunities to support future development:
- Recommends appropriate traffic management facilities.

Efficient and Safe access

- Considers transport efficiency, access and traffic safety to ensure a sustainable road network is provided that can support future subdivision and development.
- Appropriate road connections for new subdivisions, residential areas, educational facilities, medical and commercial centres.

Integration

- Responds to constraints (brownfield areas) and opportunities (greenfield areas) to achieve the best integration possible for the situation.
- The proposed road network plan enables development and appropriate integration with surrounding suburbs.

11.2 South George Town, George Town and Low Head Road Network Plan

The proposed road network plan includes a draft functional road hierarchy and proposed intervention plan to sustain transport efficiency, access & safe operation.

- See Figures 33 & 34 for the George Town Area.
- See Figure 26 for Low Head

Future Urban Collector Road functions are identified for North Street and South Street in the George Town area. Upgrading of these roads to Urban Collector Road standard with a road width of 11.0m is recommended which would allow BAR right turn facilities for side roads where relevant.

Figure 33 – Road Network Plan for the George Town area



Key features include:

- Provision for development of South Street as a Collector Road with associated junction and roundabouts to manage future intersections.
- Potential for Eastern Link Road from Pembroke Street to Arnold Street with implications for Davies, George and William Streets as minor collectors. Road infrastructure changes can be made as development proceeds.
- Recognition of the need to widen North Street to a Collector Road standard given its growing function due to residential subdivision development, Village zoning and Growth Area status identified in the GTASP, see Figure 5.
- Recognition of road functions within George Town and associated intersection treatments to improve transport efficiency and traffic safety.

The identified interventions to support future safe and efficient operation are summarised in Figure 34. Section 10 contains justifications for each intervention.

Figure 34 – Proposed interventions – George Town & South George Town

Priority Road	Side Road	Existing Intersection 2024	Recommended	Intervention by Year	Priority
George Town					
Low Head Road					
	North Street	Simple Jcn.	BAR Jcn	2034	7
	Anne Street	Simple Y Jcn	BAR Jcn	2034	8
Goulburn Street					
	Davies	BAR Int.	Roundabout	2034	6
	Arthur	Adverse Int.	BAR Int.	2030	2
	Cimitiere	BAR Int.	Roundabout	2034	9
Agnes Street					
	Arnold Street	Simple Jcn.	Roundabout	2034	11
Anne Street					
	Arthur Street	BAR Int.	Roundabout	2034	10
Arthur Street					
	Friend Street	Simple Int.	Roundabout	2040	12
Macquarie Street					
	Anne Street	Simple Int.	Roundabout	2030	1
South George Town					
Main Road					
	South Street	BAR Jcn (Prop.)	BAR Jcn,	2030	3
Franklin Street					
	South Street	BAR Jcn (Prop.)	Roundabout	2034	5
Mary Street					
	South Street	Simple Int.	Roundabout	2030	4



11.3 George Town Area Structure Plan

Section 10.4 of this report responds to recommended actions for road infrastructure described in the GTASP:

This Road Network Plan has complied with Planning Principles P11.to P13. for Road Infrastructure outlined in the GTSP

Planning Principles

P11. Main Road, Goulburn Street, Low Head Road remain the primary arterial road for vehicle movements to Bellbuoy Beach Road, Low Head, the East Tamar Highway and Bridport Road.

P12. Provide an alternative route for vehicle movements originating from industrial activities and residential uses via Victoria Street to reduce traffic volumes and improve safety adjacent to the school.

P13. New subdivision serviced to facilitate a grid road pattern and cul-de-sac not supported unless it furthers connection and linkages to the walking network.

Source: George Town Area Structure Plan (July 2021)



Appendices

Appendix A - DPAC Local Government Road Hierarchy June 2015

2.4 The Tasmanian Local Government Road Hierarchy – Urban roads

Classification	1. Arterial	2. Collector	3. Link	4. Local access	5. Minor access	6. Unformed
Functional Criteria						
Function/ predominant purpose	Provide the principal links between urban centres, or between urban centres and rural regions.	Connect arterial roads to local areas and supplement arterial roads in providing for traffic movements between urban areas, or in some cases rural population centres.	Provide a link between the arterial or collector roads and local access roads.	Provide access to residential properties and in some cases commercial properties, at a local level.	Provide access to residential properties and irregular access to community facilities such as parks and reserves.	Roads not maintained by the council or non-constructed/maintained road reserves or roads that have a very low level of service.
Connectivity description	High connectivity - connecting precincts, localities, suburbs, and rural population centres.	High connectivity - supplements arterial roads in connecting suburbs, business districts and localised facilities.	Medium connectivity - connects traffic at a neighbourhood level with collector and arterial roads.	Low - connects individual properties within a neighbourhood to link roads.	Low - provides access to properties.	Future roads or roads that have a very low level of service.
Guidance Metrics						
Average Annual Daily Traffic (AADT)	> 10 000 vehicles per day (vpd)	3 000 - 10 000 vpd	1 000 - 3 000 vpd	50 - 1 000 vpd	< 50 vpd	N/A
Heavy vehicles permitted	Yes - thoroughfare	Yes - thoroughfare	Yes - some through traffic	No thoroughfare, local access only	No thoroughfare, local access only	N/A
Average Annual Daily Truck Traffic or Equivalent Heavy Vehicles (AADTT / EHV)	> 1 000 AADTT or > 10% EHV	250 - 1 000 AADTT or > 10% EHV	< 250 AADTT or > 10% EHV	N/A	N/A	N/A
Public transport route	Yes	Yes	Yes	No	No	N/A
Carriageway form	2 or 4 lanes	2 lanes	2 lanes	1 or 2 lanes	Typically 1 lane	N/A
Running surface	Sealed	Sealed	Sealed	Sealed/unsealed	Sealed/unsealed	Unformed

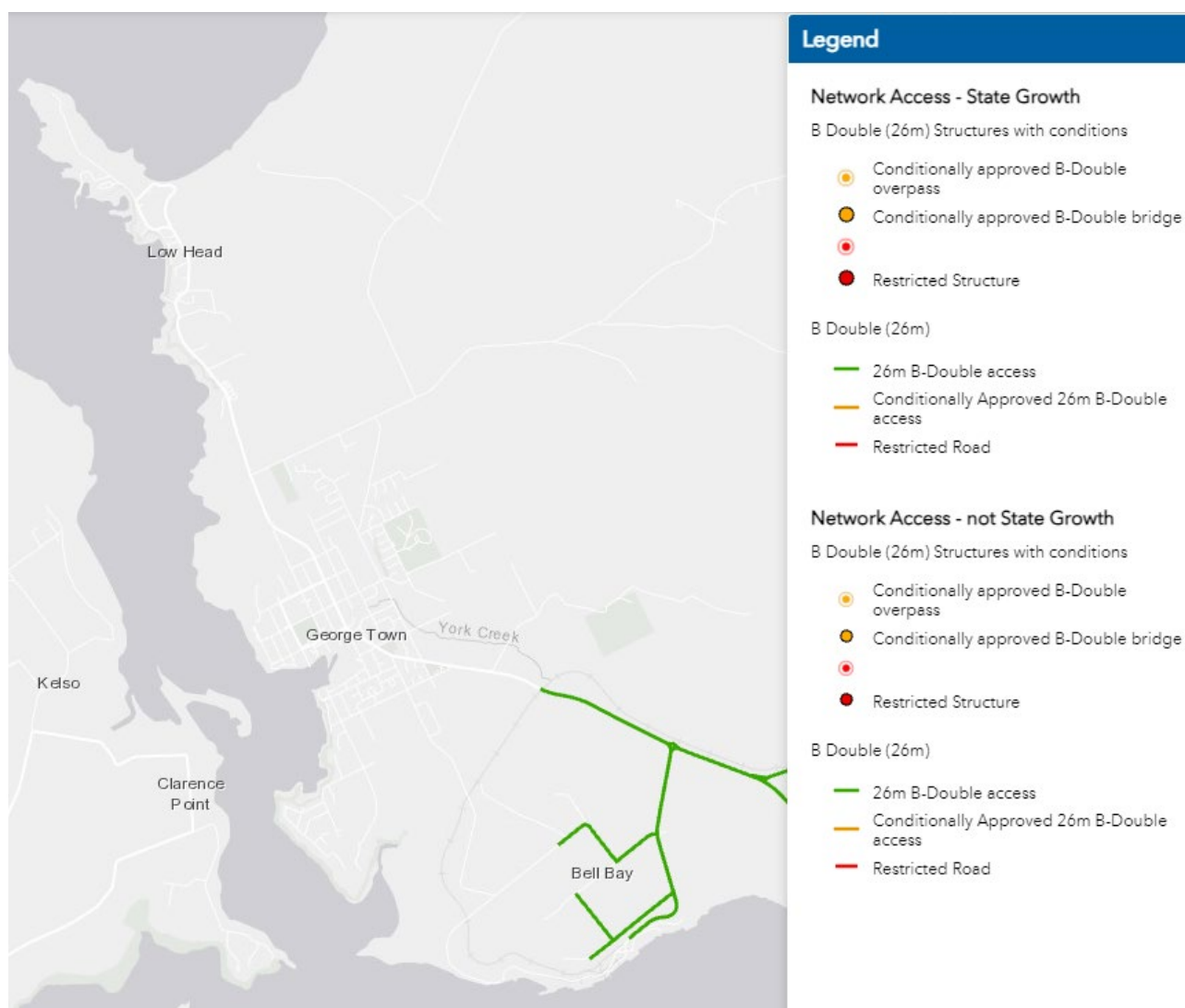
Local Government Road Hierarchy

2.5 The Tasmanian Local Government Road Hierarchy – Rural roads

Classification	Arterial	Collector	Link	Local access	Minor access	Unformed
Functional Criteria						
Function/ predominant purpose	Provide the principal links between rural population centres and regions.	Connect arterial roads to local areas and supplement arterial roads in providing for traffic movements between rural population centres.	Provide a link between the arterial or collector roads and local access roads.	Provide access to residential properties and in some cases commercial properties, at a local level.	Provide secondary access to residential properties and irregular access to community facilities such as parks and reserves.	Roads not maintained by the council or non-constructed/maintained road reserves or roads that have a very low level of service.
Connectivity description	High connectivity - connecting rural population centres.	High connectivity - supplements arterial roads in connecting towns, rural centres and localised facilities.	Medium connectivity - connects traffic at a neighbourhood level with collector and arterial roads.	Low - connects individual properties within a neighbourhood to link roads.	Low - provides access to properties.	Future roads or roads that have a very low level of service.
Guidance Metrics						
Average Annual Daily Traffic (AADT)	>2000 vehicles per day (vpd)	300 - 2000 vpd	100 - 300 vpd	30 - 100 vpd	<30 vpd	N/A
Heavy vehicles permitted	Yes - thoroughfare	Yes - thoroughfare	Yes - some through traffic	No thoroughfare, local access only	No thoroughfare, local access only	N/A
Average Annual Daily Truck Traffic or Equivalent Heavy Vehicles (AADTT / EHV)	>300 AADTT or >20% EHV	60 - 300 AADTT or >10% EHV	<60 AADTT or >10% EHV	N/A	N/A	N/A
Public transport route	Yes	Yes	Yes	No	No	N/A
Carriageway form	2 or 4 lanes	2 lanes	2 lanes	1 or 2 lanes	Typically 1 lane	N/A
Running surface	Sealed	Sealed	Sealed/unsealed	Sealed/unsealed	Sealed/unsealed	Unformed

Local Government Road Hierarchy

Appendix B - Tas. 26m B Double Network



Source: maps.stategrowth.tas.gov.au/portal/apps/webappviewer

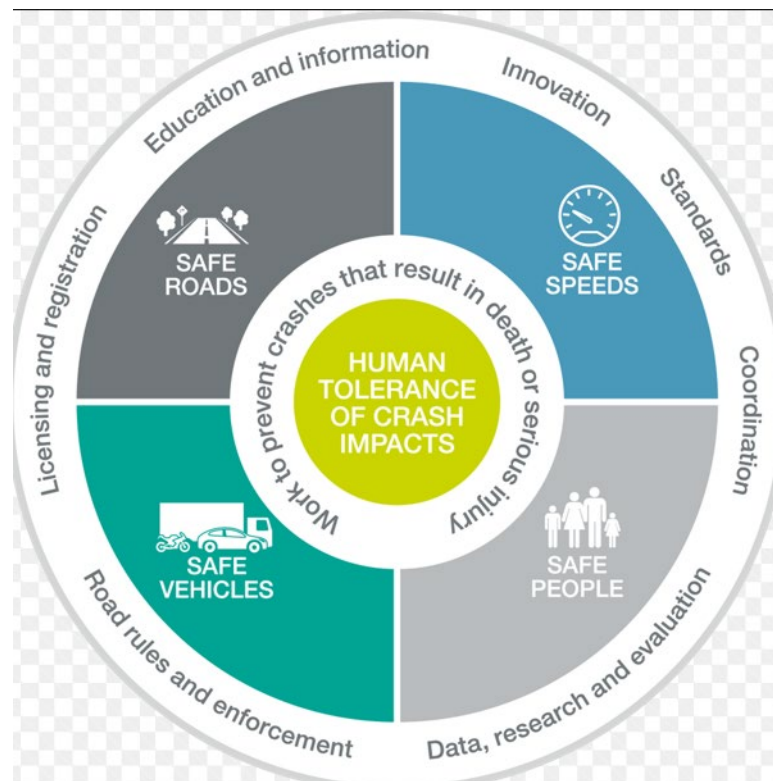
Appendix C - Road Network Guidelines

C.1 - Traffic Networks as a System

Consider the transport network as a system, see Figure C.1, in terms of:

- all road users i.e. light vehicles, heavy vehicles, public transport (buses and taxis etc), motor cyclists, cyclists and pedestrians.
- Road infrastructure, speed management, nature of vehicles and driver behaviour
- Most common crash types, head on, leaving the road, intersection, other and vulnerable road users (pedestrian, cyclists and motorcyclists)
- Road regulations

Figure C.1 – Safe System Model



Prepare Safe System Assessments in accordance with Austroads Safe System Assessment Framework for existing situations and proposals to:

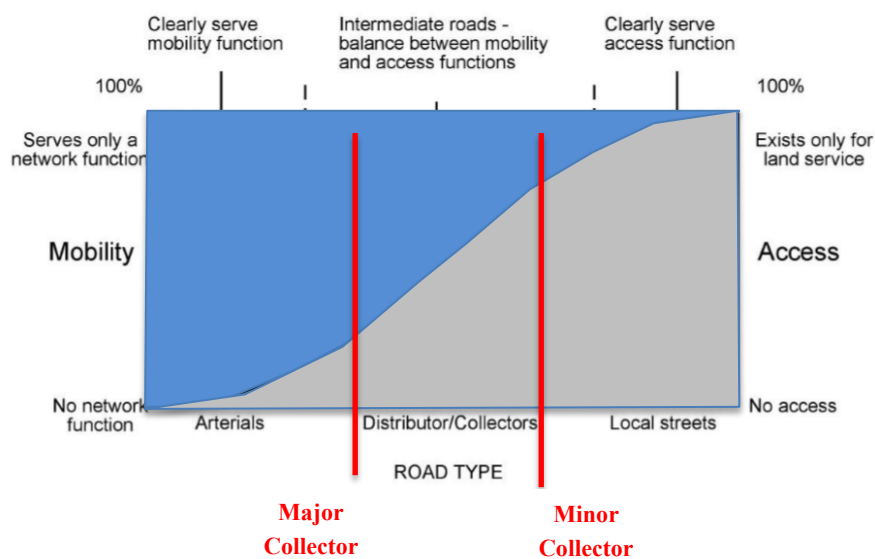
- Identify crash risk.
- Determine effectiveness of proposals in treating crash risk. Useful for assessing retrofits or proposals.

C.2 - Network Management

Role and function of road

Understand the roles and functions of the proposed roads to identify objectives.
Figure C.2 shows how function varies with road type.

Figure C.2 – Road Type and Function: mobility vs access



Arterials (AADT > 10,000vpd)

- Primarily have a mobility function, transport efficiency is important.

Collector Roads (2,000 < AADT < 10,000 vpd)

- Can widely range in function. Normal collector roads (AADT ~ 5,000 vpd) are a hybrid with both functions.
- Major Collectors are closer to arterials in function and may become arterials and this should be borne in mind with subdivision design and TIAs.
- Minor Collectors have a strong local access function and not likely to grow in mobility function.

Local Streets (AADT < 2,000vpd)

- Primarily have an access function. Residential amenity is important.



Road types

- **State Government (DPAC) - Local Government Road Hierarchy (2015).**

This document was published during June 2015 and defines urban and rural road types. Categories specified include Arterial, Collector, Link, Local Access, Minor Access and Unformed / Reserved Roads. These are defined in terms of functional criteria and guiding metrics, see Appendix A.

- **LGAT Standard Drawings (2012)**

These standards also define urban and rural road types in terms of a range of functional criteria and guiding metrics. Road types specified include:

- Urban: Arterial, Sub Arterial, Collector and Local Roads.
- Rural Unsealed: US1...US4
- Rural Sealed: S1....S5

Identify relevant road categories and typical sections from LGAT standard drawings.

Tasmanian Approved B Double Route Network

The Tasmanian B Double route is available at the following link:

<https://www.transport.tas.gov.au/vehicles/heavyvehicles/access/pages/bdoubleroutenetwork>

All proposals should be checked against the Tasmanian Approved B Double Route Network to understand potential impacts.

Shared Zones

Shared Zones are specifically designed and intended to give priority to vulnerable road users and should be made to not look like a road, with the provision that light and heavy vehicles may use the area subject to the Shared Zone speed limit, usually 10-20km/h.

C.3 - Design of new urban networks

Design Layouts

There are two broad types of road network as depicted in Figure C.3.

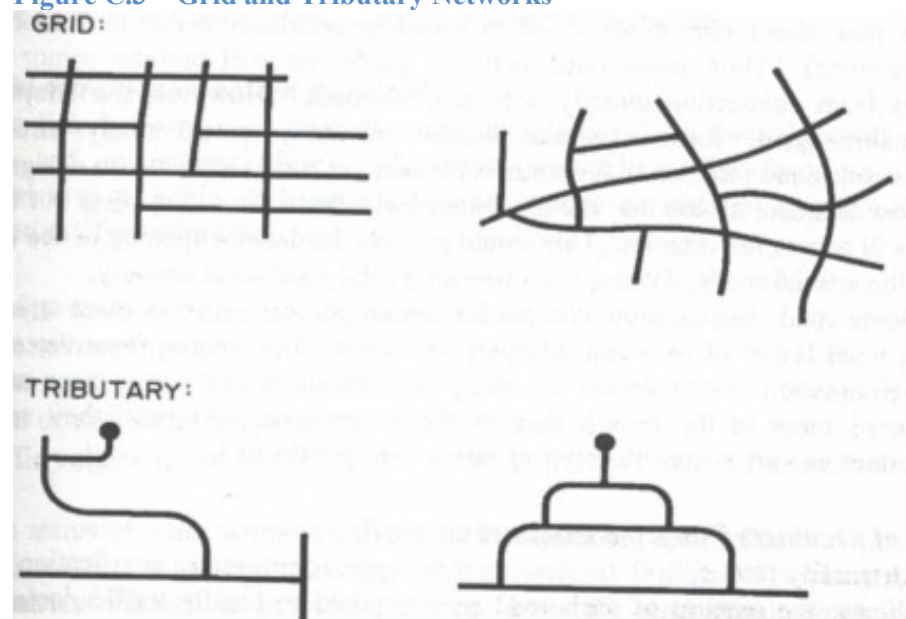
Grid

- internally and externally connected.
- Multipath, permeable, open ended and difficult to estimate traffic volume.
- Dispersed flows.
- Risk of many cross intersections.

Tributary

- with branches and hierarchy
- Specific catchment, limited choice, easy to estimate traffic volume.
- Concentrated flows.
- Low risk of cross intersections.

Figure C.3 – Grid and Tributary Networks



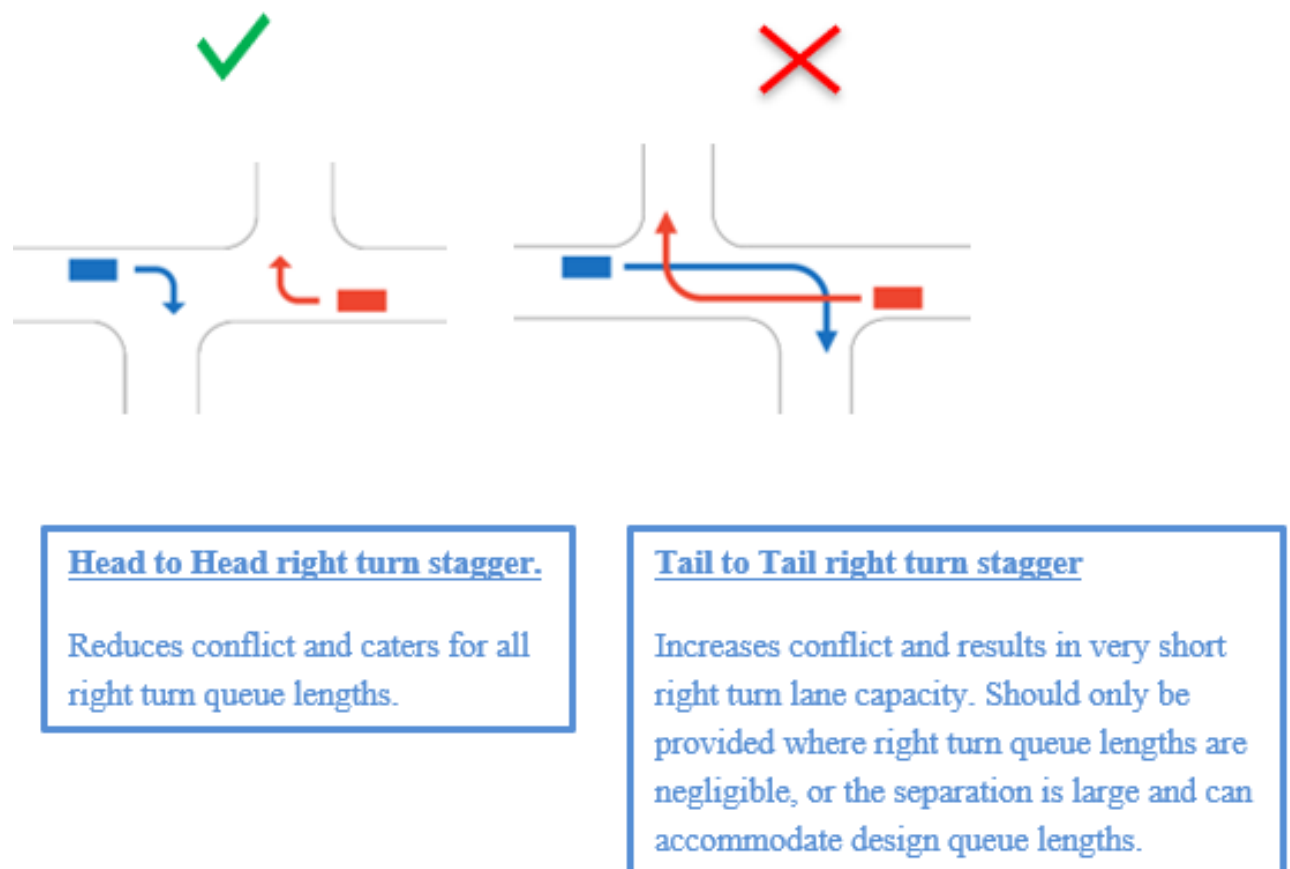
The preferred network depends on the situation:

- Separate enclaves are likely to be suited to Tributary layout.
- Where within existing areas consistency with a Grid layout is likely preferred.
- Council and community input is likely to influence the layout used.

Safety in new subdivisions

- Distinguish between the arterial network, the local street network and pathway network have different road function and network needs.
- Preserve sight lines (avoid planting trees and shrubs, building fences and placing infrastructure that limits sight distance) for junctions and accesses.
- Avoid long straight streets as this encourages speeding.
- Provide safe pedestrian facilities.
- Provide roundabouts at busy intersections and do not allow cross intersections.
- Provide median turn lanes on major collectors and arterial roads where there is high access density urban residential zone either side of the road.
- Stagger T junctions so right turns and lanes are head-to-head and not tail-to-tail where possible, see Figure C.4.

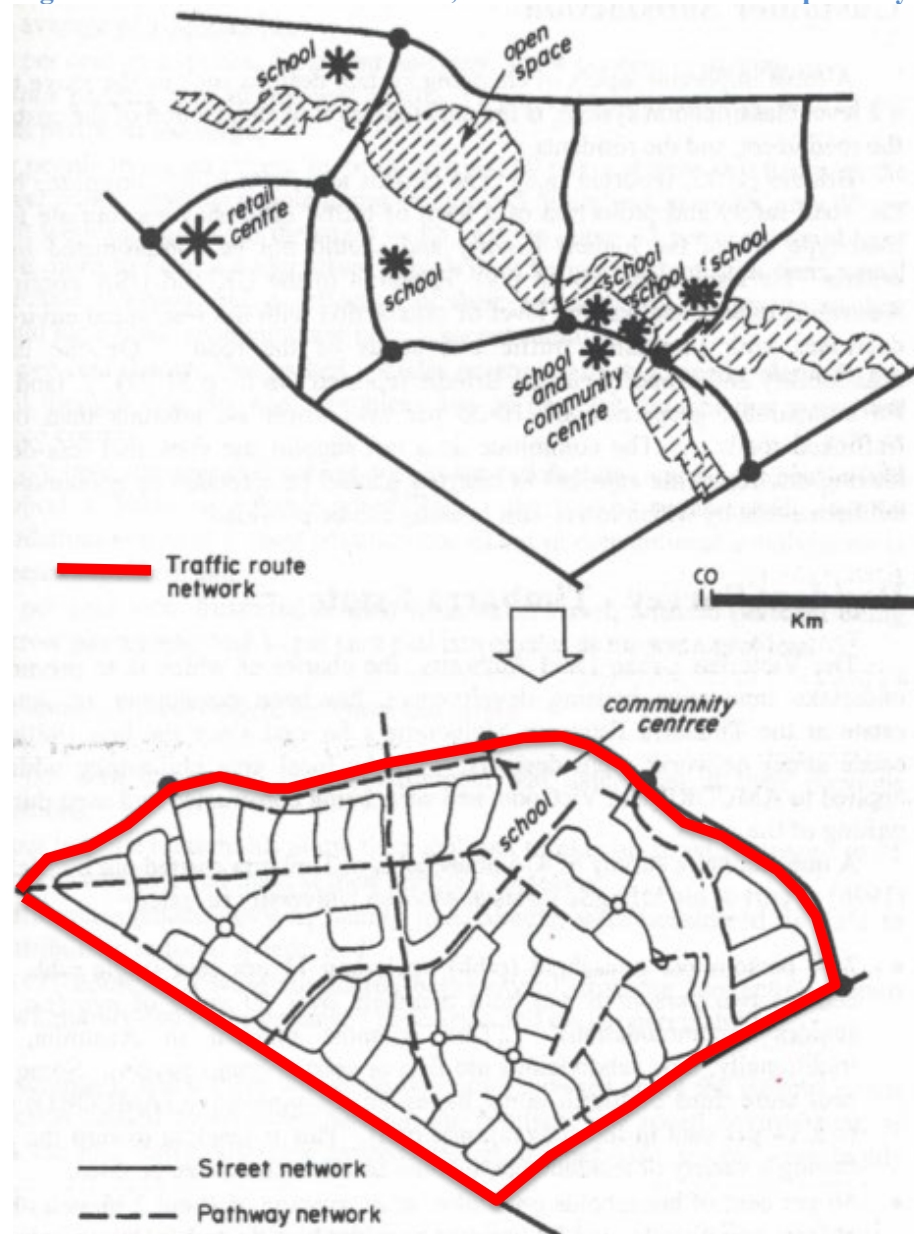
Figure C.4 – Junction Staggerers



Residential area planning

- Arterial networks should bound residential precincts, see Figure C.5.
- Direct vehicular and pedestrian access should be avoided from single dwelling unit developments.
- Effective street lengths should be < 200-250m i.e. distance between slow points.
- Where demand justifies, cater for pedestrian and cycle demand separately.
- Minimise traffic on residential streets.
- Number of lots abutting streets with minimal traffic flows should be maximised.

Figure C.5 – Traffic route network, local residential street and pathway network





Liveability, Safety and Amenity Guidelines

The basic requirements necessary for the safety and amenity of a residential area:

- Residential precincts need to be bounded by traffic routes and/or natural barriers to minimise conflict.
- Direct vehicular and pedestrian access should be avoided from single dwelling units onto road with over 2,000 vehicles per day.
- Effective street lengths should be less than 200-250m in order to achieve typical vehicle speeds of 40km/h.
- Cyclist and pedestrian demands should be catered for separately using path or cycle networks. See Section 3.2.3

To maximise the liveability, safety and amenity of the local area, road and street network layout should be such that:

- A minimum of 60% of lots should abut residential streets with less than 300vpd passing traffic.
- A minimum of 80% of lots should abut residential streets with less than 600 vpd passing traffic.
- A maximum of 5% of single dwelling lots should abut residential streets with between 1,000-2,000 vpd passing traffic.
- A maximum of 1% of single dwelling lots should abut local streets or collectors with less than 3,000 vpd passing traffic, and
- No single dwelling lot should abut a route with more than 3,000 vpd passing traffic.

These guidelines are adopted from *TE&M Chapter 2.2: Design of New Urban Networks*.

Road Design

Road design depends upon three considerations: road type, traffic volume, design speed and amenity standards:

- General Urban Speed Limit (GUSL) – 50km/h
- School Zones – 40km/h
- Shared Zones – 10/20km/h
- General Sealed Rural Road Speed Limit – 100km/h
- General Unsealed Rural Road Limit – 80km/h

Arterial Roads

- Aim to limit residential access onto arterial roads.
- Make clear physical distinction between arterials and local streets.
- For larger-scale new developments adjacent to an arterial road, it is preferable to minimise the number of access road junctions on the arterial road.
- Median Turn Lanes on Arterial and major Collector **Roads** are recommended where there is on street parking and a high density of residential access both sides of the road. The turn lane enables turning traffic to hold safely before entering accesses or side roads. This type of treatment reduces crash risk and provides facilities for pedestrians to cross the road. Pedestrian refuges and / or islands should be placed at ~ 200m intervals to prevent the median lane being confused with a through lane or overtaking lane.

Collector Roads

Collector roads should be used as a link between arterial roads and access roads. These roads should be relatively direct and have priority over most of the access roads to maintain function, however the following traffic calming techniques should be implemented to maintain a low-speed environment.

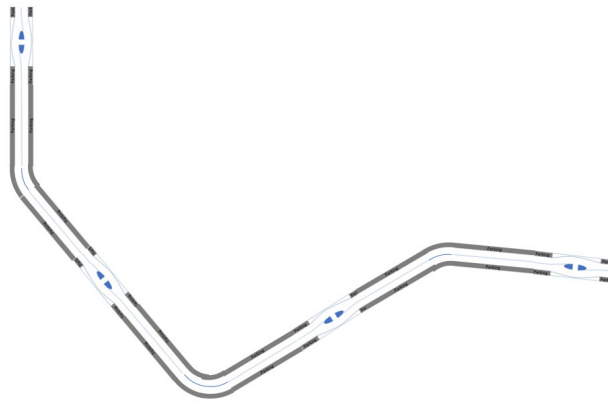
- Speed limit of 50km/h is usually appropriate for collector roads.
- Reduce the *effective length* of the road to less than 200-250m, by installing traffic calming devices, such as roundabouts and splitter islands.
- Narrowing of carriageway, or clearly defined parking lanes which confines traffic to one lane in each direction.
- Restriction of overtaking by use of median islands or barrier lines or median turn lanes with islands at regular intervals.

Figure C.6 is an example of how natural slow points and islands can be used to reduce effective road length to 250m or less, while also reducing vehicle speeds and maintaining the collector function.

Reducing effective length of Collector Roads

Traffic management devices can help to break a long continuous road into effectively shorter lengths especially in combination with roundabouts at intersections and turn lanes at junctions, solid islands and pedestrian refuge islands.

Figure C.6 – Using bends and islands to break effective length of a road



Local Streets

Generally, it is good practice for the design of local streets to follow these principles:

- Limit distance visibility with Urban Design. Long distance visibility promotes higher speeds. Adequate sight distance visibility should be maintained for access and junction safety.
- Traffic calming devices and treatments need to be forgiving to accommodate driver misjudgements and not become a safety hazard.
- Good night-time visibility must be maintained.
- Local streets can be designed by landscape architects and urban designers, with construction materials, road geometry, texture etc. indicating to the driver that they are driving in a local area.
- Local streets should aim to have an effective length of 250m or less in order to prevent vehicles accelerating to high speeds.

These design principles are adapted from *TE&M Chapter 3.5: Local Area Traffic Management*.

Cross Sections

LGAT typical sections for urban & rural roads should be used as a guide to road design.

Services

Road reservation widths should be selected to suit needs of road and services. Service infrastructure includes above and below ground services in addition to overland flow paths for stormwater runoff which may vary in width depending on the slope of the topography.

Service design layers should be superimposed on proposed outline development plans to establish where wider road reservations may be required.

Specifications

Kerb and Channel

Kerb and Channel is preferable over mountable kerb profiles:

- Mountable kerbs blur separation of vehicular traffic from vulnerable road users.
- Vehicles are not permitted to park on footpaths or nature strips under the Tasmanian Road Rules.

C.4 - Road users

Design Vehicle

Public roads should provide at least general access which means access for tri-axle semi-trailer combinations.

Roundabouts on Council Road bus routes should allow buses to either negotiate without mounting the core or by providing a low-profile mountable core.

Roundabouts on residential streets should be designed for 8.8m rigid trucks with a solid raised core or be fully mountable for semi-trailers.

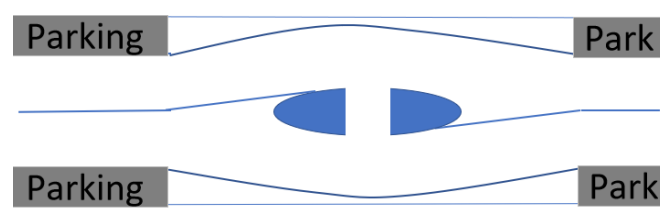
Pedestrians

Where pedestrian refuge islands are required, they are to be designed in accordance with DSG or LGAT standards. Pedestrian crossing facilities should be conspicuous and obvious to drivers. See Figure C.7 for positioning example.

Pedestrian refuge Islands as a traffic calming device:

- For 50km/h zones provide island widths of 1.5m & path width of at least 1.5m
- For 60km/h zones provide island widths of 1.5m & path width of 2.0m
- For 80m/h zones provide island widths of 2.0m & path width of 3.0m
-

Figure C.7 – Example of Pedestrian Refuge Island layout.



Cyclists

Off-road cycling paths or shared use trails are preferred to reduce or eliminate crashes. Cyclist facilities may be considered for collector roads but are generally not required on access roads and local areas with a low-speed environment.

For on street cycling facilities the desirable width for cyclists is 1.5m with 1.2m as an absolute minimum.

Where there is on street parking an edge line 3.7m from the kerb is desirable (2.2m for parking and 1.5m for cyclists). This allows a cyclist to pass a parked car safely. According to *GTM8 Chapter 8*, where cyclists share the lane with vehicular traffic the lane width should be either:

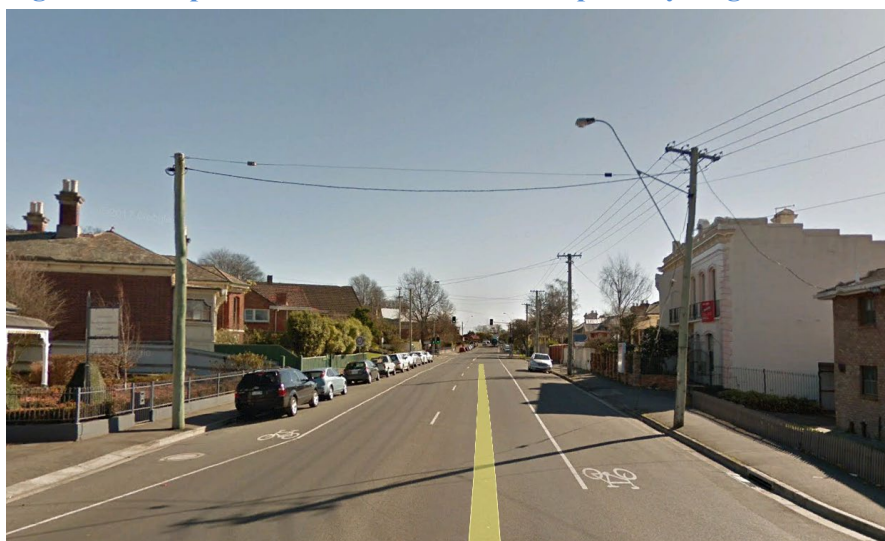
- Greater than 3.7m to allow for safe passage of cyclists.
- Less than 3.0m to prevent overtaking.
- Widths of between 3.0m-3.7m create squeeze points and result in conflicts.

The provision of cycling facilities, using edge lines, cyclist symbols and No Stopping restrictions, is a low cost and efficient way to provide for cyclists.

As a guide 1.5m of width is recommended with a general minimum of 1.2m. However, the width should be taken to be the characteristic width. There may be pinch points or short tapers where the facility is less than 1.2m in width. Refinements, which can be costly and delay the project, can be made at a later stage if necessary.

Cycling facilities are distinct from Cycling Lanes in that Austroads Cycling Lanes are signposted and a dedicated facility. Cycling facilities are created with edge lines and pavement markings only. The City of Launceston primarily provides Cycling Facilities, see Figure C.8.

Figure C.8– Elphin Road, Launceston – example of cycling facilities





Public Transport

Bus bays are to be provided in accordance with LGAT standards. Road geometry and design of LATM devices on planned bus routes should accommodate bus turning paths.

Motorcyclists

Motor cyclists are vulnerable road users and should be considered in road design, especially routes that attract motorcycling traffic or have motorcycling crashes.

Motorcycles rely on wheel traction with the road surface. Consistent road surfaces free of loose material, uneven service pit lids and polished sealing aggregate reduce risk of loss of control crashes.

Crash barriers are a potential hazard for motorcyclists. Mitigations are available to reduce severity of impact with barrier fence posts e.g. rubber rail and crash cushions.

Ideally clear zones should be free of infrangible infrastructure and hazards particularly where motorcyclists are most likely to leave the road e.g. outside of bends.

Appendix D - Intelligent Transport Systems

D.1 - Technology

Vehicle to Vehicle Technology

This allows communications between vehicles and collision avoidance with autonomous emergency braking.

Vehicle to Road Technology

Systems are operating now that allow detection of vehicles with mobile phones via technology fitted at traffic signal sites. Such systems allow vehicle speed and location data to be recorded and used for:

- Transport planning – by providing origin / destination data.
- Traffic management – to manage traffic congestion.
- Driver information – to avoid congested routes due to works or crashes etc.

Deployment of this technology has begun in Tasmania (e.g. Add Insight) at signalised intersections on State Roads and is likely to be further deployed on Council Roads.

Vehicle to Cloud Technology

Under development.

D.2 - Road Technology

Signalised intersections

Signalised intersection technology is changing. Currently in ground detector loops are used for identifying vehicle presence. In future presence detection could be via a number of methods e.g. number plate recognition.

Co-ordination of signalised intersections

Currently signalised intersection co-ordination is managed in Australia using SCATS technology. This enables peak flow on arterials to be managed for optimum flow efficiency i.e. allow platoons of traffic to flow through intersections with the least possible delay.



Variable speed limits

Variable electronic speed limits are gradually being deployed on state and council roads in Tasmania, some examples include:

- Tasman Highway on the eastern shore in Hobart has a variable speed limit system.
- East Tamar Highway, Dilston northern junction
- Electronic 40 km/h Shopping Zone at Main Road Moonah, see Figure F.1.
- Electronic 40 & 50 km/h School Zones

Figure F.1 – Electronic 40km/h Shopping Zone, Main Road, Moonah



Source: Google Maps

Electronic Warning signs

Electronic warning signs are used on Tasmanian roads. The East Tamar Highway, Dilston northern junction is an example.



Appendix E - Local Area Traffic Management

E.1 - Introduction

Low-speed traffic environments are critical within a residential area to minimise crash risk and severity. Local area traffic management (LATM) is normally an approach and process for treating existing subdivisions and retrofitting calming devices. LATM is most often a response to legacy issues and lack of traffic engineering input at the subdivision planning and design stage.

However, the LATM process is also helpful for new subdivision proposals, especially where the proposal augments an existing subdivision.

Essentially high-speed environments are problematic and new developments should adopt designs that proactively promote a low-speed environment.

E.2 - Process

Identify problem (public consultation and data)

Understand community perceptions and input and seek to validate actual issues with data. Community input is valuable for understanding local issues otherwise not considered.

Formulate options.

Evaluate options.

Detail Design.

Implement and monitor.

Once LATM has been introduced monitoring of performance is necessary to gauge effectiveness and what adjustments may be necessary.

E.3 - Devices

Road humps

Road humps are generally used as a retrofit treatment for existing roads where the speed environment is undesirable. New developments should not be designed to include road humps, rather long collector roads should be managed with roundabouts and channelization at junctions etc to reduce the *effective length* of the road, see section 4.4.3.

Flat Top Road Humps or Road Cushions may be used for bus routes.

Watts Profile Road Humps are used for other than bus routes.



Raised Plateaus

Raised plateaus slow traffic on all approaches to an intersection. Their effectiveness is localised to the intersection and aims to reduce cross traffic crash severity rather than reducing speeds in the wider area. Are used in conjunction with Flat Top Road Humps.

Roundabouts

Roundabouts are an effective traffic calming device especially on collector roads. They are appropriate for intersections of roads with similar traffic function.

Threshold treatments

Threshold treatments are intended to inform drivers that they are entering a local area. Threshold treatments at:

- boundaries between different land uses (e.g. commercial and residential) and
- interfaces with the arterial road network.

They are effective when combined with other LATM treatments such as road narrowing, median treatments, and speed limit signage.

Appendix F - Level of Service Descriptions

Level of service A	A condition of free-flow in which individual drivers are virtually unaffected by the presence of others in the traffic stream. Freedom to select desired speeds and to manoeuvre within the traffic stream is extremely high, and the general level of comfort and convenience provided is excellent.
Level of service B	In the zone of stable flow where drivers still have reasonable freedom to select their desired speed and to manoeuvre within the traffic stream. The general level of comfort and convenience is a little less than with level of service A.
Level of service C	Also in the zone of stable flow, but most drivers are restricted to some extent in their freedom to select their desired speed and to manoeuvre within the traffic stream. The general level of comfort and convenience declines noticeably at this level.
Level of service D	Close to the limit of stable flow and approaching unstable flow. All drivers are severely restricted in their freedom to select their desired speed and to manoeuvre within the traffic stream. The general level of comfort and convenience is poor, and small increases in traffic flow will generally cause operational problems.
Level of service E	Traffic volumes are at or close to capacity, and there is virtually no freedom to select desired speeds or to manoeuvre within the traffic stream. Flow is unstable and minor disturbances within the traffic stream will cause breakdown.
Level of service F	In the zone of forced flow, where the amount of traffic approaching the point under consideration exceeds that which can pass it. Flow breakdown occurs, and queuing and delays result.

Appendix G - Traffic Count Data

State Road Traffic Data



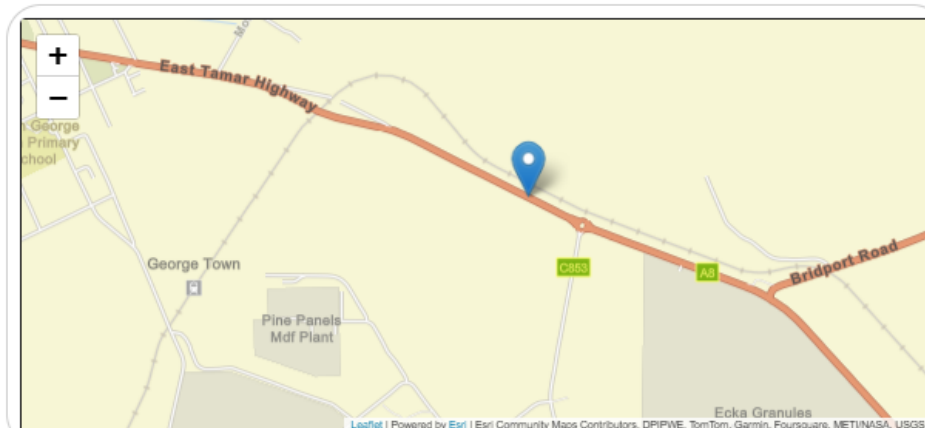
East Tamar Highway, North of Bell Bay MR

A0265260 - East Tamar Highway 330m N Of Bell Bay MR

City: Bell Bay

Route number: A0265

Site Data



Traffic Statistics by Direction

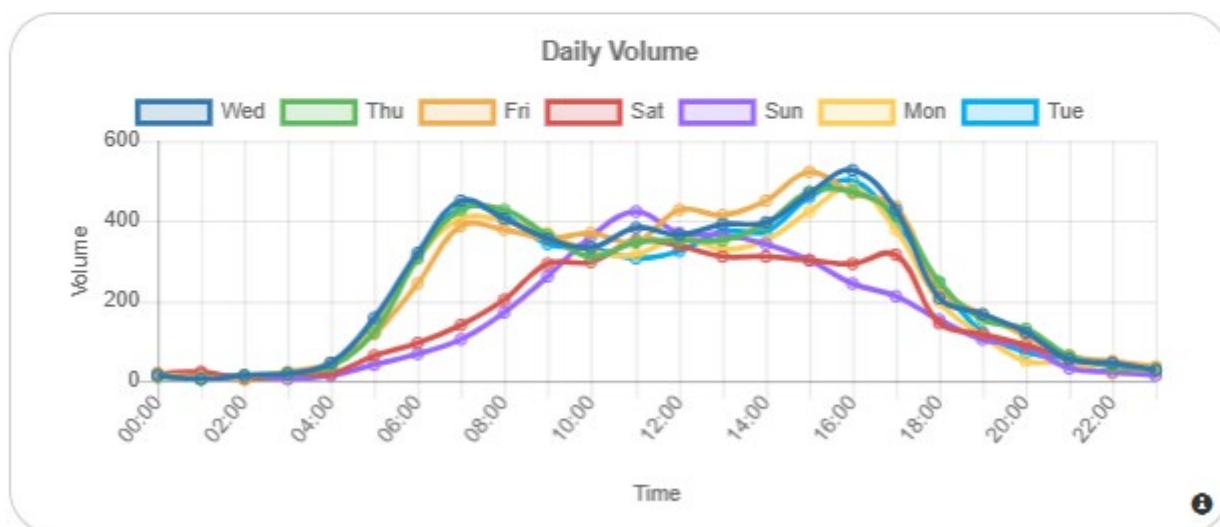
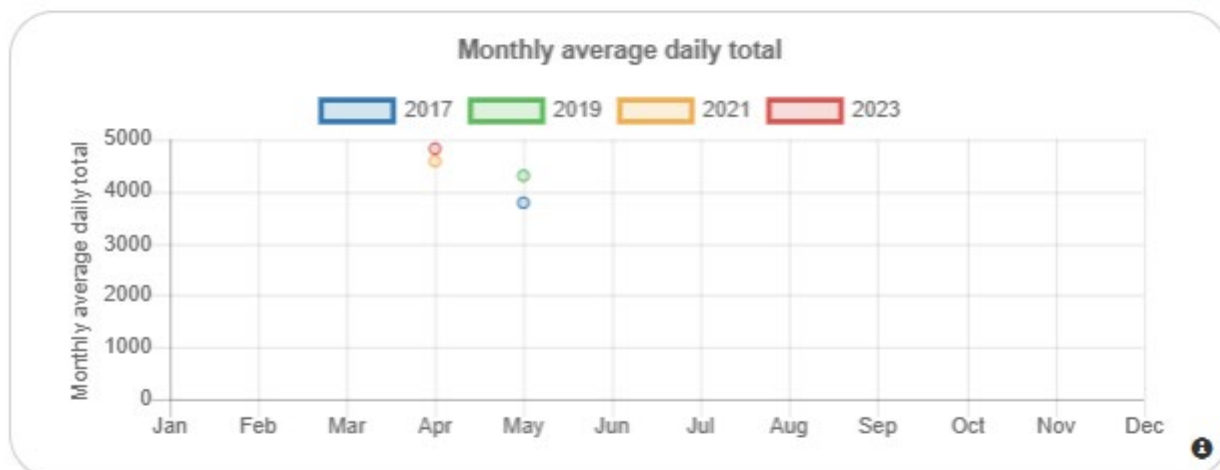
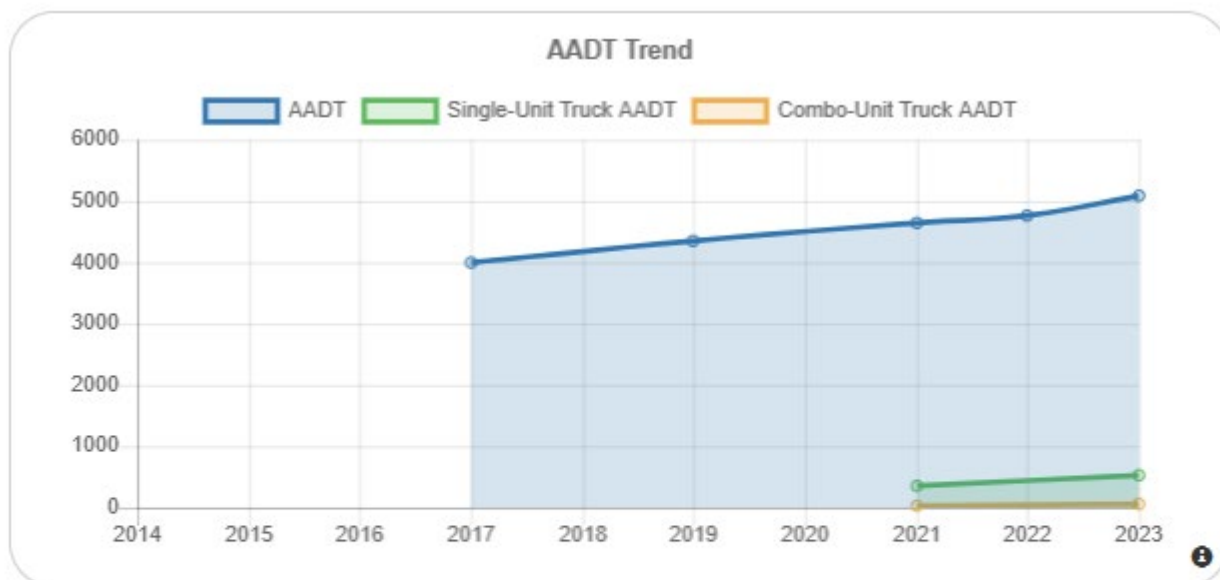
Direction	Weekday average total traffic	7-day average traffic	Weekly traffic total
North	2,298	2,202	17,617
South	2,316	2,210	17,680
Total	4,614	4,412	35,297



Annual Statistics

Data Item	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
AADT	-	-	-	3,997	-	4,344	-	4,648	4,768	5,078
% HV	-	-	-	7.0%	-	6.8%	-	8.2%	-	11.3%





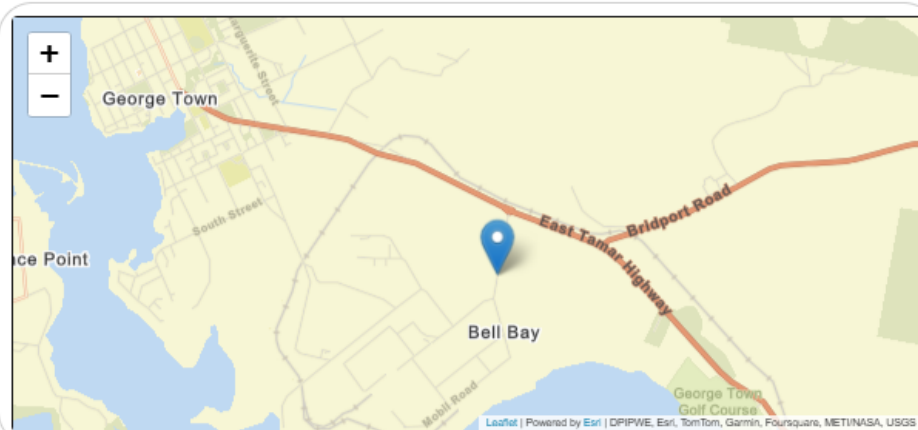
Bell Bay Main Road, East Tamar Hwy Rabt

A1581100 - Bell Bay Main Road 250m N Of Temco Rd

City: Bell Bay

Route number: A1581

Site Data



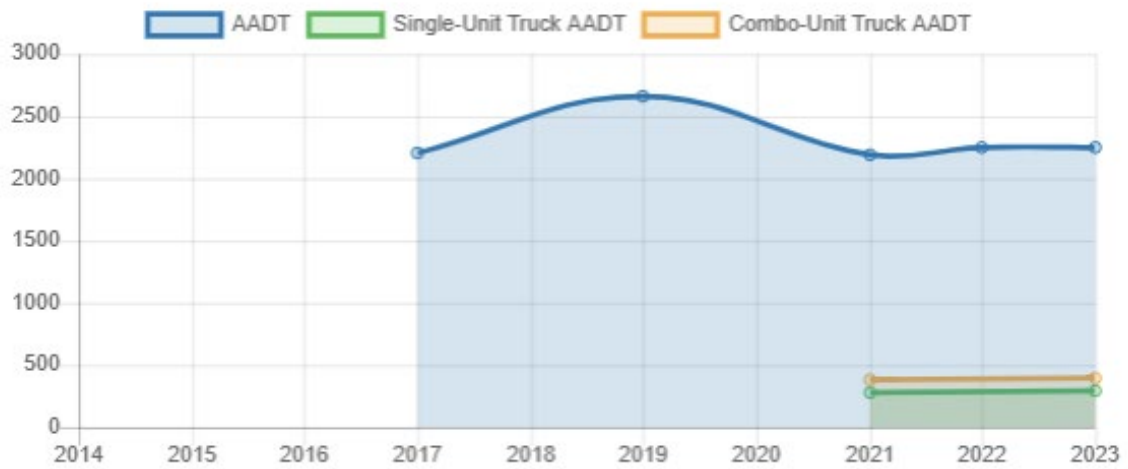
Traffic Statistics by Direction

Direction	Weekday average total traffic	7-day average traffic	Weekly traffic total
North	1,190	997	7,978
South	1,202	1,005	8,039
Total	2,392	2,002	16,017

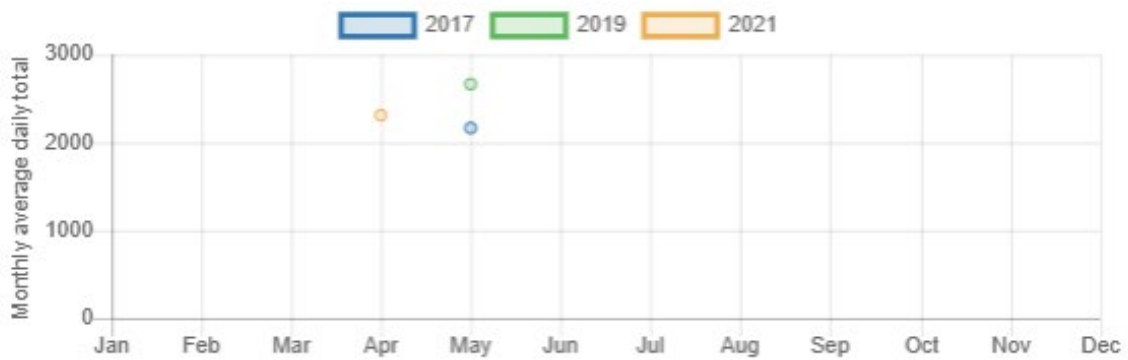
Annual Statistics

Data Item	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
AADT	-	-	-	2,201	-	2,662	-	2,189	2,245	2,246
% HV	-	-	-	33.3%	-	23.9%	-	30.7%	-	30.7%

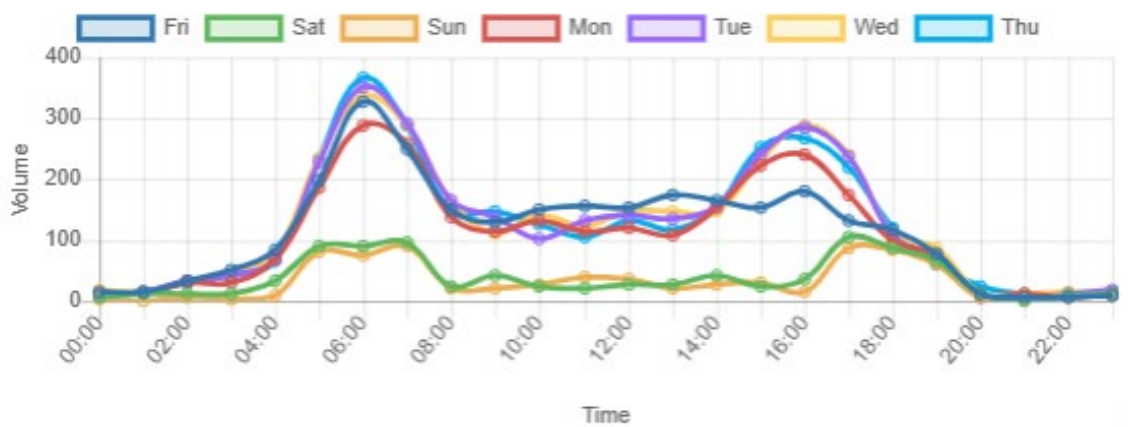
AADT Trend



Monthly average daily total



Daily Volume



Bell Bay Main Road, South of Mobil Road

A1581110 - Bell Bay Main Road 60m S of Mobil Rd

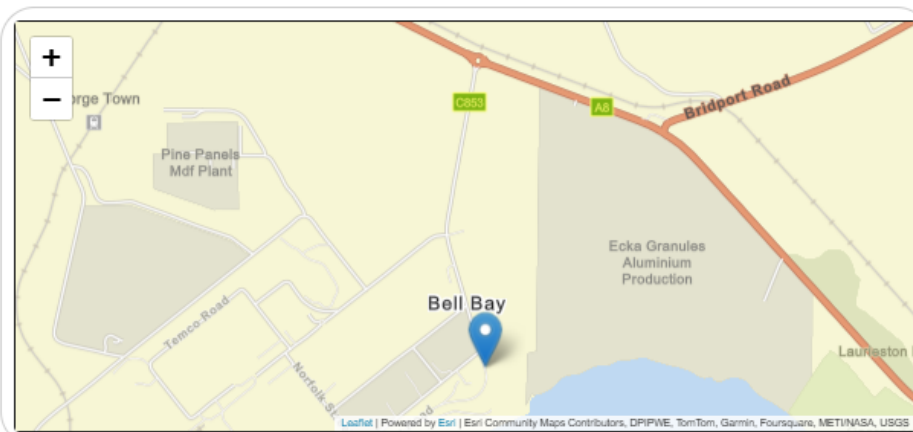
City: Bell Bay

Route number: A1581

Site Data



60
km/h



Traffic Statistics by Direction

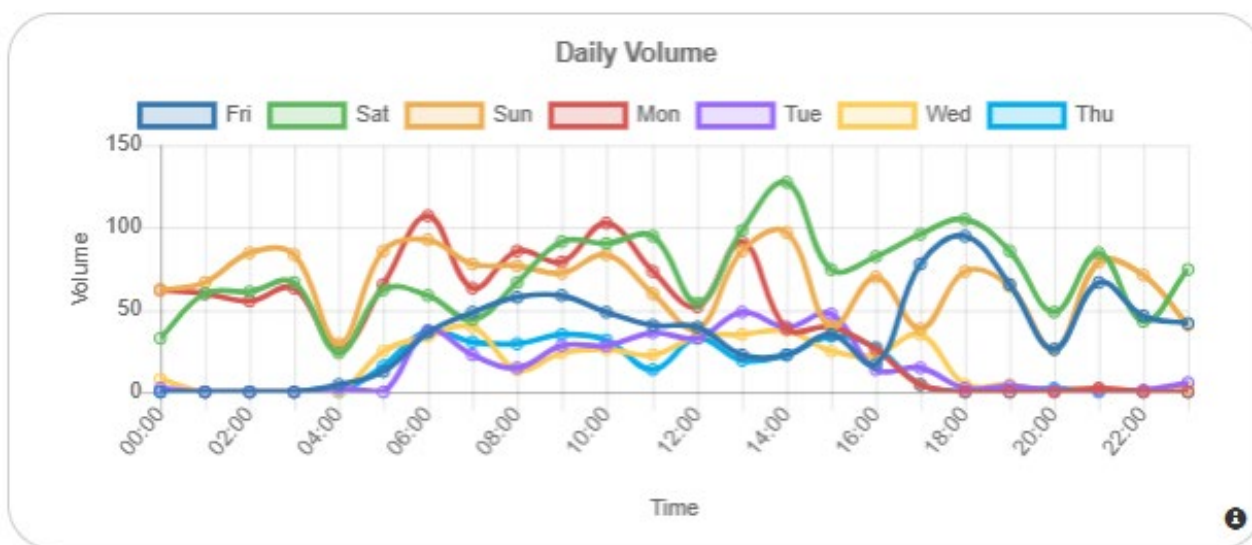
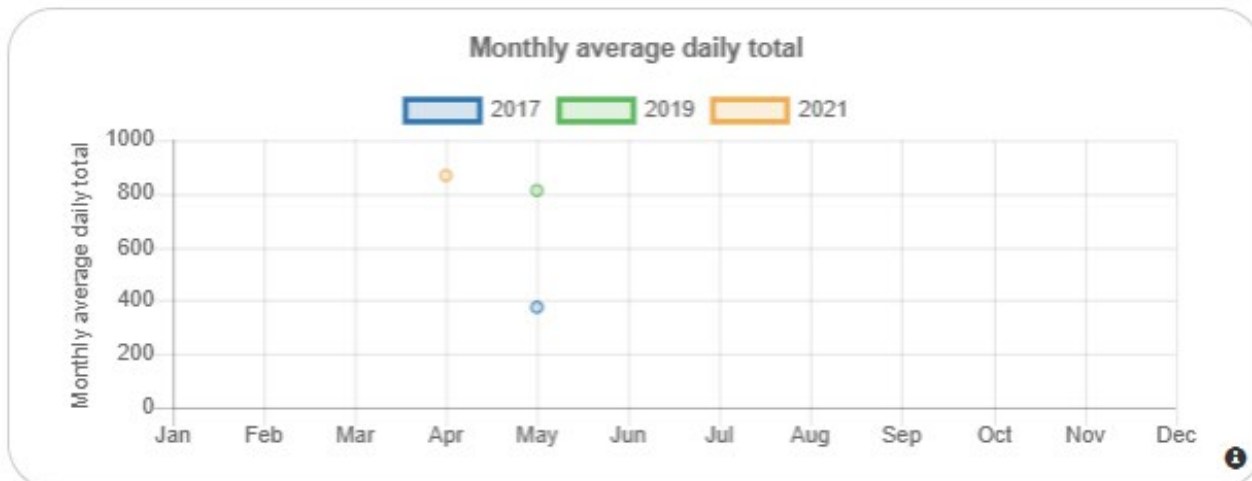
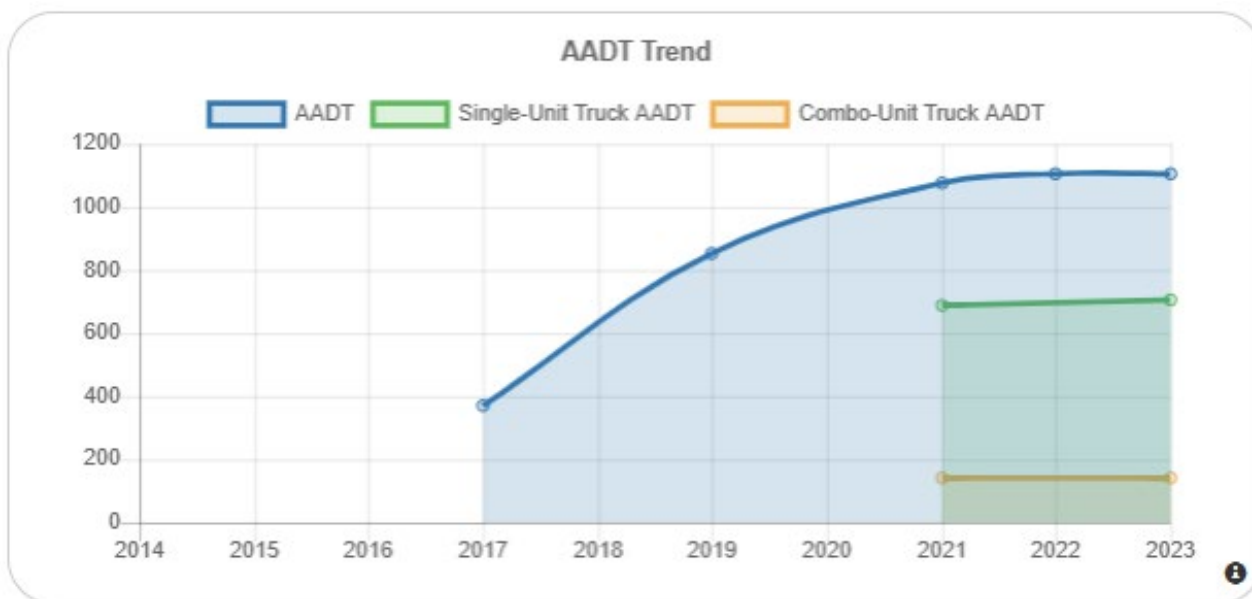
Direction	Weekday average total traffic	7-day average traffic	Weekly traffic total
North	293	469	3,754
South	218	329	2,633
Total	511	798	6,387



Annual Statistics

Data Item	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
AADT	-	-	-	369	-	853	-	1,077	1,104	1,105
% HV	-	-	-	37.9%	-	58.9%	-	76.7%	-	76.7%





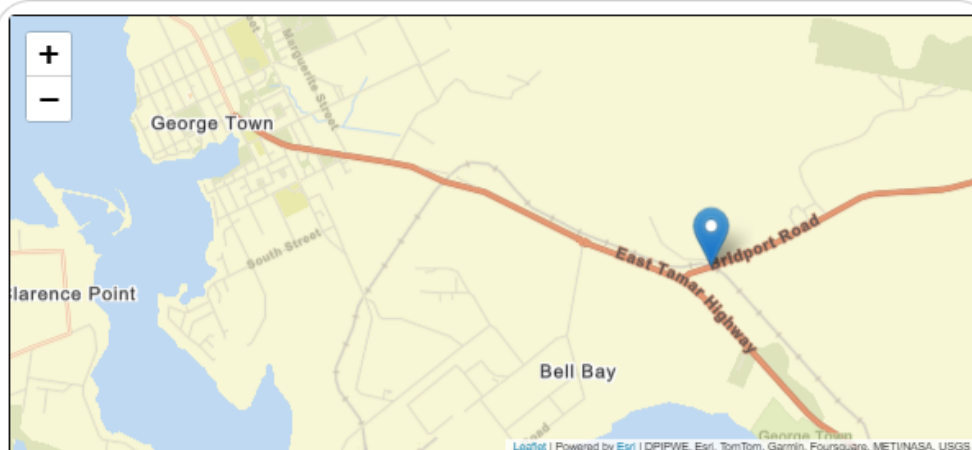
Bridport Main Road, East Tamar Hwy

A1400210 - Bridport Main Road 316m E of East Tamar Hwy

City: Bell Bay

Route number: A1400

Site Data



Traffic Statistics by Direction

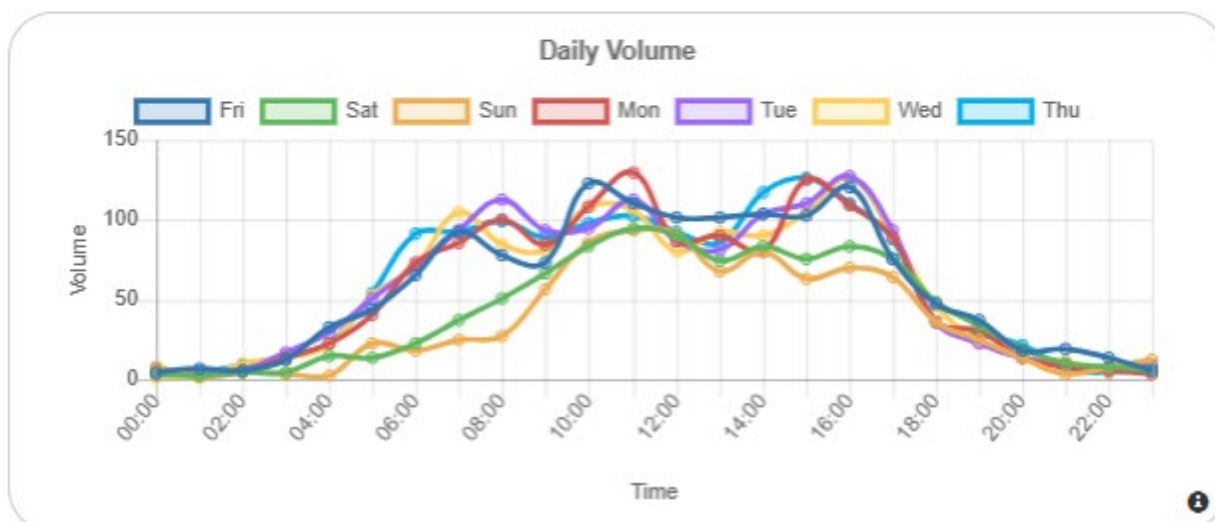
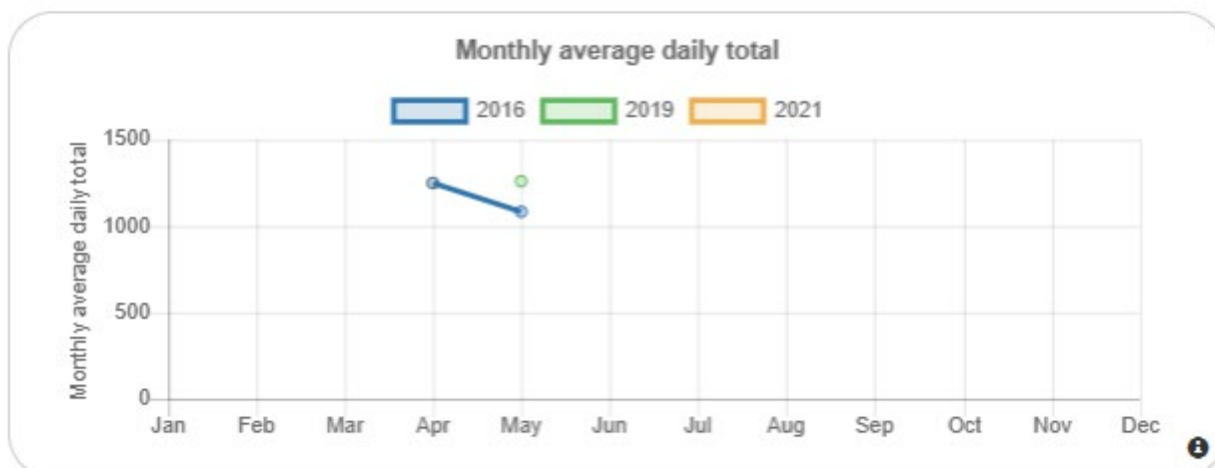
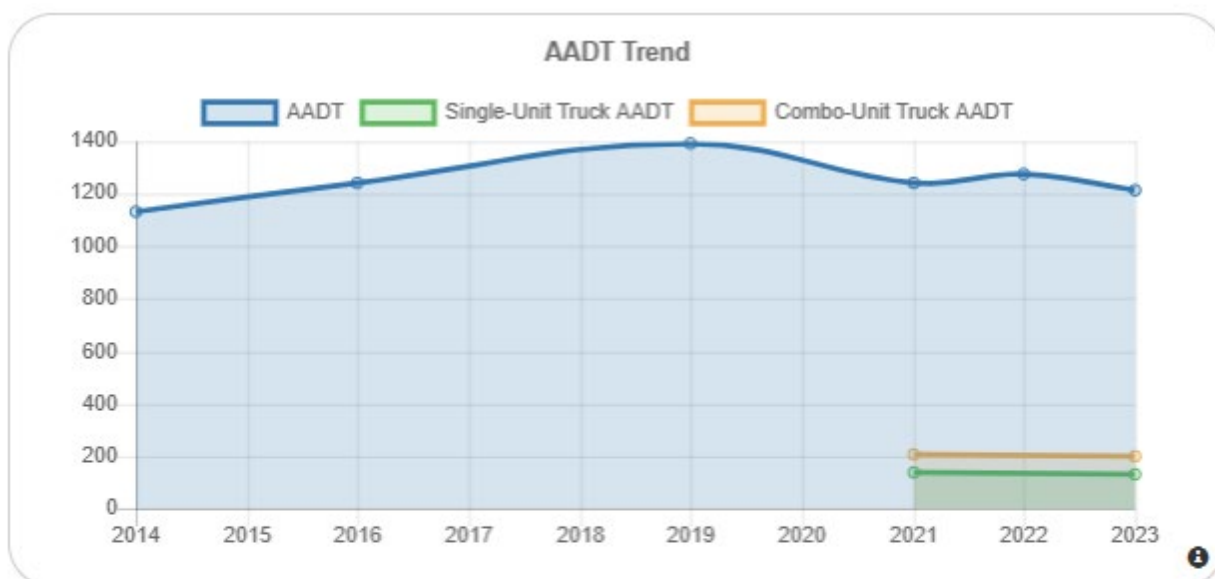
Direction	Weekday average total traffic	7-day average traffic	Weekly traffic total
East	573	542	4,340
West	575	554	4,434
Total	1,148	1,096	8,774



Annual Statistics

Data Item	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
AADT	1,135	-	1,242	-	-	1,394	-	1,241	1,276	1,212
% HV	23.4%	-	28.5%	-	-	31.3%	-	27.5%	-	27.5%





Council Road Traffic Data supplied by GTC

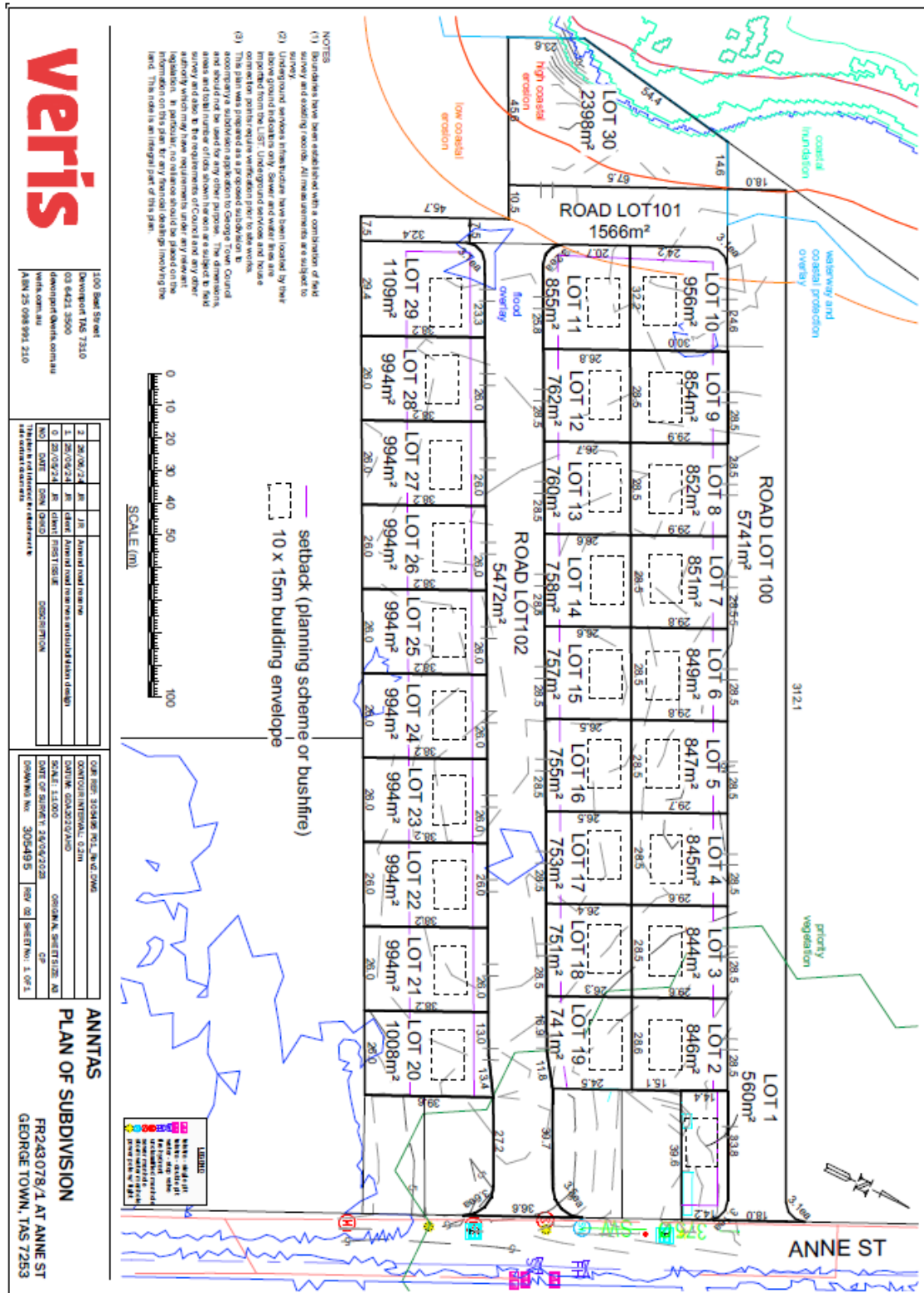
NO. ▾	Date ▾	Road Name ▾	AADT ▾
1	5/12/2023	Agnes Street	2372
2	17/12/2021	Arnold Street	1046
3	14/01/2019	Macquaire Street	4715
4	30/05/2022	Mount George	99
5	28/09/2020	Mobil Road	142
6	12/01/2022	Old Aerodrome Road	240
7	24/10/2017	Victoria Street	1369

Traffic Count Data George Town Council

Darylmple Road									
SNO	DATE	CHAINAGE	REFERENCE	SPEED LIMIT	LOCATION	DIRECTION	REGION	AREA	OFFICER
1	5/06/2023		GTC101	100	Darylmple and Old Bangor Tram Junction	E BD	SOUTH WESTERN	Mount Direction	Arun
Old Bangor Tram									
SNO	DATE	CHAINAGE	REFERENCE	SPEED LIMIT	LOCATION	DIRECTION	REGION	AREA	OFFICER
2	5/06/2023		GTC102	100	Old Bangor tram road after the intersection	E BD	SOUTH WESTERN	Mount Direction	Arun
Low Head Road									
SNO	DATE	CHAINAGE	REFERENCE	SPEED LIMIT	LOCATION	DIRECTION	REGION	AREA	OFFICER
3	27/07/2023		GTC103	50	Change in the width of the seal near Pilot Station	E BD	SOUTH WESTERN	Low Head	Prakash
Industry Road									
SNO	DATE	CHAINAGE	REFERENCE	SPEED LIMIT	LOCATION	DIRECTION	REGION	AREA	OFFICER
4	30/01/2024		GTC104		Industry Road, towards Mount Direction from Bridport Highway	E BD	SOUTH WESTERN	Mount Direction	Prakash & Ramjee
Hurst Street									
SNO	DATE	CHAINAGE	REFERENCE	SPEED LIMIT	LOCATION	DIRECTION	REGION	AREA	OFFICER
5	16/06/2024		GTC106	50		E BD	SOUTH WESTERN	Lulworth	Prakash & Ramjee
Campbell Street									
SNO	DATE	CHAINAGE	REFERENCE	SPEED LIMIT	LOCATION	DIRECTION	REGION	AREA	OFFICER
6	20/07/2023		GTC107	40	Between Smith Street and Trevor Street	E BD	EAST WESTERN	Weymouth	Prakash
Ralph Street Street									
SNO	DATE	CHAINAGE	REFERENCE	SPEED LIMIT	LOCATION	DIRECTION	REGION	AREA	OFFICER
7	12/07/2023		GTC108	40	Between Smith Street and Trevor Street	E BD	EAST WESTERN	Weymouth	Prakash
Darylmple Road, near Bridges									
SNO	DATE	CHAINAGE	REFERENCE	SPEED LIMIT	LOCATION	DIRECTION	REGION	AREA	OFFICER
8	22/09/2023		GTC109	100	Darylmple road, near to the Glen road, to check the AADT on the bridges	E BD	EAST WESTERN	Mount direction	Prakash
Agnes Street, Near to the port Darylmple School									
SNO	DATE	CHAINAGE	REFERENCE	SPEED LIMIT	LOCATION	DIRECTION	REGION	AREA	OFFICER
10	5/12/2023		GTC110	60km/Hr	Agnes Street near to the school	E BD	EAST WESTERN	George Town	Prakash & Ramjee
Main Road , Near to the mainroad subdivision									
SNO	DATE	CHAINAGE	REFERENCE	SPEED LIMIT	LOCATION	DIRECTION	REGION	AREA	OFFICER
11	20/12/2023		GTC111	80km/Hr	Main Road, Near to the Tas Electrical or in front of mount george road	E BD	EAST WESTERN	George Town	Prakash & Ramjee

Industry Road, Near to Dalrymple intersection										
SNO	DATE	CHAINAGE	REFERENCE	SPEED LIMIT	LOCATION	DIRECTION	REGION	AREA	AADT 2024	OFFICER
12	11/01/2024		GTC112	100Km/Hr	Industry road, near to the Dalrymple Road intersection and after the bridge crossing	E BD	EAST WESTERN	Pipers River	1635	Prakash & Ramjee
Davies Street Beechford										
SNO	DATE	CHAINAGE	REFERENCE	SPEED LIMIT	LOCATION	DIRECTION	REGION	AREA	AADT 2024	OFFICER
13	11/01/2024		GTC113	40Km/Hr	Near to 46 Davies Street, where the 40km/hr starts	E BD	EAST WESTERN	Beechford		Prakash & Ramjee
Stonehouse Street										
SNO	DATE	CHAINAGE	REFERENCE	SPEED LIMIT	LOCATION	DIRECTION	REGION	AREA	AADT 2023	OFFICER
14	19/02/2024		GTC114	50Km/Hr	Near to 30 Stonehouse Street	7- North Bound A> B	North - South	George Town	67	Prakash & Ramjee
46 Davies Street, Beechford										
SNO	DATE	CHAINAGE	REFERENCE	SPEED LIMIT	LOCATION	DIRECTION	REGION	AREA	AADT 2024	OFFICER
15	19/02/2024		GTC115	40Km/Hr	Near to 35 Davies Street	7- North Bound A> B	North - East	Beechford	139	Prakash & Ramjee
Tamoshanter Road										
SNO	DATE	CHAINAGE	REFERENCE	SPEED LIMIT	LOCATION	DIRECTION	REGION	AREA	AADT 2024	OFFICER
16	19/02/2024		GTC116	80 Km/Hr	After Beachcomber place	E-BD	East Western	Lulworth	303	Prakash & Ramjee
Hurst Street										
SNO	DATE	CHAINAGE	REFERENCE	SPEED LIMIT	LOCATION	DIRECTION	REGION	AREA	AADT 2023	OFFICER
17	12/06/2024		GTC117	40 Km/Hr	Infront of 23 Hurst Street	E-BD	East Western	Lulworth	78	Prakash & Ramjee
Seascape Drive										
SNO	DATE	CHAINAGE	REFERENCE	SPEED LIMIT	LOCATION	DIRECTION	REGION	AREA	AADT 2024	OFFICER
18	12/06/2024		GTC118	40 Km/Hr	Infront of 2 Seascape Drive	E-BD	East Western	Lulworth	73	Prakash & Ramjee
Thompson Ave(CPT Eng)										
SNO	DATE	CHAINAGE	REFERENCE	SPEED LIMIT	LOCATION	DIRECTION	REGION	AREA	AADT 2024	OFFICER
19	2/07/2024		GTC119	50 Km/Hr	Infront of CPT Eng	7- North Bound A> B	SOUTH WESTERN	George Town	193	Prakash & Ramjee
Thompson Ave(Entry)										
SNO	DATE	CHAINAGE	REFERENCE	SPEED LIMIT	LOCATION	DIRECTION	REGION	AREA	AADT 2024	OFFICER
20	9/07/2024		GTC120	50 Km/Hr	Franklin & Thompson Avenue Intersection	E-BD	North - South	George Town	382	Prakash & Ramjee
Eastarm Road										
SNO	DATE	CHAINAGE	REFERENCE	SPEED LIMIT	LOCATION	DIRECTION	REGION	AREA	AADT 2024	OFFICER
21	17/07/2024		GTC121	80 Km/Hr	1 km from East road entry through East Tamar Highway	NS	North - South	Mount Direction	194	Prakash & Ramjee

Low head Road / Anne Street Junction 2024

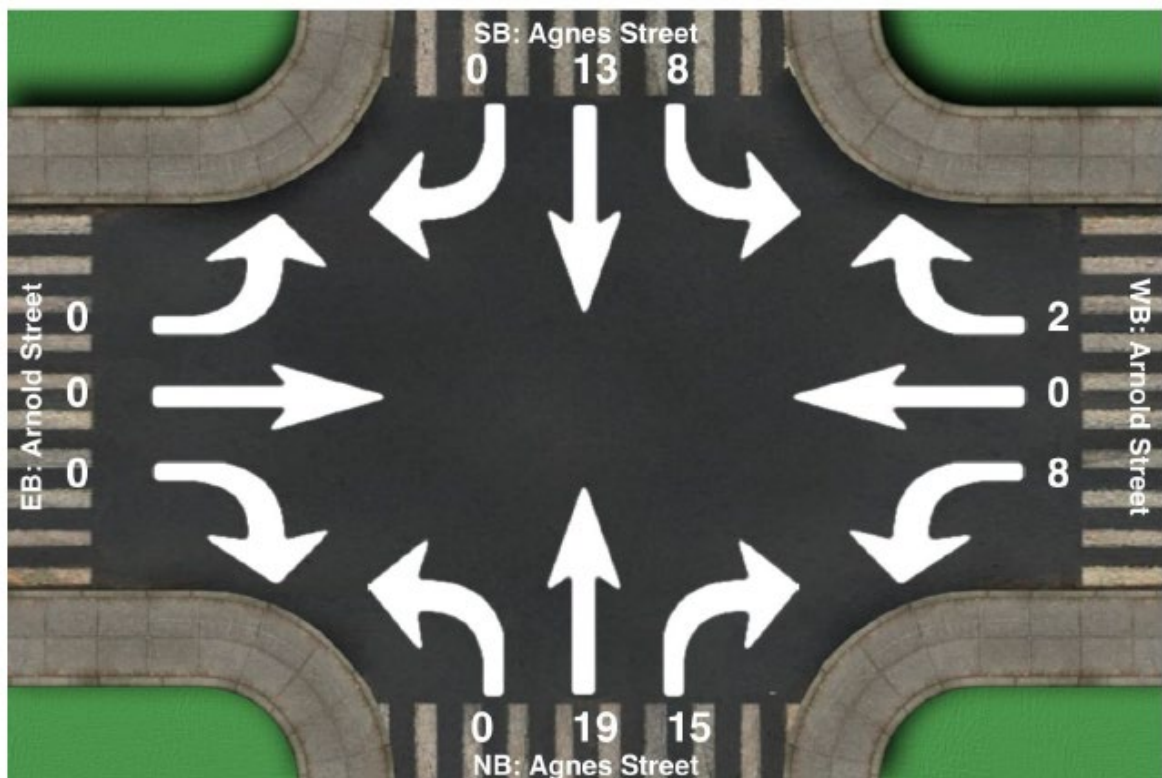


246 Agnes Street 2020



Intersection Count Summary

Location: Agnes Street at Arnold Street, George Town
GPS Coordinates: -41.0962961, 146.8281773
Date: 2020-07-07
Day of week: Tuesday
Weather:
Analyst: Josh Haines



Intersection Count Summary

12:35 - 13:05

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	8	13	0	8	0	2	0	19	15	0	0	0	65

Victoria Street 2021





Estimated AADT for roads of interest from TCS traffic survey data 2021, see Appendix B. AADT has been estimated by multiplying average AM & PM peak hour traffic by 10 which is a broad-brush guideline adequate for the purposes of this TIA:

Main Road

- Northern approach to Victoria Street – 2,900 vpd
- Southern approach to Victoria Street – 3,400 vpd

Victoria Street

- Eastern approach to Proposed Road A – 1,500 vpd
- Western approach to Main Road - 600 vpd

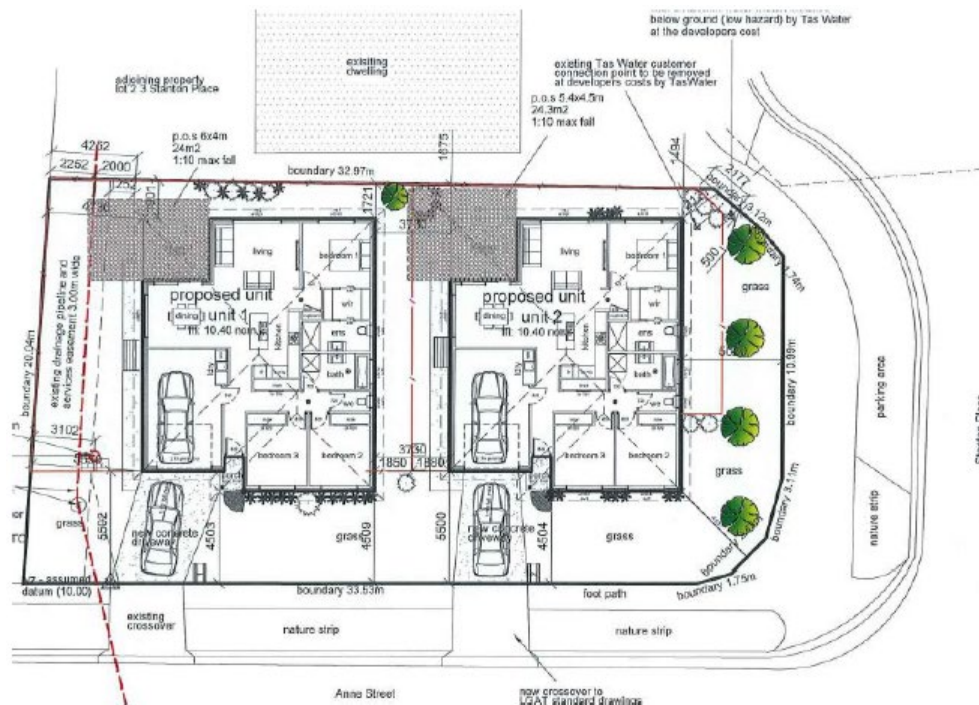
Franklin Street

- Northern approach to Main Road – 2,200 vpd
- Southern approach to Victoria Street - 600 vpd

50 Anne Street 2022

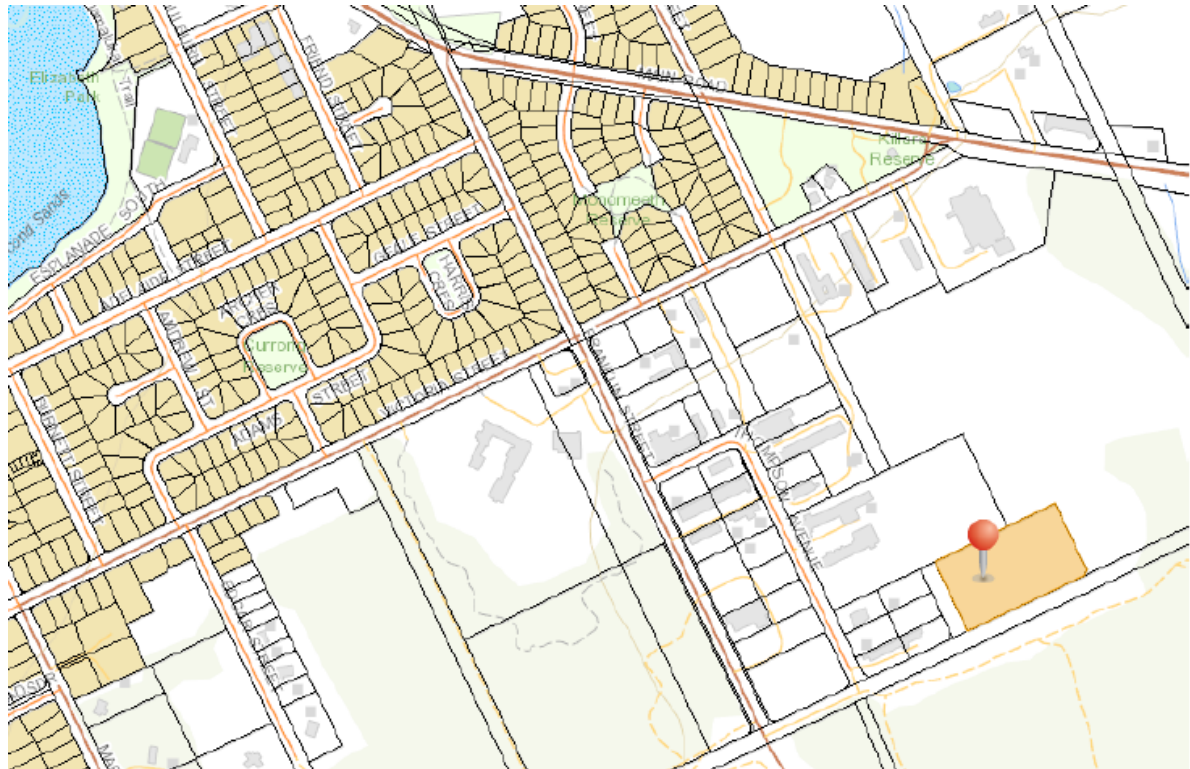


Source: LISTmap, DPIPW



Anne Street has a residential access function in the council road hierarchy with estimated peak flow of some 50vph and AADT of 500 vpd.

Lot 2 South Street 2024



4.1 Main Road

Main Road has a Sub Arterial function and is a 2-lane 2-way road in good condition with AADT estimated at 3,500 vpd (2024) and 60km/h speed limit. The road has 3.5 m traffic lanes & 2.5m parking lanes. Delineation is provided with thermoplastic line marking and street lighting.

4.2 Victoria Street

Victoria Street has a Collector Road function with estimated AADT of 1,500 vpd and an Electronic 40km/hr School Zone and a 50km/h speed limit otherwise. The road has a width of 9m supporting two-way two-lane traffic flow with parking on one side. Delineation is provided with kerb and channel and street lighting.

4.3 Franklin Street

Franklin Street has a Collector Road function with estimated:

- AADT of 2,200 vpd, width of some 11m and a 50km/h speed limit North of South Street. Delineation is provided with kerb and channel and street lighting.
- AADT of 600vpd, width of some 9m and an 80km/h posted speed limit from the Northern approach to the South Street intersection Southward. Delineation is provided with guideposts only South of South Street.

Appendix I - Intersection Analysis

Main Road / Macquarie /Goulburn Roundabout

SITE LAYOUT

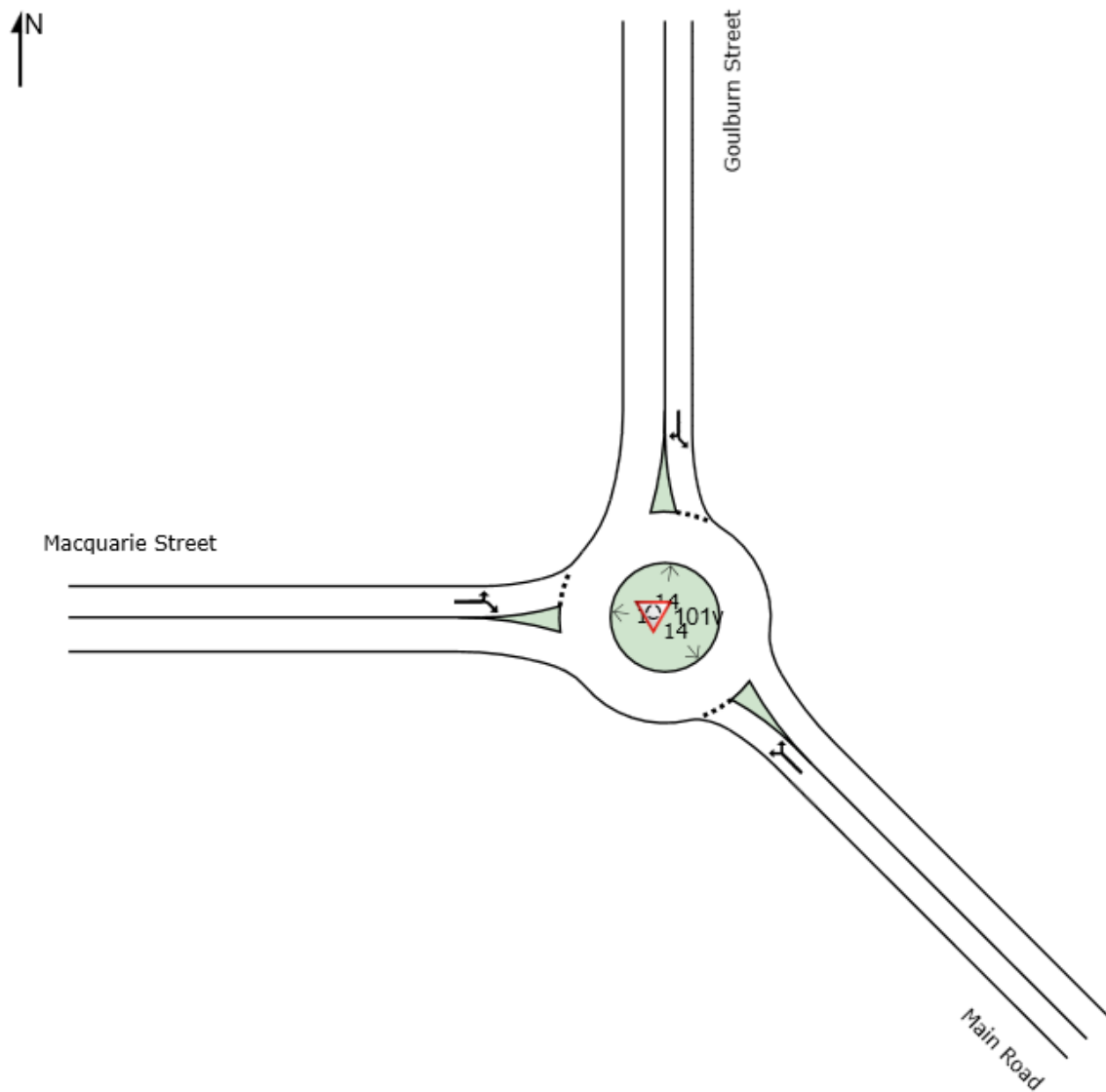
 **Site: 101v [Main / Macq AM 2034 - Rabt (Site Folder: General)]**

Main / Macquarie Intersection

Site Category: (None)

Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.





MOVEMENT SUMMARY

Site: 101v [Main / Macq AM 2034 - Rabt (Site Folder: General)]

Main / Macquarie Intersection
Site Category: (None)
Roundabout

Vehicle Movement Performance										
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE	
		[Total veh/h	HV] %	[Total veh/h	HV] %	v/c	sec		[Veh. veh	Dist] m
SouthEast: Main Road										
21a	L1	130	3.0	137	3.0	0.234	5.0	LOS A	1.5	10.9
23a	R1	130	3.0	137	3.0	0.234	8.3	LOS A	1.5	10.9
Approach		260	3.0	274	3.0	0.234	6.7	LOS A	1.5	10.9
North: Goulburn Street										
7a	L1	130	3.0	137	3.0	0.234	5.0	LOS A	1.5	10.8
3	R2	130	3.0	137	3.0	0.234	6.5	LOS A	1.5	10.8
Approach		260	3.0	274	3.0	0.234	5.7	LOS A	1.5	10.8
West: Macquarie Street										
4	L2	130	2.0	137	2.0	0.229	4.0	LOS A	1.4	9.7
12a	R1	130	2.0	137	2.0	0.229	8.2	LOS A	1.4	9.7
Approach		260	2.0	274	2.0	0.229	6.1	LOS A	1.4	9.7
All Vehicles		780	2.7	821	2.7	0.234	6.2	LOS A	1.5	10.9

Macquarie / Anne St Intersection

SITE LAYOUT

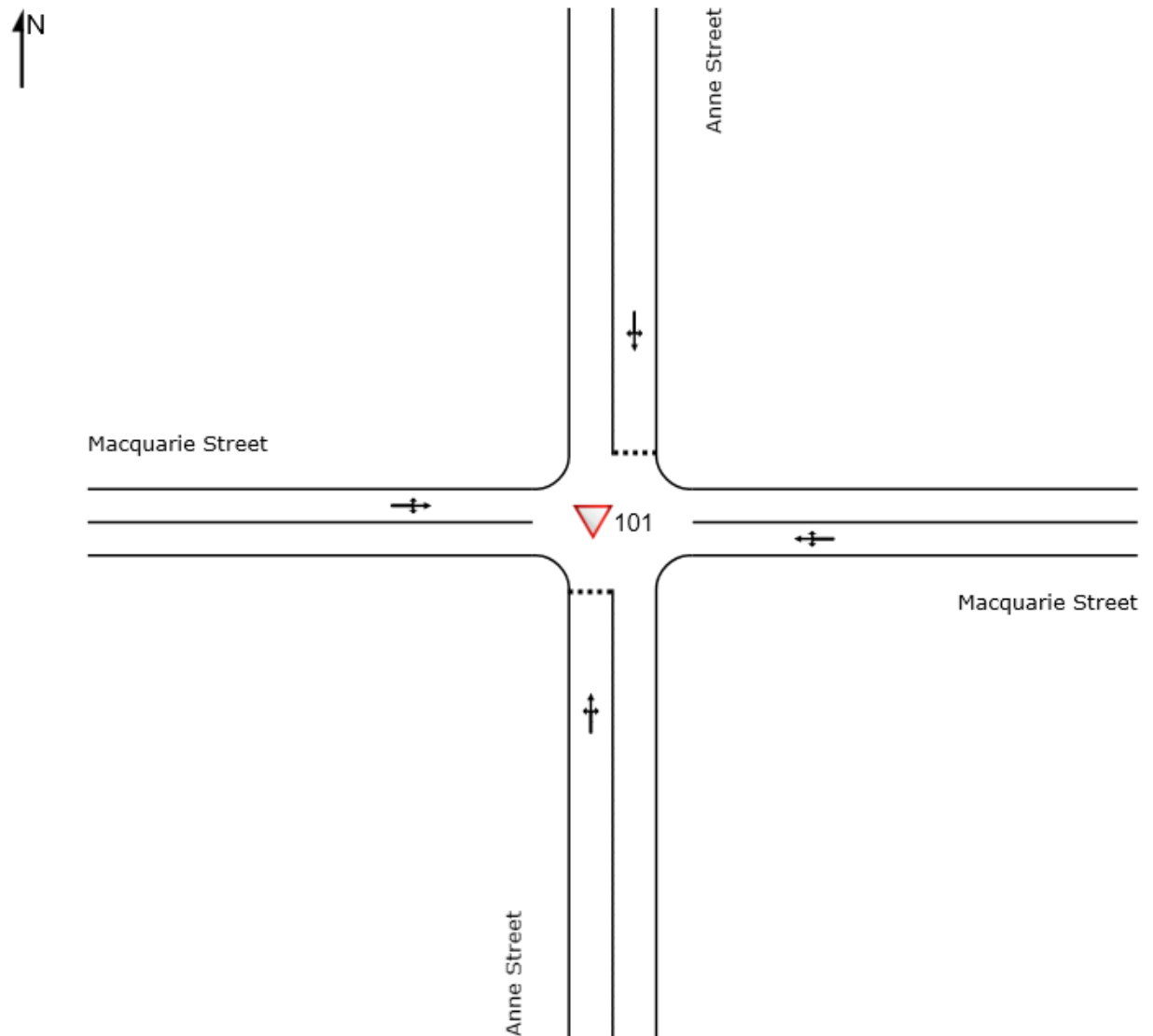
▽ Site: 101 [Macquarie / Anne Int AM 2034 (Site Folder: General)]

Macquarie / Anne St Intersection

Site Category: (None)

Give-Way (Two-Way)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

▽ Site: 101 [Macquarie / Anne Int AM 2034 (Site Folder: General)]

Macquarie / Anne St Intersection

Site Category: (None)

Give-Way (Two-Way)

Vehicle Movement Performance									
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE
		[Total veh/h	HV] %	[Total veh/h	HV] %	v/c	sec		[Veh. Dist] m
South: Anne Street									
1	L2	6	5.0	6	5.0	0.017	4.2	LOSA	0.1 0.4
2	T1	1	5.0	1	5.0	0.017	4.9	LOSA	0.1 0.4
3	R2	6	5.0	6	5.0	0.017	6.8	LOSA	0.1 0.4
Approach		13	5.0	14	5.0	0.017	5.4	LOSA	0.1 0.4
East: Macquarie Street									
4	L2	6	0.0	6	0.0	0.143	5.5	LOSA	0.3 2.1
5	T1	220	0.0	232	0.0	0.143	0.2	LOSA	0.3 2.1
6	R2	33	0.0	35	0.0	0.143	5.6	LOSA	0.3 2.1
Approach		259	0.0	273	0.0	0.143	1.0	NA	0.3 2.1
North: Anne Street									
7	L2	33	5.0	35	5.0	0.112	4.3	LOSA	0.4 2.7
8	T1	1	5.0	1	5.0	0.112	5.0	LOSA	0.4 2.7
9	R2	33	5.0	35	5.0	0.112	9.0	LOSA	0.4 2.7
Approach		67	5.0	71	5.0	0.112	6.6	LOSA	0.4 2.7
West: Macquarie Street									
10	L2	33	5.0	35	5.0	0.141	4.8	LOSA	0.1 0.5
11	T1	220	5.0	232	5.0	0.141	0.0	LOSA	0.1 0.5
12	R2	6	5.0	6	5.0	0.141	5.5	LOSA	0.1 0.5
Approach		259	5.0	273	5.0	0.141	0.8	NA	0.1 0.5
All Vehicles		598	2.8	629	2.8	0.143	1.6	NA	0.4 2.7

Appendix J - Warrant for Traffic Signals

- Provides the most suitable treatment for very high-volume sites.
- Enables efficient coordination along traffic routes.
- Can readily accommodate priority measures for public transport.
- May provide controlled crossings for pedestrians and cyclists.
- Are safer for cyclists than multi-lane roundabouts.
- Preferred for sites with high pedestrian activity.
- Generally preferred to roundabouts for intersections along freight routes.
- Are not generally as safe as a roundabout.
- Are not desirable from a safety perspective in high-speed environments but, if used, speed limit reductions or electronic interactive warning devices are required.

The following guidelines indicate those circumstances where signals could be of significant benefit. The terms 'major' and 'minor' are used respectively to indicate the roads carrying the larger and smaller traffic volume:

1. **Traffic volume:** Where the volume of traffic is the principal reason for providing a control device, traffic signals may be considered, subject to detailed analysis when the major road carries at least 600 vehicles/hour (two-way) and the minor road concurrently carries at least 200 vehicles/hour (highest approach volume) on one approach over any four hours of an average day⁽⁴⁾⁽⁵⁾.
2. **Continuous traffic:** Where traffic on the major road is sufficient to cause undue delay or hazard for traffic on a minor road, traffic signals may be considered when the major road carries at least 900 vehicles/hour (two-way) and the minor road concurrently carries at least 100 vehicles/hour (highest approach volume) on one approach, over any four hours of an average day. This warrant applies provided that the installation would not disrupt progressive traffic flow, and that no alternative and reasonably accessible signalised intersection is present on the major road^{(2) (3)}.
3. **Pedestrian safety:** To help pedestrians cross a road in safety, signals may be considered when over any four hours of an average day, the major road carries 600 vehicles/hour (two-way), or where there is a central pedestrian refuge at least 1.2 m wide, the major road flow exceeds 1000 vehicles/hour, and 150 pedestrians per hour or more cross the major road⁽⁴⁾⁽⁵⁾.
4. **Crashes:** Where the intersection has an average of three or more reported casualty crashes per year over a three-year period where the accidents could have been prevented by traffic signals, and traffic flows are at least 80% of the volume warrants given in (1) and (2).
5. **Combined factors:** In exceptional cases, where no single guideline is satisfied but where two or more of the warrants given in (1), (2) and (3) are satisfied to the extent of 80% or more of the stated criteria.

Source – Austroads Guide to Traffic Management Part 6: Intersections, Interchanges and Crossings 2013

Appendix K - Council Rd 10 Year Crash History

Crash Data as an indicator of existing road network safety

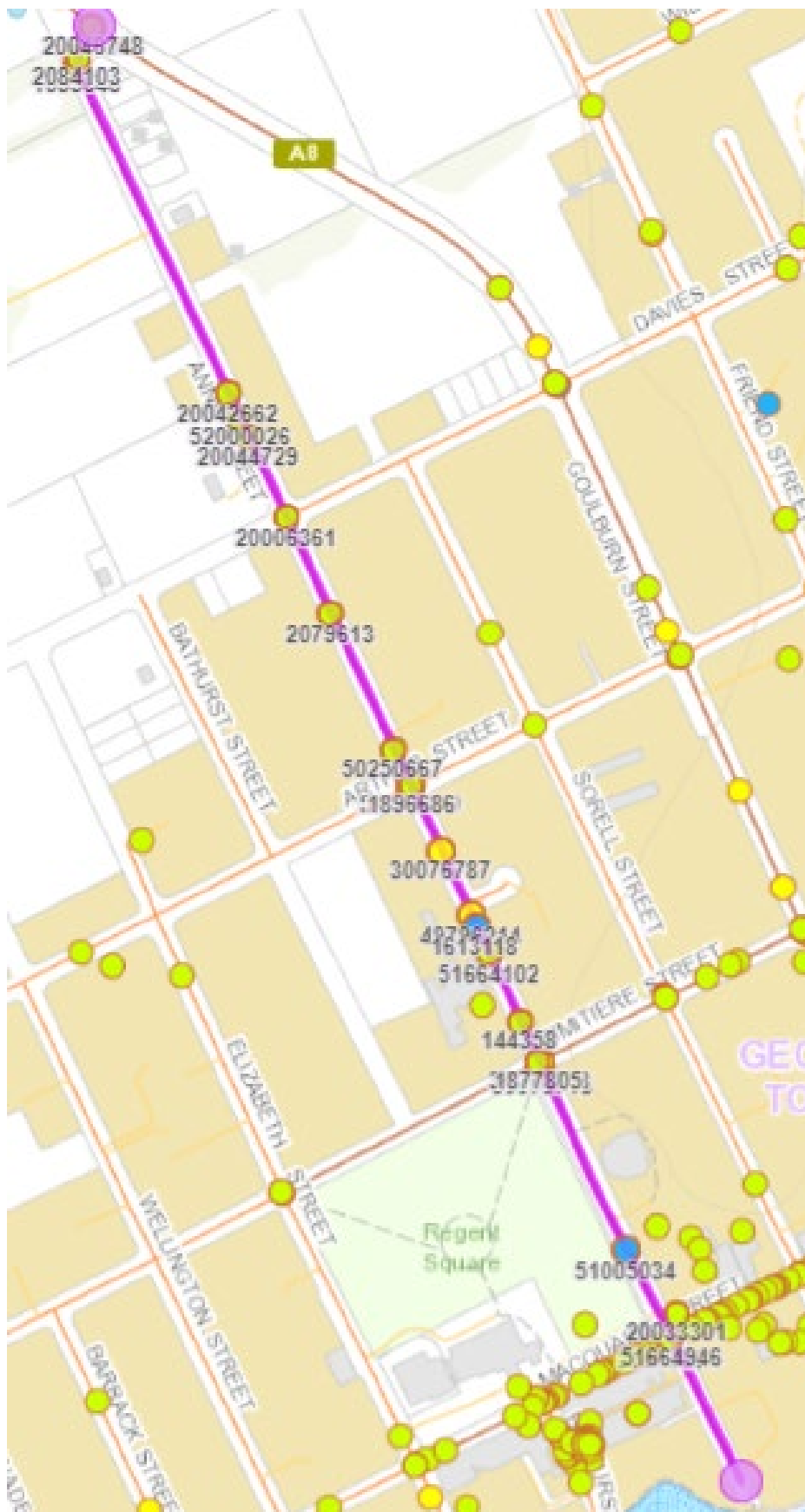
Generally, the reported crash history provides evidence that the road network is operating relatively safely and as expected for the level of traffic exposure. Appendix H shows spatial distribution of crashes.

Appendix K.1 Anne Street

Figure 13 – 10 Year Reported Crash History – Anne Street

Crash Id	Location	Date	Time	Crash Type	Severity	Light	Speed Limit	Units
884780	Anne / Low Head Rd Jcn.	01 Aug 2015	11:22 pm	175 - Off end of road T junctions/int.	PDO	Night	060	LV
1035648	Anne St	21 Oct 2015	11:22 am	189 - Other curve	PDO	Day	070	LV
1613118	Anne St	17 Mar 2016	12:00 pm	147 - Emerging from driveway or lane	First Aid	Day	050	BC;LV
1877805	Anne / Cimitiere St Int.	18 July 2016	08:50 am	110 - Cross traffic	PDO	Day	050	LV
1896686	Anne / Arthur St Int.	28 Aug 2016	12:00 am	110 - Cross traffic	PDO	Night	050	LV
2037153	Anne / Arthur St Int.	26 Apr 2017	04:05 pm	110 - Cross traffic	PDO	Day	050	LV
2079613	Anne St	10 Aug 2017	02:45 pm	147 - Emerging from driveway or lane	PDO	Day	050	LV
2084103	Anne St	20 Aug 2017	10:30 pm	189 - Other curve	PDO	Night	060	LV
49603620	Anne / Arthur St Int.	20 Sept 2018	02:43 pm	110 - Cross traffic	Minor	Day	050	LV
49796214	Anne St	10 Jan 2019	04:05 pm	147 - Emerging from driveway or lane	Minor	Day	050	LV
50250667	Anne St	12 Sept 2019	09:00 am	169 - Other on path	PDO	Day	050	LV
50347022	Anne / Macquarie St. Int.	22 Nov 2019	08:59 pm	121 - Right through	PDO	Night	050	LV
51005034	Anne St	15 Mar 2021	01:00 pm	163 - Vehicle door	First Aid	Day	050	LV
51664946	Anne / Macquarie St. Int.	05 May 2022	08:30 am	111 - Right far	PDO	Day	050	LV
51664102	Anne St	06 May 2022	01:45 pm	169 - Other on path	PDO	Day	050	HV;LV
52000026	Anne St	20 May 2023	01:45 pm	174 - Out of control on carriageway	PDO	Day	050	MC
52037529	Anne / Arthur St Int.	27 June 2023	08:57 am	160 - Parked	PDO	Day	050	LV;O

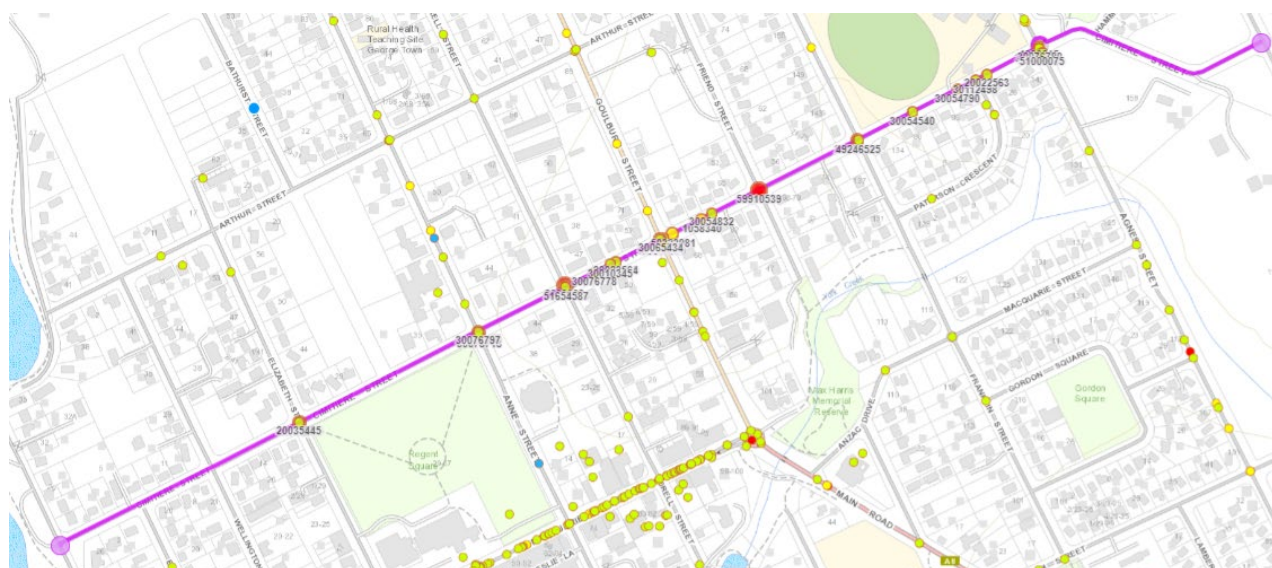
PDO	Property Damage Only	LV	Light Vehicle	MC	Motorcycle
O	Other	HV	Heavy Vehicle	BC	Bicycle



Appendix K.2 Cimitiere Street

Figure 14 – 1 Year Reported Crash History – Cimitiere Street.

Crash Id	Location	Date	Time	Crash Type	Severity	Light	Speed Limit	Units
901613	Cimitiere / Goulburn St. Int.	11 Aug 2015	01:00 am	110 - Cross traffic	PDO	Day	060	LV
991053	Cimitiere / Friend St. Int.	02 Oct 2015	11:25 am	110 - Cross traffic	Serious	Day	050	LV
1058340	Cimitiere St.	31 Oct 2015	04:30 pm	173 - Right off c/way into obj. or pkd. Veh.	Minor	Day	050	LV
1877805	Cimitiere / Anne St. Int.	18 July 2016	08:50 am	110 - Cross traffic	PDO	Day	050	LV
1996215	Cimitiere / Agnes St. Int.	12 Jan 2017	05:00 pm	110 - Cross traffic	PDO	Day	060	LV
1999840	Cimitiere / Franklin St. Int.	24 Jan 2017	04:30 pm	110 - Cross traffic	PDO	Day	050	LV
2068602	Cimitiere / Sorell St Int.	12 July 2017	12:40 pm	110 - Cross traffic	Serious	Day	050	BC;LV
48811812	Cimitiere / Goulburn St. Int.	26 Dec 2017	04:40 pm	110 - Cross traffic	Minor	Day	050	LV
49125092	Cimitiere/ Franklin St. Int.	16 Feb 2018	04:00 pm	110 - Cross traffic	PDO	Day	050	LV
49246525	Cimitiere/ Franklin St. Int.	09 May 2018	01:20 pm	174 - Out of control on carriageway	PDO	Day	050	MC
49804397	Cimitiere / Goulburn St. Int.	12 Jan 2019	02:35 pm	110 - Cross traffic	Minor	Day	060	LV
50069896	Cimitiere / Agnes St. Int.	06 June 2019	07:00 pm	110 - Cross traffic	PDO	Night	050	LV
50121522	Cimitiere / Goulburn St. Int.	02 July 2019	03:10 pm	121 - Right through	PDO	Day	060	LV
50323981	Cimitiere St.	06 Nov 2019	10:53 pm	179 - Other straight	Minor	Night	060	LV
50604779	Cimitiere / Friend St. Int.	10 Mar 2020	02:49 pm	110 - Cross traffic	Serious	Day	050	BC;LV
51000075	Cimitiere / Agnes St. Int.	11 Mar 2021	01:15 pm	130 - Vehicles in same lane/ rear end	PDO	Day	050	LV
51594129	Cimitiere / Goulburn St. Int.	26 Feb 2022	11:55 am	110 - Cross traffic	Minor	Day	060	LV
51654587	Cimitiere / Sorell St Int.	26 Apr 2022	05:00 pm	110 - Cross traffic	PDO	Day	050	LV
51978543	Cimitiere / Goulburn St. Int.	01 May 2023	02:45 pm	130 - Vehicles in same lane/ rear end	PDO	Day	060	LV
52282765	Cimitiere/ Elizabeth St. Int.	06 Feb 2024	04:15 pm	110 - Cross traffic	Minor	Day	050	LV

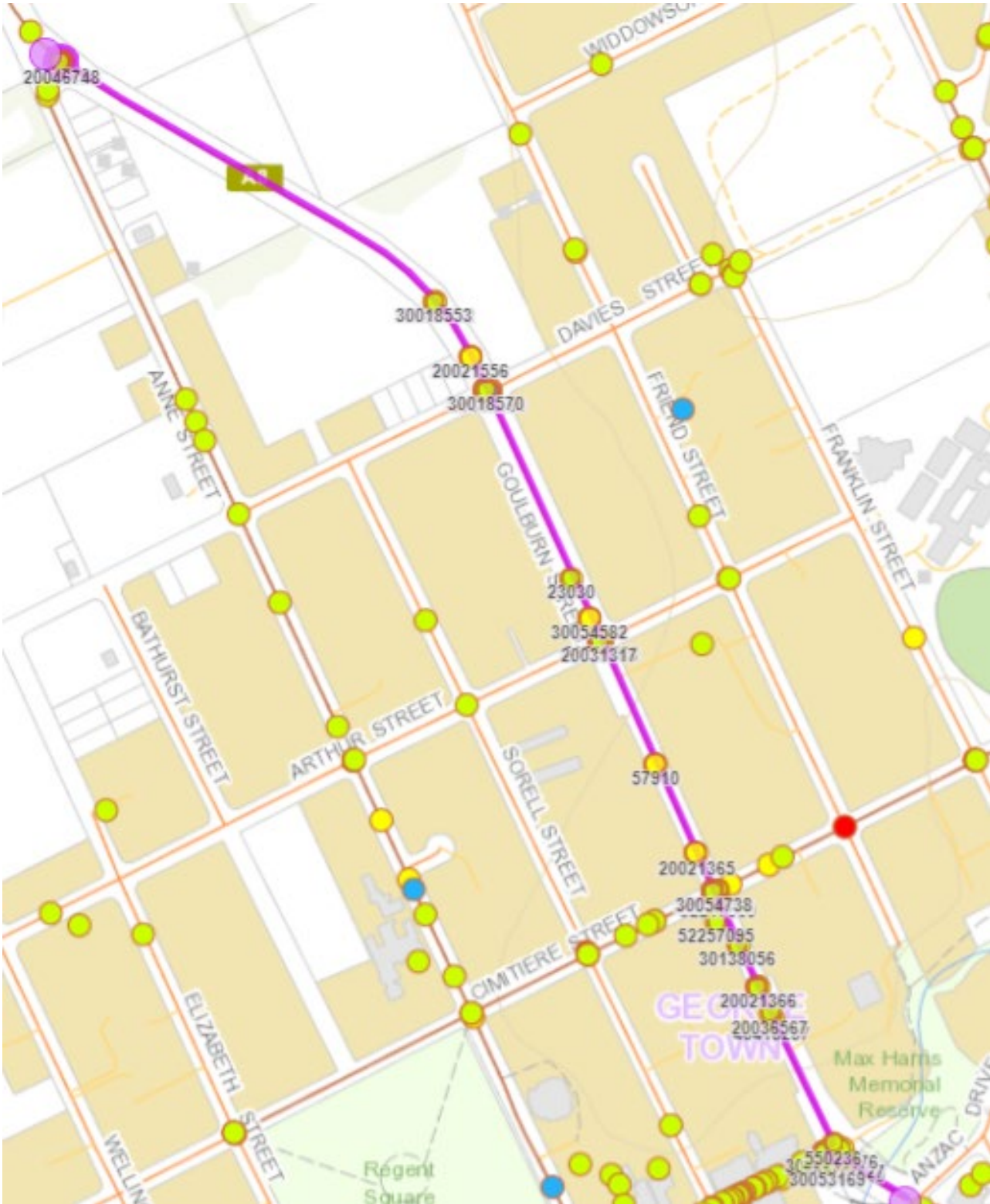


Appendix K.3 Goulburn Street

The crash data summarised in Figure 15 provides mild evidence of a rear end crash propensity mostly resulting in PDO. Given the volume of traffic using the road (17,000 vpd) and the length of road (2.5km), the crash rate is considered reasonable.

Figure 15 – 10 Year Reported Crash History – Goulburn Street.

Crash Id	Location	Date	Time	Crash Type	Severity	Light	Speed Limit	Units
550236	Goulburn / Macquarie St. Int.	12 Apr 2015	04:10 pm	112 - Left far	PDO	Day	060	LV
884780	Goulburn / Anne Street Jcn	01 Aug 2015	11:22 pm	175 - Off end of road Int.	PDO	Night	060	LV
901613	Goulburn / Cimitiere St. Int.	11 Aug 2015	01:00 am	110 - Cross traffic	PDO	Day	060	LV
2082572	Goulburn / Arthur St. Int.	17 Aug 2017	06:55 pm	110 - Cross traffic	Minor	Dusk	060	LV
48811812	Goulburn / Cimitiere St. Int.	26 Dec 2017	04:40 pm	110 - Cross traffic	Minor	Day	050	LV
49413237	Goulburn St.	15 July 2018	08:10 pm	160 - Parked	PDO	Night	060	LV
49687191	Goulburn / Davies S. Int.	28 Nov 2018	06:30 pm	110 - Cross traffic	First Aid	Day	060	BC;LV
49804397	Goulburn / Cimitiere St. Int.	12 Jan 2019	02:35 pm	110 - Cross traffic	Minor	Day	060	LV
49848872	Goulburn St.	11 Feb 2019	01:45 pm	160 - Parked	Minor	Day	060	LV
50121522	Goulburn / Cimitiere St. Int.	02 July 2019	03:10 pm	121 - Right through	PDO	Day	060	LV
50302696	Goulburn / Davies S. Int.	27 Oct 2019	02:45 pm	113 - Right near	Minor	Day	060	LV;MC
50648326	Goulburn / Davies S. Int.	07 May 2020	05:55 pm	110 - Cross traffic	Serious	Dusk	060	LV;MC
51325612	Goulburn / Low Head Rd. Int.	21 July 2021	11:42 pm	189 - Other curve	PDO	Night	070	LV
51594129	Goulburn / Cimitiere St. Int.	26 Feb 2022	11:55 am	110 - Cross traffic	Minor	Day	060	LV
51658789	Goulburn / Arthur St. Int.	30 Apr 2022	09:40 am	111 - Right far	PDO	Day	060	LV
51731802	Goulburn / Arthur St. Int.	31 July 2022	05:08 pm	132 - Veh. in same lane/ right rear	PDO	Day	060	LV
51858610	Goulburn / Main Rd Int.	22 Dec 2022	12:55 pm	130 - Veh. in same lane/ rear end	PDO	Day	060	LV
51978543	Goulburn / Cimitiere St. Int.	01 May 2023	02:45 pm	130 - Veh. in same lane/ rear end	PDO	Day	060	LV
52257095	Goulburn St.	10 Jan 2024	06:35 pm	149 Other maneuvering	PDO	Day	060	BC;LV
52313301	Goulburn / Davies S. Int.	01 Mar 2024	03:25 pm	110 - Cross traffic	Minor	Day	050	LV
52380134	Goulburn / Arthur St. Int.	13 May 2024	09:53 am	110 - Cross traffic	Minor	Day	060	LV

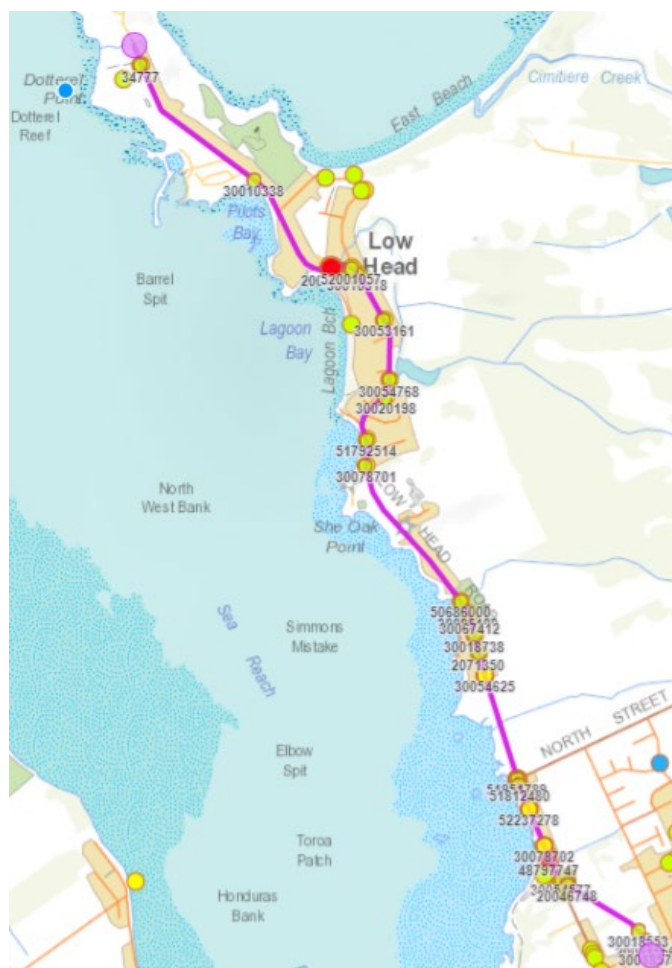


Appendix K.4 Low Head Road

The crash data summarised in Figure 15 provides mild evidence of a rear end crash propensity mostly resulting in PDO. Given the volume of traffic using the road (17,000 vpd) and the length of road (2.5km), the crash rate is considered reasonable.

Figure 15 – 10 Year Reported Crash History – Low Head

Crash Id	Location	Date	Time	Crash Type	Severity	Light	Speed Limit	Units
884780	Low Head / Anne St. Int.	01 Aug 2015	11:22 pm	175 - Off end of road	PDO	Night	060	LV
2071350	Low Head Rd.	20 July 2017	02:00 pm	145 - Reversing	PDO	Day	070	HV;LV
48797747	Low Head Rd.	05 Dec 2017	07:42 pm	181 - Off right bend into obj./pkd veh.	Serious	Day	070	LV
49687191	Low Head / Davies St. Int.	28 Nov 2018	06:30 pm	110 - Cross traffic	First Aid	Day	060	BC;LV
50302696	Low Head / Davies St. Int.	27 Oct 2019	02:45 pm	113 - Right near	Minor	Day	060	LV;MC
50648326	Low Head / Davies St. Int.	07 May 2020	05:55 pm	110 - Cross traffic	Serious	Night	060	LV;MC
50686000	Low Head Rd.	21 June 2020	04:30 am	173 - Right off c/way into obj. or pkd veh.	PDO	Night	050	LV
51325612	Low Head Rd.	21 July 2021	11:42 pm	189 - Other curve	PDO	Night	070	LV
51792514	Low Head Rd.	10 Oct 2022	04:00 pm	169 - Other on path	PDO	Day	070	LV
51812480	Low Head Rd.	15 Nov 2022	09:15 pm	179 - Other straight	PDO	Night	070	LV
51951789	Low Head / North St. Int.	08 Apr 2023	03:55 pm	112 - Left far	PDO	Day	070	LV
52001057	Low head / Gunn Pde Int.	20 May 2023	01:25 pm	110 - Cross traffic	PDO	Day	060	LV
52237278	Low Head Rd.	05 Jan 2024	08:20 am	173 - Right off c/way into obj. or pkd veh.	Minor	Day	050	LV
52313301	Low Head / Davies St. Int.	01 Mar 2024	03:25 pm	110 - Cross traffic	Minor	Day	050	LV



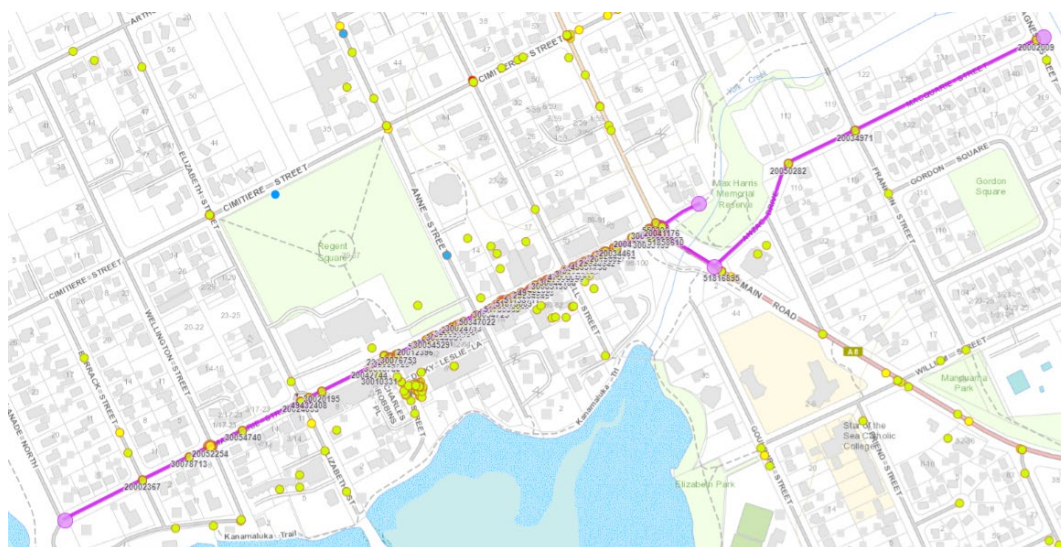
Appendix K.5 Macquarie Street

The crash data summarised in Figure 15 provides mild evidence of a rear end crash propensity mostly resulting in PDO. Given the volume of traffic using the road (17,000 vpd) and the length of road (2.5km), the crash rate is considered reasonable.

Figure 15 – 10 Year Reported Crash History – Macquarie Street

Crash Id	Location	Date	Time	Crash Type	Severity	Light	Speed Limit	Units
488172	Macquarie St.	07 Jan 2015	10:00 am	169 - Other on path	PDO	Day	050	HV;LV
530750	Macquarie St.	21 Feb 2015	11:54 am	101 - Emerging	Serious	Day	050	LV;Ped
550236	Macquarie / Goulburn St. Int.	12 Apr 2015	04:10 pm	112 - Left far	PDO	Day	060	LV
760894	Macquarie / Sorell St. Int.	05 June 2015	02:30 pm	116 - Left near	PDO	Day	050	LV
2010602	Macquarie St.	20 Feb 2017	06:15 pm	169 - Other on path	PDO	Day	050	LV
2014456	Macquarie St.	02 Mar 2017	01:00 pm	169 - Other on path	PDO	Day	050	LV
2076160	Macquarie / Bathurst St. Int.	01 Aug 2017	04:25 pm	110 - Cross traffic	PDO	Day	50	LV
2097850	Macquarie St.	28 Sept 2017	10:40 am	146 - Reversing into fixed obj. or pkd veh.	PDO	Day	050	LV
2101305	Macquarie St.	06 Oct 2017	12:10 pm	142 - Leaving parking	PDO	Day	050	LV
2107179	Macquarie St.	21 Oct 2017	12:45 pm	143 - Entering parking	PDO	Day	050	LV
48777553	Macquarie / Sorell St. Int.	24 Nov 2017	11:45 am	110 - Cross traffic	PDO	Day	050	LV
48819198	Macquarie St.	05 Jan 2018	11:07 am	100 - Near side	Minor	Day	050	LV;Ped
49149929	Macquarie St.	08 Mar 2018	09:45 am	149 - Other maneuvering	PDO	Day	050	LV
49209932	Macquarie St.	18 Apr 2018	04:45 pm	142 - Leaving parking	PDO	Day	050	LV
49432408	Macquarie St.	24 July 2018	03:15 pm	130 - Vehicles in same lane/ rear end	PDO	Day	50	LV
49620637	Macquarie St.	28 Sept 2018	06:00 am	146 - Reversing into fixed obj. or pkd veh.	PDO	Day	050	LV
49660639	Macquarie St.	07 Nov 2018	10:30 am	160 - Parked	PDO	Day	050	LV
49947172	Macquarie St.	30 Mar 2019	05:38 pm	149 - Other maneuvering	PDO	Day	050	LV
49997798	Macquarie St.	12 May 2019	12:24 pm	144 - Parking vehicles only	PDO	Day	050	LV
50347022	Macquarie / Anne St. Int.	22 Nov 2019	08:59 pm	121 - Right through	PDO	Night	050	LV
50821900	Macquarie St.	14 Sept 2020	04:00 pm	160 - Parked	PDO	Day	050	LV
50956838	Macquarie St.	29 Jan 2021	01:00 pm	130 - Vehicles in same lane/ rear end	PDO	Day	050	LV
51198711	Macquarie St.	21 May 2021	03:32 pm	149 - Other maneuvering	PDO	Day	050	LV
51431095	Macquarie St.	19 Oct 2021	01:45 pm	109 - Other pedestrian	PDO	Day	050	LV;Ped
51664946	Macquarie / Anne St. Int.	05 May 2022	08:30 am	111 - Right far	PDO	Day	050	LV
51740117	Macquarie St.	06 Aug 2022	11:51 am	163 - Vehicle door	Minor	Day	050	ES;LV
51780369	Macquarie St.	06 Oct 2022	10:00 am	160 - Parked	PDO	Day	050	LV
51816895	Macquarie / Main Rd. Int.	24 Nov 2022	03:05 pm	130 - Vehicles in same lane/ rear end	PDO	Day	040 school	LV
51858610	Macquarie / Main Rd. Int.	22 Dec 2022	12:55 pm	130 - Vehicles in same lane/ rear end	PDO	Day	060	LV
51873069	Macquarie St.	13 Jan 2023	05:58 pm	179 - Other straight	PDO	Day	050	LV
51994654	Macquarie St.	14 May 2023	11:00 am	142 - Leaving parking	PDO	Day	050	LV
52008653	Macquarie / Bathurst St. Int.	29 May 2023	09:25 am	110 - Cross traffic	PDO	Day	50	LV
52443714	Macquarie St.	04 July 2024	09:45 am	144 - Parking vehicles only	PDO	Day	050	LV

ES | Electric Scooter



Appendix K.6 Main Road

The crash data summarised in Figure 15 provides mild evidence of a rear end crash propensity mostly resulting in PDO. Given the volume of traffic using the road (17,000 vpd) and the length of road (2.5km), the crash rate is considered reasonable.

Figure 15 – 10 Year Reported Crash History – Main Road

Crash Id	Location	Date	Time	Crash Type	Severity	Light	Speed Limit	Units
496889	Main / Agnes St. Int.	09 Jan 2015	06:55 am	130 - Veh. in same lane/ rear end	First Aid	Day	050	LV
1994137	Main Rd.	07 Jan 2017	11:00 pm	171 - Left off c/way into obj. or pkd. veh.	Serious	Night	060	LV
2002728	Main Rd.	30 Jan 2017	07:50 pm	139 - Other same direction	PDO	Day	060	LV
2081627	Main / Lambert St. Int.	15 Aug 2017	01:51 pm	110 - Cross traffic	Minor	Day	060	LV
49837231	Main Rd.	01 Feb 2019	03:18 pm	160 - Parked	Minor	Day	060	LV
50355726	Main Rd.	26 Nov 2019	01:31 pm	132 - Vehicles in same lane/ right rear	Minor	Day	050	LV
50905467	Main Rd.	14 Dec 2020	08:12 pm	121 - Right through	Minor	Day	060	LV
51343070	Main / Agnes St. Int.	08 Aug 2021	06:35 pm	133 - Veh in parallel lane/ lane side swipe	Minor	Night	060	LV
51760374	Main / Agnes St. Int.	26 Aug 2022	01:50 am	189 - Other curve	PDO	Night	050	LV
51816895	Main Rd.	24 Nov 2022	03:05 pm	130 - Veh, in same lane/ rear end	PDO	Day	40 school	LV
51869539	Main / Lambert St. Int.	11 Jan 2023	04:05 pm	110 - Cross traffic	PDO	Day	060	LV
52193591	Main Rd.	17 Nov 2023	12:30 pm	109 - Other pedestrian	Minor	Day	060	LV;Ped

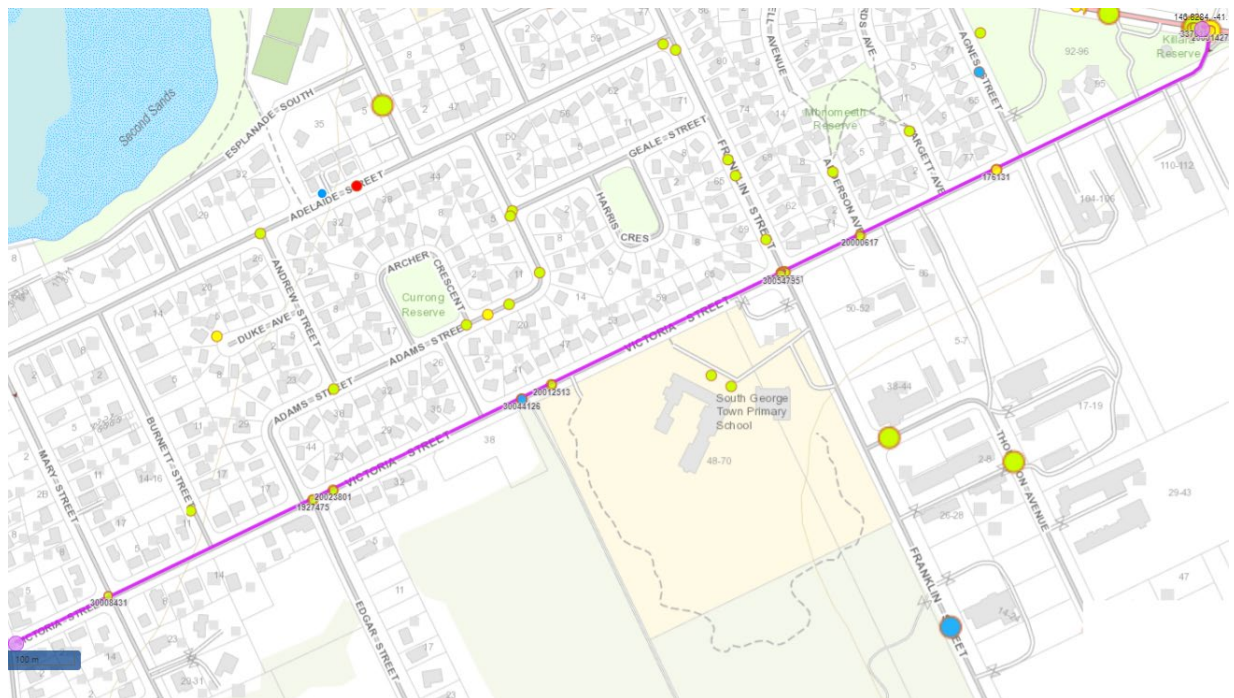


Appendix K.7 Victoria Street

The crash data summarised in Figure 15 provides mild evidence of a rear end crash propensity mostly resulting in PDO. Given the volume of traffic using the road (17,000 vpd) and the length of road (2.5km), the crash rate is considered reasonable.

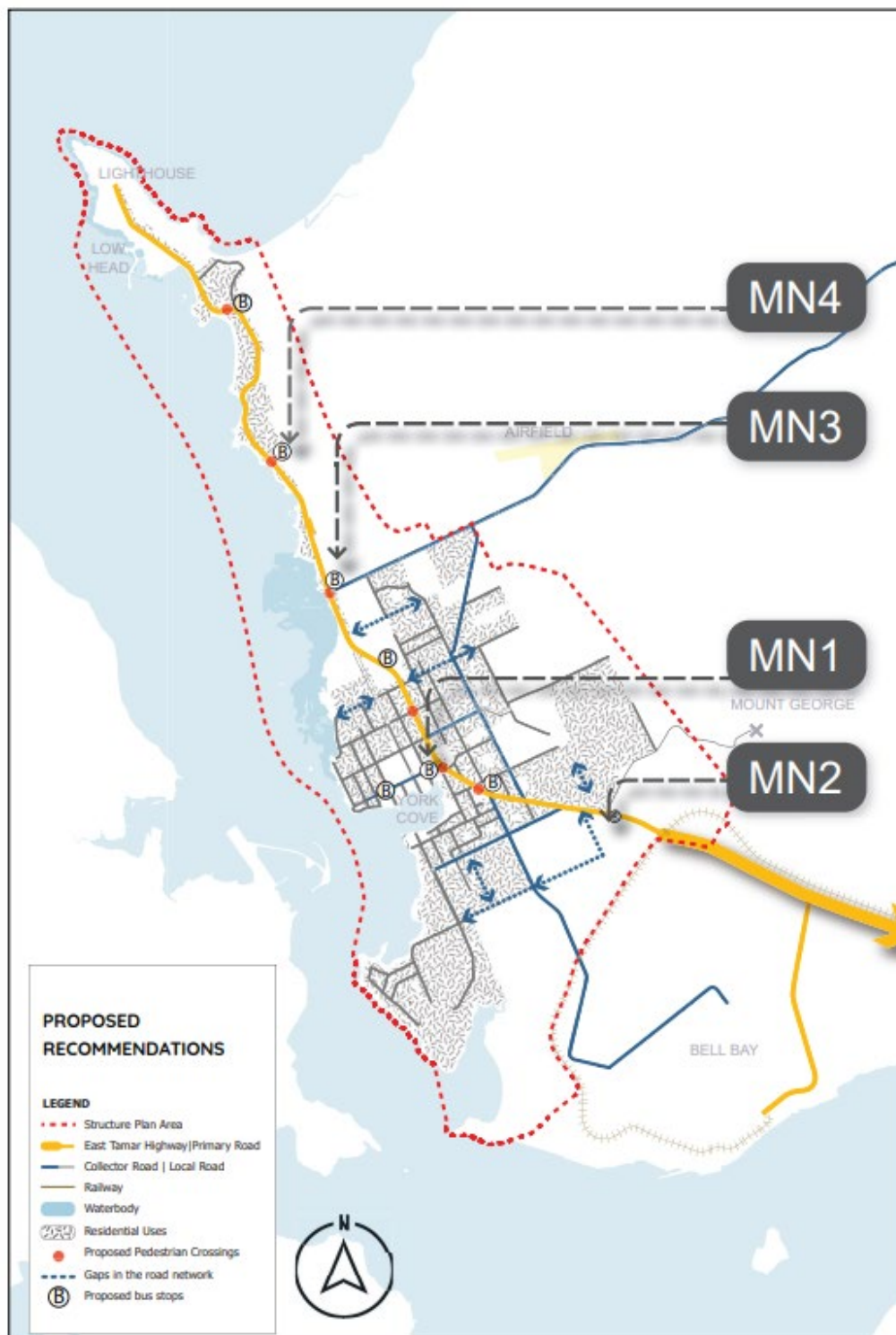
Figure 15 – 10 Year Reported Crash History – Victoria Street

Crash Id	Location	Date	Time	Crash Type	Severity	Light	Speed Limit	Units
529581	Victoria / Franklin St. Int.	18 Feb 2015	12:20 pm	110 - Cross traffic	PDO	Day	050	LV
994129	Victoria / Franklin St. Int.	04 Oct 2015	09:48 am	110 - Cross traffic	First Aid	Day	050	LV
1752655	Victoria / Franklin St. Int.	27 May 2016	11:13 am	110 - Cross traffic	First Aid	Day	050	LV
1887327	Victoria / Franklin St. Int.	02 Aug 2016	09:50 am	110 - Cross traffic	First Aid	Day	050	LV
1927475	Victoria / Edgar St. Int.	14 Oct 2016	12:00 pm	110 - Cross traffic	PDO	Day	050	LV
2048475	Victoria / Franklin St. Int.	24 May 2017	04:10 pm	110 - Cross traffic	PDO	Day	050	LV
48777628	Victoria / Franklin St. Int.	24 Nov 2017	03:50 pm	110 - Cross traffic	PDO	Day	050	LV
49119219	Victoria / Franklin St. Int.	12 Feb 2018	02:20 pm	110 - Cross traffic	PDO	Day	050	LV
50659353	Victoria / Franklin St. Int.	21 May 2020	01:00 pm	110 - Cross traffic	PDO	Day	050	LV
50793051	Victoria / Franklin St. Int.	24 Aug 2020	06:00 am	110 - Cross traffic	PDO	Dawn	050	LV
51704606	Victoria / Franklin St. Int.	15 June 2022	07:10 pm	110 - Cross traffic	First Aid	Night	050	BC;LV



Appendix L – GTASP Road Infrastructure

Source: George Town Area Structure Plan



Source: George Town Structure Plan

Recommended Actions

Macquarie Street Entrance

MN1. Devise a concept plan for Macquarie Street entrance from Main Road to improve wayfinding and entry to the town centre. The entry point should be easily identifiable through an art installation and landscaping.

Alternative Access

MN2. Investigate the construction of a new road south of Victoria Street to provide a secondary vehicle route for residential traffic and commercial vehicles from Franklin Street to travel to Main Road.

Pedestrian Crossings

MN3. Investigate and identify a minimum of six additional pedestrian crossings across Low Head Road, Goulburn Street and Main Road at locations that connect with street junctions and the pedestrian and cycling network. Pedestrian crossings are to be marked and signed.

Bicycle Lane

MN4. On the road, bicycle lanes to be marked where off-road paths are not possible to correspond with identified routes. Community consultation to determine the path to be marked.

Gaps in Road Network

MN5. Construct permeable streets addressing gaps in the movement network.

Street Trees

MN6. Continue street tree planting incrementally along the primary walking and cycling route (where the road reserve has capacity) of George Town to improve the greening of the SP Area.

MN7. Revise the road design standards to incorporate sufficient width to plant street trees as part of new development.

Bus Stops

MN8. Investigate where to locate additional bus stop locations adjacent to pedestrian and cycle linkages. Additional stops will become available as the population increases.

Planning Principles

P11. Main Road, Goulburn Street, Low Head Road remain the primary arterial road for vehicle movements to Bellbuoy Beach Road, Low Head, the East Tamar Highway and Bridport Road.

P12. Provide an alternative route for vehicle movements originating from industrial activities and residential uses via Victoria Street to reduce traffic volumes and improve safety adjacent to the school.

P13. New subdivision serviced to facilitate a grid road pattern and cul-de-sac not supported unless it furthers connection and linkages to the walking network.

P14. Provide pedestrian crossings over the primary arterial road, near public transport stops, school & linkages.

P15. Street Trees planted to green and define the streetscape.

P16. Improved convenience for residents to access public transportation by increasing the intervals of bus stops.

Source: George Town Structure Plan