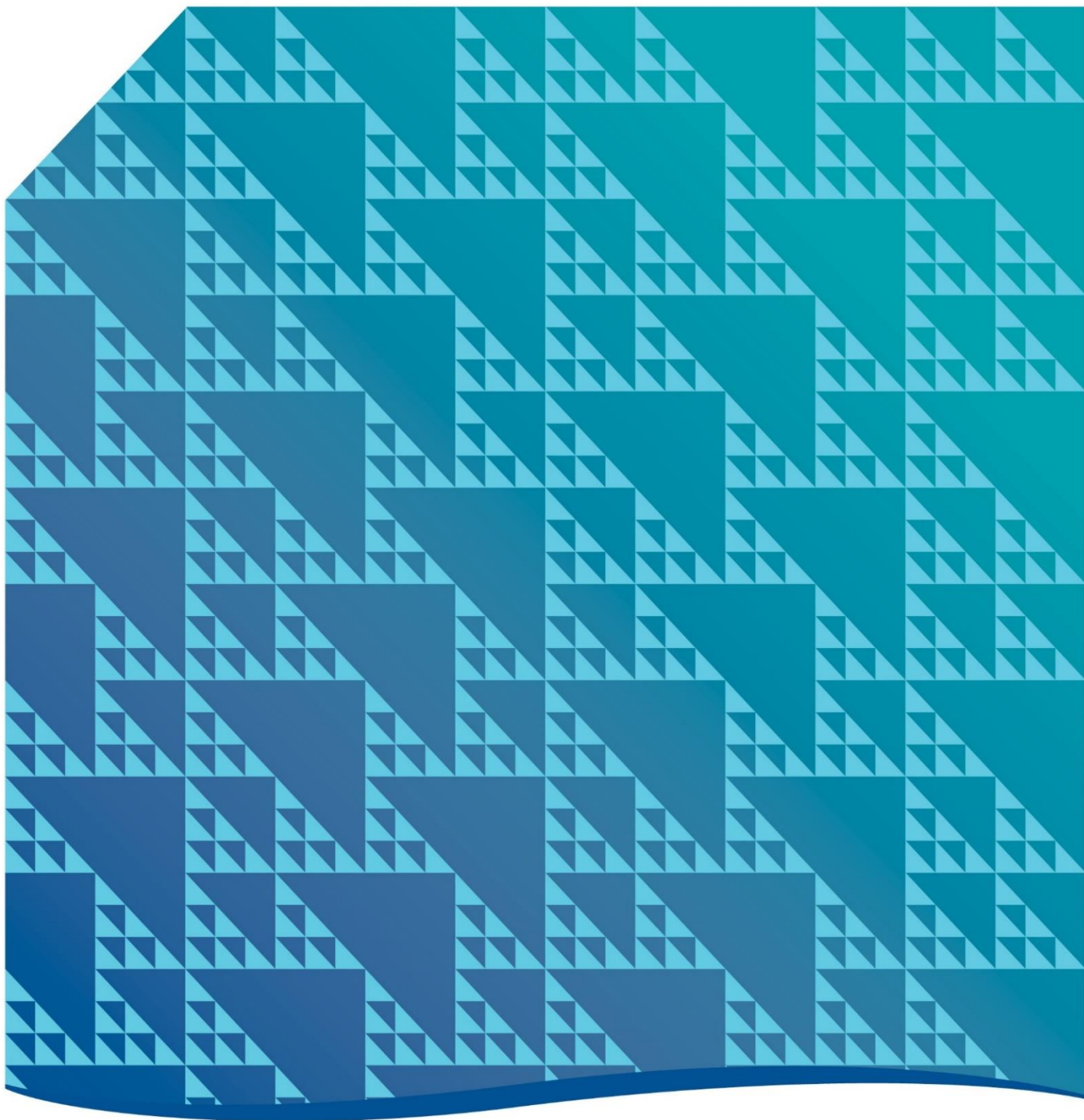


February 2020

# Bass Highway

## Wynyard to Marrawah Corridor Strategy



Department of State Growth





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## Glossary of Abbreviations and Terms

| Term                 | Description/Definition  |
|----------------------|---|
| AADT                 | Annual Average Daily Traffic  |
| Active transport     | The movement of people by walking or cycling  |
| ABS                  | Australian Bureau of Statistics   |
| BAR                  | Basic right-turn treatment  |
| CHR                  | Channelized right-turn treatment  |
| CHR(s)               | Channelized short right-turn treatment  |
| Cross section        | A vertical section, generally at right angles to the centreline showing the ground and/or the road to be constructed.   |
| Design speed         | A speed fixed for the design that determines the geometric features of a road that influence vehicle operating speed.   |
| Horizontal alignment | The bringing together of the straights and curves in the plan view of a carriageway                                     |
| HVRA                 | Heavy Vehicle Rest Area   |
| ILM                  | Investment Logic Mapping  |
| LGA                  | Local Government Areas  |
| NLTN                 | National Land Transport Network   |
| Operating speed      | The speed over a section of road adopted by a driver as influenced by the road geometry and other environmental factors |
| Road carriageway     | That portion of a road devoted particularly to the use of vehicles, inclusive of shoulders and auxiliary lanes.         |
| State Growth         | Department of State Growth  |
| SISD                 | Safe Intersection Sight Distance  |
| Social Pinpoint      | An online engagement tool that uses interactive mapping to collect feedback from members of the public                  |
| Vertical alignment   | Refers to a change in grade moving along the road (for example, up and down a hill)                                     |
| vpd                  | Vehicles per day  |
| vph                  | Vehicles per hour   |

## Executive Summary

In 2018, the Tasmanian Government committed \$40 million to upgrade the 110 km section of the Bass Highway west of Wynyard to Marrawah. The Australian Government committed \$60 million under the Roads of Strategic Importance (ROSI) initiative.

The Bass Highway between Wynyard and Marrawah is the key link for freight, tourism and people movement between the far north west of Tasmania and the key ports of Burnie and Devonport and further to Launceston and Hobart.

The Department of State Growth (State Growth) has developed this corridor strategy with the primary objective of developing a prioritised list of corridor improvement projects to meet the expected strategic function of the road corridor over the next 20 years. It identifies the vision for the corridor and broad infrastructure initiatives to improve road user safety, reliability and efficiency.

**The vision for the Bass Highway between Wynyard and Marrawah over the next 20 years is to provide a safe, reliable and consistent road for all road users that supports economic development and future growth.**

In April 2019, the Department of State Growth established the Bass Highway – Wynyard to Marrawah Corridor Strategy Working Group. The purpose of the Working Group was to work together with the Tasmanian Government to provide input and information on the issues affecting the Bass Highway between Wynyard and Marrawah, assist in the development of the strategy and to set project priorities.

The working group included representatives from Waratah-Wynyard and Circular Head Councils, Cradle Coast Authority, Tasmanian Transport Association, RACT and Department of State Growth. The Working Group identified four key objectives for the corridor strategy to achieve future needs.

- **Improve safety** – for all road users, recognising the growing transport demands on the corridor
- **Improve travel time reliability and efficiency** – by providing an acceptable level of service for the diverse group of road users (commuters, freight, tourists, and cyclists)
- **Improve corridor resilience** – by minimising delays caused by unplanned incidents
- **Support growth and social access** – improve economic support for the region by providing a good quality transport corridor with reliable travel times.

This engagement, undertaken in conjunction with an engineering assessment of the road corridor and consultation with the wider Tasmanian community, resulted in the identification of key issues and opportunities for improvement of the Bass Highway corridor between Wynyard and Marrawah.

This strategy documents the approach and findings for arriving at the list of projects based on an assessment of the existing road geometry, safety performance and transport efficiency, with the outcome being an identified list of high, medium and low priority projects for delivery. It provides details of the stakeholder and community consultation undertaken to develop the strategy to address current and future transport needs and prioritise project delivery.

Key characteristics of the highway identified through the review of available technical data, along with on-site assessments include:

- the current traffic volumes of approximately 5000 vehicles per day between Wynyard and Smithton with 1000 or less vehicles per day west of Smithton
- heavy vehicle percentage is approximately 20% of all traffic
- sections of the highway are the appropriate standard for vehicle volumes and types
- there are overtaking lanes between Wynyard and Detention River
- the current road cross section is not adequate for current usage in some locations
- there are approximately 50 reported crashes per year across the corridor, most are off-road type crashes (62% of all crashes) and rear end crashes (10% of all crashes)
- the existing road alignment has some inconsistencies including sub-standard curves
- some junctions require safety improvements
- signage and delineation in some sections is sub-standard
- sections of the highway have pavement with signs of distress or deterioration from traffic wear and tear.

Project upgrades identified include new overtaking lanes, junction upgrades, alignment improvements, and shoulder widening. Priorities identified include:

- four new overtaking lanes
- 10 sections of road to be realigned, with potential for realigning an additional five sections
- 15 junction upgrades with potential for upgrading an additional 51 junctions
- Up to 60 km of shoulder widening with 25 km identified as a high priority.

When developing the project program, consideration was given to available and possible future funding opportunities. A range of high and medium priority projects are expected to be delivered over the next five years, based on funding committed by the Australian and Tasmanian Governments. Project delivery will also depend on the availability of resources, projects requiring more immediate action, and unforeseen project constraints. The planning of potential works will also consider if multiple projects can be combined to maximise the financial investment and efficiency of delivery.

Implementing these projects will improve road safety, assist economic benefits and contribute to an increase productivity by providing a more efficient corridor in the north-west region of Tasmania.

# I. Introduction

## I.1 What is a corridor strategy?

The Department of State Growth (State Growth) has been progressively preparing corridor strategies for State roads across Tasmania to create consistency in how the State Road Network is planned and managed.

Corridor strategies make planning and investment decisions transparent to the community, councils and other community stakeholders. By reviewing a variety of elements as shown in Figure I.1, the corridor strategy identifies:

- corridor specific objectives that support the Tasmanian Government *Building Your Future* plans
- objectives to improve and encourage better transport and economic opportunities in the north of Tasmania as identified in the *State Road Upgrades – North West and West Coast Plan*
- the performance of transport infrastructure in meeting the corridor specific objectives
- current and future challenges in meeting these corridor specific objectives
- key transport demands likely to be placed on the corridor over the next 10 – 20 years
- high, medium and low priorities and actions to improve the corridor.

The process for developing the strategy is shown below.

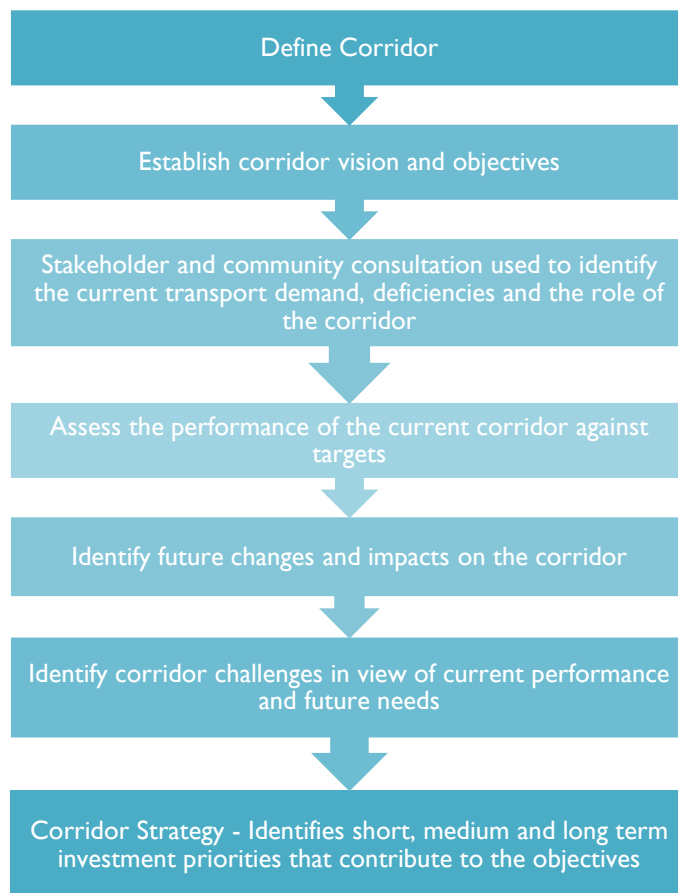


Figure I.1 Corridor planning process

## 1.2 Bass Highway – Wynyard to Marrawah

The Bass Highway corridor runs from Launceston to Marrawah. The section of the Bass Highway between Launceston and Burnie is part of the National Highway Network. The section beyond Burnie through Wynyard to Marrawah, is part of the State Road Network.

The Bass Highway between Wynyard and Marrawah performs multiple functions, as it is the key link for freight, tourism and people movement between the far north west of Tasmania and the key ports of Burnie and Devonport and further to Launceston and Hobart.

This corridor strategy has been developed for the 110 km section of the Bass Highway between Inglis Street at Wynyard to Arthur River Road at Marrawah, as shown in Figure 1.2 and Figure 1.3.



Figure 1.2 Project location

The Tasmanian Government *Building Your Future State Road Upgrades – North West and West Coast Plan, 2018* outline initiatives to target and further strengthen the local economy, create jobs and develop a safe and productive transport network. The plans outline the government’s commitment to a program of upgrades for the Bass Highway, between Wynyard and Marrawah.

The *Sustainable Murchison 2040 Community Plan Regional Framework Plan, 2016* identified a number of factors, which justify Bass Highway improvements. Importantly, it identified that economic development of the region and the expansion in the dairy, agricultural and forestry industries has resulted in more heavy vehicles on the road. There is a need to ensure timely transport of goods and product to Burnie Port from the north-west region of Tasmania.



Figure 1.3 Corridor project site

The *Tasmanian Integrated Freight Strategy, 2016*, details the importance of the highway as a principal freight route for the movement of produce from the north and north west of Tasmania to key ports for the export of produce to the rest of the world.

The existing highway between Wynyard and Marrawah is a single carriageway rural road of varying standard. While some sections meet performance and design standards, others have been assessed as being substandard in relation to cross section, geometric alignment and surface condition. There are also numerous intersections that do not meet contemporary standards relating to the provision of safe turning facilities. This corridor strategy draws on community needs and stakeholder feedback, assessments of the highway's road conditions, traffic and safety to determine its current level of performance. It also considers the current and future population needs, economic development and proposed future land use.

### 1.3 Vision for the future

In 2018, the Tasmanian Government set out its policy commitments in *Building Your future* and the *State Road Upgrade* commitments for Tasmania. A key commitment in these policies is building Tasmania's infrastructure for the 21<sup>st</sup> century. The vision for the Bass Highway between Wynyard and Marrawah over the next 20 years is to provide a safe, reliable and consistent road for all road users that supports economic development into the future.

The vision would specifically:

- provide a safe, efficient and consistent travel experience for all road users with improved road cross section alignment and junction upgrades
- support productivity of agricultural and industrial activity to enable safe and reliable access for high productivity vehicles from the north west to key ports in the north of Tasmania, as a principal freight route

- have a sufficient number of overtaking opportunities in both directions to maintain a safe and efficient level of service
- enhance road safety outcomes for all road users over the length of the corridor through implementation of the safe system approach in the planning, development and delivery of improvement and maintenance works.

## 1.4 Corridor objectives

In April 2019 State Growth established the Bass Highway – Wynyard to Marrawah Corridor Strategy Working Group. The purpose of the Working Group was to work together with the Tasmanian Government to share information, provide input and information on the issues affecting the Bass Highway between Wynyard and Marrawah, develop the strategy and agree on the priorities for improvement.

The Working Group identified four key objectives for the corridor strategy to address to meet future needs. Through Investment Logic Mapping (ILM) workshops, the Working Group assisted State Growth in developing an understanding of the current issues which impact on the performance of the corridor and would benefit from investment. They assisted State Growth in identifying sections which require treatment to achieve better outcomes for all road users in the area.

The Working Group identified four major corridor objectives, the strategic intervention required, solutions that would best respond to the problems identified, and the benefits that the program could achieve. The information received during the community consultation period also reflected the issues raised by the Working Group.

The specific corridor objectives developed by the Working Group are in line with the Tasmanian Government *Building Your Future* and *State Road Upgrades – North West and West Coast* commitments. The objectives are listed below:

- **Improve safety** – for all road users, recognising the growing transport demands on the corridor
- **Improve travel time reliability and efficiency** – by providing an acceptable level of service for the diverse group of road users (commuters, freight, tourists, and cyclists)
- **Improve corridor resilience** – by minimise delays caused by unplanned incidents
- **Support growth and social access** – improve economic support for the region by providing a good quality transport corridor with reliable travel times.

## 1.5 Reference documents

The Corridor Strategy was developed with consideration of:

- Department of State Growth Technical Specifications
- Austroads Guide to Road Design
- Austroads Guide to Road Transport Planning
- Austroads Guide to Traffic Management



## 2. Community Involvement

### 2.1 Consultation summary

The Tasmanian Government is committed to engaging with local communities and providing opportunities for feedback throughout the development of all corridor strategies.

State Growth consulted with the community and key stakeholders during the development of this corridor strategy to seek comment, feedback, ideas and suggestions to be considered alongside the engineering and road design requirements.

This corridor strategy has been developed following consultation with the Working Group and the community. The road user experience, as described by the community and stakeholders, has informed the process of identifying current demand usage and experience and assisted in identifying the priority improvements. The approach used in this corridor strategy is to make the most effective use of the existing and limited road space to improve the safety, efficiency and quality of the road journey by all road users.

A summary of the consultation that was undertaken and the responses received are detailed in the *Bass Highway – Wynyard to Marrawah Corridor Strategy Consultation & Feedback Report (September, 2019)*.

### 2.2 Consultation with key stakeholders

State Growth held an initial meeting in Wynyard on 25 March 2019 with representatives from Circular Head Council, Cradle Coast Authority and Waratah-Wynyard Council to discuss the development of the corridor strategy and implementation plan.

In April 2019, the Bass Highway - Wynyard to Marrawah Corridor Strategy Working Group was established to share information, provide input and information on the issues affecting the Bass Highway between Wynyard and Marrawah and to assist in the development of the strategy and agree on project priorities. The Working Group comprised of representatives from Waratah-Wynyard and Circular Head Councils, the Cradle Coast Authority, Tasmanian Transport Association, RACT and the Department of State Growth.

The Working Group informed the corridor strategy objectives, as outlined in Section 1.4 and provided input during the identification of potential improvements within the corridor and the prioritisation of those improvement projects.

### 2.3 Community consultation

Community consultation was undertaken between 13 May 2019 and 7 June 2019, with feedback collected via Social Pinpoint, feedback forms (available from the Circular Head Council and Waratah-Wynyard Council offices), on the State Transport website and Facebook page, as well as local social media sites.

Feedback was sought to better inform the strategy document and was important in developing the corridor strategy to ensure local knowledge would be utilised in future upgrade and maintenance activities. The feedback helped to ensure that the planned investment on the highway will meet the needs of the local communities and industries it serves.

### 2.4 Key findings of consultation

There are different types of road users sharing this part of the road network who have different trip purposes and use the road network at different times. They include motorists and passengers of private cars, bus and coach users, hire cars, recreational vehicles, motorcyclists, cyclists, pedestrians, small commercial vehicles and a variety



of freight and heavy vehicles. The feedback received from the stakeholders and community stressed the importance of future-proofing the corridor to support business and tourism growth as well as local access, by having a standard of highway suitable for a mix of heavy vehicles, cars, cyclists and pedestrians.

A total of 239 pieces of feedback/comment were received during the community consultation phase.

Safety, reliability and efficiency improvements were identified as key issues through the consultation period, including the following specific issues:

- road and shoulder widening
- junction improvements
- road alignment and sight-line improvements
- line marking and signage
- hazards such as overgrown vegetation, lighting and drainage
- provision of overtaking opportunities
- provision of cycling infrastructure
- safety issues relating to the mix of heavy vehicles and other vehicles on narrow sections of the highway.

The feedback received and specific issues raised are outlined in more detail in the *Bass Highway – Wynyard to Marrawah Corridor Strategy Consultation & Feedback Report (September, 2019)*. The issues raised were similar to the issues identified by the Working Group.

The key areas of concern resulting from the consultation process are shown in Figure 2.1.



Figure 2.1 Areas of concern are indicated by the orange areas, heat map from Social Pinpoint

## 3. Existing Corridor Role and Demand

### 3.1 Role and characteristics

Between Wynyard and Marrawah, the Bass Highway performs multiple functions, as it is the key link for freight, tourism and commuters between the far north west of Tasmania and the rest of the state. As such, the highway not only carries heavy vehicles it also provides residential and tourist access and contributes to Australia's export markets, particularly in the agricultural and tourism sectors.

The Bass Highway's transport roles reflect the population and communities that it passes through which include:

- Supporting travel to and from the region by:
  - Connecting towns from the far north west of Tasmania to Wynyard and beyond
  - Providing a freight link between the far north west of Tasmania and the National Highway.
- Supporting travel within the region by:
  - Linking smaller towns to employment, education and services in the larger towns and centres
  - Serving as a route for business, tourism and leisure travel.
- Supporting travel to major centres and towns by:
  - Providing tourism and local business access to towns such as Smithton, Stanley and Boat Harbour

### 3.2 Population and age demographic

#### 3.2.1 Population

Census population data (from 2001 to 2016) was sourced from the Australian Bureau of Statistics (ABS) for the Waratah-Wynyard and Circular Head municipalities through which the Bass Highway corridor extends. A summary of population at 5-year intervals is provided in Table 3.1 below:

Table 3.1 Summary of Population<sup>1</sup> (ABS, 2001 to 2016)

| Year | Waratah-Wynyard Municipality | Circular Head Municipality | Total  |
|------|------------------------------|----------------------------|--------|
| 2001 | 13,067                       | 7,692                      | 20,759 |
| 2006 | 13,411                       | 7,952                      | 21,363 |
| 2011 | 13,708                       | 7,977                      | 21,685 |
| 2016 | 13,578                       | 7,926                      | 21,504 |

#### 3.2.2 Age demographic

Age demographics across the Waratah-Wynyard and Circular Head municipalities are presented in Figure 3.1. It can be seen that the demographic is weighted towards an older population within the Waratah-Wynyard municipality, with the median age being 46 years compared to a state average age of 42 years. The median age of someone within Circular Head was slightly younger than the state average, being 41 years. A review of Census data from 2006 to 2016 indicates an increase in the median age across this period.

<sup>1</sup> Australian Bureau of Statistics, 2006 – 2016, *Census Data*, ABS, Canberra

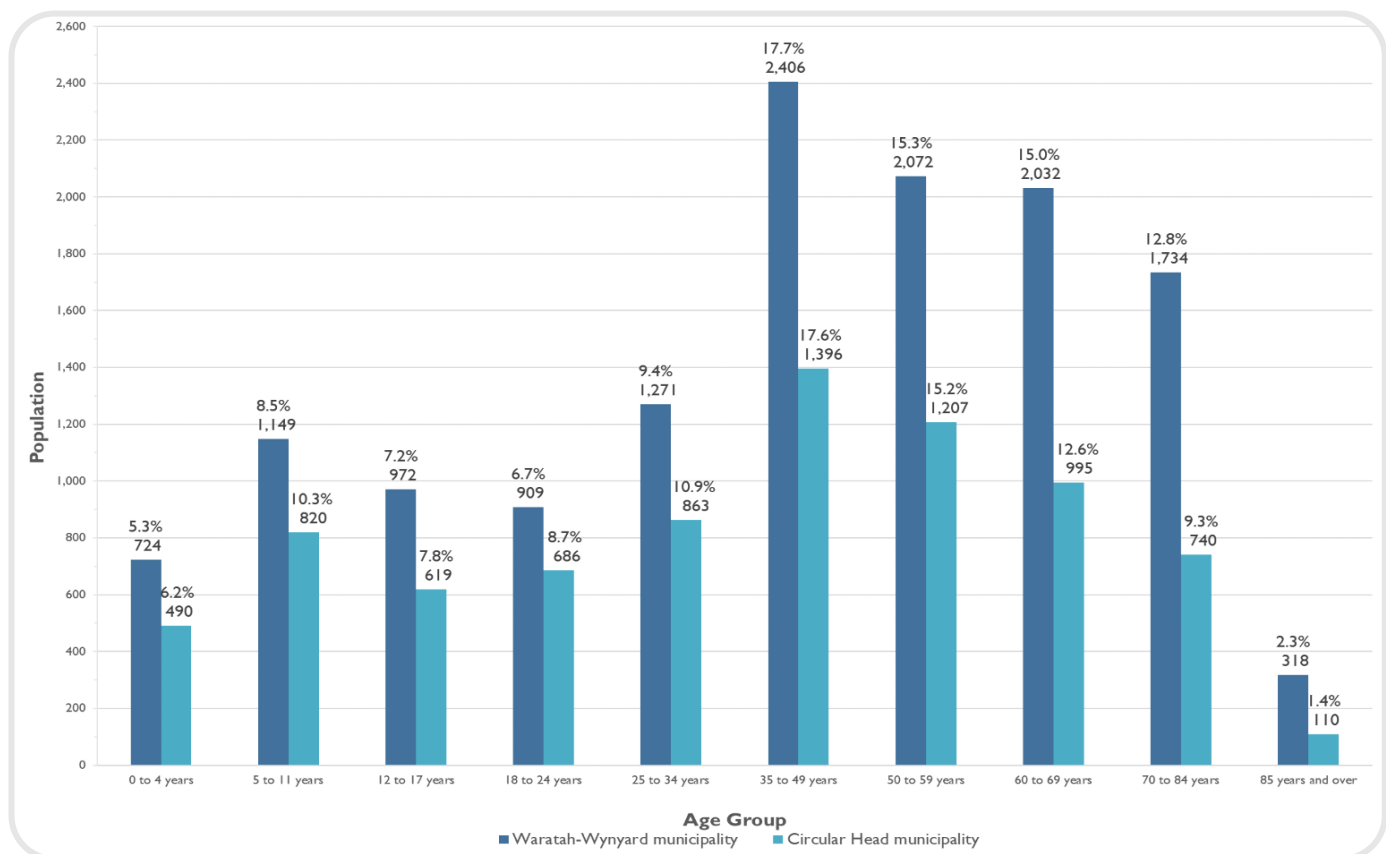


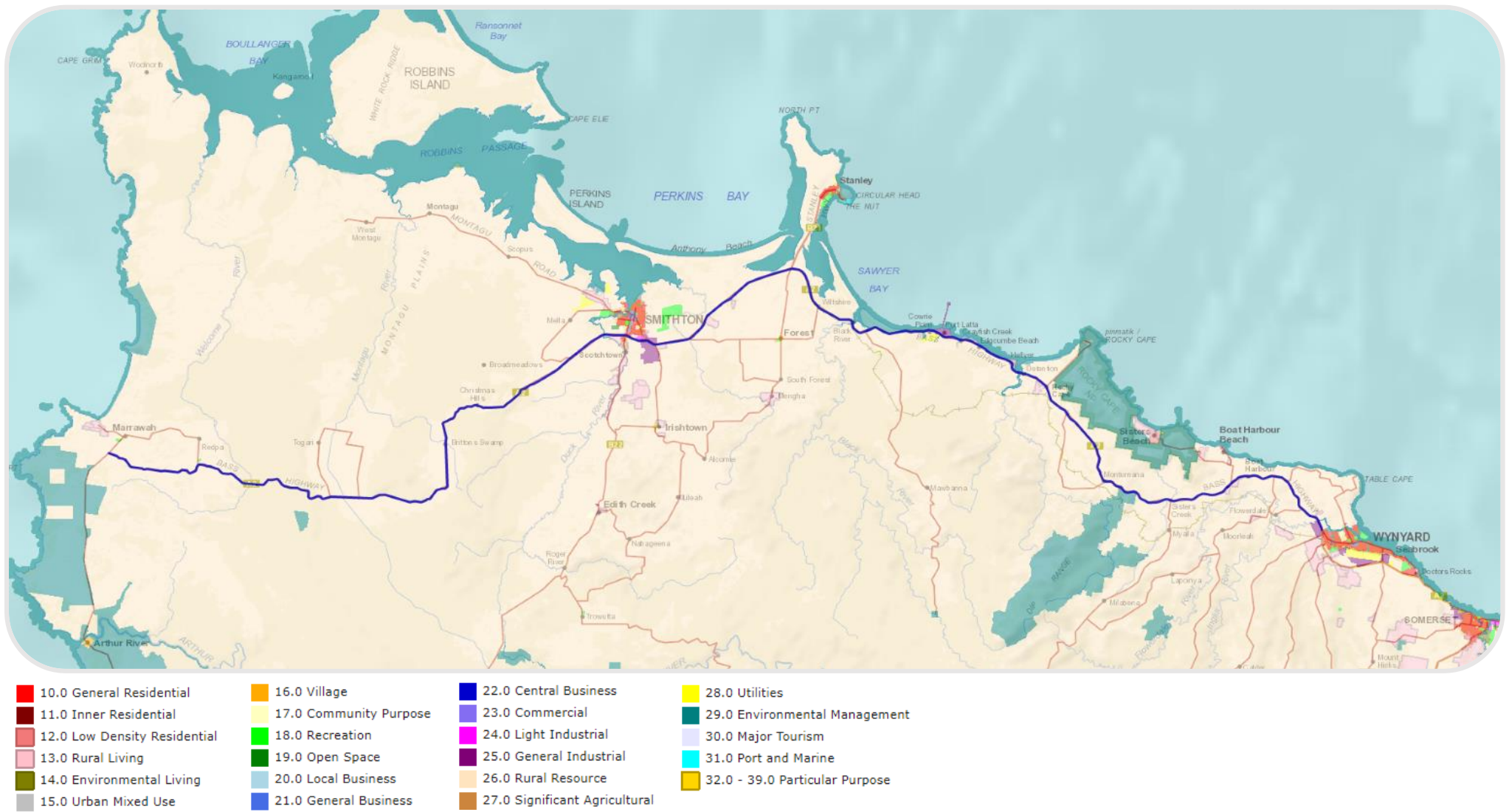
Figure 3.1 Population statistics for the Waratah-Wynyard and Circular Head municipalities<sup>2</sup>

### 3.3 Land use and zoning

The corridor extends west from the Wynyard township along the north-west coast of Tasmania through to Smithton, then south-west to the west coast settlement of Marrawah. Land use and zoning along the highway, along with geographical description, is described in sections as follows (see also Figure 3.2):

- Between the residential settlements of Wynyard and Boat Harbour the highway traverses rolling basaltic soils that are extensively used for intensive agricultural production.
- The highway corridor then climbs in a westward direction from the rolling coastal plateau near Boat Harbour to pass over Sisters Hills and falls to the coastal plains near Rocky Cape through land that remains predominately rural resource in use.
- The coastal plain fronting Bass Strait is narrow until west of Rocky Cape where it becomes more expansive passing over Detention River and through the Dip Range Regional Reserve. Through this section, the land is predominately rural resource in use.
- Along the coast the highway passes near to the small coastal settlements of Hellyer and Crayfish Creek continuing along the coast through Little Peggs State Reserve and Conservation Area and Black River Crossing. Through this section, the land to the east of the highway is predominately used as a rural resource. The land to the west of the highway, is used for low density residential, environmental management, general industrial, utilities and open space.
- The highway runs north west through Wiltshire to Smithton. Through Wiltshire, the land is predominately used as a rural resource while through Smithton, land is used for light industrial, commercial, general industrial, general residential, rural resource, rural living, and environmental management.
- The highway then runs south of the Smithton township through to the settlement of Marrawah used both for agricultural and forestry as well as the Bond Tier Regional Reserve.

<sup>2</sup> Australian Bureau of Statistics, 2006 – 2016, *Census Data*, ABS, Canberra



3

Figure 3.2 Land Use Zoning and Study Corridor.

<sup>3</sup> Tasmanian Government, 2019, *The LISTmap*, [www.thelist.tas.gov.au](http://www.thelist.tas.gov.au)

Remnant vegetation exists on coastal ranges and along major watercourses and is in relatively intact tracts. South of Smithton there are large tracts of forestry land interspersed with rural land and the Dip Range Regional Reserve.

The underlying productive soils have resulted in extensive clearing for agriculture where the terrain is more forgiving. Major industrial activity has been concentrated around the larger townships of Wynyard and Smithton where historically rail transportation was used to transport timber, mining and agricultural goods for export to mainland Australia.

### 3.4 Current traffic volumes and heavy vehicle use

The Annual Average Daily Traffic (AADT) along the Bass Highway was recorded in 2017 at a number of locations between Marrawah and Wynyard. The surveys show two-way traffic volumes range from around 285 vehicles per day (vpd) in Marrawah in the far western extent of the corridor up to 4,968 vpd at Preolenna Road at Flowerdale, near the eastern extent. This is consistent with population density which increases towards the coastal population centres of Wynyard, Burnie and Devonport.

Table 3.2 2017 AADT along the Bass Highway

|                               | AADT (vpd) | %HV Volume (vpd) |
|-------------------------------|------------|------------------|
| Arthur River Road, Marrawah   | 285        | 18%              |
| Rennsion Road, Togari         | 567        | 22%              |
| Mella Road, Broadmeadows      | 916        | 29%              |
| Nelson St (west), Smithton    | 1,376      | 21%              |
| Nelson St (east) Smithton     | 2,581      | 27%              |
| Brittons Rd, Smithton         | 4,674      | 16%              |
| Irishtown Rd, Smithton        | 3,658      | 18%              |
| Cowrie Point Rd, Cowrie Point | 2,692      | 22%              |
| Port Road, Boat Harbor        | 4,635      | 23%              |
| Preolenna Road, Flowerdale    | 4,986      | 15%              |
| Inglis Street, Wynyard        | 3,466      | 20%              |

Figure 3.3 illustrates the AADT volumes of both light and heavy vehicles split by direction at each of the traffic counter locations on Bass Highway. The percentage of heavy vehicles averaged at approximately 21%. There is a higher percentage of heavy vehicles in Broadmeadows, Smithton and Boat Harbour, and where agriculture and industry movements use the Bass Highway as the major arterial connection.

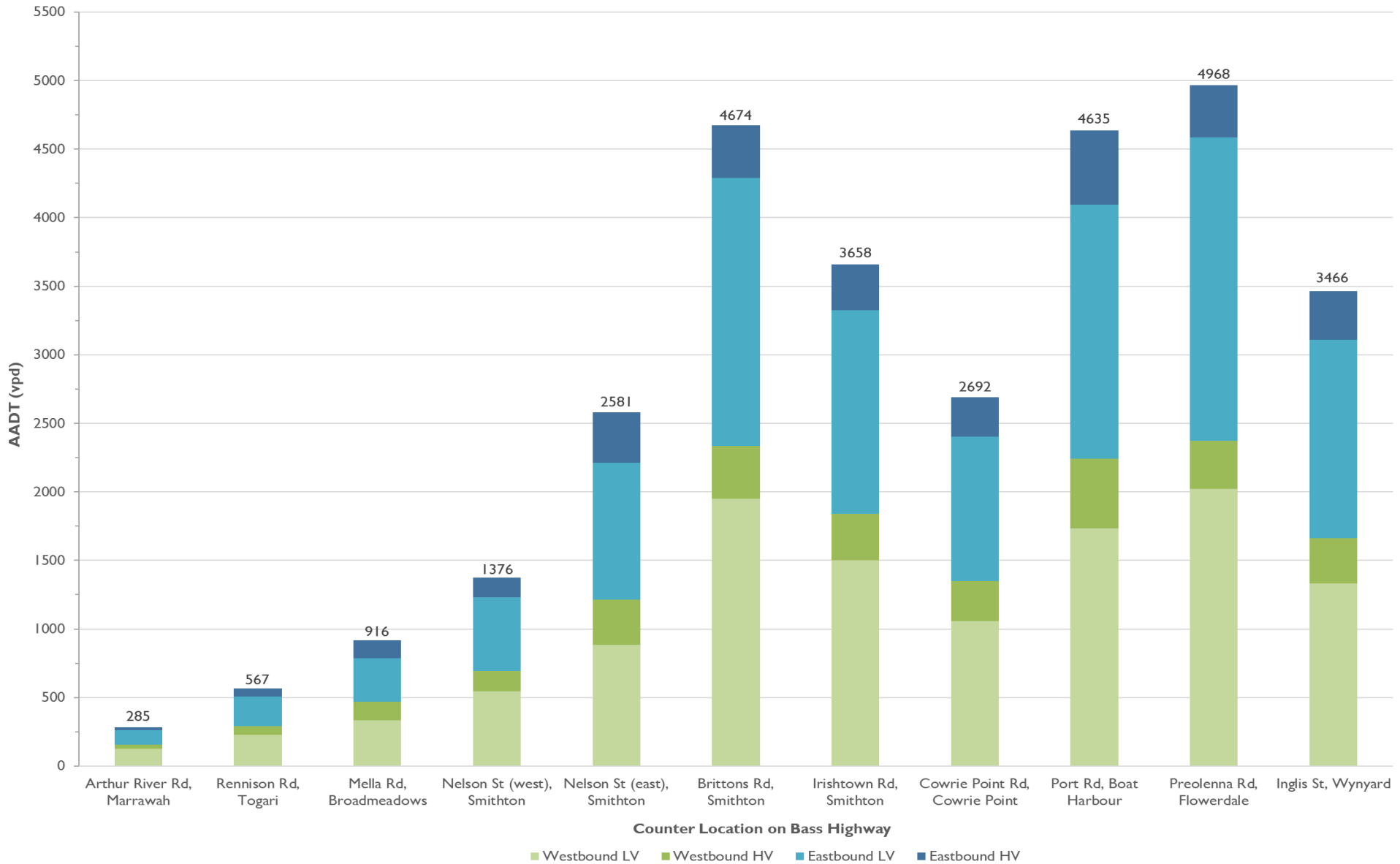


Figure 3.3 2017 AADT across the Bass Highway corridor with directional volumes of light and heavy vehicles<sup>4</sup>

<sup>4</sup> The Department of State Growth, 2017, Permanent Traffic Counters, Unpublished

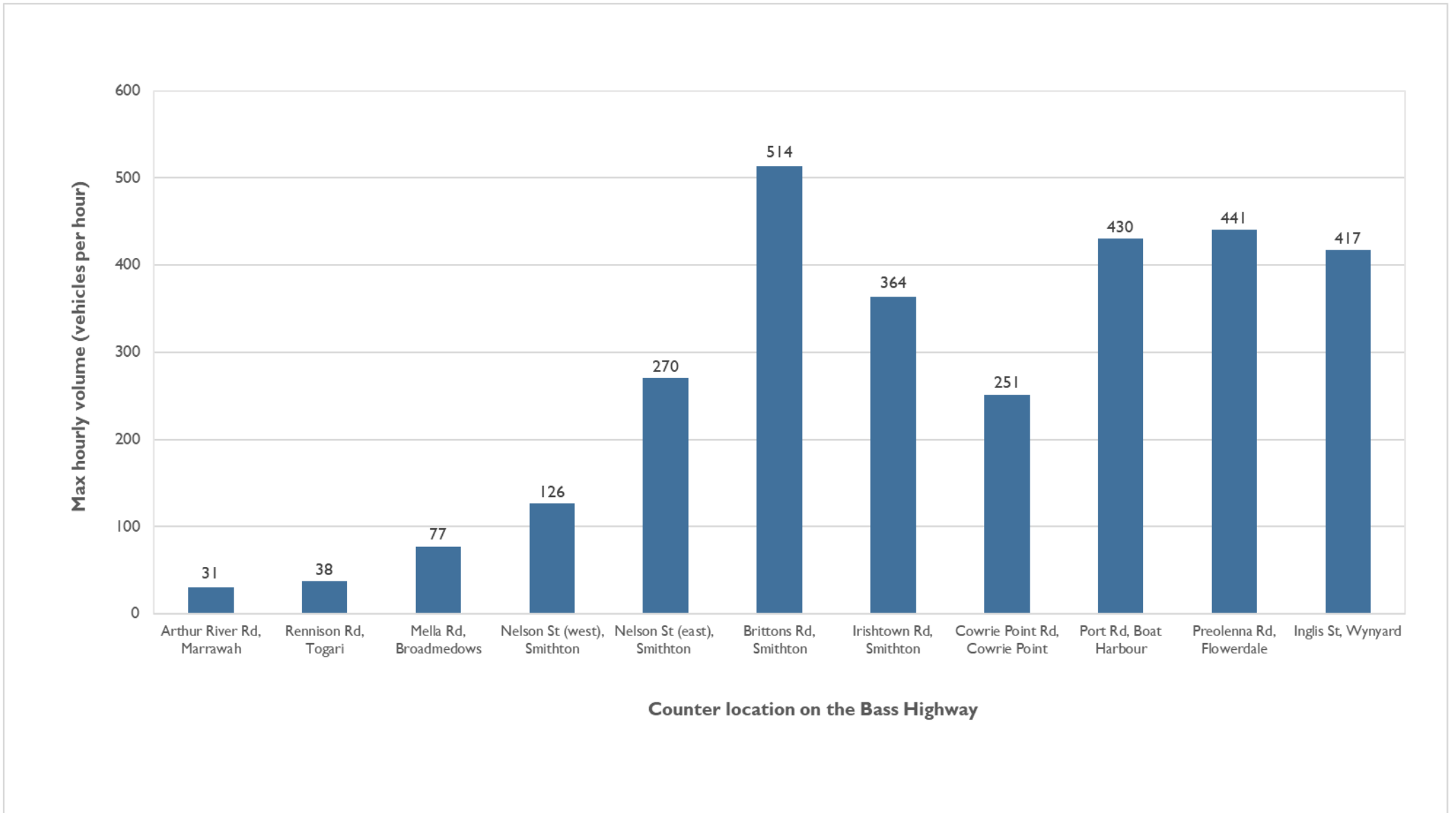


Figure 3.4 2018 – 2019 max hourly two way traffic volume across the Bass Highway corridor <sup>5</sup>

<sup>5</sup> The Department of State Growth, 2018 – 2019, Permanent Traffic Counters, Unpublished

### 3.5 Industry and economic development

The dominant key industries that operate within the two municipalities are agriculture, forestry and fishing, manufacturing and construction, as shown in Figure 3.5.

Bass Highway performs a key arterial freight route function, connecting local industries to major population centres (including Burnie, Devonport, Launceston and Hobart) as well as key ports in Stanley and Burnie.

The current major industries that contribute most significantly to vehicle movements (including heavy vehicles) on the Bass Highway are the following:

- Forestry
- Mining
- Agriculture management (e.g. gravel and equipment transport)
- Agriculture produce transport (e.g. live cattle (beef), vegetable and dairy)
- Fishing.

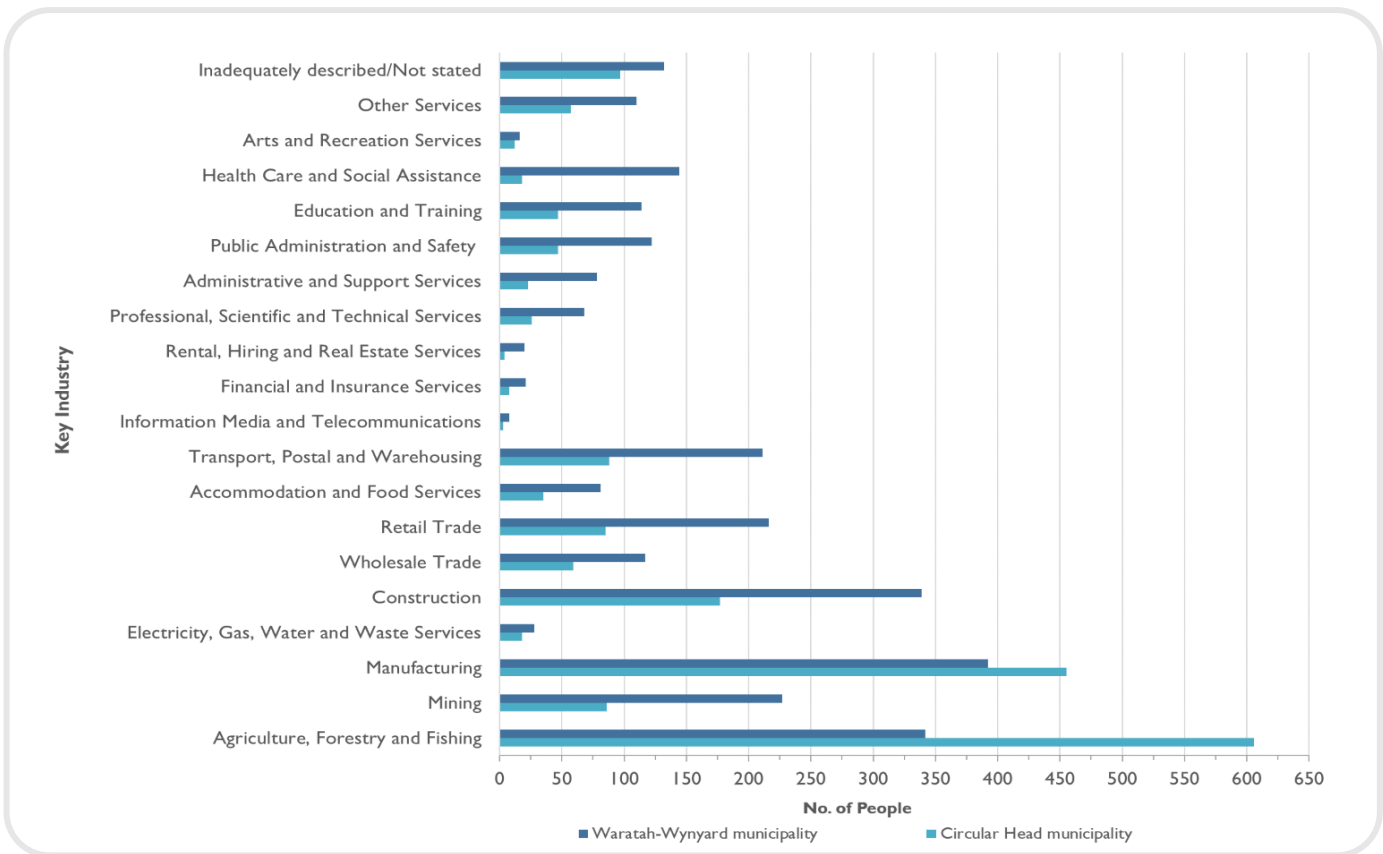


Figure 3.5 Statistics of key industry within the two municipalities<sup>6</sup>

<sup>6</sup> Australian Bureau of Statistics 2016, *Census Data*, ABS, Canberra





Bass Highway heading west to Smithton



Port Latta Pellet Plant and Port Facility

Tourism is another major industry which contributes to economic activity within the north-west region of Tasmania. The volume of tourism related traffic is seasonal in nature, peaking during the summer months, and has been estimated by assessing the seasonal factors of recorded traffic volumes and identifying the difference between peak (summer) and off-peak (winter) traffic flows, which are plotted in Figure 3.6.

The traffic volumes vary approximately 10-15% from the average daily traffic on the Bass Highway and this variation could be considered seasonal and related to tourism and increased agricultural production. During the summer months, tourism related traffic is estimated to range from 60 to 100 vpd at the western end of the corridor near Marrawah, to a range of 1,000 to 2,000 vpd at the eastern end of the corridor near Wynyard, as shown in Figure 3.7.

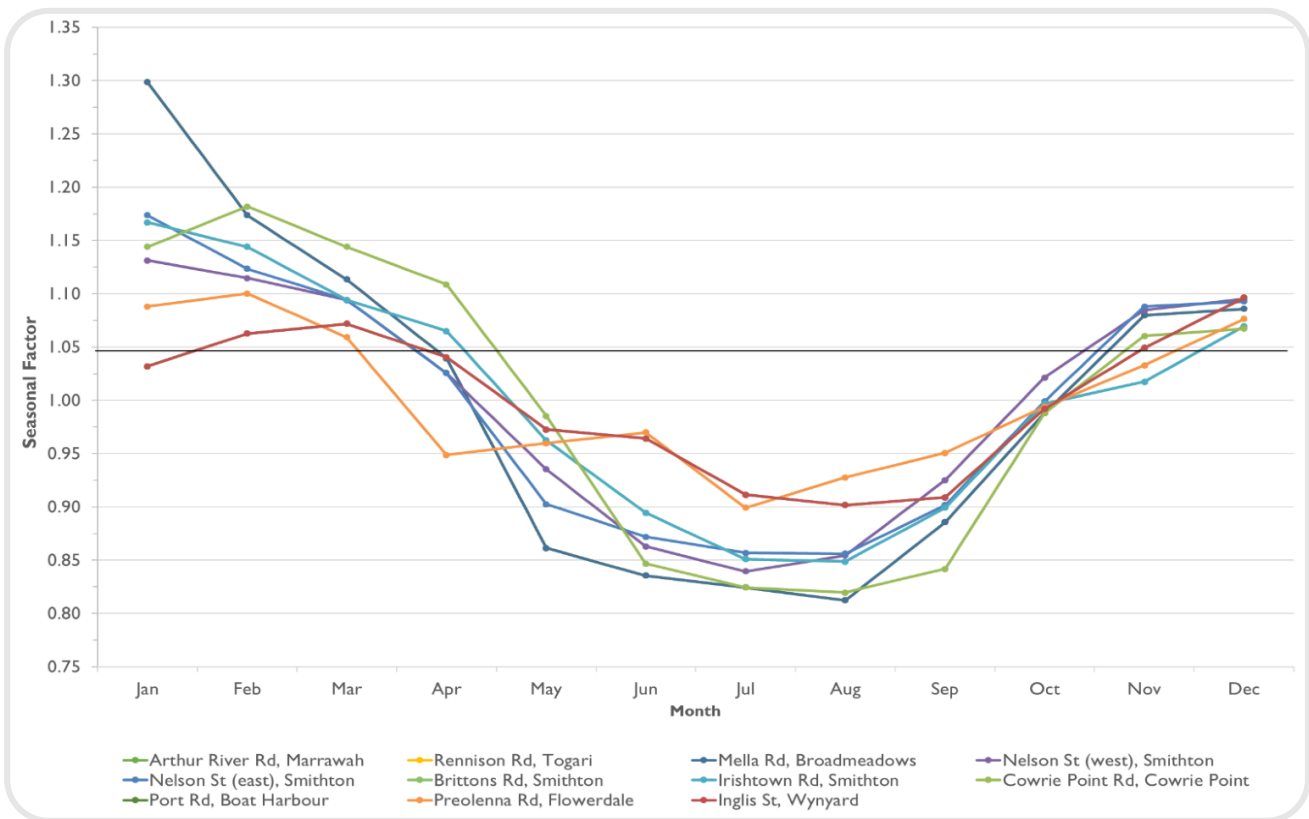


Figure 3.6 Monthly seasonal factor of two-way traffic volumes at each counter location along the Bass Highway<sup>7</sup>

<sup>7</sup> The Department of State Growth, 2017, Permanent Traffic Counters, Unpublished

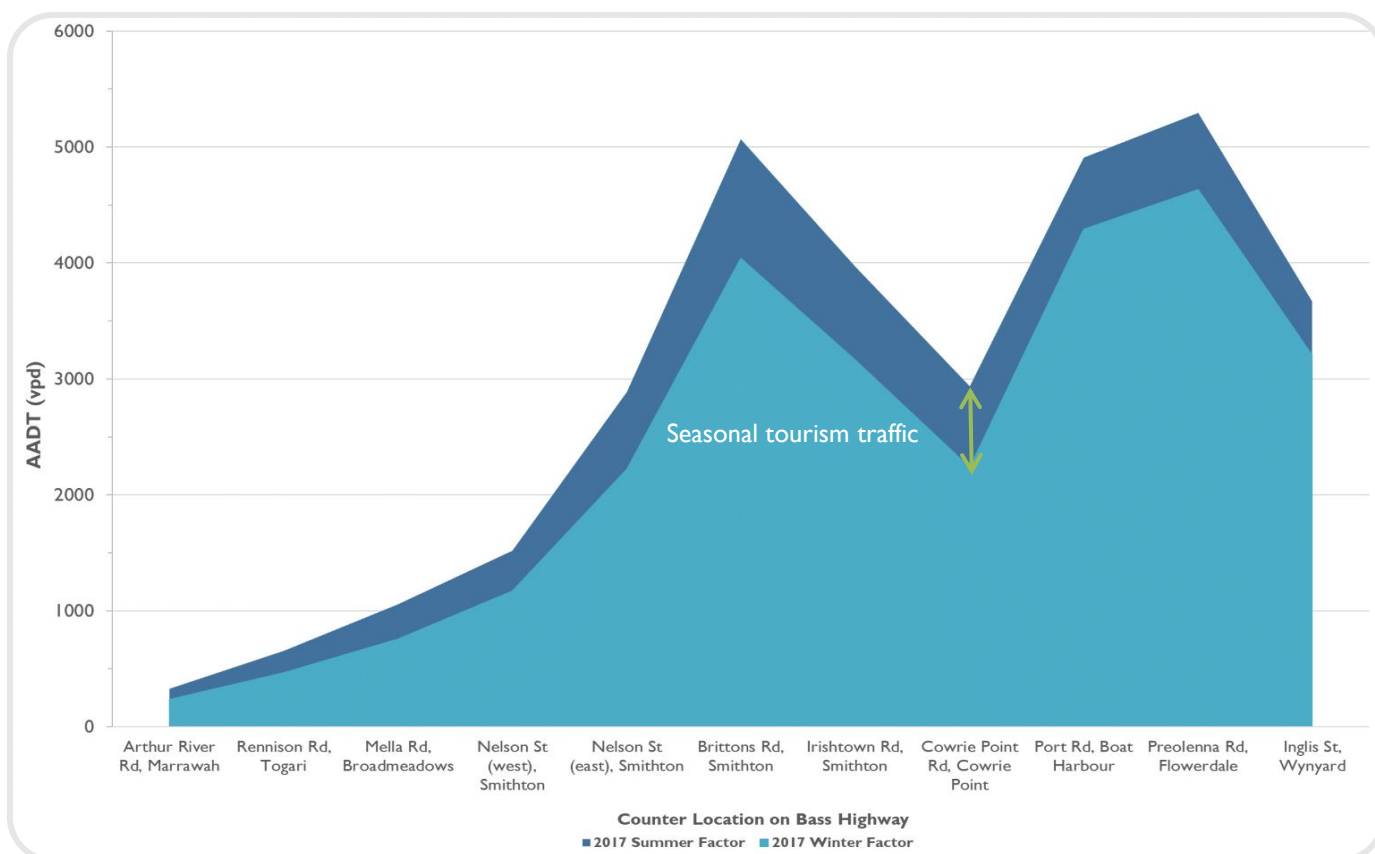


Figure 3.7 Summer and winter seasonal factors applied to two-way 2017 AADT<sup>8</sup>

## 3.6 Public transport and active transport

### 3.6.1 Public transport

While the dominant means of transport on the Bass Highway corridor is private vehicle, there are public transport options.

#### Public bus services

Public transport between towns and smaller communities is limited, due to the small population size. One public bus operator provides a limited public bus service along the corridor between Wynyard and Smithton. Operating Monday to Friday, they provide:

- One general access morning service from Smithton to Burnie (one-way), departing at 7:00 AM on school days and 8:15 AM during school holidays, and arriving at 8:35 AM and 9:50 AM respectively.
- One afternoon trip from Burnie to Smithton (one-way), departing at 2:45 PM and arriving at 4:30 PM.



<sup>8</sup> The Department of State Growth, 2017, Permanent Traffic Counters, Unpublished

As part of the Tasmanian Government’s bus service review, from April 2020, public bus services will increase to seven days a week operation, including on public holidays. There will be one inward trip and one outward trip each day between Smithton and Burnie.

### School bus routes

Many of the towns are serviced by school bus operators and provide services for both students within the towns and for students in the rural areas between towns.

### Coaches

Coach services are provided along the corridor by several providers for a variety of customer needs.

### Taxis and peer-to-peer ride sharing

Taxis operate in most towns along the Bass Highway corridor, with limited services and fleet sizes.

Limited peer-to-peer ride sharing services are available from Wynyard.



School warning signage heading east along Bass Highway in Boat Harbour

## 3.6.2 Active transport

### Pedestrian and cycling facilities

The Bass Highway corridor does not serve as a regular cycling route between towns. Dedicated infrastructure for walking and cycling is restricted to urban centres, where there is a higher demand for such infrastructure.



Table Cape lookout / Tollymore Road junction

One section of the highway has been identified as a cyclist route. A cycling circuit starts at Wynyard and continues along Table Cape Road to the Table Cape lookout, then travels westward along Tollymore Road to the Bass Highway, before returning to Wynyard along the highway. The section of the Bass Highway that is included in this route, currently has a sealed shoulder width of 1 m or less.

There is little demand for pedestrian facilities between towns due to distance.

## 4. Current Corridor Performance

This chapter reviews the Bass Highway's current corridor performance and condition.

### 4.1 Road safety

#### 4.1.1 Existing crash data analysis

Crash data was obtained from State Growth for the Bass Highway within the study area between January 2009 and March 2019.

#### Number of crashes

A total of 458 crashes were recorded on Bass Highway during this period. Of these, a total of 220 resulted in a casualty. There were 13 crashes resulting in fatality, 26 resulting in serious injury, 134 minor injury and 47 requiring first aid.

Figure 4.1 below shows the locations of the recorded crashes. While there are some specific locations with crash histories, the figure indicates that there are safety concerns for the full length of the corridor. To assess this a Road Safety Hazard Identification Assessment was undertaken (Section 4.1.2).



Oversize vehicle travelling east from Boat Harbour



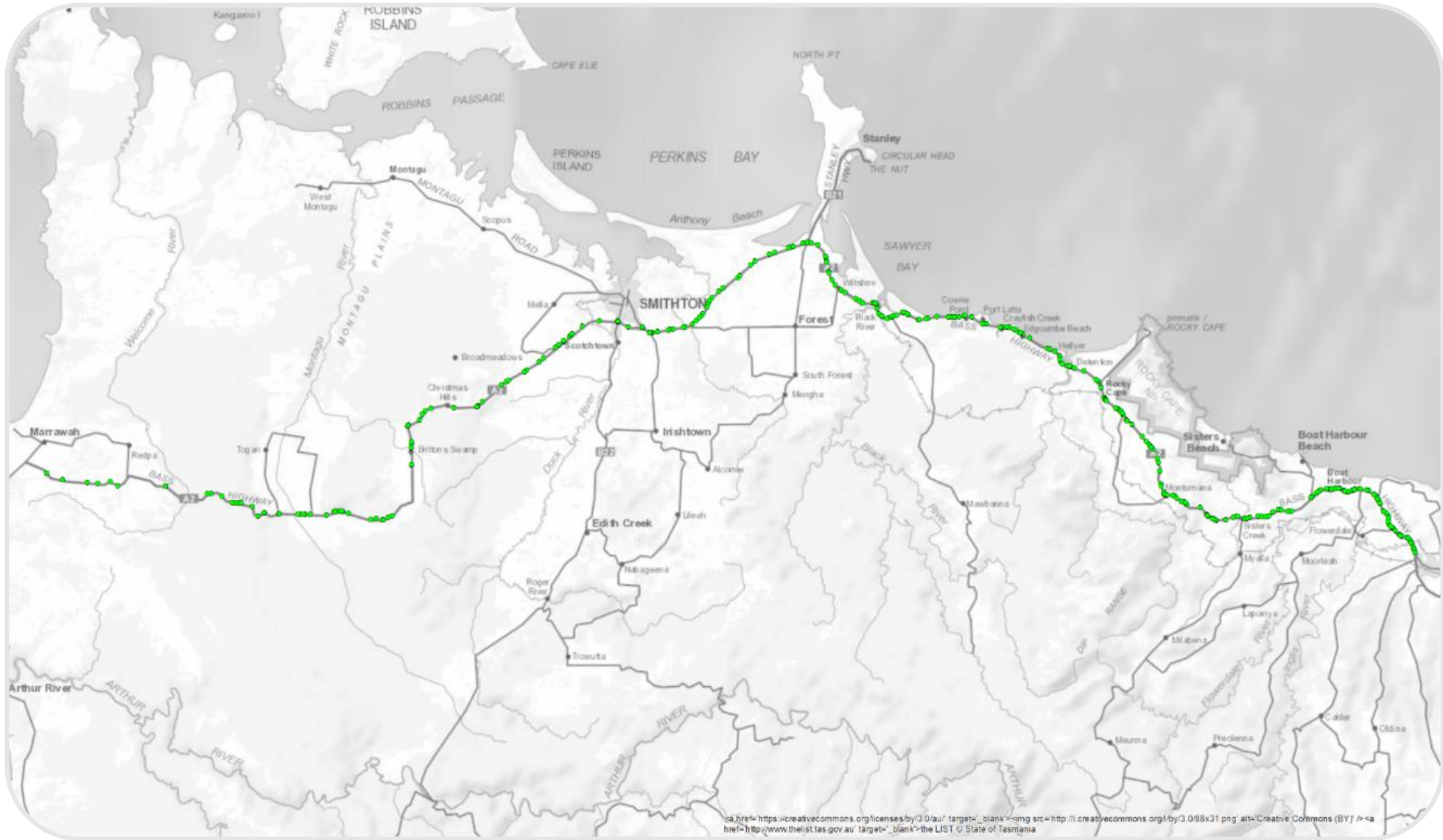


Figure 4.1 Location of crashes, January 2009 to March 2019<sup>9</sup>

<sup>9</sup> The Department of State Growth, 2019, Crash Data (January 2009 – March 2019), Unpublished

**Seasonal crash rates**

Seasonal crash rates indicate an increased crash rate during the summer months higher compared with the seasonal increase in traffic volumes. This indicates that other factors influence crash rates other than traffic volumes.

**Crash type**

Figure 4.2 details the most prevalent crash types recorded on the Bass Highway during the 10 year period.

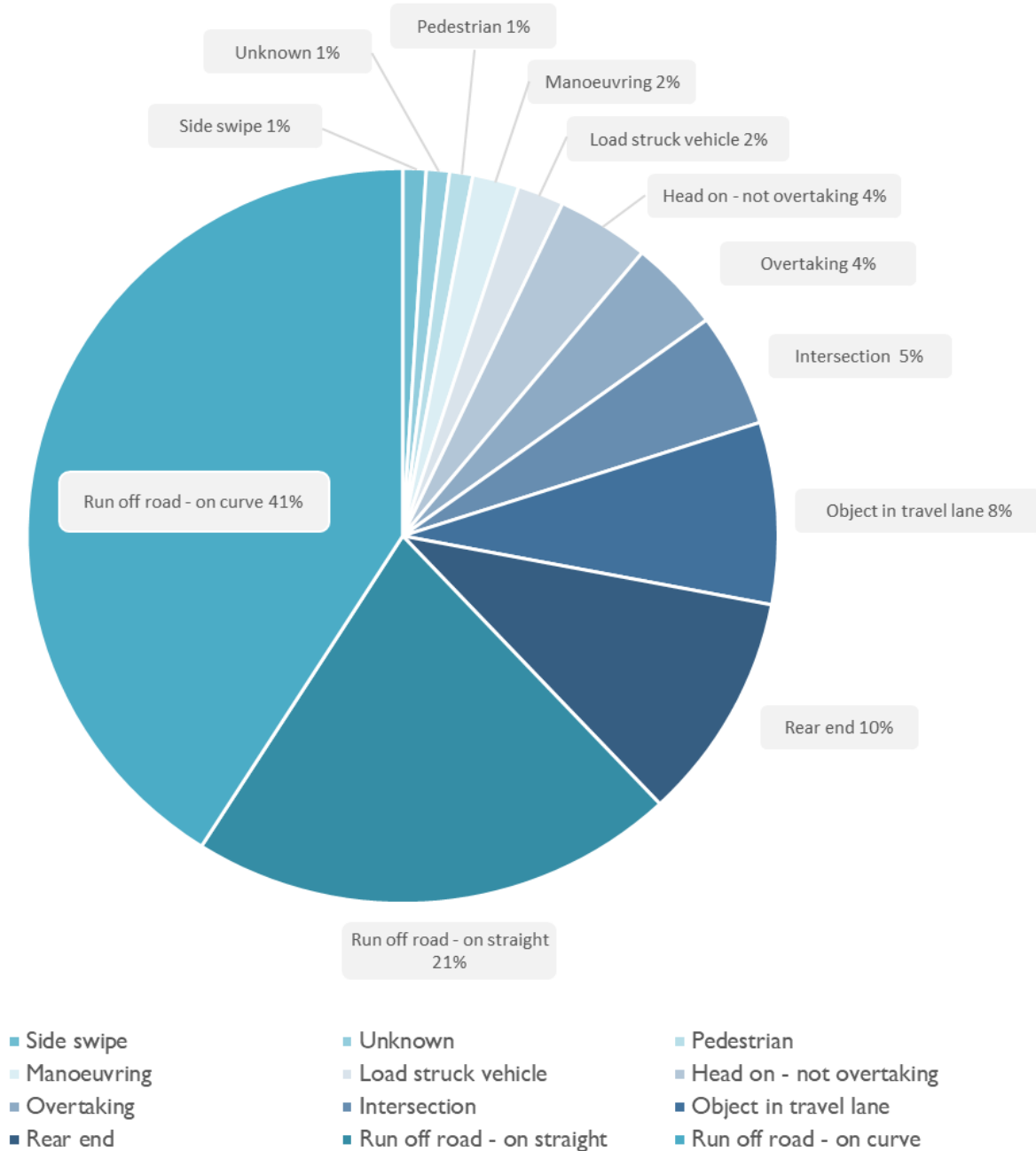


Figure 4.2 Crash type

The crash analysis undertaken indicates that the majority of incidents were the result of drivers losing control of their vehicle and the vehicle leaving the carriageway (62% of all crashes). Rear-end collisions are also a prominent crash type making up 10% of all crashes in the section in the last 10 years (Figure 4.2).

It should also be noted that during community engagement, anecdotal advice was received of numerous unrecorded run off road property damage crashes.

## Contributing factors

Of the 458 recorded crashes, 51 involved heavy vehicles, 14 involved motorcycles and three (3) involved pedestrians. Table 4.1 summarises the contributing factors recorded for all report crashes within the 10 year period to March 2019.

Table 4.1 Contributing factors for crashes

| Crash factor                   | Number of crashes | Percent of crashes |
|--------------------------------|-------------------|--------------------|
| <b>Vehicle involvement</b>     |                   |                    |
| Light vehicle crashes          | 390               | 85%                |
| Heavy truck crashes            | 51                | 11%                |
| Motorcycle                     | 14                | 3%                 |
| Pedestrian                     | 3                 | 0%                 |
| <b>Road surface conditions</b> |                   |                    |
| Wet                            | 230               | 50%                |
| Dry                            | 209               | 46%                |
| Oil / Fuel                     | 8                 | 2%                 |
| Icy                            | 5                 | 1%                 |
| Unknown                        | 6                 | 1%                 |
| <b>Natural lighting</b>        |                   |                    |
| Daylight                       | 307               | 67%                |
| Dawn / Dusk                    | 28                | 6%                 |
| Darkness                       | 121               | 26%                |
| Unknown                        | 2                 | 1%                 |
| <b>Weather</b>                 |                   |                    |
| Clear                          | 261               | 57%                |
| Heavy rain                     | 35                | 8%                 |
| Light rain                     | 144               | 31%                |
| Smoke, Snow or Fog             | 8                 | 2%                 |
| Not known                      | 10                | 2%                 |

## Casualty Crashes – Contributing factors

Table 4.2 summaries the contributing factors recorded for all casualty crashes within the ten year period to March 2019.

Table 4.2 Casualty crash contributing factors, January 2009 to March 2019

| Casualty crash factor                        | Number of casualty crashes | Percent of casualty crashes |
|--|----------------------------|-----------------------------|
| <b>Vehicle involvement</b>                   |                            |                             |
| Light vehicles                               | 181                        | 82%                         |
| Heavy vehicles                               | 24                         | 11%                         |
| Motorcycle                                   | 11                         | 5%                          |
| Pedestrian                                   | 4                          | 2%                          |
| <b>Number of vehicles involved</b>           |                            |                             |
| One-vehicle crash                            | 167                        | 76%                         |
| Two-vehicle crash                            | 46                         | 21%                         |
| Multi-vehicle crash (more than two vehicles) | 7                          | 3%                          |
| <b>Type of crash</b>                         |                            |                             |
| Side swipe                                   | 3                          | 1%                          |
| Object in travel lane                        | 6                          | 3%                          |
| Head on – not overtaking                     | 17                         | 8%                          |
| Rear end                                     | 15                         | 7%                          |
| Pedestrian                                   | 4                          | 2%                          |
| Overtaking                                   | 7                          | 3%                          |
| Run off road – on straight                   | 49                         | 22%                         |
| Manoeuvring                                  | 4                          | 2%                          |
| Intersection                                 | 6                          | 3%                          |
| Run off road – on curve                      | 109                        | 49%                         |

These crashes occurred in varying conditions, both day and night, wet and dry. The serious crashes showed similar percentages of crash type, vehicle type and occurred in varying conditions.



#### 4.1.2 Road safety hazard identification

A road safety hazard identification assessment was undertaken to supplement the desktop assessment of the road geometry.

Key findings are summarised in Table 4.3 below:

Table 4.3 Road safety hazard identification

| Key findings                         |  |
|--------------------------------------|--|
| Road Geometry                        | The default 100 km/h speed limit is not suitable for entire length of the corridor, particularly on steep grades on curved sections            |
|                                      | There are sight distance constraints at various locations across the corridor  |
|                                      | Narrow or no shoulder width in some sections of the corridor   |
|                                      | There are a high number of concealed accesses along the corridor   |
| Intersections                        | Some intersections have deficient Safe Intersection Sight Distance (SISD)  |
|                                      | Many junctions have no turning facilities  |
|                                      | Line marking, particularly reflective treatment is not clear or is missing at some junctions   |
|                                      | There is insufficient signage at some intersections  |
| Delineation and signposting          | Poor edge line and centreline delineation in some areas  |
|                                      | Reflective pavement markers or signage have poor visibility in sections  |
|                                      | Infrequent reflective guide posts and hazard warning / information signage in sections   |
|                                      | Additional signage is necessary in some sections, particularly those with sub-standard curves  |
| Roadside hazards and safety barriers | Improvements are required to safety barriers along the corridor including substandard end terminals, inadequate approach and departure lengths |
|                                      | Clear zones are not achieving target levels  |
|                                      | Improvements required to culvert end wall protection with non-driveable end walls, or inappropriate roadside barriers                          |
|                                      | More safety barriers where necessary   |
| Surface condition                    | Improvement required in road quality (rough surface) in some sections  |
| Drainage                             | Improvements in road geometry and drainage is necessary in some sections   |



Wire rope barrier on a curve near Detention River



W-beam barrier on a curve travelling north-west from Wynyard

## 4.2 Traffic performance

### 4.2.1 Corridor capacity

To assess the theoretical capacity of the Bass Highway – Wynyard to Marrawah corridor, the road has been broken into three sections, where the cross section, heavy vehicle percentage and topography is relatively consistent. The three sections are:

- **Wynyard to Detention River** where the existing road cross section is typically 3.5 m lanes and 1.0 m sealed shoulders, 20% heavy vehicles and moderate topography
- **Detention River to Smithton** where the existing road cross section is typically 3.0 m lanes and up to 1.0 m sealed shoulders, 18% heavy vehicles and level topography
- **Smithton to Marrawah** where the existing road cross section is typically 3.0 m lanes with no sealed shoulders, 23% heavy vehicles and level topography

A comparison of the theoretical capacities and the current demand is provided in Table 4.4 below, and indicates that the existing corridor capacity is adequate for the current traffic volumes.

Table 4.4 Existing corridor capacity<sup>10</sup>

|                             | Theoretical Capacity<br>(vph) | Existing Max Volume<br>(vph) |
|-----------------------------|-------------------------------|------------------------------|
| Wynyard to Detention River  | 970                           | 430                          |
| Detention River to Smithton | 1120                          | 364                          |
| Smithton to Marrawah        | 820                           | 77                           |

### 4.2.2 Overtaking opportunities

While the highway has the theoretical capacity noted above, the actual efficiency and level of service is also influenced by the ability for faster vehicles to pass slower vehicles. The existing highway corridor has a small number of overtaking lanes and a number of areas where there is the opportunity to overtake slower vehicles. An assessment was undertaken to determine whether the overtaking opportunity on a two way rural road is adequate or whether the construction of dedicated overtaking lanes may be warranted.

The assessment takes into account the traffic volume, the percentage of heavy vehicles and the available overtaking opportunity. Overtaking opportunity is defined as the percentage of road length in the preceding 5 to 10 kilometres that provides adequate sight distance for a vehicle to overtake.

The availability of overtaking opportunities is a key aspect of travel time reliability, which has a direct impact for business and tourism planning, logistics and the associated costs.

The provision of overtaking lanes is determined by the following criteria:

- where traffic volumes are greater than 4,330 vpd with 20% heavy vehicles, overtaking lanes should be provided at 10 to 15 km maximum spacing
- where traffic volumes are less than 1,130 vpd with 20% heavy vehicles, and there is some overtaking opportunity, then overtaking lanes are not warranted

<sup>10</sup> Austroads, 2017, Guide to Traffic Management Part 3, Traffic Studies and Analysis

Using the existing traffic volumes and heavy vehicle percentages that are noted in Section 3.4, the requirement for overtaking lanes on the Bass Highway – Wynyard to Marrawah would be as follows:

- **Wynyard to Smithton** – 5,000 vpd with 20% heavy vehicles. Overtaking lanes are currently warranted at 10 to 15 km maximum spacing.
- **Smithton to Mella Road** – 1,000 vpd with 20% heavy vehicles and there is adequate overtaking opportunity for current traffic. No overtaking lanes are currently warranted.
- **Mella Road to Marrawah** – 600 vpd with 20% heavy vehicles and there is adequate overtaking opportunity for current traffic. No overtaking lanes are currently warranted.

There are overtaking opportunities and lanes between Wynyard and Smithton, however, the number provided is not considered to be adequate for the volume of traffic and percentage of heavy vehicles travelling on this section. The traffic volumes and percentage of heavy vehicles using the highway west of Smithton does not currently require the installation of overtaking lanes.



#### 4.2.3 Pedestrians and cycling facilities

The Bass Highway corridor is a typical two lane rural road environment with no dedicated pedestrian or cycling facilities.

##### Cyclists

Between towns, there is currently no dedicated off road cycling infrastructure. The majority of the Bass Highway has sealed shoulders less than the recommended minimum sealed width.

##### Pedestrians

Demand for pedestrian facilities is low, with some local movements around coastal settlements. There are currently no dedicated crossing facilities along the corridor, and movement along the roadside is generally within the road shoulder or verge.



## 4.3 Road design and geometry

Data on the existing road geometry has been collected and reviewed against contemporary standards.

A summary of the information collected is discussed below.

### 4.3.1 Lane width and road shoulders

The Bass Highway between Wynyard and Marrawah has varying existing road cross sections (lane and shoulder width) dimensions. The nominal existing road cross sections are summarised as follows:

- **Wynyard to Detention River** – Two traffic lanes of between 3.1 m to 3.5 m width with 0.6 m to 1.0 m wide shoulders
- **Detention River to Smithton** – Two traffic lanes of approximately 3.0 m width with 0.0 m to 0.6 m wide shoulders
- **Smithton to Marrawah** – Two traffic lanes of approximately 3.0 m with no shoulders.



### 4.3.2 Horizontal and vertical geometry

Curves in the roadway can be described as horizontal or vertical. A horizontal curve is a bend in the road which veers to the left or right, whereas a vertical curve is a change in grade, either up or down (such as driving up and down a hill). The curve radius measures the size or tightness of a curve.

Horizontal and vertical geometry is influenced by the adjacent topography. Along the length of the Bass Highway corridor the topography varies from flat pasture land through to undulating forested sections.

The safety of a curve depends on the vehicle operating speed, super elevation (angle of the rise or fall of the slope) and friction of the roadway surface.

One important consideration in assessing the curve radius is the sight distance provided when considered with the design speed. Motorists need to be able to navigate through curves efficiently and assess any potential danger on the roadway with enough time to avoid an incident.

The analysis of the existing highway indicates that in numerous locations, the horizontal and vertical alignments are inconsistent with the current operating speed. These locations do not currently provide an adequate transition of design speed between adjacent elements to be able to safely drive at the posted speed limit.

There are eight locations where the curves (or series of curves) have advisory speed signs. The advisory sign recommends speeds ranging from 25 km/h to 65 km/h.

In relation to the stopping sight distance, there are 60 locations between Wynyard and Smithton, and 44 locations between Smithton and Marrawah that require improvements, due to the vertical curves of the existing road.

### 4.3.3 Junctions

There are 100 existing junctions on the Bass Highway between Wynyard and Marrawah, 62 junctions do not have any form of right turn treatment.

There are 71 junctions that are sealed and 29 junctions currently have unsealed approach roads.



## 4.4 Heavy vehicle rest areas

There are currently four informal Heavy Vehicle Rest Areas (HVRAs) on this section of the Bass Highway, located at:

- Sisters Hill (eastbound) – Approximately 50 m west of Whites Road
- Sisters Hill (westbound) – Approximately 300 m west of Whites Road
- East of Stanley (eastbound) – Approximately 1 km east of Myrtle Grove Road
- West of Stanley (westbound) – Approximately 700 m west of Brooks Road.

## 4.5 Road pavement condition

Roads deteriorate over time due to the effects of traffic volumes, type, weather and underlying environmental conditions. Timely road maintenance prevents defects from escalating into larger problems.

The condition of the existing pavement is monitored and managed by State Growth. Should the pavement condition fall below the required quality, remediation works are undertaken.

## 4.6 Environment and Heritage

The Bass Highway corridor is a rich source of biodiversity, cultural heritage and agricultural production. Through the length of the corridor, there are areas of threatened flora and fauna communities and species, and a number of Aboriginal places and heritage sites identified. A preliminary desktop assessment review of the corridor identified environmental issues which would need to be taken into account when considering the individual upgrade projects.

The location of known heritage and environmental features that may impact on corridor upgrade works have been mapped and are identified in Figure 4.3 below.

Prior to any works being undertaken all projects would have to undergo the appropriate environmental and heritage assessment. Appropriate assessment of soil and water bodies would also be required.



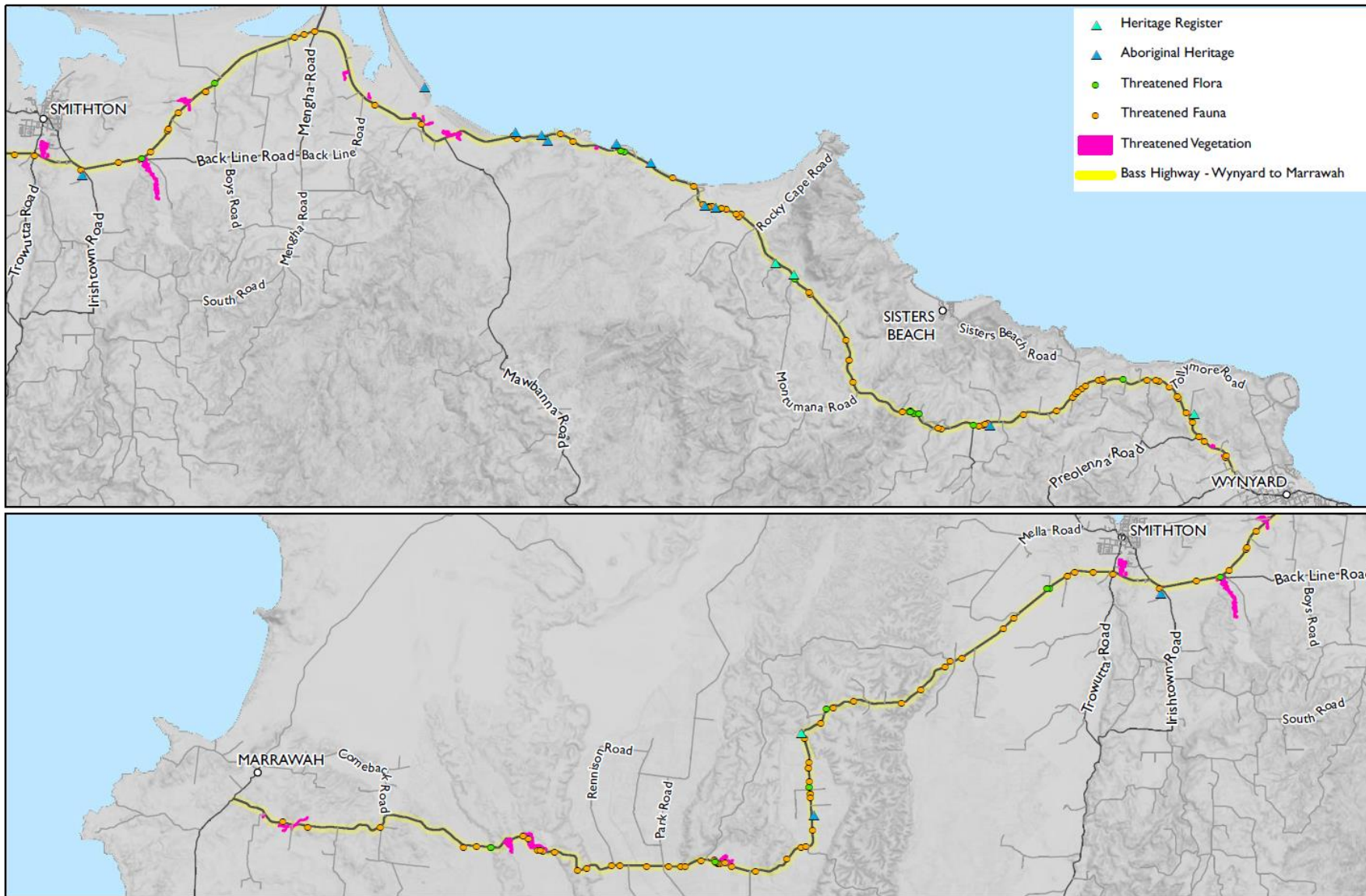


Figure 4.3 State Growth identified aboriginal heritage, historical heritage, and environmental community sites

# 5. Future Corridor Changes and Transport Demand

## 5.1 Population and economic growth

Historical population statistics sourced from the Australian Bureau of Statistics (ABS) for the Waratah-Wynyard and Circular Head municipalities provided context for population growth trends. Between 2001 and 2016, the population across both Local Government Areas (LGA) increased from 20,759 to 21,504 representing an increase by around 745 people or 0.24% per annum.

Based on historic population growth trends, the population in the Waratah-Wynyard municipality is forecast to reach approximately 14,800 people by the year 2050 with a growth rate of 0.27%, and in the Circular Head municipality the population is forecast to reach approximately 8,500 people with a growth rate of 0.21%. This growth in population is shown in Figure 5.1.

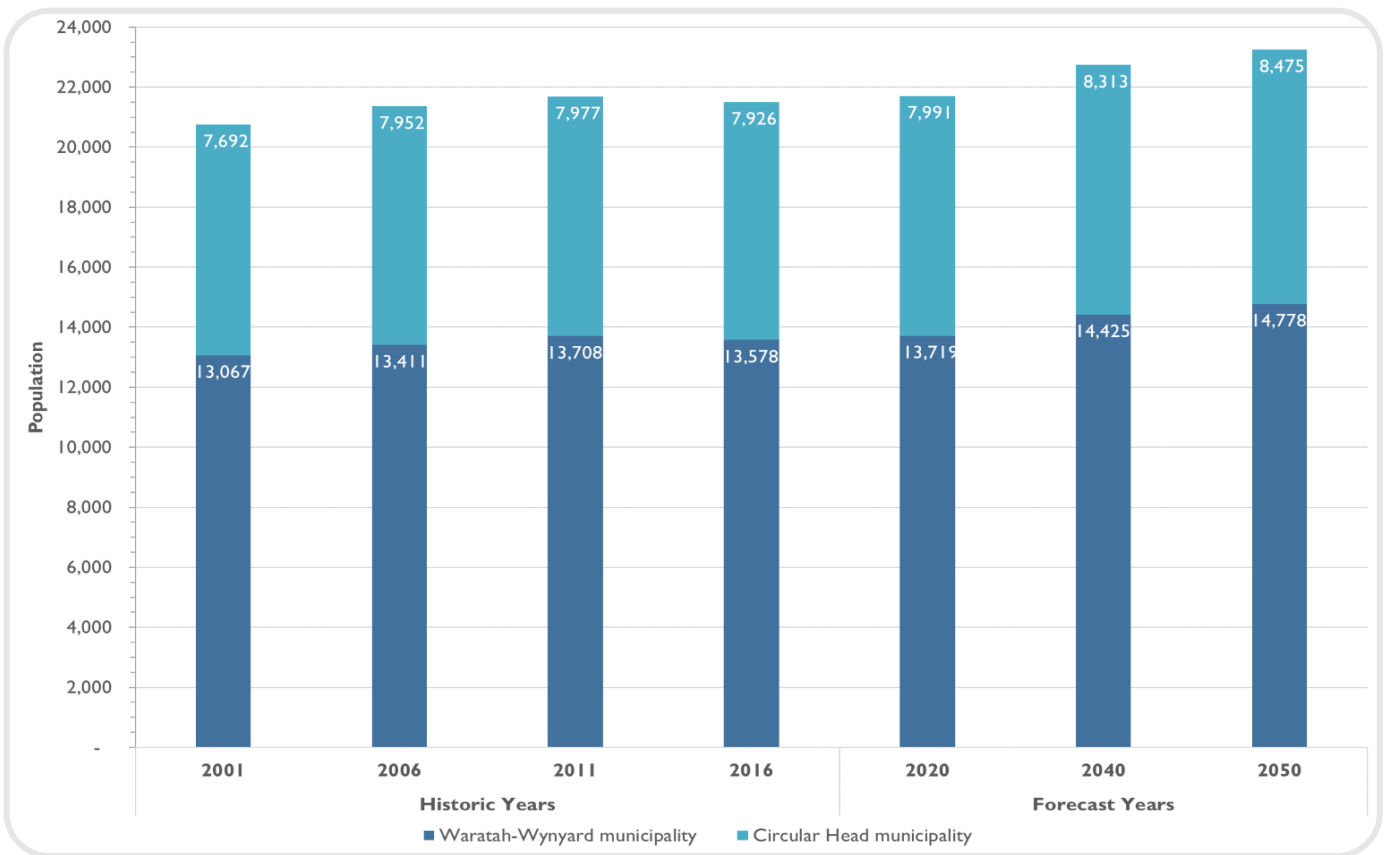


Figure 5.1 Historic and forecast population growth for Waratah-Wynyard and Circular Head municipalities<sup>11</sup>

<sup>11</sup> Australian Bureau of Statistics, 2001 – 2016, *Census Data*, ABS, Canberra



Both Waratah-Wynyard Council and Circular Head Council have identified the impact of demand on future service delivery and utilisation of assets in their Strategic Asset Management Plans for 2015 – 2025. These include the following:

- Both Councils have identified an aging population, with the proportion of residents over 60 years of age expected to increase. This transition is expected to increase the usage of footpaths so there is a demand to widen footpaths and satisfy compliance with the *Disability Discrimination Act 1992*.
- Waratah-Wynyard Council has identified that over the next 10 years the population is expected to increase at a rate of 0.25% per annum<sup>12</sup>. This expectation is in line with historic trends. Since this population growth trend is relatively low it is not expected to significantly impact the demand for service delivery.
- Circular Head Council has identified that over the next 5 to 10 years the population in the municipality is expected to experience a slight decline<sup>13</sup>. Growth rates based on historic population data forecasts positive growth at 0.21% per annum. Circular Head Council has advised State Growth, that they aim to grow the population in the municipality to 10,000 by 2040<sup>14</sup>. This suggests a growth rate of approximately 0.6% per annum, however this strategy is yet to be outlined by council.
- Projections of journey to work mode share is likely to maintain dominance in car usage across both municipalities. Based on historical data the average rate which journeys to work by car is expected grow is 0.23% per annum between the two municipalities. The historical and forecast data is shown in Figure 5.2.
- Historic growth trends of other journey to work methods do not suggest a significant mode shift from cars. Therefore it is considered that population growth in the region will directly influence growth in traffic volumes.

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<sup>12</sup> Waratah-Wynyard Council, July 2015, *Strategic Asset Management Plan*, Available at: <https://www.warwyn.tas.gov.au/webdata/resources/files/WVWC%20SAMP%20VI.2%20-%20July%202015%20wwc.pdf>, Accessed 1/11/2019

<sup>13</sup> Circular Head Council, January 2018, *Strategic Asset Management Plan*, Available at: <https://www.circularhead.tas.gov.au/webdata/resources/files/CHC%20SAMP%20VI%200.pdf>, Accessed 1/11/2019

<sup>14</sup> Circular Head Council, 10 May 2019, Personal Communication, Benji Krom

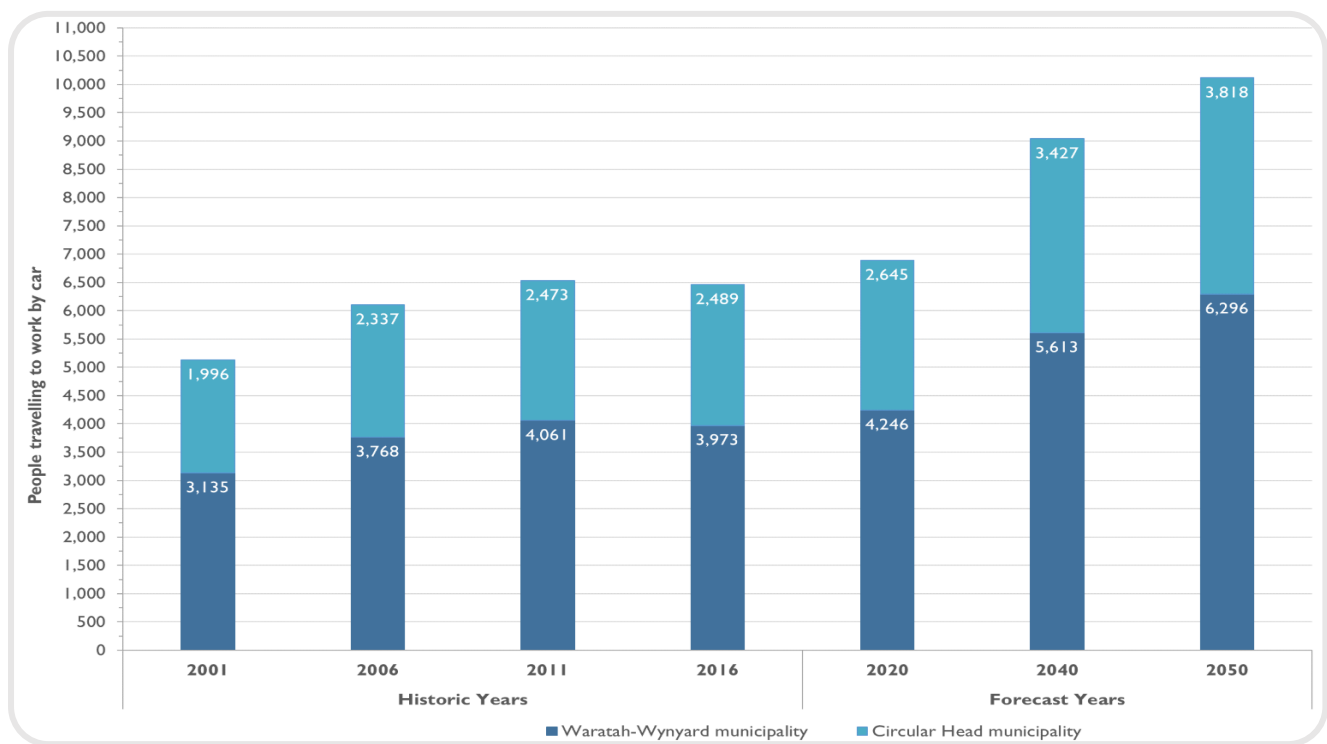


Figure 5.2 Historic and forecast no. of people who travel to work by car across the two municipalities<sup>15</sup>

## 5.2 Industry and economic development

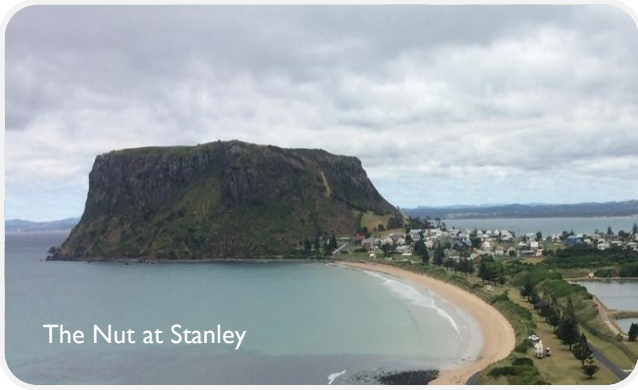
### 5.2.1 Tourism

The *Tasmanian Visitor Economy Strategy 2015-2020* envisages achieving a target of 1.5 million annual visitors across the whole of Tasmania by 2020. Recent data published by Tourism Tasmania indicates that there were a total of 1.32 million visitors to Tasmania for the 12 months to December 2018, with 529,000 of those visiting the Cradle Coast region (including the Waratah-Wynyard and Circular Head municipalities). The year-on-year growth rate is approximately 4%.

The *Sustainable Murchison 2040 Community Plan Regional Framework Plan, 2016* recognises that the north west area is well-developed with a range of tourist destinations which are aspiring to receive growing numbers of national and international visitors by 2040. The natural environment is a key asset in promoting tourism, with attractions such as Cradle Mountain, further east. There is a vision of holding more events with autumn and winter marketing campaigns to expand the visitor season from summer.

With the Waratah-Wynyard and Circular Head municipalities accounting for a sizeable proportion of the Murchison electorate there is reasonable basis to expect tourist traffic to increase in the region by 2040.

<sup>15</sup> Australian Bureau of Statistics, 2001 – 2016, *Census Data*, ABS, Canberra



The Nut at Stanley



Tarkine Adventures at Dismal Swamp

### 5.2.2 Future freight task and heavy vehicle volumes

Circular Head Council has advised State Growth, that they are expecting growth in some of their larger industries due to several planned upgrades and new proposals.<sup>16</sup> These have been described below.

- There is potential for an increase in potato processing capability of the McCain facility in Smithton.
- There have been recent increases in the production capacity of the Britton Timbers mill in Smithton.
- The Dutch Mill (Australia) Pty Ltd milk processing plant at Edith Creek is expected to be re-established.
- The development of 1,200+ megawatts of wind farm infrastructure over two sites in Jim's Plain and Robbins Island by UPC Renewables.
- Potential increases in dairy productions from the area due to the construction of new dairies in the area.

Across the two municipalities there is a projection that there would be an increase in windfarm infrastructure, agriculture, construction, forestry, milling, and processing industries. Therefore, there is an expectation that freight and transport tasks with heavy vehicle movements will increase at a rate slightly higher than the historic growth rates along the Bass Highway.



Anticipated increase in windfarm infrastructure in north west Tasmania



Heavy vehicle traffic heading west, near Sisters Creek

<sup>16</sup> Circular Head Council, 2019, Personal Communication, 10 May

## 5.3 Traffic growth

### 5.3.1 General traffic growth

Traffic growth along the Bass Highway corridor between Marrawah and Wynyard has been estimated using a combination of the following:

- Historic growth trends
  - AADT growth rates were provided by State Growth at each of the 15 selected counter locations along the Bass Highway corridor<sup>17</sup>. These indicate that Bass Highway has grown at a rate of around 0.5% to 1.0% p.a. towards the western end of the corridor (Marrawah) and 1.5% p.a. towards the eastern end of the corridor (Boat Harbour and Wynyard)<sup>18</sup>.
- Population and demographics
  - There is an expected increase in car use of around 1.6% p.a. for Circular Head and 1.7% p.a. for Waratah Wynyard based on population growth and journey to work method trends. This is nominally in line with historic traffic growth trends.<sup>19</sup>
- Industry
  - Section 5.2.2 identifies a range of upgrades and new proposals to be developed throughout the region which is likely to result in freight and heavy vehicle traffic growth rates which are slightly higher than historic growth trends.<sup>20</sup>
- Tourism
  - Section 5.2 identifies a current year-on-year growth rate in visitation to the Cradle Coast region of approximately 4% p.a. It is expected that this growth will continue in the short to medium-term.<sup>21</sup>

Based on the above, forecasts for Bass Highway are provided in Table 5.1.

Table 5.1 Bass Highway Forecasts (AADT)

| Approximate Location                        | 2020  |      | 2040  |      | 2050  |      |
|---|-------|------|-------|------|-------|------|
|   | Total | HV % | Total | HV % | Total | HV % |
| West of Smithton (Mella Road, Broadmeadows) | 954   | 29%  | 1209  | 30%  | 1336  | 30%  |
| Smithton (Brittons Road)                    | 4840  | 16%  | 5942  | 17%  | 6493  | 17%  |
| Boat Harbour                                | 4866  | 22%  | 6396  | 22%  | 7162  | 21%  |
| West of Wynyard (Inglis Street)             | 3638  | 20%  | 4791  | 19%  | 5367  | 19%  |

<sup>17</sup> The Department of State Growth, 2017, Permanent Traffic Counters, Unpublished

<sup>18</sup> Linear growth rates have been expressed as a percentage of 2017 traffic volumes

<sup>19</sup> Australian Bureau of Statistics, 2001 – 2016, *Census Data*, ABS, Canberra

<sup>20</sup> Circular Head Council, 2019, Personal Communication, 10 May

<sup>21</sup> Tourism Industry, Tasmanian Government, 2015, *The Tasmanian Visitor Economy Strategy 2015-2020*, Available at [https://www.t21.net.au/\\_data/assets/pdf\\_file/0004/37723/T21-Strategy-web.pdf](https://www.t21.net.au/_data/assets/pdf_file/0004/37723/T21-Strategy-web.pdf), Accessed 18/11/2019

Given the corridor also needs to cater for seasonal variations, the following volumes have been adopted to set geometric and performance targets for the 20 year timeframe (2040):

- **Wynyard to Smithton** – 7000 vpd (a total 20 year growth of 40%).
- **Smithton to Mella Road** – 1200 vpd (a total 20 year growth of 20%).
- **Mella Road to Marrawah** – 1000 vpd (a total 20 year growth of over 20%).

### 5.3.2 Future public transport and active transport demand

#### Public transport

Public transport only accounts for a very low percentage of people travelling along the Bass Highway corridor. State Growth will be implementing improved services into the future, and this may increase patronage. It is not expected that this will have a significant impact on overall vehicle volumes or vehicle composition.

#### Active transport – Cyclists

While the Wynyard to Marrawah corridor is not frequently used by cyclists, it is a fundamental safety issue to not provide cyclists with an alternative to riding in the traffic lane with high speed vehicles. Provision of wider shoulders is likely to increase usage of the highway by cyclists, but it is not considered that this corridor will become a major cycling route in the short to medium term.

#### Active transport – Pedestrian facilities

Demand for pedestrian facilities is low, with some local movements around community centres. There are currently no dedicated crossing facilities along the corridor, and movement along the roadside is generally within the road shoulder or verge. As local communities grow, the demand for dedicated pedestrian facilities will need to be reassessed.

## 5.4 Safety

### 5.4.1 Cross section

The standard and frequency of treatments for single carriageway rural roads is based primarily on traffic volumes. The proposed road cross section has been determined using the 2040 traffic volumes and consistency with the existing road environment.

The following cross-sections would be adopted.

#### **Wynyard to Smithton - 7000 vehicles per day** (More than 3000 vehicles per day)

- The standard is for lane widths of 3.5 m with sealed shoulder of 1.5 m

To provide consistency with the State Road Network, adopt 3.5 m lanes and 1.0 m sealed shoulder. This cross section also provides consistency with recently upgraded sections of the highway.

#### **Smithton to Mella Road – 1200 vehicles per day** (1000 – 3000 vehicles per day)

- The standard is for lane widths of 3.5 m with sealed shoulder of 1.0 m

Adopt 3.5 m lanes and 1.0 m sealed shoulder.

#### **Mella Road to Marrawah – up to 1000 vehicles per day** (less than 1000 vehicles per day)

- The standard is for lane widths of 3.1 m with 0.5 m sealed shoulder.

For consistency with the State Road Network adopt 3.0 m lanes and 1.0 m sealed shoulder – this shoulder width also provides an area for cyclists.

### Target Cross Section

- **Wynyard to Smithton** – 3.5 m lanes and 1.0 m sealed shoulder
- **Smithton to Mella Road** – 3.5 m lanes and 1.0 m sealed shoulder
- **Mella Road to Marrawah** – 3.0 m lanes and 1.0 m sealed shoulder.

### 5.4.2 Horizontal Geometry

As noted in Section 4.3.2, there are a significant number of curves on the existing highway that do not meet current design requirements for a design speed of 110 km/h. While lower design speeds reduce the highway efficiency, it is not a major safety issue provided the road elements transition down adequately to provide an appropriate speed environment. Unfortunately, there are also a number of locations where the highway does not transition adequately and this increases the likelihood of off-road type crashes. Some of these locations do not have adequate warning signs or delineation.

Therefore it is recommended that horizontal alignment improvements are undertaken, to provide a consistent and predictable travel speed along the highway. The specific treatment at each location is to be determined with reference to the required cost and benefits achieved. Where practical, the alignment should be upgraded to the preferred design speed of 110 km/h. Where this is not practical, the alignment should be adequately transitioned into the lower speed environments. Proposed road alignment improvements would be determined by reviewing predicted travel speeds against the existing alignment. This would require removal of inconsistent road geometry. In particular, low speed curves adjacent to high speed sections of the highway.

In the short term, where inconsistent alignments exist, adequate warning signage and delineation should be installed.

### Target

The specific treatment at each location is to be determined with reference to the required cost and benefits achieved. Treatments are to be determined from the following:

- Realign the horizontal geometry to meet the operating speed of the highway
- Ensure adequate warning signage and delineation at all sub-standard curves that are not to be realigned.

### 5.4.3 Vertical Geometry

As noted in Section 4.3.2 there are a number of locations where the existing vertical alignment is not adequate to meet the required stopping sight distance. Stopping sight distance is an important safety element that should be provided, if possible. Therefore, it is recommended that where practical, locations with sub-standard stopping sight distance be regraded to provide the required stopping sight distance. Where this is not practical, adequate warning signs should be provided.

There are some locations where the vertical alignment obstructs the view of approaching vehicles. These are particularly unsafe locations that may lead to drivers choosing to overtake when not safe to do so. These locations should be prioritised for regrading.

While some sag curves do not meet the documented comfort criteria, regrading of the highway at these locations is not considered a priority unless being undertaken as part of a broader project.



## Target

- Regrade the existing highway in locations where sub-standard vertical curves contribute to crash history
- Regrade the highway in locations where approaching cars are obscured by the vertical alignment
- Provide crest warning signage at all sub-standard locations as required.

### 5.4.4 Junctions

As noted in Section 4.3.3, the majority of junctions between Wynyard and Marrawah do not meet contemporary standards for safety treatments. It is proposed that all junctions are assessed to identify the improvements required and upgraded to meet minimum standard requirements.

There are also many junctions where the adjoining roads are unsealed through to the edge of the highway. All junctions should be sealed.

Some junction geometry does not allow easy turning manoeuvres for the type of vehicle using the junction. Vehicle types using each junction should be reviewed (where the information is available) and the appropriate design vehicle used to determine junction geometry.

## Target

- All junctions are to be reviewed and upgraded to meet contemporary safety standard
- All unsealed public junction areas to be sealed
- Provision of appropriate signage to all major destinations and tourist facilities
- All junctions should be reviewed for the appropriate design vehicle and vehicle turning paths and upgraded where required.



### 5.4.5 Cyclists and pedestrians

Any road design project must consider the needs of all relevant road users including cyclists, pedestrians and other non-motorised traffic of all age groups.

Cyclists and pedestrians are particularly vulnerable road users. Design for such users will seek to facilitate their movements by separating them from motor vehicles. This may be on the road carriageway, by providing available space on the carriageway, or on roadside facilities such as footpaths and shared use paths.

In 2013, the State Government developed a policy for cycling infrastructure in Tasmania – the *Positive Provision Policy for Cycling Infrastructure Mainstreaming the Provision of Cycling Facilities as Part of Transport Projects and Maintenance of Cycling Space*. The Positive Provision Policy requires that consideration will be given to make provision for cycling on routes identified on Regional Arterial Cycling Networks.

While the Wynyard to Marrawah corridor is not part of the NW Coastal Pathways Plan, the eastbound side of the Bass Highway, east of Tollymore Road, is included in State Growth's State wide High Use Cycling Routes mapping. Therefore, the intent of the Positive Provision Policy should be adopted for this section of the highway.

For the remainder of the corridor, it is considered a minimum treatment to provide a 1.0 m wide sealed shoulder outside the traffic lane is considered a practical compromise between providing a cycling facility and cost. While a wider shoulder would be preferred, it is a significant improvement on areas that currently have no sealed shoulder.

When designing upgrade works as part of the corridor, it is recommended that each location further considers the warrants for provision of a wider shoulder for cyclists.

### Target

- Provide appropriate shoulder width for eastbound side of the Bass Highway, east of Tollymore Road to Wynyard.
- Provide a minimum 1 m wide sealed shoulder for the full length of the corridor.
- Warrant for wider shoulder or dedicated cycling facilities to be considered as part of all upgrade works.
- Warrant for dedicated pedestrian facilities to be considered as part of all upgrade works.

#### 5.4.6 Surface condition

As noted in Section 4.5, responsibility for the road surface condition rests with State Growth. However, when works are to be undertaken as part of this corridor strategy, the maintenance works program should be monitored. This is to ensure that there is no duplication of works in both programs and also to allow works to be undertaken concurrently if this is advantageous.

That is, where remediation works under the maintenance program are required in locations where works under the corridor strategy is also required, there may be benefits combining the works to minimise overall cost and impact on the community.

#### 5.4.7 Recommended safety treatments

Road features can play a key role in reducing the occurrence of run-off-road crashes. These features include, but are not limited to, the geometry of curves, edge of pavement drops, shoulder treatments, poor delineation and insufficient passing opportunities. Excessive speed, particularly on bends is also noted as a contributory driver factor for run-off-road crashes, as well as driver inattention and overtaking. In relation to safety treatments and their expected effectiveness in reducing loss of control crashes, the following measures (Table 5.2) are rated highest:

Table 5.2 Crash modification for various safety treatments<sup>22</sup>

| Safety Treatment                         | Run off road – on straight |                      | Run off road – on curve |                      |
|--|----------------------------|----------------------|-------------------------|----------------------|
|  | Off road                   | Off road, hit object | Off road                | Off road, hit object |
| Installation of guard rail               | 30%                        | 30%                  | 30%                     | 30%                  |
| Installation of wire rope safety barrier | 85%                        | 90%                  | 85%                     | 90%                  |
| Sealing shoulders                        | 40%                        | 40%                  | 40%                     | 40%                  |
| Edge lines                               | 30%                        | 30%                  | 30%                     | 30%                  |
| Reconstructed superelevation on curves   |                            |                      | 50%                     | 50%                  |
| Advisory speed signs on curves           |                            |                      | 30%                     | 30%                  |

When considering reduction of rear end collisions, the most effective treatments would include adequate junction treatments and advance directional signage.



Advisory signage near Detention River



Guard rail near Hellyer

## 5.5 Travel time efficiency and reliability

### 5.5.1 Overtaking lanes

With reference to Section 3.4, the existing traffic volumes and heavy vehicle percentages already warrant the provision of additional overtaking lanes between Detention River and Smithton at 10 to 15 km maximum spacing.

Using the projected traffic growth figures for 2040 shown in Section 5.3, future overtaking lane warrants are assessed as follows:

- **Wynyard to Smithton** – 7000 vehicles per day with 20% heavy vehicles - Overtaking lanes are warranted at a maximum 10 – 15 km spacing.
- **Smithton to Mella Road** – 1200 vehicles per day with 20% heavy vehicles – There is adequate overtaking opportunity for current and projected traffic.
- **Smithton to Marrawah** – 1000 vehicles per day with 20% heavy vehicles - There is adequate overtaking opportunity for current and projected traffic.

As the volumes increase, the requirement for more frequent overtaking lanes also increases. Therefore it is recommended that in the short term, the strategy includes the provision of overtaking lanes at maximum 10 to 15 km spacing between Detention River and Smithton. In the medium to long term it is expected that additional

<sup>22</sup> Austroads, 2015, *Guide to Road Safety Part 8 Treatment of Crash Locations*

overtaking lanes will be required between Wynyard and Smithton. As traffic volumes grow, further demand for overtaking lanes should be determined using traffic modelling software to assess the most beneficial locations.

### Target

- Provision of additional overtaking lanes between Detention River and Smithton at 10 to 15 km maximum spacing.
- Planning for additional overtaking lanes between Wynyard and Smithton.



## 5.6 Resilience

### 5.7 Alternative Routes

During the consultation process, a number of options for alternative highway routes were suggested for investigation. Construction of duplicate road infrastructure requires significant capital investment and ongoing maintenance costs. Therefore, justification for the construction of alternative routes would require that the existing route does not meet community needs or that the new route would be able to provide significant financial benefit.

The usual drivers for construction of an alternate highway route would be where the existing highway does not meet the following requirements:

- Highway capacity – the existing infrastructure does not provide adequate capacity or cannot be upgraded.
- Connectivity – the existing infrastructure does not provide adequate access for all road users.
- Function – the existing infrastructure does not adequately cater for multiple functions.
- Amenity – the existing infrastructure has become a social issue either through noise or community segregation.
- Efficiency – the new route could provide significant travel time and/or vehicle cost savings.
- Safety – the existing infrastructure is unsafe and cannot be adequately upgraded.

As discussed in previous sections, the existing highway either meets or is capable of being upgraded to meet all of the above requirements for at least the next 20 years. One advantage of a duplicate route would be the provision of alternative access. While this would be beneficial, it would also be very difficult to justify on economic grounds given that closure of the existing highway is rare and when it does occur it is generally only for short periods of



time. Therefore, at least in the short to medium term, there is no identified need to construct alternate highway routes.

## 5.8 Climate change

The Tasmanian Government has developed the *Climate Change Action Plan 2017-21* and has commissioned a number of research projects to understand and monitor the potential impacts of climate change on the state. The expected impacts from climate change vary across Australia. The impacts include an increase in the frequency and severity of weather events, increase in bushfires, sea level rise, coastal erosion, changing weather conditions such as temperatures and rainfall patterns.

It is acknowledged that climate change effects have the potential to require mitigation works. It is recommended that the mitigations be undertaken as required. Potential road impacts from climatic conditions will continue to be monitored.

The 12 km section of the Bass Highway between Detention River and Black River has been identified as an area that is potentially susceptible to climate change impact. A bypass of this area has been provisionally identified for future consideration of an inland road realignment<sup>23</sup>. Figure 5.3 shows a potential bypass route.

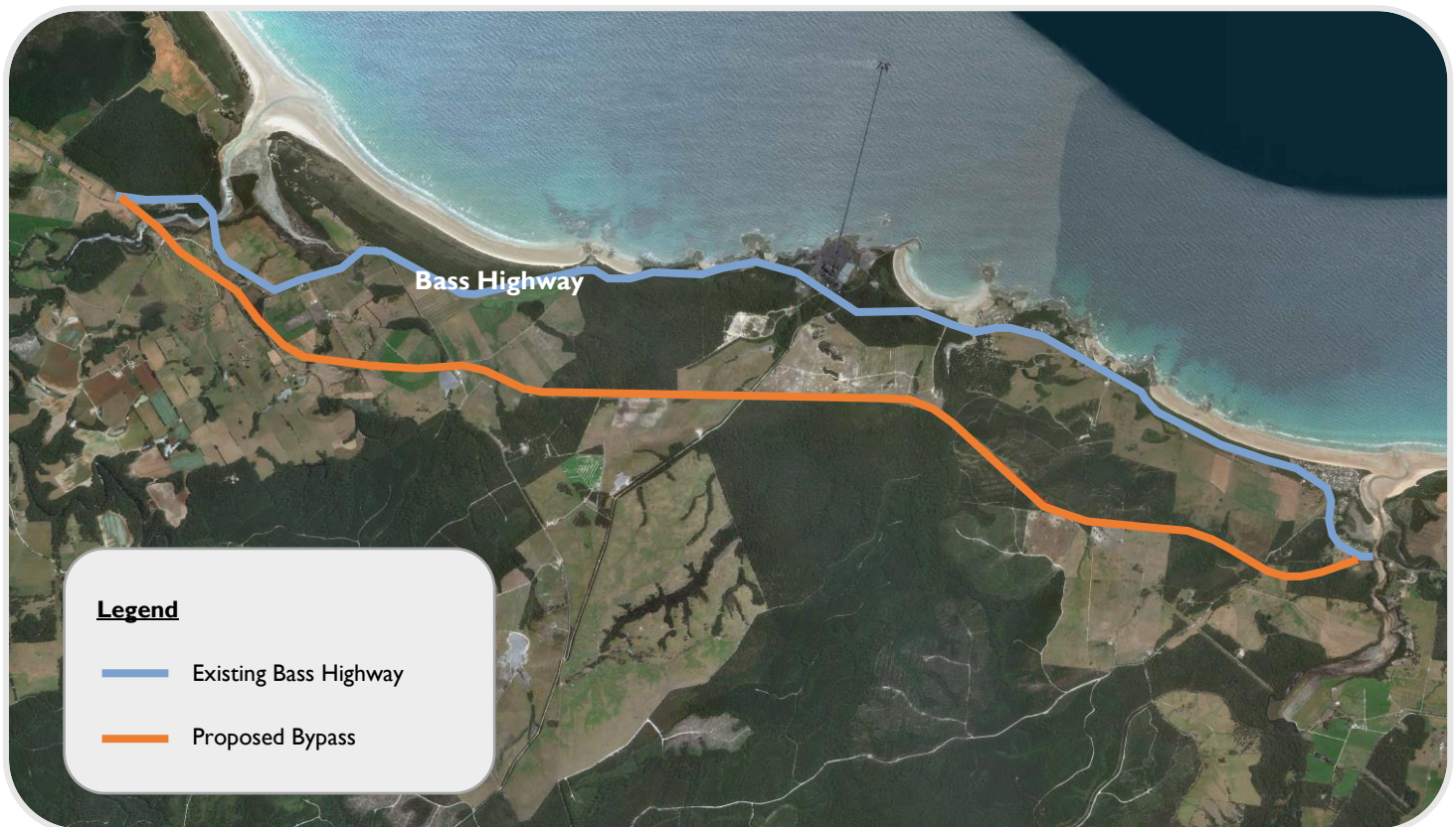


Figure 5.3 Potential Detention River to Black River Bypass Route

<sup>23</sup> Paul Arnold Consulting, 2015, *Upgrade of the Bass Highway, Its vital link – Economic Importance and Strategic Road Significance Smithton - Burnie*

## 5.9 Support growth and social access

### 5.9.1 Corridor capacity

The future road capacity for the Bass Highway has been assessed using the same methodology as discussed in Section 4.2.1.

The future theoretical capacity of the highway is based on the proposed cross section noted in Section 5.4.1, grade and heavy vehicle percentages similar to existing.

For the purpose of future capacity analysis, the existing highway has been broken into three sections, where the cross section, heavy vehicle percentage and topography is relatively consistent as follows:

- **Wynyard to Smithton** where the proposed road cross section is 3.5 m lanes and 1.0 m sealed shoulders, 19% heavy vehicles and moderate topography
- **Smithton to Mella Road** where the proposed road cross section is 3.5 m lanes and 1.0 m sealed shoulders, 24% heavy vehicles and level topography
- **Mella Road to Marrawah** where the proposed road cross section is 3.0 m lanes and 1.0 m sealed shoulders, 20% heavy vehicles and level topography

A comparison of the theoretical capacities and the predicted future demand is shown in Table 5.3 below. This indicates that the proposed cross section would provide adequate capacity for the future traffic volumes.

Table 5.3 Existing corridor capacity <sup>24</sup>

|                        | Theoretical Capacity (vph) | Estimated Future Peak Hour Volume (vph) |
|------------------------|----------------------------|---|
| Wynyard to Smithton    | 990                        | 528                                     |
| Smithton to Mella Road | 1250                       | 153                                     |
| Mella Road to Marrawah | 1100                       | 42                                      |

Between Wynyard and Smithton, the topography is moderate, while between Smithton and Marrawah, it is level. The topography through Wynyard and Smithton, has reduced its theoretical capacity.

Between Smithton and Mella Road, and Mella Road and Marrawah, the topography and percentage of heavy vehicles is similar. The reduced capacity between Mella Road and Marrawah, is due to the proposed cross section.

#### Target

The proposed future road cross sections are adequate to provide the theoretical capacity for the predicted 2040 volumes.

### 5.9.2 Provision of heavy vehicle rest areas

The demand for Heavy Vehicle Rest Areas (HVRAs) between Wynyard and Smithton is medium to high. It is proposed that the existing informal rest areas shown below are retained, reviewed for increased capacity and safety, and upgraded.

<sup>24</sup> Austroads, 2017 Guide to Traffic Management Part 3, Traffic Studies and Analysis



- West of Stanley (northbound)
- East of Stanley (southbound)
- Sisters Hill (eastbound)
- Sisters Hill (westbound)

In the medium term, as demand rises, the development of a Class 5 HVRA approximately central between Wynyard and Smithton should be considered.

The demand for HVRA between Smithton and Marrawah is relatively low. Current predicted volumes would not warrant the development of a formal rest area, however consideration should be given to providing an informal rest area centrally located between Smithton and Marrawah for use on an ad hoc, as required basis.

#### Target

- Retain existing heavy vehicle rest areas and undertake capacity and safety improvements as required.
- Investigation for an informal heavy vehicle rest area in each direction centrally located between Smithton and Marrawah.
- Investigation for Class 5 heavy vehicle rest area for each direction centrally located between Wynyard and Smithton.

#### 5.9.3 Access to tourist attractions and facilities

Provision of safe and efficient access to tourist attractions and facilities is a necessary part of the corridor targets. The corridor should also provide adequate advance directional signage and advice for drivers unfamiliar with the area to navigate easily to their destination. It is recommended that the corridor targets include upgrade of tourist and rest area accesses to contemporary safety standards including installation of directional signage as required.

#### Target

- Provision of adequate advance directional signage to all tourist attractions and facilities.

#### 5.9.4 Public Transport

Where adjacent to road upgrade projects, it is recommended that existing general access bus stops be upgraded so they are compliant with DDA requirements.

#### Target

- Where adjacent to road upgrade projects, upgrade existing general access bus stops to be compliant with DDA requirements.

## 6. Corridor Challenges

### 6.1 Corridor improvement targets

Within Section 5, the predicted demands on the highway and the changes needed to meet the challenges of the future where identified. Table 6.6.1 below summarises the improvements required to meet those future needs.

Table 6.6.1 Corridor improvement targets

| Item                               | Target Improvements  |
|------------------------------------|--|
| Roadside Safety                    | <ul style="list-style-type: none"> <li>Provision of signage and delineation to meet contemporary standards</li> <li>Protection or removal of roadside hazards to contemporary standards</li> </ul>   |
| Junction Treatments                | <ul style="list-style-type: none"> <li>All junctions to be reviewed and upgrades to be implemented on relevant junctions to contemporary safety standard</li> <li>All unsealed public junction areas to be sealed</li> <li>Provision of appropriate advance directional signage to all major destinations and tourist facilities.</li> </ul>   |
| Cross Section                      | <p>Adopt the following cross sections</p> <ul style="list-style-type: none"> <li>Wynyard to Smithton – 3.5 m lanes and 1.0 m sealed shoulder.</li> <li>Smithton to Mella Road – 3.5 m lanes and 1.0 m sealed shoulder</li> <li>Mella Road to Marrawah – 3.0 m lanes and 1.0 m sealed shoulder</li> </ul>   |
| Horizontal Geometry                | <p>The specific treatment at each location is to be determined with reference to the required cost and benefits achieved. Treatments are to be determined from the following:</p> <ul style="list-style-type: none"> <li>Realign the horizontal geometry to meet the operating speed of the highway</li> <li>Ensure adequate warning signage and delineation at all sub-standard curves that are not to be realigned.</li> </ul> |
| Vertical Geometry                  | <ul style="list-style-type: none"> <li>Regrade the existing highway in locations where approaching cars are obscured by the vertical alignment</li> <li>Regrade the existing highway in locations where sub-standard vertical curves contribute to crashes</li> <li>Provide crest warning signage as required</li> </ul>   |
| Overtaking Lanes                   | <ul style="list-style-type: none"> <li>Provision of additional overtaking lanes between Detention River and Smithton at 10 – 15 km maximum spacing.</li> <li>Planning for additional overtaking lanes between Wynyard and Smithton.</li> </ul>   |
| Pavement Condition                 | <ul style="list-style-type: none"> <li>Rehabilitate pavement where condition falls below required quality</li> </ul>   |
| Heavy Vehicle Rest Areas           | <ul style="list-style-type: none"> <li>Retain existing heavy vehicle rest areas and undertake capacity and safety improvements as required</li> <li>Provision of an informal heavy vehicle rest area in each direction centrally located between Smithton and Marrawah</li> <li>Development of a Category 5 heavy vehicle rest areas</li> </ul>  |
| Cyclists and Pedestrian Facilities | <ul style="list-style-type: none"> <li>Provide a minimum 1 m wide sealed shoulder for the full length of the corridor.</li> <li>Wider shoulder or dedicated cycling facilities to be considered as part of all upgrade works.</li> <li>Dedicated pedestrian facilities to be considered as part of all upgrade works.</li> </ul>   |

| Item             | Target Improvements   |
|------------------|---|
|                  | <ul style="list-style-type: none"> <li>Provide appropriate shoulder width for eastbound side of the Bass Highway, east of Tollymore Road to Wynyard</li> </ul>              |
| Public Transport | <ul style="list-style-type: none"> <li>Where adjacent to road upgrade projects, upgrade existing general access bus stops to be compliant with DDA requirements.</li> </ul> |

## 6.2 Current corridor deficiencies and strategic response

Corridor deficiencies are the main issues that need to be overcome to maintain or improve transport roles and services that the Bass Highway provides for the community. They include challenges already identified and others that are expected to emerge as the result of future changes in land use and demographics. These challenges have been mapped against broader Tasmanian Government *Building Your Future* commitments and objectives.

The Tasmanian Government priorities for responding to the Bass Highway corridor challenges are set out below. The priorities are divided into short, medium and long term investment priorities proposed to address these challenges. The planning of these potential works will consider where multiple projects can be combined to maximise the financial investment and efficiency.

Implementing these actions will improve road safety, whole-of-life economic benefits and traffic efficiency. The strategy identifies infrastructure (engineered) and operational (non-engineered) initiatives to improve road user safety, reduce travel times and increase reliability along the Bass Highway between Wynyard and Marrawah.

A number of improvement projects identified during the study can be considered as routine maintenance activities such as pavement repairs and line marking for which an annual budget allocation and program is already in place. This section focuses on addressing concerns specific to the Bass Highway corridor.

Table 6.2 below lists issues that have been identified throughout the strategy development process and summarises how the strategy will mitigate the issue.

Table 6.2 Corridor deficiencies and mitigations

| Key challenges   | Priorities  | Strategic response reference             |
|--|---|--|
| <b>Safety</b>  |   |  |
| The mix of vehicles along the Bass Highway includes cars, caravans and heavy vehicles. The interaction between the different vehicle types can cause potential conflict. | <p>Widen narrow pavements progressively.</p> <p>Improve the width and alignment of the highway in relevant sections through the corridor.</p> | Road Cross Section – Section 5.4.1       |
| Interaction between the mix of road users, including cyclists, pedestrians and vehicles, can cause potential conflict.   | <p>Widen narrow pavements progressively.</p> <p>Provide minimum 1 m shoulders for the entire length of the corridor.</p>                      | Road Cross Section – Section 5.4.1       |
| Substandard intersection geometry at a number of locations, increases road safety risk.  | Progressively improve substandard junctions along the corridor.   | Road Alignment – Section 5.4.2 and 5.4.3 |

| Key challenges  | Priorities  | Strategic response reference  |
|---|---|---|
| Road side hazards along the corridor can cause visibility issues  | <p>Remove or provide road side protection of road side hazards</p> <p>Sites identified as having roadside obstructions causing visibility issues will be provided to State Growth's maintenance contractor for inclusion in works.</p>  | Road Alignment – Section 5.4.2 and 5.4.3                                    |
| The existing pavement does not adequately address the current and future needs of freight vehicles.   | Condition of the existing pavement is monitored and managed by State Growth under the State Growth Road Network Maintenance Services Contract for the north west region.  | Surface condition – Section 5.4.6   |
| Poor delineation along sections of the corridor   | Progressively implement safety treatments along the corridor.   | Road Alignment – Section 5.4.2 and 5.4.3                                    |
| <b>Travel time efficiency and reliability</b>   |   |   |
| Lack of overtaking lanes along the corridor impacts on travel time and safety.  | Progressively implement additional overtaking lanes between Wynyard and Smithton.   | Overtaking Opportunities – Section 5.5.1                                    |
| <b>Resilience</b>   |   |   |
| Road closures for traffic crashes, spillages, bushfires, flooding and other incidents along the corridor require large detours because there is a lack of closely spaced support networks and local and regional roads. | <p>To mitigate this issue would require construction of an alternate route.</p> <p>While this would be beneficial, it would also be very difficult to justify on economic grounds given closure of the existing highway is rare and generally for short periods only. Therefore, at least in the short to medium term, there is no identified need to construct alternate highway routes.</p> | <p>Alternative Routes – Section 5.7</p> <p>Climate Change – Section 5.8</p> |

| Key challenges   | Priorities  | Strategic response reference              |
|--|---|---|
| <p>Climate change will likely increase the frequency and severity of severe weather events that may affect accessibility.</p>      | <p>To mitigate this issue of the highway that is adjacent to the coastline would require construction of an alternate route.</p> <p>While this would be beneficial, it would also be very difficult to justify on economic grounds given closure of the existing highway is rare and generally for short periods only. Therefore, at least in the short to medium term, there is no identified need to construct alternate highway routes.</p> <p>Should these events become more frequent, this issue will be revisited.</p> | <p>Climate Change – Section 5.8</p>       |
| <p>Support growth and social access</p>  |   |   |
| <p>Heavy vehicle access to some sections of the corridor is limited by current intersection configuration or narrow pavements.</p> | <p>Widen narrow pavements will be widened and junctions upgraded progressively along the corridor to ensure pavements are appropriate for heavy vehicle users.</p>  | <p>Road Cross Section – Section 5.4.1</p> |

## 7. Bass Highway Corridor Priorities

### 7.1 Corridor improvement prioritisation

It is expected that funding for the upgrade of the Bass Highway – Wynyard to Marrawah program will occur progressively over time. Therefore, the improvements identified in Section 6.1 will need to be prioritised so those projects that provide the greatest immediate benefit are undertaken as early as possible.

Section 7.2 provides guidance for the prioritisation of improvement works based on assessed need determined through the development of the corridor strategy. The actions have been classified into high, medium and low priority by assessing the degree that each action contributes to the key strategy objectives of safety and efficiency and on feedback provided by key stakeholders and the community.

- **High priority** actions are the items within the strategy that will provide a significant benefit to the safety and / or efficiency of the corridor and have been identified as requiring treatment in the short term.
- **Medium priority** actions are the items within the strategy that will provide a significant benefit to the safety and / or efficiency of the corridor that have been identified as having a lesser priority or will be required as transport demand increases.
- **Low priority** actions are items not currently identified as required within the corridor strategy but may become a higher priority should predicted traffic demand or conditions change.

Implementing these actions will improve road safety performance, lane width, pavement condition, efficiency and infrastructure longevity.

Table 7.1 Target improvements

| Item                | Target Improvements  | Location   | Priority |
|---------------------|--|--|----------|
| Roadside Safety     | <ul style="list-style-type: none"> <li>• Provision of signage and delineation to meet contemporary standards</li> <li>• Protection or removal of roadside hazards to contemporary standards</li> </ul>   | Wynyard to Smithton  | High     |
|                     |  | Smithton to Mella Road   | High     |
|                     |  | Mella Road to Marrawah   | High     |
| Junction Treatments | <ul style="list-style-type: none"> <li>• All Bass Highway junctions to be reviewed and upgrades to be implemented on relevant junctions to contemporary safety standard</li> <li>• All unsealed public junctions on the Bass Highway to be sealed</li> <li>• Provision of appropriate advance directional signage to all major destinations and tourist facilities.</li> </ul> | Wynyard to Smithton  | High     |
|                     |  | Smithton to Mella Road   | High     |
|                     |  | Mella Road to Marrawah   | High     |
| Cross Section       | <ul style="list-style-type: none"> <li>• Wynyard to Smithton 3.5 m lanes and 1.0 m sealed shoulder.</li> </ul>   | Where existing seal width is less than lane target width                       | High     |
|                     |  | Where existing sealed shoulder width is less than 0.5 m                        | High     |
|                     |  | Where existing sealed shoulder width is greater than 0.5 m and less than 1.0 m | Medium   |



| Item                              | Target Improvements  | Location  | Priority              |
|-----------------------------------|--|---|-----------------------|
|                                   | <ul style="list-style-type: none"> <li>Smithton to Mella Road<br/>3.5 m lanes and 1.0 m sealed shoulder</li> </ul>   | Where existing seal width is less than lane target width                                  | High                  |
|                                   |  | Where existing sealed shoulder width is less than 0.5 m                                   | High                  |
|                                   |  | Where existing sealed shoulder width is greater than 0.5 m and less than 1.0 m            | Medium                |
|                                   | <ul style="list-style-type: none"> <li>Mella Road to Marrawah<br/>3.0 m lanes and 1.0 m sealed shoulder</li> </ul>   | Where existing seal width is less than lane target width                                  | High                  |
|                                   |  | Where existing sealed shoulder width is less than 0.5 m                                   | Medium                |
|                                   |  | Where existing sealed shoulder width is greater than 0.5 m and less than 1.0 m            | Medium                |
| Horizontal Geometry - Realignment | <p>The specific treatment at each location is to be determined with reference to the required cost and benefits achieved. Treatments are to be determined from the following.</p> <ul style="list-style-type: none"> <li>Realign the horizontal geometry to meet the operating speed of the highway</li> <li>Ensure adequate warning signage and delineation at all sub-standard curves that are not realigned.</li> </ul> | Locations with sub-standard horizontal alignment and significant crash history            | High                  |
|                                   |  | Locations with sub-standard horizontal alignment inconsistent with adjacent road sections | Medium                |
|                                   |  | Locations with sub-standard horizontal alignment consistent with adjacent road sections   | Low                   |
| Vertical Geometry - Regrading     | <ul style="list-style-type: none"> <li>Regrade the existing highway in locations where sub-standard vertical curves contribute to crash history</li> </ul>   | Wynyard to Marrawah   | High                  |
|                                   | <ul style="list-style-type: none"> <li>Regrade the highway in locations where approaching cars are obscured by the vertical alignment only</li> </ul>  | Wynyard to Marrawah   | Medium                |
|                                   | <ul style="list-style-type: none"> <li>Provide crest warning signage at all sub-standard locations as required</li> </ul>  | Wynyard to Marrawah   | High                  |
| Additional Overtaking Lanes       | <ul style="list-style-type: none"> <li>Additional overtaking lanes at 10 – 15 km maximum spacing.</li> </ul>   | Detention River to Smithton   | High                  |
|                                   | <ul style="list-style-type: none"> <li>Additional overtaking lanes</li> </ul>  | Wynyard to Smithton   | Medium – as warranted |
|                                   |  | Smithton to Marrawah  | Low – as warranted    |
| Pavement Condition                | <ul style="list-style-type: none"> <li>Rehabilitate pavement where condition falls below required quality</li> </ul>   | As identified through condition assessment  | Medium to High        |

| Item                               | Target Improvements  | Location  | Priority   |
|------------------------------------|--|---|--|
| Heavy Vehicle Rest Areas           | <ul style="list-style-type: none"> <li>Retain existing heavy vehicle rest areas and expand capacity, entry and exit facilities as part of adjacent road works.</li> </ul>  | Wynyard to Smithton   | To be undertaken as part of adjacent road upgrades |
|                                    | <ul style="list-style-type: none"> <li>Investigation for an informal heavy vehicle rest area in each direction centrally located between Smithton and Marrawah.</li> </ul> | Each direction centrally located between Smithton and Marrawah. | Low  |
|                                    | <ul style="list-style-type: none"> <li>Investigation for a Class 5 heavy vehicle rest area</li> </ul>  | Centrally located between Wynyard and Smithton.                 | Medium   |
| Cyclists and Pedestrian Facilities | <ul style="list-style-type: none"> <li>Provide appropriate shoulder width for eastbound side of the Bass Highway, east of Tollymore Road to Wynyard.</li> </ul>            | Tollymore Road to Wynyard                                       | To be undertaken as part of adjacent road upgrades |
|                                    | <ul style="list-style-type: none"> <li>Provide a minimum 1 m wide sealed shoulder for the full length of the corridor.</li> </ul>  | Wynyard to Marrawah   | To be undertaken as part of adjacent road upgrades |
|                                    | <ul style="list-style-type: none"> <li>Wider shoulder or dedicated cycling facilities to be considered as part of all upgrade works.</li> </ul>                            | Wynyard to Marrawah   | To be undertaken as part of adjacent road upgrades |
|                                    | <ul style="list-style-type: none"> <li>Dedicated pedestrian facilities to be considered as part of all upgrade works.</li> </ul>   | Wynyard to Marrawah   | To be undertaken as part of adjacent road upgrades |
| Alternative Routes                 | <ul style="list-style-type: none"> <li>Not considered necessary under current or medium term traffic demand.</li> </ul>  | Wynyard to Marrawah   | Low  |
| Public Transport                   | <ul style="list-style-type: none"> <li>Upgrade existing general access bus stops to comply with DDA requirements.</li> </ul>   | Wynyard to Marrawah   | To be undertaken as part of adjacent road upgrades |



Detention River Bridge



Heading west along the Bass Highway, in Togari

## 7.2 Corridor strategy implementation plan

The corridor strategy identifies broad infrastructure initiatives to improve road user safety and improve reliability and efficiency along the Bass Highway for all road users.

The Corridor Strategy Implementation Plan provides a structured process and staged approach for the upgrade of the corridor to meet current and future needs. The implementation plan identifies a priority program of projects to deliver the actions identified in Table 7.1 (as detailed in Figure 7.1, Figure 7.2, Figure 7.3, Figure 7.4, Figure 7.5, Figure 7.6 and Appendix A).

When developing the project program, the implementation plan considered available and possible future funding opportunities. The implementation plan identifies a range of high and medium term priority projects, with a number of those expected to be delivered over the coming five years, based on committed State and Australian government funding. The availability of resources to deliver the projects is also important in achieving the outcomes detailed. The low priority projects are projects that could be delivered over a longer period of time, when funding is available or if traffic or road conditions warrant more immediate action. The planning of these potential works will consider where multiple projects can be combined to maximise the financial investment and efficiency of delivery. Implementing these projects would improve road safety, and offer economic benefits and increase the productivity of the north west region of Tasmania.

The delivery of projects should be flexible within the timeframes provided to manage and address changes within the corridor or program if they arise. The priority projects identified for commencement and/or delivery in 2020 include:

- Boat Harbour Primary School Safety Improvements
- Rocky Cape Hall Safety Improvements
- Brittons Swamp Shoulder Widening
- Togari Shoulder Widening

Additional works may be achieved along the corridor through other State and Australian government initiatives, such as the Heavy Vehicle Safety and Productivity Program, Road Safety Program, Bridges Renewal Program, and Road Maintenance Program.

The implementation of this strategy endeavours to meet the existing and future transport demands on the corridor that are created by growing population, industry and visitor numbers.

The location and program for these works would be monitored and corridor improvement works undertaken in conjunction with the ongoing program of maintenance works.

The Corridor Improvement Plan recommends the implementation of four new overtaking lanes, 15 sections of the corridor to be realigned, 66 junction upgrades, and 60 km of shoulder widening work. A detailed breakdown of the list of projects proposed has been provided in Appendix A.

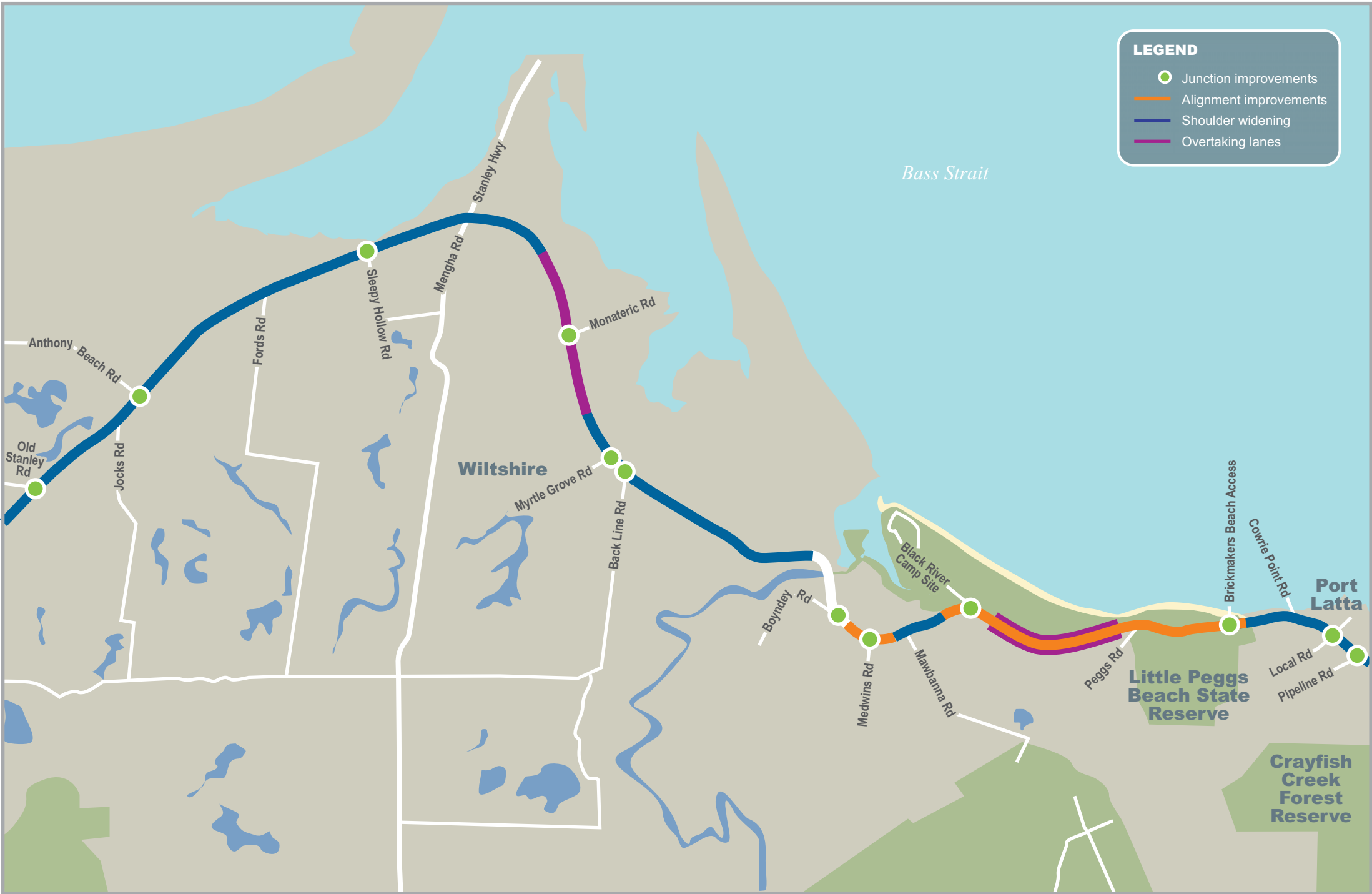
The proposed upgrades that make up the Corridor Improvement Plan are shown in Figure 7.1, Figure 7.2, Figure 7.3, Figure 7.4, Figure 7.5, and Figure 7.6.



**Figure 7.1 CORRIDOR IMPLEMENTATION PLAN - WYNYARD TO MYALLA ROAD**  
 (Bass Highway, Wynyard to Marrawah)

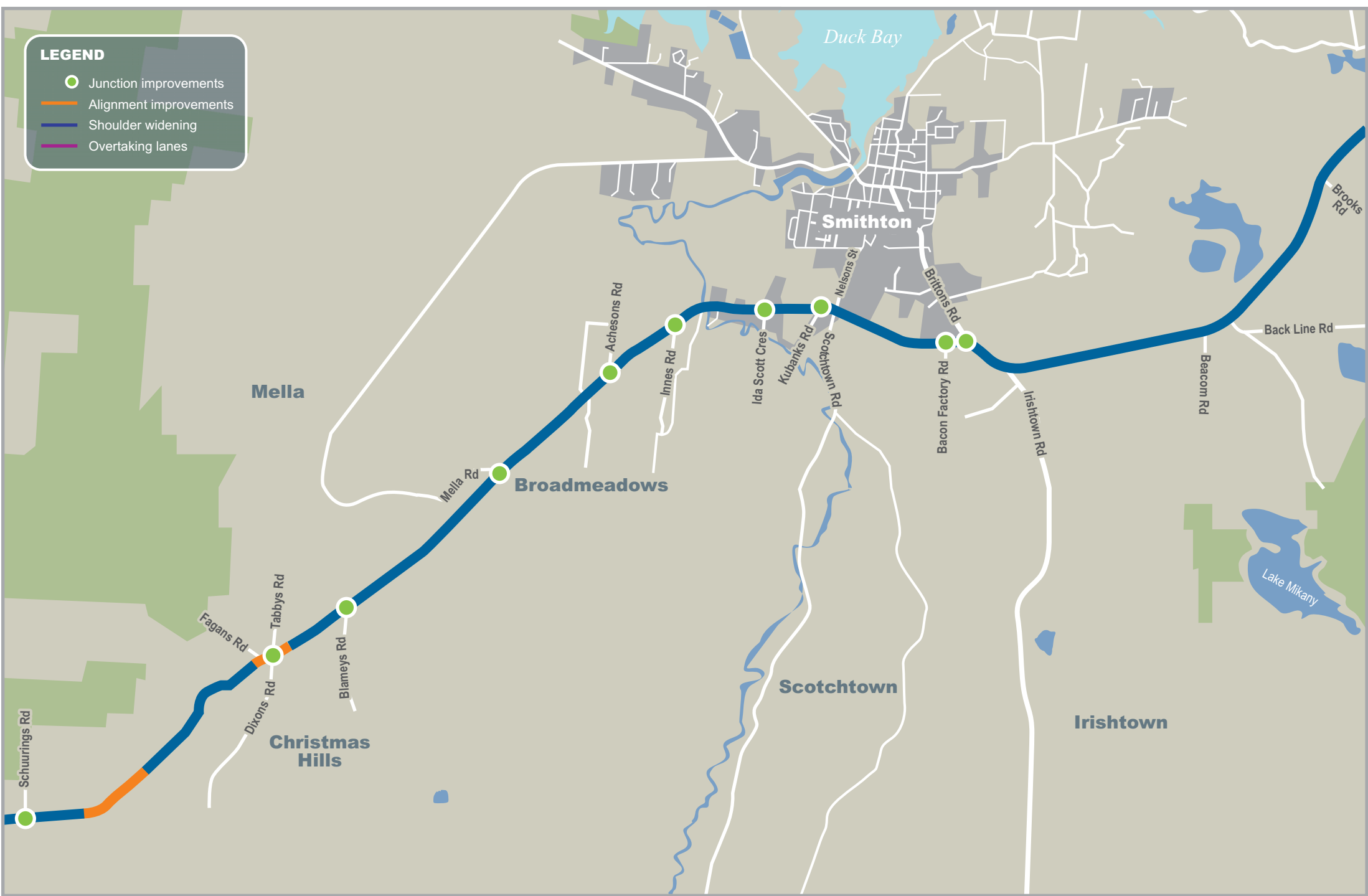


**Figure 7.2 CORRIDOR IMPLEMENTATION PLAN - MONTUMANA ROAD TO SPEEDWELL ROAD (Bass Highway, Wynyard to Marrawah)**



**Figure 7.3 CORRIDOR IMPLEMENTATION PLAN - PORT LATTA ROAD TO OLD STANLEY ROAD**  
 (Bass Highway, Wynyard to Marawah)

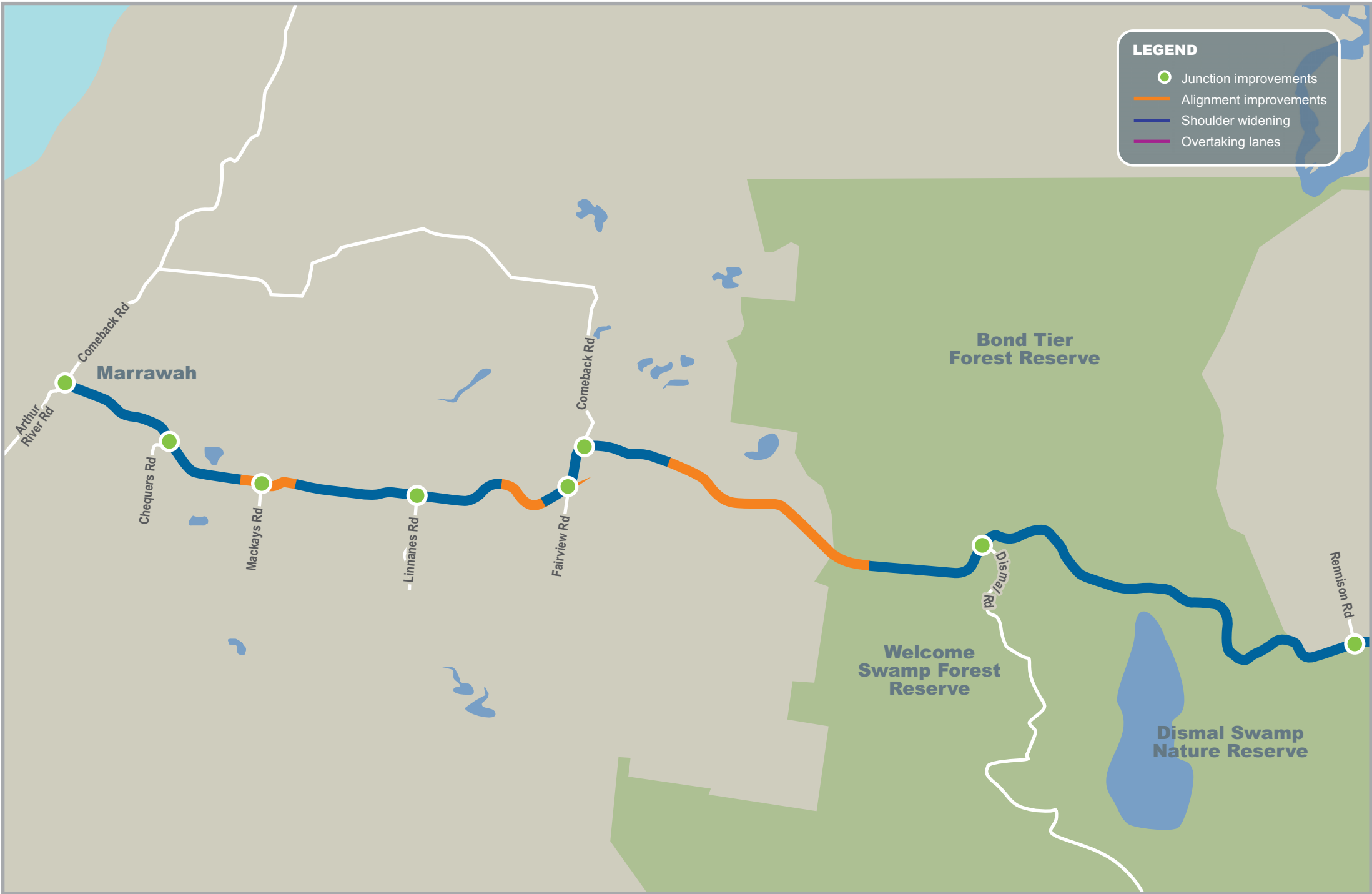




**Figure 7.4 CORRIDOR IMPLEMENTATION PLAN - BROOKS ROAD TO SCHUURINGS ROAD**  
 (Bass Highway, Wynyard to Marrawah)



**Figure 7.5 CORRIDOR IMPLEMENTATION PLAN - CHRISTMAS HILLS ROAD TO RENNISON ROAD (Bass Highway, Wynyard to Marrawah)**



**Figure 7.6 CORRIDOR IMPLEMENTATION PLAN - RENNISON ROAD TO MARRAWAH**  
 (Bass Highway, Wynyard to Marrawah)

### 7.3 Strategy review

The corridor strategy has been developed using existing data, assessment of current conditions and predicted future traffic growth. While the future demand is based on predicted growth in population, industry and visitor numbers, it may be that the actual demand on the highway varies over time.

It is critical that the corridor strategy continues to be periodically reviewed to monitor traffic growth and other road conditions in relation to the improvement targets. Periodic monitoring of the implementation of improvement projects is recommended to ensure actions are achieved, are on track or need adjustment should conditions change.

## Appendix A

### Corridor Strategy Implementation Plan

| Junction Improvements        |  | Priority |
|------------------------------|--|----------|
| Between Wynyard and Smithton |  |          |
| 1                            | Stennings Road   | HIGH     |
| 2                            | Ewingtons / Preolenna Road                                 | HIGH     |
| 3                            | Baulds Road  | HIGH     |
| 4                            | Tollymore Road   | HIGH     |
| 5                            | Gates Road   | HIGH     |
| 6                            | Ridges Road  | HIGH     |
| 7                            | Sampsons Lane  | HIGH     |
| 8                            | Access improvements to Boat Harbour Primary School Access  | HIGH     |
| 9                            | Fists Lane / Dobsons Lane                                  | HIGH     |
| 10                           | Port Road  | HIGH     |
| 11                           | Blackabys Road   | HIGH     |
| 12                           | Boat Harbour Siding Road                                   | HIGH     |
| 13                           | Morris Road  | HIGH     |
| 14                           | Myalla Road  | HIGH     |
| 15                           | Dallas Road  | HIGH     |
| 16                           | Montumana Road (west)                                      | HIGH     |
| 17                           | Rocky Cape Hall Relocation                                 | HIGH     |
| 18                           | Brakeys Road   | HIGH     |
| 19                           | Detention River Store Safety Improvements                  | HIGH     |
| 20                           | Loosemores Road  | HIGH     |
| 21                           | Pine Avenue  | HIGH     |
| 22                           | Heath Lane   | HIGH     |
| 23                           | Amaroo Drive   | HIGH     |
| 24                           | Speedwell Road   | HIGH     |
| 25                           | Port Latta Pellet Plant and Port Facility                  | HIGH     |
| 26                           | Access improvements to Brickmakers Heavy Vehicle Rest Stop | HIGH     |
| 27                           | Access improvements to Black River Campsite                | HIGH     |
| 28                           | Medwins Road   | HIGH     |
| 29                           | Boyndey Road   | HIGH     |
| 30                           | Back Line Road   | HIGH     |
| 31                           | Myrtle Grove Road  | HIGH     |
| 32                           | Monateric Road   | HIGH     |
| 33                           | Sleepy Hollow Road   | HIGH     |



| Junction Improvements           |                          | Priority |
|---------------------------------|--------------------------|----------|
| 34                              | Anthony Beach Road       | HIGH     |
| 35                              | Old Stanley Road         | HIGH     |
| 36                              | Brittons Road            | HIGH     |
| 37                              | Bacon Factory Road       | HIGH     |
| Between Smithton and Mella Road |                          |          |
| 38                              | Kubanks Road             | HIGH     |
| 39                              | Ida Scott Crescent       | HIGH     |
| 40                              | Innes Road               | HIGH     |
| 41                              | Achesons Road            | HIGH     |
| Between Mella Road and Marrawah |                          |          |
| 42                              | Mella Road               | HIGH     |
| 43                              | Blameys Road             | HIGH     |
| 44                              | Tabbys / Dixons Road     | HIGH     |
| 45                              | Fagans Road              | HIGH     |
| 46                              | Shuurings Road           | HIGH     |
| 47                              | Christmas Hills Road     | HIGH     |
| 48                              | Dunns Road               | HIGH     |
| 49                              | Riseborough Road (east)  | HIGH     |
| 50                              | Andersons Road           | HIGH     |
| 51                              | Careys / Barkers Road    | HIGH     |
| 52                              | Smiths Road              | HIGH     |
| 53                              | Brittons Link            | HIGH     |
| 54                              | Rainbow Hill Road        | HIGH     |
| 55                              | Eldridge Road            | HIGH     |
| 56                              | Riseborough Road (west)  | HIGH     |
| 57                              | Paceys Road / Parks Road | HIGH     |
| 58                              | Salmon River Road        | HIGH     |
| 59                              | Rennison Road            | HIGH     |
| 60                              | Dismal Road              | HIGH     |
| 61                              | Comeback Road            | HIGH     |
| 62                              | Fairview Road            | HIGH     |
| 63                              | Linnanes Road            | HIGH     |
| 64                              | Mackays Road             | HIGH     |
| 65                              | Chequers Road            | HIGH     |

| Junction Improvements |                   | Priority |
|-----------------------|-------------------|----------|
| 66                    | Arthur River Road | HIGH     |

| Alignment Improvements |   | Length (km) | Priority |
|------------------------|---|-------------|----------|
| 1                      | Between Baulds Road and Tollymore Road                    | 0.60        | HIGH     |
| 2                      | Boat Harbour Primary School                               | 0.85        | HIGH     |
| 3                      | Between Blackabys Road and Bramichs Road                  | 1.62        | HIGH     |
| 4                      | Myalla Road   | 0.47        | HIGH     |
| 5                      | Between Montumana Road (west) and Brakeys Road            | 0.45        | HIGH     |
| 6                      | Between Pine Avenue and Amaroo Drive                      | 2.00        | HIGH     |
| 7                      | Between Brickmakers Beach Access and Black River Campsite | 1.10        | HIGH     |
| 8                      | Black River Campsite                                      | 0.64        | HIGH     |
| 9                      | Medwins Road  | 0.71        | HIGH     |
| 10                     | Tabbys, Dixons and Fagans Road                            | 0.60        | HIGH     |
| 11                     | Between Fagans Road and Schuurings Road                   | 1.00        | HIGH     |
| 12                     | Andersons Road  | 0.41        | HIGH     |
| 13                     | Between Dismal Road and Comeback Road                     | 2.70        | MEDIUM   |
| 14                     | Between Fairview Road and Linnanes Road                   | 0.59        | MEDIUM   |
| 15                     | Mackays Road  | 0.58        | HIGH     |

| Overtaking Lanes |  | Length (km) | Priority |
|------------------|--|-------------|----------|
| 1                | Eastbound overtaking lane from Dallas Road   | 1.31        | HIGH     |
| 2                | Eastbound and westbound overtaking lane between Pine Avenue and Heath Lane, and Amaroo Drive | 2.00        | HIGH     |
| 3                | Eastbound and westbound overtaking lane between Brickmakers Beach and Black River Campsite   | 1.75        | HIGH     |
| 4                | Eastbound and westbound overtaking lane between Myrtle Grove Road and Stanley Highway        | 1.83        | HIGH     |

| Shoulder Widening |   | Length (km) | Priority |
|-------------------|---|-------------|----------|
| 1                 | Between Inglis Street and Stennings Road                                    | 0.08        | HIGH     |
| 2                 | Between Stennings Road and Ewingtons and Preolenna Road                     | 0.26        | HIGH     |
| 3                 | Between Tollymore Road and Gates Road                                       | 0.59        | MEDIUM   |
| 4                 | Between Gates Road and Ridges Road  | 0.66        | MEDIUM   |
| 5                 | Between Ridges Road and Sampsons Lane                                       | 0.17        | MEDIUM   |
| 6                 | Between Sampsons Lane and Boat Harbour Primary School                       | 0.08        | MEDIUM   |
| 7                 | Between Boat Harbour Primary School and Port Road                           | 0.75        | MEDIUM   |
| 8                 | Between Blackabys Road and Boat Harbour Siding Road                         | 0.42        | MEDIUM   |
| 9                 | Between Blackabys Road and Boat Harbour Siding Road                         | 0.27        | HIGH     |
| 10                | Between Morris Road and Myalla Road   | 0.59        | HIGH     |
| 11                | Between Brakeys Road and Detention River Shop                               | 1.30        | HIGH     |
| 12                | Between Detention River Shop and Loosemores Road                            | 0.19        | HIGH     |
| 13                | Between Loosemores Road and Pine Avenue and Heath Lane                      | 0.24        | HIGH     |
| 14                | Between Pine Avenue and Heath Lane, and Amaroo Drive                        | 0.09        | HIGH     |
| 15                | Between Amaroo Drive and Speedwell Road                                     | 0.85        | HIGH     |
| 16                | Between Speedwell Road and Port Latta Pellet Plant and Port Facility        | 0.60        | HIGH     |
| 17                | Between Speedwell Road and Port Latta Pellet Plant and Port Facility        | 0.46        | MEDIUM   |
| 18                | Between Port Latta Pellet Plant and Port Facility and Brickmakers Rest Stop | 0.70        | HIGH     |
| 19                | Between Black River Campsite and Medwins Road                               | 0.62        | HIGH     |
| 20                | Between Boyndey Road and Back Line Road                                     | 2.21        | HIGH     |
| 21                | Between Myrtle Grove Road and Monateric Road                                | 0.48        | HIGH     |
| 22                | Between Monateric Road and Sleepy Hollow Road                               | 1.97        | HIGH     |
| 23                | Between Sleepy Hollow Road and Anthony Beach Road                           | 4.18        | HIGH     |
| 24                | Between Anthony Beach Road and Old Stanley Road                             | 0.81        | HIGH     |
| 25                | Between Old Stanley Road and Brittons Road                                  | 3.16        | HIGH     |
| 26                | Between Old Stanley Road and Brittons Road                                  | 2.91        | MEDIUM   |
| 27                | Between Bacon Factory Road and Kubanks road                                 | 1.25        | MEDIUM   |
| 28                | Between Kubanks Road and Ida Scott Crescent Road                            | 0.48        | HIGH     |
| 29                | Between Ida Scott Crescent Road and Innes Road                              | 0.93        | HIGH     |
| 30                | Between Innes Road and Achesons Road  | 0.65        | HIGH     |

| Shoulder Widening |  | Length (km) | Priority |
|-------------------|--|-------------|----------|
| 31                | Between Achesons Road and Mella Road   | 1.23        | HIGH     |
| 32                | Between Mella Road and Blameys Road  | 2.08        | MEDIUM   |
| 33                | Between Blameys Road and Tabbys and Dixons Road  | 0.71        | MEDIUM   |
| 34                | Between Tabbys, Dixons and Fagans Road and Schuurings Road   | 2.06        | MEDIUM   |
| 35                | Between Schuurings Road and Christmas Hill and Dunns Road  | 0.35        | MEDIUM   |
| 36                | Between Christmas Hill and Dunns Road and Riseborough Road   | 1.86        | MEDIUM   |
| 37                | Between Riseborough Road and Andersons Road  | 0.87        | MEDIUM   |
| 38                | Between Andersons Road and Careys and Barkers Road – shoulder widening                             | 0.70        | MEDIUM   |
| 39                | Between Andersons Road and Careys and Barkers Road – shoulder widening and pavement rehabilitation | 3.75        | HIGH     |
| 40                | Between Brittons Link and Rainbow Hill   | 0.41        | MEDIUM   |
| 41                | Between Rainbow Hill and Eldridge Road   | 2.06        | MEDIUM   |
| 42                | Between Eldridge Road and Riseborough Road   | 1.62        | MEDIUM   |
| 43                | Between Riseborough Road and Paceys and Parks Road – shoulder widening and rehabilitation          | 1.40        | HIGH     |
| 44                | Between Paceys and Parks Road and Salmon River Road  | 1.78        | HIGH     |
| 45                | Between Salmon River Road and Rennison Road  | 0.44        | MEDIUM   |
| 46                | Between Rennison Road and Dismal Road  | 5.26        | MEDIUM   |
| 47                | Between Dismal Road and Comeback Road  | 2.57        | MEDIUM   |
| 48                | Between Comeback Road and Fairview Road  | 0.21        | MEDIUM   |
| 49                | Between Fairview Road and Linnanes Road  | 1.23        | MEDIUM   |
| 50                | Between Linnanes Road and MacKays Road   | 1.41        | MEDIUM   |
| 51                | Between MacKays Road and Chequers Road   | 0.99        | MEDIUM   |
| 52                | Between Chequers Road and Arthur River Road  | 1.40        | MEDIUM   |

| Other projects to be assessed should predicted traffic demand or conditions change |   | Priority |
|--|---|----------|
| 1  | Additional overtaking lanes between Smithton and Marrawah   | LOW      |
| 2  | Investigation of Class 5 heavy vehicle rest areas   | MEDIUM   |
| 3  | Investigation for an informal heavy vehicle rest area in each direction centrally located between Smithton and Marrawah | LOW      |
| 4  | Additional alignment or junction improvements   | LOW      |

| Other projects to be assessed should predicted traffic demand or conditions change |                                     | Priority |
|--|-------------------------------------|----------|
| 5  | Consideration of alternative routes | LOW      |



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