

April 2023

Bass Highway Corridor Strategy - Launceston to Devonport



Department of State Growth



Contents

Glossary of terms	vii
Executive summary	1
1 Introduction	9
1.1 What is a corridor strategy?.....	9
1.2 Bass Highway – Launceston to Devonport corridor function	10
1.3 Planning context and State priorities.....	12
1.4 Corridor challenges and issues	14
1.5 Corridor objectives and planning.....	15
1.6 Vision for the future	15
2 Community consultation	16
2.1 Consultation summary	16
2.1.1 Consultation with key stakeholders.....	16
2.1.2 Community consultation.....	17
2.2 Feedback summary.....	17
2.2.1 Feedback from key stakeholders.....	17
2.2.2 Community feedback	18
2.3 Key findings from consultation.....	20
3 Current corridor function	21
3.1 Roles and characteristics	21
3.2 Current population and land use.....	22
3.2.1 Population and age demographics.....	22
3.2.2 Land use and zoning.....	24
3.3 Current traffic volumes and heavy vehicle use and access.....	31
3.4 Industry and economic activity	34
3.5 Public transport and active transport.....	35
3.5.1 Public transport	35
3.5.2 Active transport	37
4 Current corridor performance	38
4.1 Road safety.....	39
4.1.1 Existing crash data analysis.....	39
4.1.2 Road safety hazard identification.....	42
4.2 Traffic	43
4.2.1 Corridor capacity	43
4.2.2 Overtaking opportunities.....	44
4.2.3 Pedestrians and cycling facilities	45
4.2.4 Bus facilities.....	45

4.3	Road design and geometry.....	45
4.4	Heavy vehicle driver rest areas.....	50
4.5	Road pavement condition	52
4.6	Environment.....	55
4.6.1	Introduction and summary.....	55
4.6.2	Aboriginal and non-Aboriginal heritage.....	56
4.6.3	Flora and fauna.....	57
5	Future corridor changes.....	59
5.1	Population and demographics.....	59
5.2	Land use and economic development.....	61
5.3	Traffic growth forecasts.....	62
5.3.1	Future freight task and heavy vehicle volumes	63
5.4	Future public transport and active transport needs	64
5.4.1	Public transport	64
5.4.2	Active transport	64
5.4.3	Electric vehicles	64
5.5	Climate change.....	64
5.5.1	Precipitation.....	65
5.5.2	Temperature.....	67
5.5.3	Bushfires	69
5.5.4	Biodiversity	71
5.5.5	Other considerations	72
6	Corridor challenges and priorities.....	73
6.1	Corridor objectives	73
6.2	Key challenges.....	73
6.2.1	Narrow carriageway.....	74
6.2.2	Points of conflict.....	75
6.2.3	Historic design	75
6.2.4	Poor wayfinding and road conditions.....	76
6.2.5	Inadequate heavy vehicle driver rest areas.....	77
6.3	Challenges by location.....	79
6.3.1	Zone 1 – Hadspen to start of dual carriageway.....	81
6.3.2	Zone 2 – Dual carriage way around Westbury	83
6.3.3	Zone 3 – End of dual carriageway to Emu Bay Road.....	85
6.3.4	Zone 4 – Emu Bay Road to Bengoe Road	88
6.3.5	Zone 5 – Elizabeth Town.....	91
6.3.6	Zone 6 – North of Parkham Road to Gannons Hill Road	94
6.3.7	Zone 7 – Gannons Hill Road to Long Hill Road.....	96
6.3.8	Zone 8 – Long Hill Road to Conservatory Road	97
6.3.9	Zone 9 – Conservatory Road to Sassafras.....	99
6.3.10	Zone 10 –Sassafras to Latrobe.....	101
6.3.11	Zone 11 – Latrobe.....	103

7	Corridor strategy	107
7.1	Key improvements	107
7.1.1	Carriageway separation	108
7.1.2	Intersection upgrades	109
7.1.3	Travel mode management initiatives	109
7.1.4	Visibility and road condition improvements	110
7.1.5	Improved heavy vehicle driver rest areas	111
7.2	Corridor wide improvements	112
7.2.1	Duplication across corridor	112
7.2.2	Overtaking lanes corridor wide solution	113
7.2.3	Bass Highway Heavy Vehicle Driver Rest Area corridor solution	114
7.3	Implementation prioritisation	115
7.4	Improvement opportunities	117
7.5	Delivery efficiencies	123
8	Summary of strategy recommendations	124
8.1	Next steps	124
8.1.1	Short-term recommendations to achieve strategic objectives	124
8.1.2	Medium-term recommendations to achieve strategic objectives	127
8.1.3	Long-term recommendations to achieve strategic objectives	128
8.2	Review of strategy	128
	References	129

List of figures

Figure 1.1:	Corridor strategy delivery method	9
Figure 1.2:	Project location	11
Figure 1.3:	Corridor project site	12
Figure 2.1:	Bass Highway through Latrobe	17
Figure 2.2:	Heat map showing greatest number of comments from Social Pinpoint community consultation ...	19
Figure 2.3:	Approaching Elizabeth Town from the north with the Parkham Road intersection to the left	20
Figure 3.1:	Trucks on the highway	21
Figure 3.2:	Age of Latrobe population	23
Figure 3.3:	Age of Meander Valley population	23
Figure 3.4:	Project corridor, municipalities, irrigation districts and five regions	25
Figure 3.5:	Land use zoning between Hadspen and start of the dual carriageway	26
Figure 3.6:	Land use zoning between start of dual carriageway and Emu Bay Road	27
Figure 3.7:	Land use zoning between Emu Bay Road and Long Hill Road	28

Figure 3.8: Land use zoning between Long Hill Road and Cornelius Road	29
Figure 3.9: Land use zoning between Sassafras and Port Sorell Road (section 5).....	30
Figure 3.10: Survey period AADT across the corridor with directional volumes of light and heavy vehicles.....	32
Figure 3.11: 2019 maximum hourly two-way traffic volume across the Bass Highway	33
Figure 3.12: Key employment sectors in each municipality (2016).....	34
Figure 3.13: General public bus stops	35
Figure 3.14: School bus stops.....	36
Figure 3.15: Bus stop location in Elizabeth Town	37
Figure 4.1: Heat map of crash density, August 2015 to July 2020.....	39
Figure 4.2: Crashes by type and severity between August 2010 and July 2020.....	40
Figure 4.3: Crashes type profiles for day and night	41
Figure 4.4: Queue of cars into Elizabeth Town	45
Figure 4.5: Narrow shoulder near Long Hill	46
Figure 4.6: Existing heavy vehicle driver rest areas	51
Figure 4.7: Rest stop at the Deloraine, visitor information bay east of Meander Valley Road (A5) interchange	51
Figure 4.8: Pavement near Elizabeth Town showing localised pavement patching	52
Figure 4.9: Base pavement condition.....	53
Figure 4.10: Surface pavement condition	54
Figure 4.11: Highway north of Elizabeth Town.....	55
Figure 4.12: Bass Highway at Parkham Road travelling south	57
Figure 4.13: Environmental constraints.....	58
Figure 5.1: Historic and forecast population growth for Meander Valley and Latrobe municipalities	59
Figure 5.2: Annual rainfall change 2070–2099 compared to present, high emissions scenario.....	65
Figure 5.3: 2016 flood high water marks (blue) along Bass Highway	66
Figure 5.4: Annual temperature change 2070–2099 compared to present, high emissions scenario.....	68
Figure 5.5: Bushfire risk (pink polygons) near the Bass Highway	69
Figure 5.6: Historic bushfire locations near the Bass Highway	70
Figure 5.7: Roadkill of devils and quolls, 2016–2021	71
Figure 5.8: Bass Highway, bridge over South Esk River.....	72
Figure 6.1: Example of narrow shoulder near Deloraine	74
Figure 6.2: Large agricultural vehicles can significantly disrupt traffic flow on the highway	75
Figure 6.3: Pothole near the Parramatta Creek Rest Area.....	76
Figure 6.4: Truck using a G-turn as a rest area near Elizabeth Town.....	77
Figure 6.5: A truck, two vehicles and caravans parked on the shoulder at the Latrobe Caltex service station .	78

Figure 6.6: Bass Highway geographic zones identified between Launceston and Devonport	79
Figure 6.7: Zone 1 – Hadspen to start of the dual carriageway	81
Figure 6.8: Zone 2 – Dual carriageway around Westbury.....	83
Figure 6.9: Zone 3 – End of dual carriageway to Emu Bay Road.....	85
Figure 6.10: Zone 4 – Emu Bay Road to Bengo Road.....	88
Figure 6.11: Zone 5 – Elizabeth Town.....	91
Figure 6.12: Zone 6 – North of Parkham Road to Gannons Hill Road	94
Figure 6.13: Zone 7 – Gannons Hill Road to Long Hill Road.....	96
Figure 6.14: Zone 8 – Long Hill Road to Conservatory Road.....	97
Figure 6.15: Zone 9 – Conservatory Road to Sassafras	99
Figure 6.16: Zone 10 – Sassafras to Latrobe.....	101
Figure 6.17: Zone 11 – Latrobe.....	103
Figure 7.1: Duplication corridor wide improvement.....	112
Figure 7.2: Overtaking lane corridor wide improvements.....	113
Figure 7.3: Heavy vehicle driver rest area corridor solution for formal heavy vehicle driver rest areas.....	114
Figure 7.4: Locations with higher density of short term improvement opportunities.....	123

List of tables

Table 3.1: Summary of Population	22
Table 3.2: Two-way 2019 AADT at counter locations.....	31
Table 4.1: Road safety hazard identification	42
Table 4.2: Road characteristics	43
Table 4.3: Road region theoretical capacity and existing peak volumes.....	44
Table 4.4: Road geometry assessment.....	46
Table 4.5: Non-Aboriginal heritage sites within 400 metres of Bass Highway	56
Table 5.1: Number of people working from home.....	60
Table 5.2: Number of people travelling to work by car	60
Table 5.3: Bass Highway traffic projections	63
Table 6.1: Key challenges	74
Table 6.2: Corridor challenge identification criteria.....	80
Table 6.3: Zone 1 – Corridor challenges	82
Table 6.4: Zone 2 – Corridor challenges	84
Table 6.5: Zone 3 – Corridor challenges	86
Table 6.6: Zone 4 – Corridor challenges	89

Table 6.7: Zone 5 – Corridor challenges	92
Table 6.8: Zone 6 – Corridor challenges	95
Table 6.9: Zone 7 – Corridor challenges	96
Table 6.10: Zone 8 – Corridor challenges.....	98
Table 6.11: Zone 9 – Corridor challenges.....	100
Table 6.12: Zone 10 – Corridor challenges.....	102
Table 6.13: Zone 11 – Corridor challenges.....	104
Table 7.1 Key improvements	108
Table 7.2: Effectiveness of Carriageway separation improvements	108
Table 7.3: Effectiveness of intersection upgrade improvements.....	109
Table 7.4: Effectiveness of travel mode management initiatives improvements	110
Table 7.5: Effectiveness of visibility and road condition improvements.....	110
Table 7.6: Effectiveness of heavy vehicle driver rest area improvements	111
Table 7.7: High priority improvement opportunities	116
Table 7.8: Bass Highway, Launceston to Devonport –Opportunities Prioritisation Plan.....	118

Glossary of terms

Term	Description/Definition
AADT	Annual Average Daily Traffic
ABS	Australian Bureau of Statistics
Active transport	The movement of people by walking or cycling
Carriageway	That portion of a road devoted particularly to the use of vehicles, inclusive of shoulders and auxiliary lanes
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
DPIPWE	Department of Primary Industries, Parks, Water and Environment
FSI	Fatal and Serious Injury
Horizontal alignment	The bringing together of the straights and curves in the plan view of a carriageway
ILM	Investment Logic Mapping
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
PAL Policy	<i>State Policy on the Protection of Agricultural Land 2009</i>
RACT	Royal Automobile Club of Tasmania
RMPS	Resource Management and Planning System
Social Pinpoint	An online engagement tool that uses interactive mapping to collect feedback from members of the public
State Growth	Department of State Growth
TTA	Tasmanian Transport Association
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

The Bass Highway runs from Launceston to Marrawah in Tasmania's north. It links the Northern region of Tasmania to the North West, in particular linking the region's most populous cities, Burnie and Devonport with Launceston, and provides access to Tasmania's largest port in Burnie. The Bass Highway between Launceston and Devonport is part of the National Land Transport Network and traverses the local government areas of Launceston, Devonport, Latrobe and Meander Valley.

The Bass Highway – Launceston to Devonport Corridor Strategy sets out the Department of State Growth's (State Growth's) plan to develop and manage the road corridor to improve safety, efficiency and support economic growth for the portion of the Bass Highway within the local government areas of Latrobe and Meander Valley.

The purpose of this strategy is to identify:

- experiences of the community and key stakeholders who use the highway (Section 2)
- sources of transport demand along the corridor (Section 3)
- the corridor's current performance assessed using a Safe System approach (Section 4)
- future conditions the corridor will be exposed to including transport, growth, planning and environmental conditions that may impact the corridor (Section 5)
- current and future corridor challenges (Section 6)
- strategies to address the corridor challenges, including timeframes for implementation (Section 7)
- future actions to manage the highway (Section 8).

The desired benefits to be achieved through any improvement works along the Bass Highway are to:

- improve safety outcomes for all users
- improve efficiency, reliability, and resilience of the road network to provide a consistent driving experience along the entire length of the Bass Highway, thereby enabling users to reach their destination without delays
- enable economic growth and development through consistent and coordinated transport and land use planning.



Bass Highway, near Elizabeth Town, looking east

The route of the Bass Highway has evolved over the past 150 years. The highway between Deloraine and Sassafras largely follows the tracks used by the first settlers to the area in the 1850's. From the 1980's to 2001, the Bass Highway between Hadspen and Deloraine has been progressively realigned to bypass towns. Similarly, the highway between Sassafras and Devonport has also been realigned in portions, particularly around Latrobe.

The Bass Highway, between Launceston and Devonport, performs multiple functions. It is a key corridor for moving goods and produce across Tasmania to national and international markets. It also functions as the major link between the north and south of Tasmania, connecting people and produce from the west, north and north-west to the major centres of Launceston and Hobart, via the Midland Highway. As well as providing through-connections for people and goods across the state, the Bass Highway also serves local communities, linking smaller towns to education, employment and services in larger centres.

The traffic volumes in 2019 ranged from approximately 9,000 vehicles per day in Sassafras and Latrobe (west of Gilbert Street), to 16,150 vehicles per day east of Port Sorell interchange at the western extent of the corridor study area. Heavy vehicles make up approximately 20% of the total traffic flow. This proportion is slightly higher around Elizabeth Town, Sassafras and Latrobe (east of Gilbert Street). This is likely due to the increased direct farm access around Elizabeth Town and Sassafras, and the industrial estate in Latrobe.

Traffic growth projections based on historic data from 2019 indicate average growth of approximately 2%. A higher growth scenario was forecast using the 2017 to 2019 change in traffic volume, equating to an average growth rate of 2.9% of the 2019 volume per year across the corridor. Elizabeth Town and Sassafras are predicted to have above average general traffic growth. The average traffic growth projection rate of 4% for heavy vehicles was adopted, which is greater than for general traffic.

There are limited public transport services operating along the Bass Highway, with only an intercity bus service between Launceston and Devonport. Furthermore, there are limited passenger and road user facilities along the Bass Highway and in towns in proximity to it. The Bass Highway does not function as an active transport route.



Bass Highway, in Latrobe, looking east



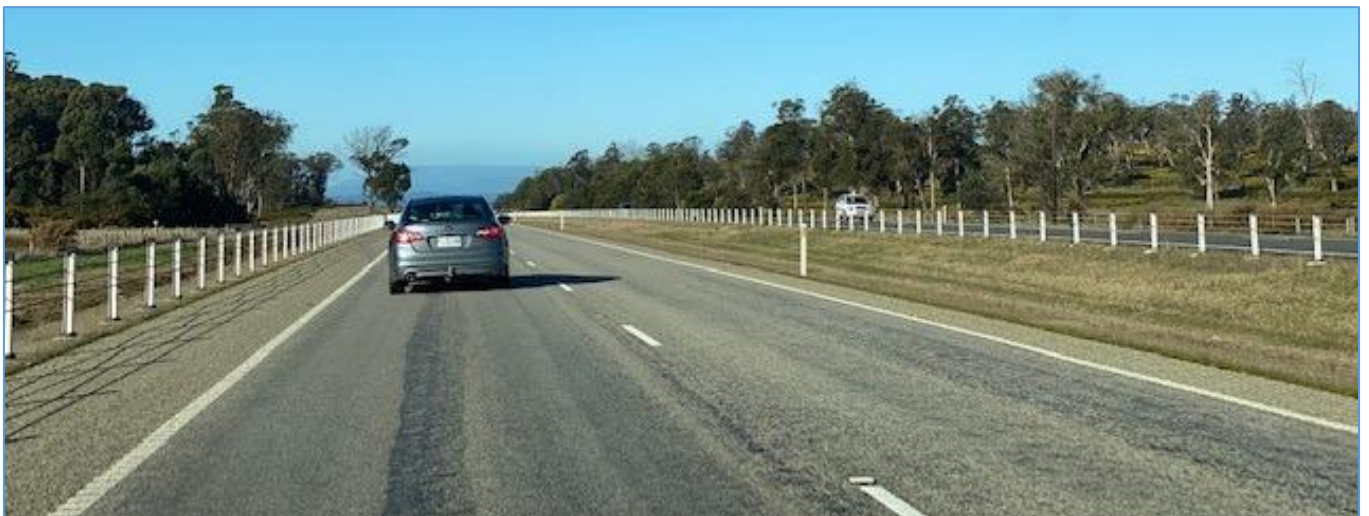
Bass Highway, near Deloraine, looking east

Community and stakeholder consultation formed a key part of the strategy development.

The feedback from the key community, industry and Council stakeholders expressed concern for road user safety and travel efficiency (predictable travel time) along the length of the highway. Furthermore, they also noted frustration with the poor road surface conditions at specific points along the highway, including north of Deloraine.

A lack of overtaking opportunities due to limited overtaking lanes and insufficient gaps in opposing traffic lanes was of particular concern. The community would like the Bass Highway to be duplicated for its entire length to improve road user safety.

The road safety and road design reviews conducted for this study identified opportunities for improvement that aligned with community and stakeholder feedback.



Bass Highway between Exton and Westbury looking east

Current challenges and performance of the Bass Highway Strategy

Road Safety

- There were 330 crashes between 2015 and 2020, comprising five fatalities and 114 injury crashes.
 - All fatal crashes involved vehicles straying either off the road or into the path of an oncoming car.
 - Four out of five crashes involved a vehicle straying off the road or into the path of oncoming traffic.
 - A higher proportion of crashes involving cars leaving their lane occurred at night compared to daylight conditions.
- There are limited opportunities for heavy vehicle drivers to stop along the corridor. Almost all opportunities are informal rest areas with no amenities.
- At the locations where buses stop, there is no infrastructure in place to alert road users to the presence of a bus stop nor any infrastructure to protect pedestrians as they wait for the bus.
- The geometry of the highway does not align with all of the current design guidelines.
 - There is little or no warning of upcoming changes in driving conditions.
 - Sections of the road, including at intersections and around some curves, do not align with current design guidelines.
 - Acceleration and deceleration lanes at interchanges are shorter than what is currently expected for a national highway.
 - The surface and pavement conditions do not consistently support travel at the sign-posted speed.



Bass Highway near Hagley to Carrick, looking east



Bass Highway, at entrance to Ashgrove Cheese Dairy entrance with short deceleration lane

Travel speeds and level of service

- Most of the corridor is single carriageway with narrow shoulders and one lane in each direction, preventing vehicles from being able to pull off to the side of the road safely without partially blocking the traffic lane.
- Although the highway has a number of overtaking lanes in each direction, the high number of trucks and farm vehicles using the road place higher demand on fast moving vehicles to overtake. Crash data indicates that the current number of overtaking lanes does not meet this demand.
- There are several areas along the highway with a number of direct accesses and local road intersections. Not all of these include turning lanes and result in vehicles slowing down to access local destinations.
- The highway passes through towns and the terrain varies from straight and level to winding and graded. This change in environmental and geographic conditions results in the posted speed limit varying between 110km/h to 60km/h.

Road design

- Portions of the Bass Highway were designed prior to when the current roadside environment standards came into effect.
- Many of the intersections with the Bass Highway do not include turn lanes or adequate turn lane length to meet current road design standards.
- The signage and lane delineation does not always provide road users with adequate information to navigate the road safely, particular at night or when it is foggy or raining.

Proposed recommendations and their implementation

The long term vision for the Bass Highway is for further duplication between Launceston to Devonport to improve the driving experience for all highway users. To achieve this long-term vision, five types of improvement projects were identified to address the key challenges associated with the corridor. These five types of improvement projects are:

- carriageway separation
- intersection upgrades
- travel mode management initiatives
- visibility and road condition improvements
- improved heavy vehicle driver rest areas.



Bass Highway near Sassafras, looking west

To implement these improvement works in a cohesive manner such that a change does not preclude future upgrades, corridor-wide responses are required. Three examples of corridor-wide solutions are:

- duplication
- overtaking lanes
- heavy vehicle driver rest areas.

A list of 66 improvement opportunities was developed for the Bass Highway between Launceston and Devonport. The corridor strategy has prioritised the delivery of the 66 opportunities. There are six locations along the highway that have a higher density of short-term improvement opportunities. In these locations it would create delivery efficiencies and reduce disruptions to road users if all physical works in each of these locations were constructed concurrently.

The Bass Highway – Launceston to Devonport Corridor Strategy recommends the following short, medium and long-term actions to address the highway’s challenges and meet strategy objectives.

Short-term actions

To address challenges identified with road safety performance at certain locations and meet the objectives to improve safety outcomes, improve travel reliability and enable economic development, the following short-term actions are proposed.

- Develop and implement a road signage strategy to provide consistent road user messaging along the highway.
- Provide suitable bus stop infrastructure in Elizabeth Town and Sassafras.
- Provide heavy vehicle driver rest areas along the highway at locations in line with the *Tasmanian Heavy Vehicle Driver Rest Area Strategy, 2020*, at the same time as other upgrade works occurring in the same location. This includes the construction of a heavy vehicle driver rest area near the Birralee Road intersection.
- Upgrade the Christmas Hills Road intersection to improve road user safety at this location. While undertaking works at this location, widen the road shoulders to provide operational resilience along the highway and install a safety barrier in the median to provide separation between opposing traffic directions. There is also an opportunity to install a Class 5 heavy vehicle driver rest area in line with the heavy vehicle driver rest area corridor wide solution. The Christmas Hills Road Intersection package of works consists of these three individual improvement opportunities.
- Undertake pavement resurfacing works near Parramatta Creek to fix the pavement deficiencies at this location. At the same time, lengthen the existing overtaking lane north of Conservatory Road, provide a new northbound overtaking lane near Long Hill Road and provide shoulder widening and safety barriers in the median to create a long continuous section of separated highway. The Parramatta Creek package of works consists of four individual improvement opportunities.
- Provide a new northbound overtaking lane, including a safety barrier in the median at Sassafras, to create a longer continuous section of separated highway. Improve safety at the Oppenheims Road and Cutting Road/East Sassafras Road intersections. Create provision for a class 3/4 heavy vehicle driver rest area for southbound traffic. The Sassafras package of works consists of five individual improvement opportunities.

- Commence planning studies to resolve conflict in Latrobe between Bass Highway through traffic and local traffic. Studies should consider the options for a Moriarty Road intersection upgrade which will assist with understanding the need for an alternative route for the Bass Highway in Latrobe.
- Investigate options to resolve conflict in Elizabeth Town between the Bass Highway through traffic users and local traffic. Investigations should consider improvements to the existing highway alignment, alternative routes to by-pass Elizabeth Town and providing more appropriate heavy vehicle parking.



Bass Highway, Parramatta Creek, eastbound

Medium-term actions

The medium-term actions, when implemented, provide additional duplication of the Bass Highway. Details of these medium-term actions are listed below.

- Extend the existing overtaking lanes near Exton and provide a safety barrier in the median to provide separation between opposing traffic directions as a response to the high number of fatalities and serious injury crashes near Exton. As part of these works increase the length of ramps at the Bowerbank Link, Emu Bay Road and Mole Creek Road interchanges and widen road shoulders. The Exton package consists of four individual improvement opportunities.
- Provide new overtaking lanes with a safety barrier in the central median between Hadspen and Hagley. This is in response to the high number of fatalities and serious injury crashes. Increase the length of ramps at the Illawarra Road interchange and the Oaks Road interchange and widen road shoulders while works are being undertaken. The Hadspen to Hagley package consists of five individual improvement opportunities.
- If the outcome of the Latrobe planning study recommends that in the short term the Bass Highway remain in its current location, the following works are recommended.
 - Upgrade the Moriarty Road intersection to improve the safety for active transport, local traffic and highway traffic.
 - Undertake resurfacing works and extend dual carriageway from Port Sorell Road to Moriarty Road. As part of these works the number of direct accesses to the highway could be rationalised.
- Continue to upgrade intersections and interchanges to provide adequate turning or merge lanes for traffic. Key locations identified include:
 - Meander Valley Road on-ramp
 - Birralelee Road on-ramps
 - Railton Road, and
 - access points to key destinations and services across the length of the highway.

- Continue to progressively widen narrow shoulders at key locations along the highway such as but not limited to; east of South Esk River, near the Meander River, north of Elizabeth Town, north of Ashgrove Cheese Dairy Door, near Gannons Hills Road, south of Dan Road and north of Byrons Road.
- Continue to implement the heavy vehicle driver rest area corridor wide solution including provision of a new eastbound class 5 rest area opposite Forest Farm or the Weighbridge, upgrade the existing visitor information bay west of Port Sorell Road to a class 3 or 4 rest area and provide heavy vehicle parking in Elizabeth Town.

Long-term actions

- Where feasible construct the missing duplicated sections of highway to provide a dual carriageway between Launceston and Devonport.

I Introduction

I.1 What is a corridor strategy?

The Department of State Growth (State Growth) is preparing corridor strategies for State roads across Tasmania. Corridor strategies articulate the proposed planning and investment decisions to enable a consistent State Road Network in Tasmania.

These strategies are publicly available documents and have been developed with the input from the community, councils and other key stakeholders.

The corridor strategy identifies:

- specific objectives that support the Tasmanian Government "Securing Tasmania's Future", 2021 plans for strategic road investment planning
- specific objectives that support the Tasmanian Government *Building Your Future, 2018*, plans to bring all Tasmania's primary freight and passenger roads up to an agreed minimum standard
- specific objectives to improve and encourage better transport and economic opportunities in Tasmania's north as identified in the *State Road Upgrades – North West and West Coast Plan, 2018*
- current and future challenges in meeting the identified corridor-specific objectives
- key transport demands likely to be placed on the corridor over the next 10 to 20 years
- high, medium and low priorities and actions to improve the corridor.

The method for developing the strategy is shown pictorially in Figure I.1.

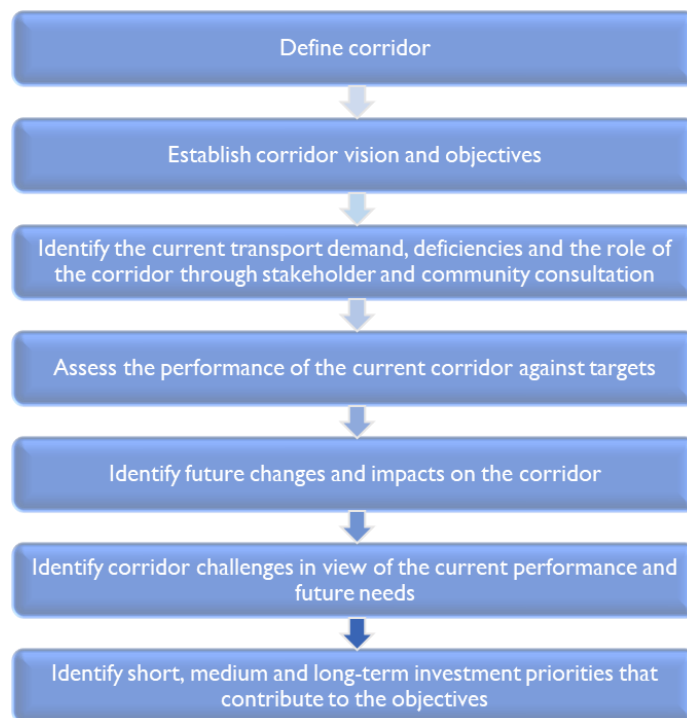


Figure I.1: Corridor strategy delivery method

1.2 Bass Highway – Launceston to Devonport corridor function

The Bass Highway corridor runs from Launceston to Marrawah and is part of the State Road Network with the section from Launceston to Burnie being part of the National Land Transport Network. The Bass Highway from Launceston to Wynyard is classified a Category 1 Road in the Tasmanian State Road Hierarchy.

The Bass Highway between Launceston and Devonport 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.

The Bass Highway is a Class 2 road as defined by Austroads *Guidelines for the Provision of Heavy Vehicle Rest Area Facilities, 2019*. The function of a Class 2 road is 'to form the principal avenue of communication between a capital city and key towns or between key towns'.

The Bass Highway between Devonport and Deloraine is a single carriageway road which passes through many small towns. There are numerous access points from local roads and adjacent properties directly onto the highway. The Bass Highway between Deloraine and Launceston is also primarily single carriageway but bypasses all towns and has a limited number of direct accesses onto it. There is a 10km dual carriageway section of the highway near Westbury. Land was previously acquired between Deloraine and Launceston to accommodate a future dual carriageway arrangement.

While some sections of the Bass Highway between Launceston and Devonport meet current performance and design standards, others have been assessed as being substandard in relation to current design standards for cross section, geometric alignment and surface condition. There are also numerous intersections that do not meet contemporary design guidelines relating to the provision of safe turning facilities.

This corridor strategy was developed for the 91 km section of the Bass Highway from Hadspen to east of the Port Sorell Road at Devonport. This section of the Bass Highway is shown in Figure 1.2 and Figure 1.3.

This corridor strategy draws on community needs, stakeholder feedback and design and safety assessments of the highway's conditions to determine its current level of performance. It also considers the current and future population needs, economic development and proposed future land use to determine its future level of performance if it is not upgraded and identifies proposed improvement opportunities.



Figure 1.2: Project location

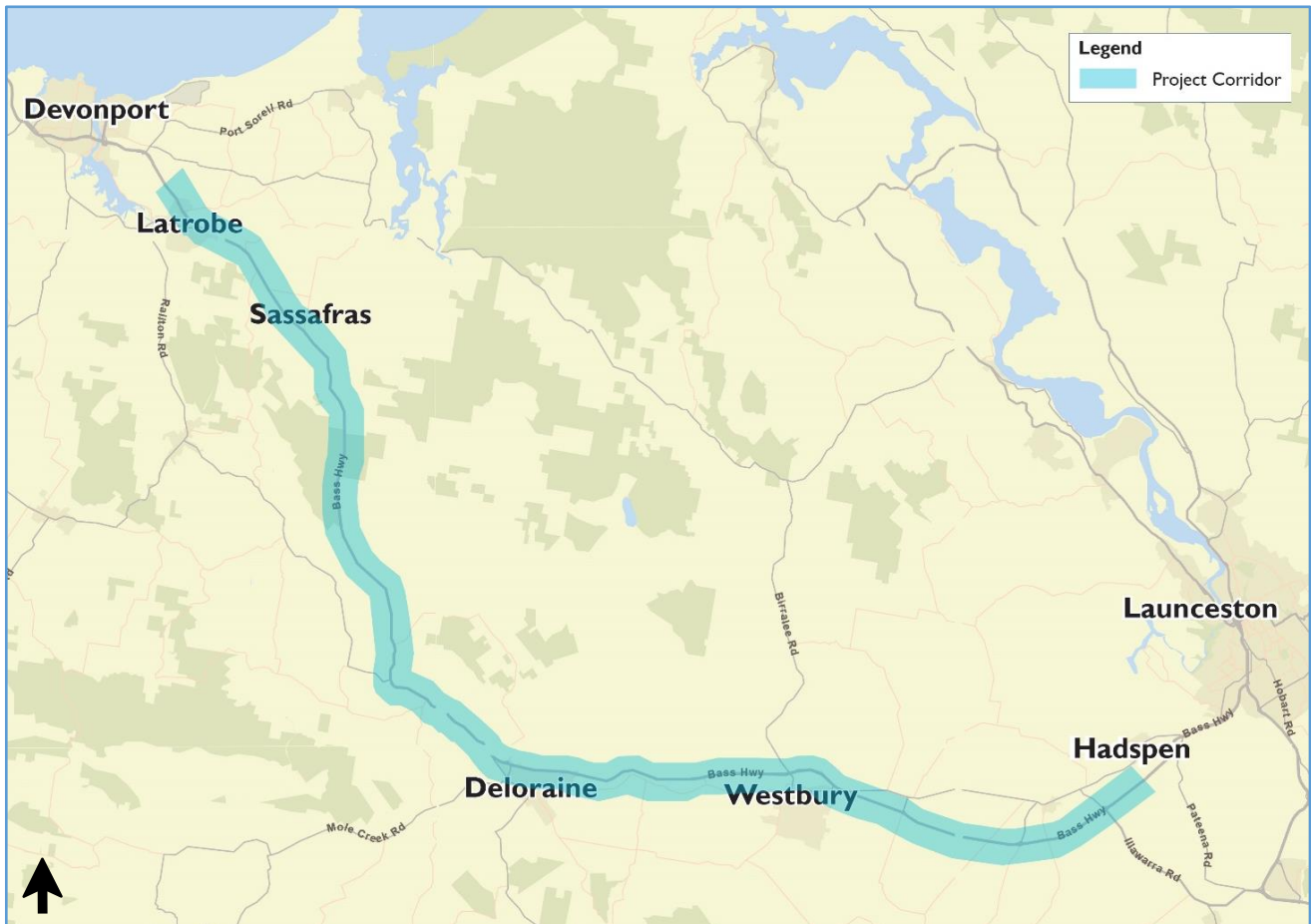


Figure 1.3: Corridor project site

1.3 Planning context and State priorities

The *Northern Integrated Transport Plan, 2013*, states that the Bass Highway is projected to double its freight volumes by 2029. The plan indicates that the priority projects between Latrobe and Deloraine will continue.

The *Tasmanian Integrated Freight Strategy, 2016*, details the importance of the Bass Highway between Devonport and Launceston as the busiest freight route in Tasmania. This section of road carries the highest mass of consumer goods of any road in Tasmania, moving freight to and from Tasmania's ports in the north.

In 2018, the Tasmanian Government committed to upgrades of the Bass Highway as part of its *Building Your Future and the State Road Upgrades – North West and West Coast Plan, 2018*. The section of the highway from Deloraine to Latrobe is an inconsistent mix of carriageway, including two-lane sections that do not fully meet current standards and guidelines associated with its function as a National Highway and Tasmania's premier freight link.

This 44 km section of the Bass Highway is under pressure from increased tourist traffic and growing agricultural productivity, with several tourist and primary industry developments intersecting with this stretch of the highway. A key objective of the government's commitment was to improve safety along this section, with a priority for the area around Christmas Hills Road, south of Elizabeth Town, with federal funding being committed for upgraded works in recent years.

The *Tasmanian Heavy Vehicle Driver Rest Area Strategy, 2020*, details the need for dedicated areas where heavy vehicles can safely pull over, allowing drivers to check their load and take a rest. It identifies a need to upgrade existing or informal rest areas on the Bass Highway across a number of locations such as between Deloraine and the Westbury/Birrallee Road, Long Hill East of Parramatta Creek, and Christmas Hills. As well as provide new rest areas between Forest Farm and the Weighbridge, Parramatta Creek and Deloraine, and Westbury/Birrallee Road and Launceston.

The *Our Infrastructure Future 30-Year Infrastructure Strategy Consultation Draft, 2019*, provides a vision for informing the Tasmanian Government's infrastructure investment decisions. It outlines the Tasmania of today as well as the challenges expected to be faced with respect to climate change and growth.

Information gathered throughout the development of this corridor strategy has helped prepare a program of priority project recommendations for the Bass Highway. The corridor upgrade opportunities could be delivered via a structured approach to achieve the greatest benefits. The projects identified from the Bass Highway Opportunities Prioritisation plan (see chapter 7, Table 7.8) should contribute to the Bass Highway 10 Year Action Plan, guiding further investment by the Tasmanian and Australian Governments.

1.4 Corridor challenges and issues

The current corridor performance has been assessed against current design practises using a Safe Systems approach. The safe system approach acknowledges that the human body is vulnerable and focuses on reducing the severity of injury for all road users.

As the route of the Bass Highway has evolved over time, portions of the highway exhibit design legacy issues. The Bass Highway challenges and issues as a result of these design legacy are already evident and are expected to be exacerbated as a result of future changes and transport demands. Improvements addressing these challenges will provide a safer and more consistent driving experience along the Bass Highway.

The key corridor challenges uncovered during the development of this strategy are:

- **Narrow carriageway.** The Bass Highway assessed for this corridor, is predominately a single lane highway with little or no separation between eastbound and westbound traffic. There are gaps of up to 15km between overtaking lanes. This can lead to increased risk-taking behaviour by road users, who become frustrated by the existing traffic conditions and choose short gaps between traffic to attempt to overtake slow moving vehicles. In addition, motorists have a tendency to drive towards the centre of the road when they feel enclosed, either by larger vehicles, safety barriers located on the roadside, narrow lanes or shoulders, or vegetation.
- **Points of conflict.** The Bass Highway serves as both a highway with a purpose of providing safe passage through the region, as well as a local road, providing access for those who live and work along its length. This creates conflict, particularly in Latrobe and Elizabeth Town, as well as at private accessways and local road intersections.
- **Historic design.** The Bass Highway has evolved over the past 150 years. As a result, sections of the highway were constructed prior to current design expectations and the publication of *“Towards Zero–Tasmanian Road Safety Strategy 2017–2026, 2016*. Sections of the road geometry do not fully meet current design guidelines, resulting in sight distances, and length of turn lanes and ramps at certain locations shorter than current standards.
- **Poor road conditions and legibility.** The wayfinding signage is both limited and inconsistent, leading to road user confusion. Road pavement maintenance is undertaken periodically. As a result, there are locations along the Bass Highway where the pavement condition and delineation could be further improved. Feedback received during consultation indicated that there are locations along the highway where road users select alternative routes to avoid the highway due to the road condition and/or legibility concerns.
- **Inadequate heavy vehicle driver rest areas.** As a major freight route, the current heavy vehicle driver rest areas do not provide amenities consistent with the contemporary expectations.

1.5 Corridor objectives and planning

In 2018, the Tasmanian Government set out its policy commitments in *Building Your Future and the State Road Upgrades – North West and West Coast Plan, 2018*, for Tasmania. A key commitment in these policies is building Tasmania's infrastructure for the 21st century.

In 2021, State Growth established the Bass Highway – Launceston to Devonport Corridor Strategy Working Group to inform the development of the strategy and project priorities.

The working group consisted of key stakeholder representatives from government, councils and industry bodies. These included State Growth, Meander Valley Council, Latrobe Council, and the Tasmanian Transport Association. The Royal Automobile Club of Tasmania (RACT) was invited to be part of the working group but were unable to attend the workshops and instead provided its feedback via a formal written submission.

The specific corridor objectives developed by the working group correspond with the Tasmanian Government's *Building Your Future and State Road Upgrades–North West and West Coast, 2018*, commitments. The objectives are:

- **Improve safety outcomes** for all road users, recognising the growing transport demands on the corridor.
- **Improve efficiency, reliability and resilience of road network** by providing a consistent driving experience for all users of the Bass Highway.
- **Enable economic growth and development** by providing consistent and coordinated transport and land use planning.

1.6 Vision for the future

State Growth's vision includes “*strategically developing our infrastructure and transport systems to support industry and business growth, and our community*”¹. Actions are proposed by the corridor strategy to help further achieve this vision for the Bass Highway.

Improvements identified to address key corridor challenges are outlined below.

- **Carriageway separation.** Providing greater separation between the east and west travelling traffic, as well as increasing the locations for overtaking lanes will reduce the locations where road users will engage in risk taking actions.
- **Intersection upgrades.** Review and upgrade intersections to provide safe passage through the region in addition to consolidating access to the highway to reduce the number of conflict points.
- **Travel mode management initiatives.** Undertake planning that supports all highway users through speed management along the highway and appropriate separation of users at key locations, including towns and bus stops.
- **Visibility and road condition improvements.** Provide consistent and appropriate road wayfinding through improved signage and pavement marking as well as a consistent road pavement.
- **Improved heavy vehicle driver rest areas.** Provide formal heavy vehicle driver rest areas and short-term parking in townships.

¹ Department of State Growth, 2021, Corporate Plan www.stategrowth.tas.gov.au/about/corporate_plan

2 Community consultation

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.

The road user experience, as described by the community and stakeholders, has informed the process of identifying current road demand, usage and user 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 for all road users.

A summary of the consultation that was undertaken and the responses received are detailed in *The Bass Highway - Launceston to Devonport Corridor Strategy Community and Stakeholder Consultations and Feedback Report, February 2022*).

2.1.1 Consultation with key stakeholders

In April 2021 the Bass Highway – Launceston to Devonport Corridor Strategy Working Group was established. The group's purpose was to collaborate and assist with the development of the corridor strategy, by identifying issues along the corridor and providing comments to assist in developing the most efficient infrastructure solutions to address these issues. The working group also participated in the Investment Logic Mapping (ILM) process. The members of the working group included representatives from Latrobe Council and Meander Valley Council, Tasmanian Transport Association (TTA), and State Growth, Passenger Transport and Network Road Planning. The Royal Automobile Club of Tasmania (RACT) was also invited to be part of the working group but were unable to attend. They were invited to provide considered feedback as part of the consultation process.

Investment logic mapping (ILM) is an early-stage technique that assists in developing and documenting the logic that underpins a potential investment decision, before specific solutions are identified, and before a decision is made." *Investment Logic Mapping Guide Business Case Development Framework Release 3, State of Queensland, the Department of State Development, Infrastructure, Local Government and Planning, June 2021*.

2.1.2 Community consultation

Community consultation was undertaken between 19 July 2021 and 14 August 2021. Feedback was collected via:

- Social Pinpoint
- hard copy feedback forms available from the Latrobe Council and Meander Valley Council offices
- verbal feedback via the 1800 phone line
- written submissions (either in hard or soft copy).

Local knowledge was sought from the community to assist in identifying and understanding issues along the corridor. This local knowledge was used to inform future upgrade and maintenance activities.

The feedback was used to assist the planned investment and prioritisation of upgrades along the Bass Highway. This will result in a road network that meets the needs of both the local community and industry.

2.2 Feedback summary

2.2.1 Feedback from key stakeholders

During working group meetings, the participants collaborated to identify problems impacting users of the highway. Three problem statements were developed following the first working group meeting.

- Poor wayfinding information, such as line marking and signage is leading to difficulty navigating the corridor.
- Multiple access points and capacity constraints are reducing corridor efficiency, reliability and resilience.
- Lack of coordinated transport and land use planning is leading to incompatible development and poor access outcomes.

The desired benefits to be achieved through any improvement works along the Bass Highway are:

- improved safety outcomes
- improved efficiency, reliability and resilience of road network
- enabled economic growth and development.



Figure 2.1: Bass Highway through Latrobe

The working group suggested that the long-term vision of the corridor should be to provide a fully separated dual carriageway where feasible along the length of the corridor and suggested that the priority areas for upgrade are in the vicinity of Latrobe, Elizabeth Town and Sassafras. Figure 2.1 depicts the Bass Highway through Latrobe and

Key issues of concern identified included:

- poor signage and lighting, leading to difficulty in navigating the corridor, particularly for tourists who may not be familiar with the area
- insufficient opportunities for overtaking
- inadequate shoulder widths to enable people to pull over in an emergency or break down
- inadequate turn lanes, acceleration lanes and deceleration lanes to safely enter and exit the highway
- poor road surface quality in several locations leading to safety concerns
- lack of adequate rest areas for drivers of heavy vehicles.

2.2.2 Community feedback

During the consultation period a total of 346 pieces of feedback relating to the strategy were received through the following channels:

- Social Pinpoint received 205 comments from 98 unique stakeholders
- 12 feedback forms were received – six via post and three from each council office ballot box
- the dedicated project phone line elicited feedback from four phone conversations
- formal submissions were received via 13 emails from the community and key stakeholders
- RoadsTas Facebook page received 385 posts, of which 13 comments related directly to the Bass Highway corridor, 15 comments related to other roads and the remaining comments were not relevant to this strategy.

The community consistently expressed a concern for road user safety and travel efficiency along the entire highway. These concerns were generally linked to factors such as:

- lack of overtaking opportunities, leading to dangerous overtaking actions and congestion
- junctions with private properties and towns are considered dangerous by road users and create near misses and congestion
- lack of separation between lanes running in opposite directions causing confusion and near misses
- serious frustration about road durability and maintenance issues due to poor road surface conditions at specific points along the highway north of Deloraine.

The heat map in Figure 2.2 captures the locations that invoked the greatest number of comments during the community consultation process on Social Pinpoint. In some instances, comments refer to the whole of the highway as opposed to a specific location.

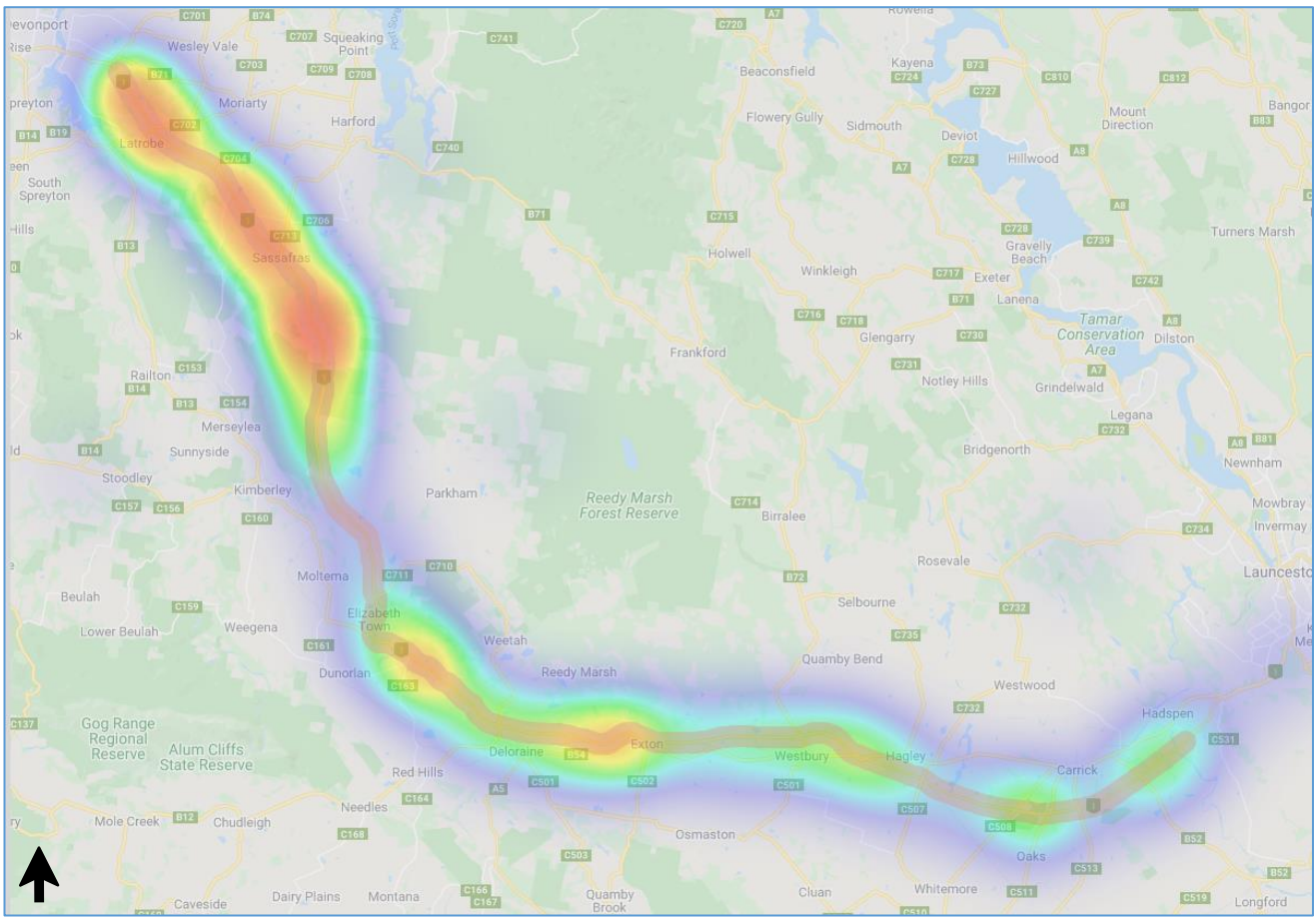


Figure 2.2: Heat map showing greatest number of comments from Social Pinpoint community consultation

2.3 Key findings from consultation

Both the community and the working groups identified that:

- improved safety would be best achieved by duplicating the Bass Highway for its entire length
- Latrobe and Elizabeth Town are priority areas
- the Bass Highway between Long Hill Forest Reserve and Latrobe has multiple constraints that can impact road user safety.

This feedback assisted in determining the prioritisation of improvement measures outlined in Section 7.



Figure 2.3: Approaching Elizabeth Town from the north with the Parkham Road intersection to the left

3 Current corridor function

The Bass Highway is part of the National Land Transport Network (NLTN), a single integrated network of land transport links of strategic national importance. The land transport links are funded by federal, state and territory governments based on national and inter-regional importance to economic growth, development and connectivity. The Bass Highway is a part of this network, linking the far north-west of Tasmania with the key ports at Burnie and Devonport and to key air freight hubs at Launceston and Hobart. The Bass Highway contributes to the success of Australia's agriculture and tourism sectors by providing local, national and international visitor and freight access.

3.1 Roles and characteristics

Between Launceston and Devonport, the Bass Highway performs multiple functions. It is a key corridor for moving goods and produce across Tasmania to national and international markets as depicted in Figure 3.1. The Bass Highway also functions as the major link between the north and west of Tasmania, connecting people and produce from the west, north and north-west into the major centres of Launceston and Hobart via the Midland Highway.

As well as providing through-connections for people and goods across the state, the Bass Highway also serves local communities, linking smaller towns to education, employment and services in larger centres. There are many properties between Deloraine and Latrobe with direct access to the Bass Highway. Consequently, this section of the highway functions to provide direct farm and property access to residents.

While there are only a limited number of properties that directly access the Bass Highway through the township of Latrobe, some local streets intersect with the highway, mixing local Latrobe traffic with traffic travelling on the highway.



Figure 3.1: Trucks on the highway

3.2 Current population and land use

Population and employment figures for the Meander Valley and Latrobe municipalities were sourced from the Australian Bureau of Statistics 2014 and 2019 census data.

3.2.1 Population and age demographics

Population

Census population data (between 2001 and 2019) was sourced from the Australian Bureau of Statistics (ABS) for the Meander Valley and Latrobe municipalities through which the Bass Highway – Launceston to Devonport corridor extends. A population summary is provided in Table 3.1 below.

Table 3.1: Summary of Population²

Year	Latrobe Municipality	Meander Valley Municipality	Total
2001	8,324	18,248	26,572
2006	8,973	19,052	28,025
2011	10,275	19,622	29,897
2016	10,927	19,553	30,480
2017	11,111	19,576	30,687
2018	11,328	19,713	31,041
2019	11,638	19,844	31,482

Age demographic

Census population data (between 2014 and 2019) was sourced from the ABS for the Meander Valley and Latrobe municipalities. The trends in ageing are shown in Figure 3.2 and Figure 3.3. The age profile of both municipalities follows a similar trend. On average, the percentage of the population up to the age of 64 is decreasing and the percentage of the population aged 65 and over is increasing.

Between 2014 and 2019, the number of people aged between 70 and 79 years old increased the most, while the number of people aged between 40 to 44 years decreased the most. In 2014, the majority of the population were between 40 and 70 years old. By 2017, this had shifted to the 45 to 74 age group. Low percentages of the 20 to 40 age groups suggests that young people are continuing to move away from these municipalities for work or life opportunities elsewhere.

It is anticipated that the average age of the population will continue to increase. An aging population is likely to have a minor influence on Bass Highway traffic numbers.

² Australian Bureau of Statistics 2001-2019, Census Data, ABS, Canberra

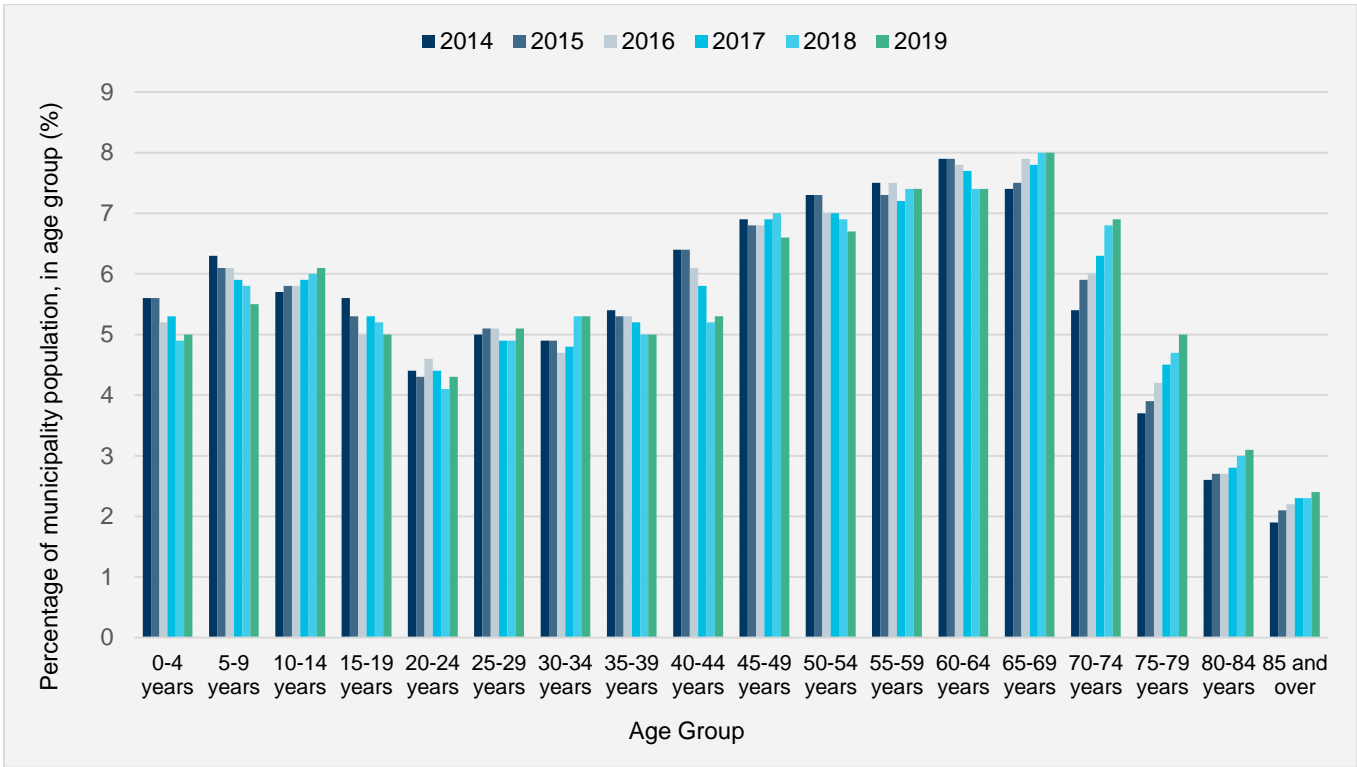


Figure 3.2: Age of Latrobe population³

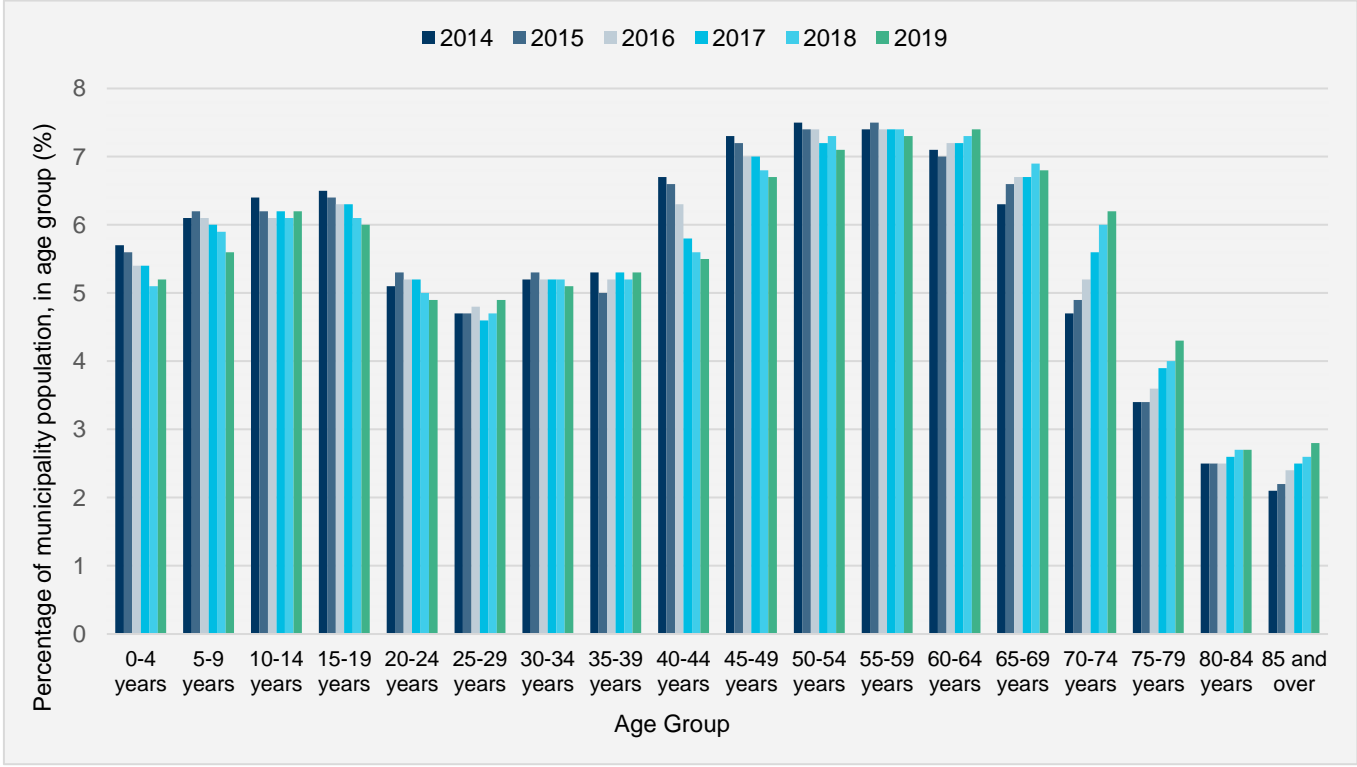


Figure 3.3: Age of Meander Valley population⁴

³ Australian Bureau of Statistics, 2014-2019, Census Data, ABS, Canberra
⁴ Australian Bureau of Statistics, 2014-2019, Census Data, ABS, Canberra

3.2.2 Land use and zoning

Land use and development within the study area is governed by the Tasmanian Government's Resource Management and Planning System (RMPS). The legislative, policy, strategy and delivery framework within the RMPS is administered by state and local government agencies. Within the RMPS, regional land use strategies set out the long-term strategic planning goals for the three Tasmanian regions – the Southern Region, the Northern Region and the Cradle Coast Region.

The *Cradle Coast Regional Land Use Planning Framework 2010–2030, 2010*, applies to the Latrobe Municipality and the *Northern Tasmania Regional Land Use Strategy, 2018*, applies to the Meander Valley Municipality. Each of the strategies promotes improved coordination and consistency in infrastructure planning and investment at each level of government.

The study area passes through some of Tasmania's most productive farmlands and therefore the *State Policy on the Protection of Agricultural Land, 2009* (PAL Policy), is a key strategic planning instrument affecting the study area. The PAL Policy is reflected in each of the regional land use strategies and municipal planning schemes, providing a strategy and delivery framework for the maintenance and protection of the availability of rural resources for social and economic opportunity.

The Greater Meander Valley and Sassafras Wesley Vale Irrigation Schemes cover approximately half of the study area. The consistency and certainty of water supply within these irrigation districts enables productivity gains across several different types of primary industry, including dairy, beef, cropping, forestry and orchards. A map showing the corridor (in blue) and the extent of each irrigation district is provided in Figure 3.4.

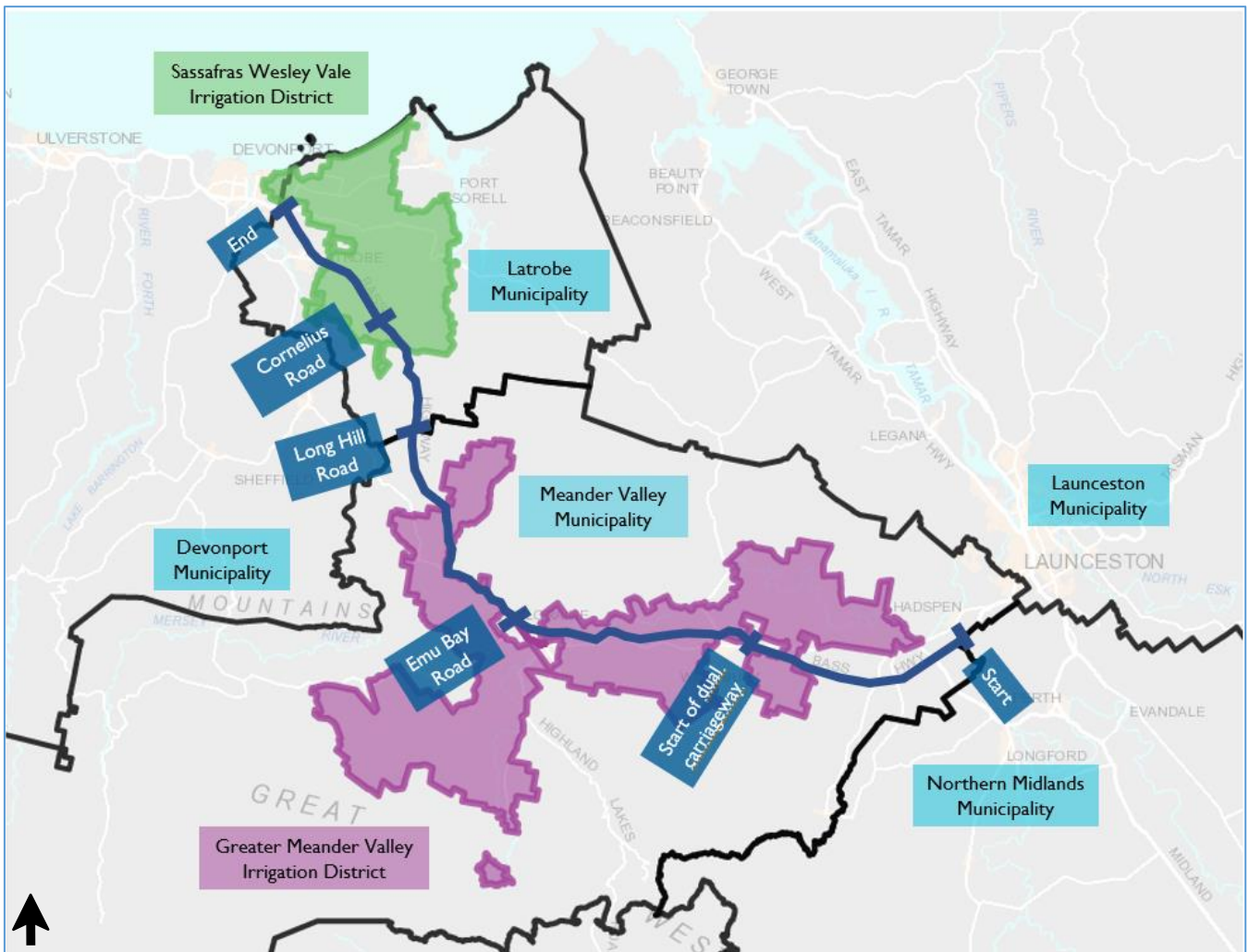


Figure 3.4: Project corridor, municipalities, irrigation districts and five regions⁵

The Significant Agriculture Zone of the *Tasmanian Planning Scheme – Meander Valley, 2021*, and Rural Resource Zone of the *Latrobe Interim Planning Scheme, 2013*, apply to most of the farmlands within the study area. Along the corridor, recognisable changes to the type of farming generally correspond with the availability of water, the qualities of the soil and other environmental factors.

The wealth of naturally occurring soil and water resources adjacent to the Bass Highway means it is likely that agricultural activity will always be the dominant land use for this section of highway. The movement of stock and different types of horticultural activity make for a dynamic and highly changing landscape. For many, travelling along the Bass Highway provides an immersive experience of the countryside and an opportunity to appreciate the expansive views, the colour and the life of rural Tasmania.

For the purpose of describing the land use along the Bass Highway, the highway is described by the five regions that have similar attributes from a land use planning perspective. These regions are identified in Figure 3.4, with the land use descriptions provided below, starting in the west and moving in an easterly direction towards Devonport.

⁵ Tasmanian Government, 2021, The LISTmap, www.thelist.tas.gov.au

Hadspen to start of western end of the dual carriageway

The eastern extent of the study area begins adjacent to the township of Hadspen (bypassed) where the highway reservation is entirely located within the Meander Valley Municipality. The outer areas of the General Residential, Low Density Residential and Rural Living Zones of the Hadspen township are located immediately to the north of the highway reservation. Over time, additional residential uses may be seen within this part of the study area.

Heading west, the highway crosses the South Esk River and onwards through lands that are similarly characterised by remnant vegetation and dryland pastoral use until the highway bypasses the township of Carrick. The rural living areas south of Carrick meet the edge of the highway as the corridor passes further westward over the Liffey River, followed by more remnant vegetation and dryland pastoral use in the Significant Agriculture Zone.

West of Heazlewoods Lane, the highway traverses the productive lowland agricultural plains of the Greater Meander Valley Irrigation District. It also bypasses the township of Hagley.

A map showing land use zoning between Hadspen and Heazlewoods Lane is provided in Figure 3.5.

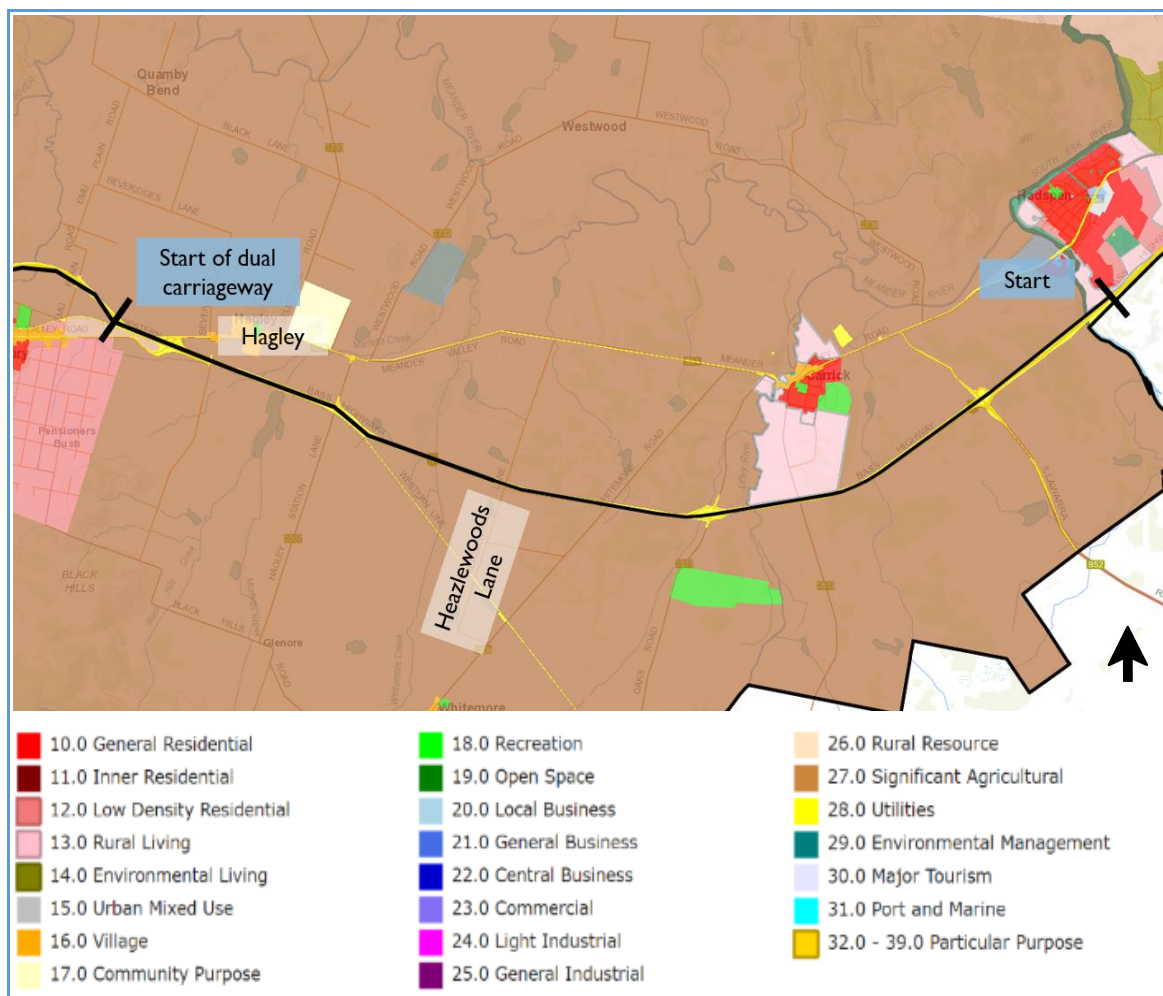


Figure 3.5: Land use zoning between Hadspen and start of the dual carriageway⁶

⁶ Tasmanian Government, 2021, The LISTmap, www.thelist.tas.gov.au

Western end of the dual carriage way to Emu Bay Road (west of Deloraine)

From the start of the dual carriageway, through to Emu Bay Road, the highway bypasses the townships of Westbury, Exton and Deloraine. The highway traverses the productive lowland agricultural plains of the Greater Meander Valley Irrigation District. The land is used extensively for cropping and pastoral activity and is primarily located within the Rural Resource Zone, the exceptions being:

- land in the Rural Living Zone at the north-eastern corner of the Westbury Settlement
- land within the General Industrial Zone that is encountered at the Birralee Road overpass, immediately north of the highway reservation
- land to the south of the highway within the Village Zone of the township of Exton
- land to the south of the highway within the General Residential and Rural Living Zone of the township of Deloraine.

After crossing the Meander River, the highway rises out of the lowlands and into the rural hinterlands of Tasmania's north coast. The mixture of remnant vegetation, pastoral and cropping use continues but is interspersed with greater numbers of residential uses than in the lowlands.

A map showing land use zoning between the start of the dual carriage way to Emu Bay Road is provided in Figure 3.6.

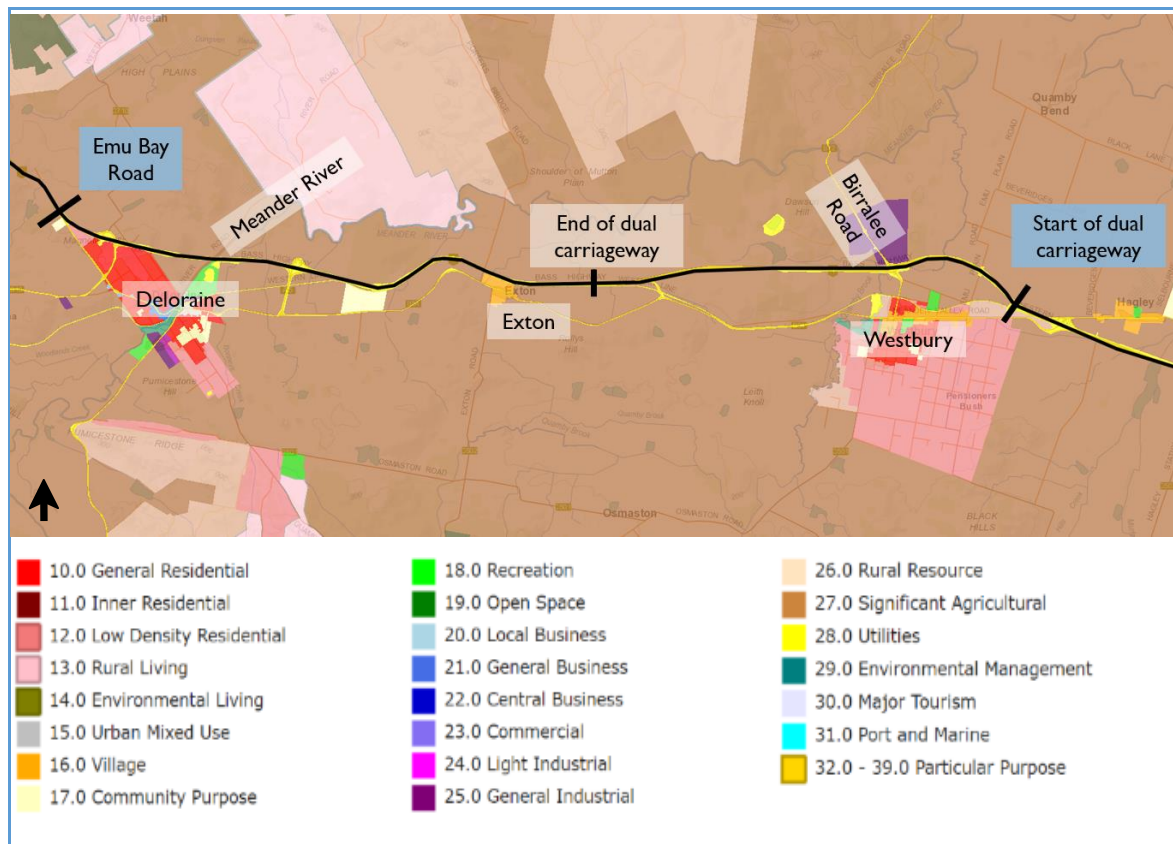


Figure 3.6: Land use zoning between start of dual carriageway and Emu Bay Road⁷

⁷ Tasmanian Government, 2021, The LISTmap, www.thelist.tas.gov.au

Emu Bay Road (west of Deloraine) to Long Hill Road

The corridor passes through land in the Significant Agriculture Zone until the Low Density Residential zoned land to the north and east of the highway at Elizabeth Town. Highly productive farmlands dominate the landscape, supported by good access to water and fertile soils.

A map showing land use zoning between Emu Bay Road and Long Hill Road is provided in Figure 3.7.

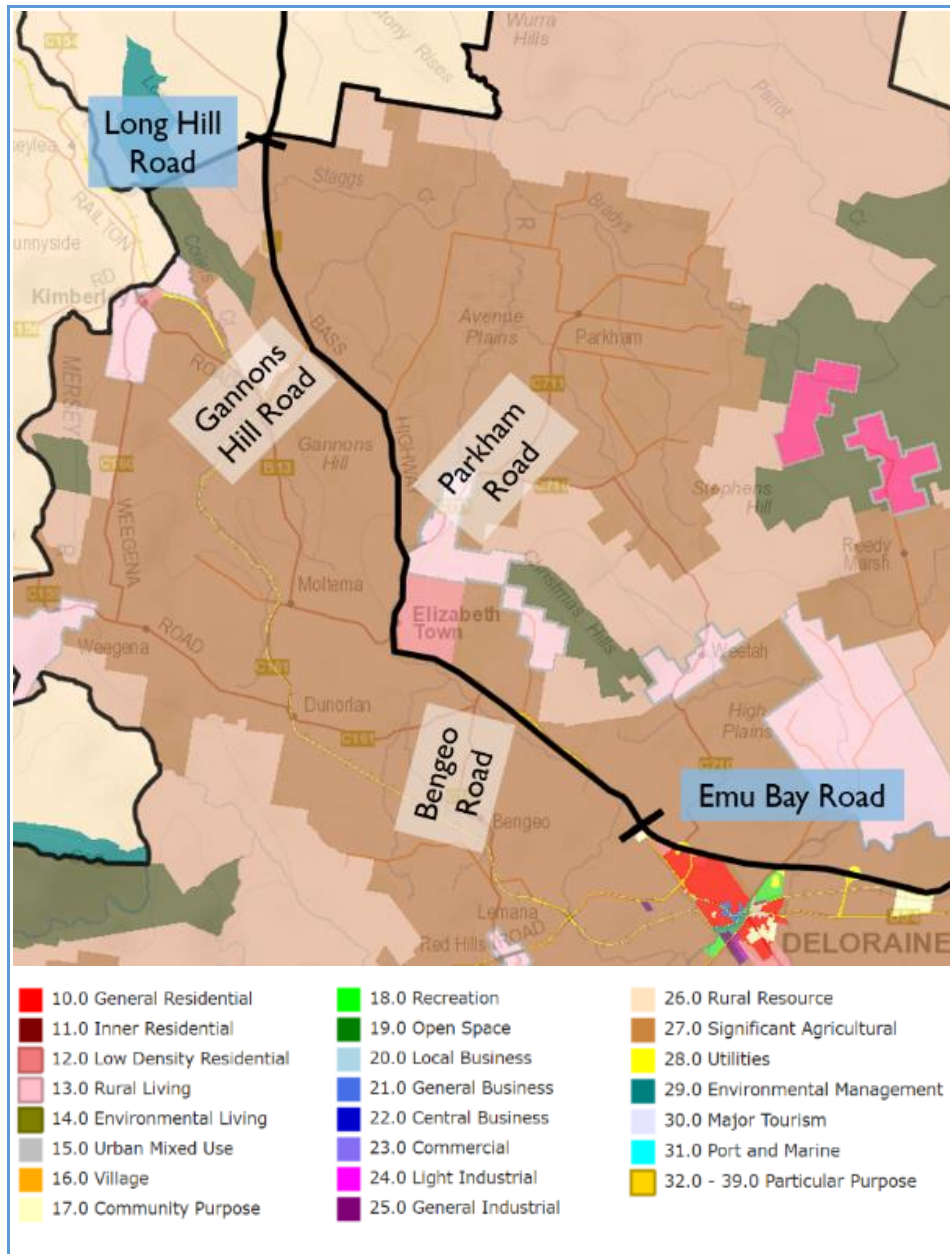


Figure 3.7: Land use zoning between Emu Bay Road and Long Hill Road⁸

⁸ Tasmanian Government, 2021, The LISTmap, www.thelist.tas.gov.au

Long Hill Road to Cornelius Road (Sassafras)

Shortly after Elizabeth Town, the Greater Meander Valley Irrigation District ceases and the highway continues to be surrounded on either side by remnant vegetation, pastoral areas, cropping areas, orchards and plantation forestry. At Felmingham Road, the highway passes from the Meander Valley Municipality to the Latrobe Municipality.

As the corridor gets closer to the coast, the gradual increase in the prevalence of iron-rich red soils, (ferrosols) and the consequent increases in soil fertility are reflected by the gradual increase in the intensity of farming activity.

A map showing land use zoning between Long Hill Road and Cornelius Road is provided in Figure 3.8.

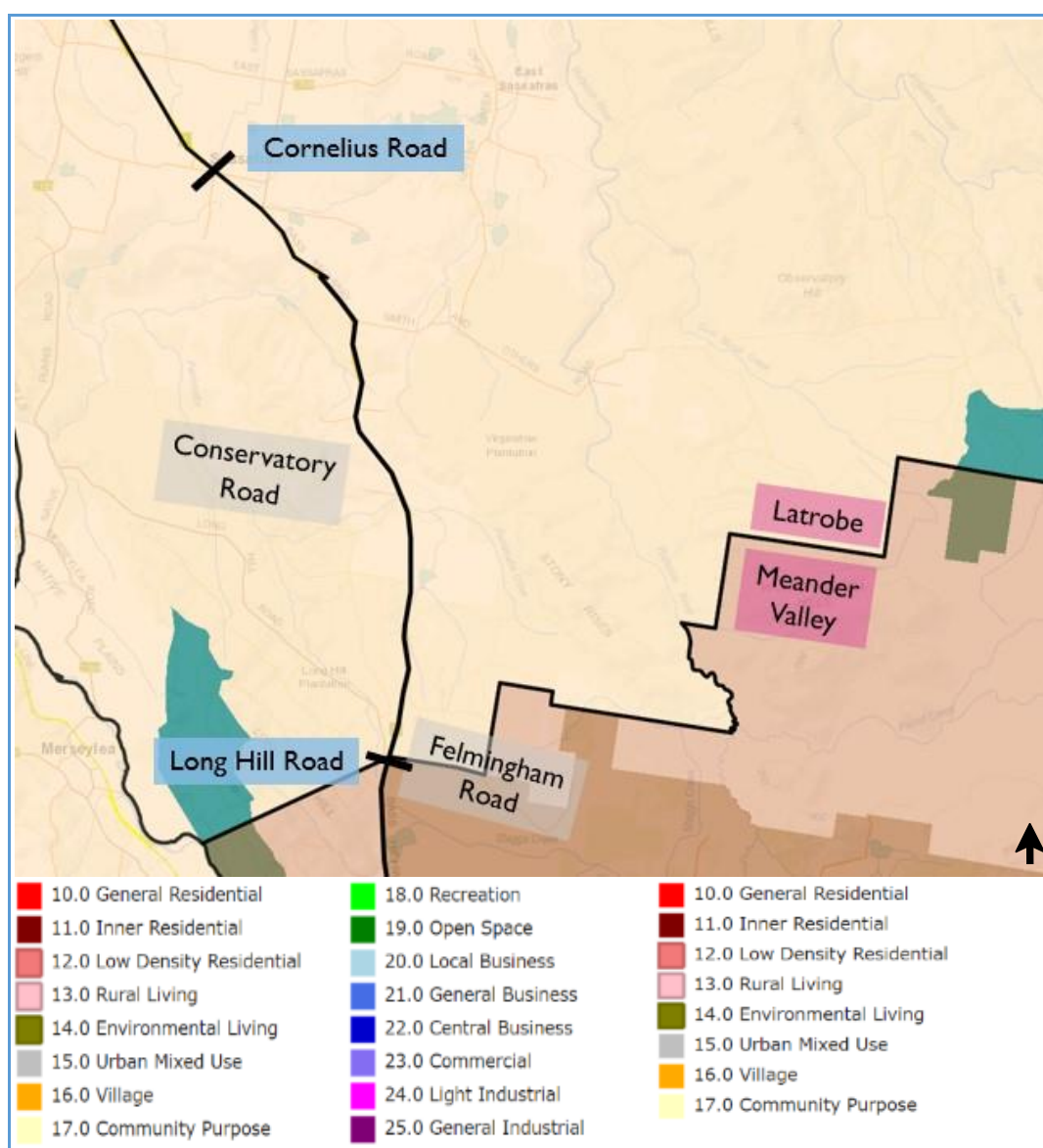


Figure 3.8: Land use zoning between Long Hill Road and Cornelius Road ⁹

⁹ Tasmanian Government, 2021, The LISTmap, www.thelist.tas.gov.au

Cornelius Road (Sassafras) to end of Port Sorell Road

At Sassafras, the highway enters the Sassafras Wesley Vale Irrigation District. As the topography flattens and the road corridor straightens, broadacre cropping and pastoral uses dominate the landscape. These are some of Tasmania’s most productive and fertile farmlands.

As the highway approaches the edge of Latrobe, more residential uses occupy the lands adjacent to the highway. When the highway reaches Abeyes Road, the character has transitioned from one dominated by cropping and pastoral use to one that is more typical of urban areas (residential, commercial, industrial). Houses, commercial buildings, industry and health services occupy the corridor as it passes through the Latrobe township. As the highway exits Latrobe, rural activity once again becomes the dominant land use adjacent to the highway. The Bellfield Industrial Estate is located at the end of the study area at Port Sorell Road.

A map showing land use zoning between Cornelius Road to Port Sorell Road is provided in Figure 3.9.

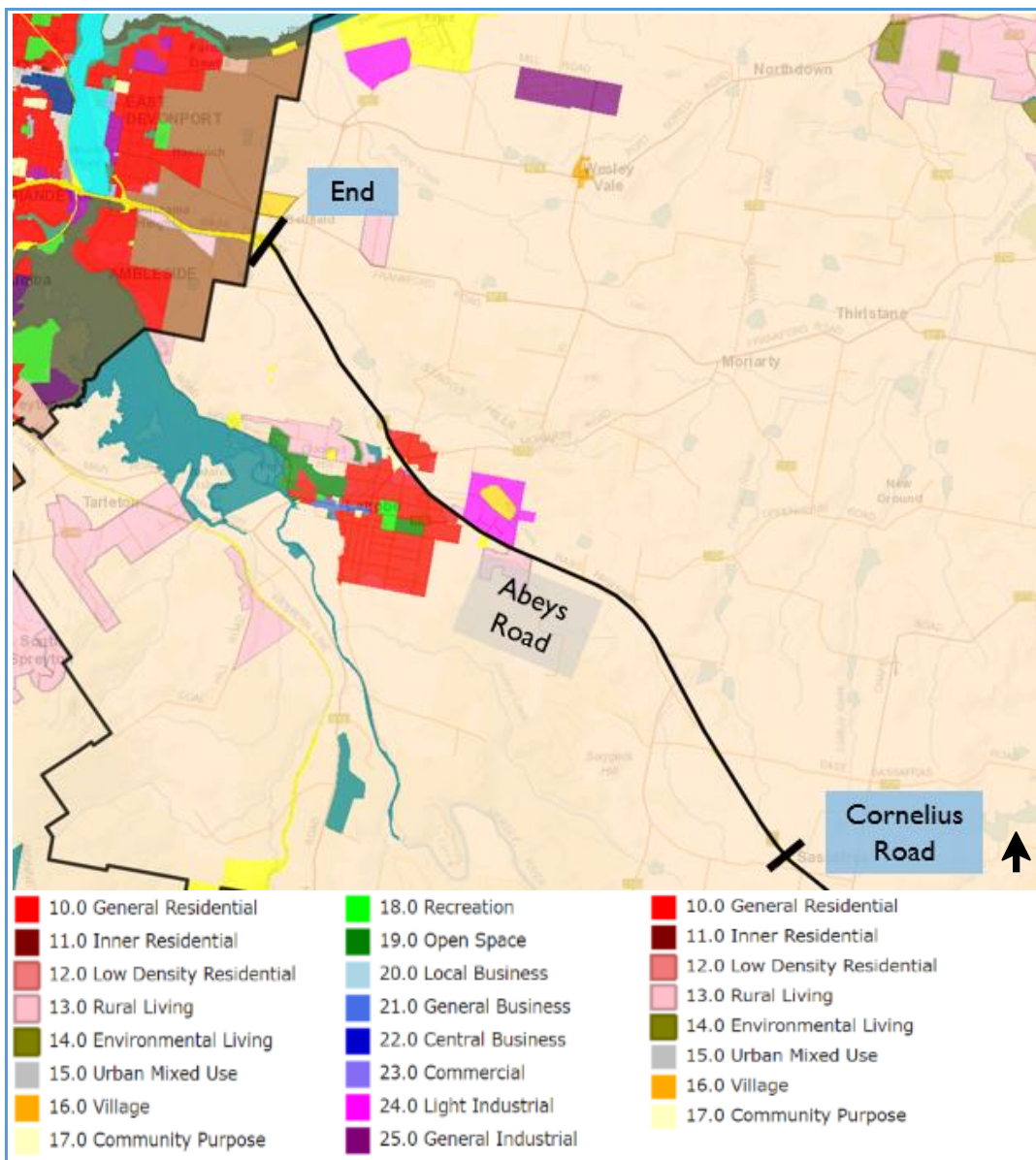


Figure 3.9: Land use zoning between Sassafras and Port Sorell Road (section 5)¹⁰

¹⁰ Tasmanian Government, 2021, The LISTmap, www.thelist.tas.gov.au

3.3 Current traffic volumes and heavy vehicle use and access

The Annual Average Daily Traffic (AADT) volume along the Bass Highway was recorded in 2019 at several locations between Launceston and Devonport, as shown in Table 3.2. The surveys indicate two-way traffic volumes range from approximately 9,000 vehicles per day (vpd) in Sassafras and Latrobe west of Gilbert Street up to 16,150 vpd east of Port Sorell interchange at the northernmost point of the corridor study area. The variation in demand aligns with the road network operation in that the:

- Illawarra Road Interchange provides access to Longford as well as the Midland Highway, making it a key interchange along the corridor
- Bass Highway west of Gilbert Street includes traffic passing through Latrobe, as Gilbert Street provides access into Latrobe from northbound traffic
- Bass Highway east of Port Sorell interchange captures vehicle movements between the communities of Devonport and Latrobe, as well as vehicles that are travelling to through the region.

The traffic demand measured at Deloraine, Elizabeth Town, Sassafras and Hagley align with population density in these areas.

Table 3.2: Two-way 2019 AADT at counter locations¹¹

Counter location	Two-way AADT (vpd)	Percentage heavy vehicles
East of Illawarra interchange	9,833	21.2%
West of Illawarra interchange	11,525	19.1%
Near Hagley Station Lane	10,354	19.2%
East of Deloraine	9,892	18.4%
Elizabeth Town	9,637	23.2%
Sassafras	9,026	23.4%
Latrobe – east of Gilbert St	10,202	20.4%
Latrobe – west of Gilbert St	9,082	23.8%
East of Port Sorell interchange	16,149	16.1%

For each of the locations described in Table 3.2, counts were conducted in early May 2019 for one week, capturing both the direction of travel and class of vehicle. On average, along the corridor, approximately 20% of traffic is heavy vehicles. The proportion of heavy vehicles is slightly higher around Elizabeth Town, Sassafras and Latrobe. This is likely due to the increased direct farm access around Elizabeth Town, Sassafras and the industrial estate in Latrobe.

¹¹ Department of State Growth, 2019 Permanent Traffic Counters, Unpublished

Figure 3.10 shows the direction of travel as well as the light vehicle/heavy vehicle split for an average day during the survey week. Figure 3.11 shows the maximum hourly two-way traffic volume across the Bass Highway for 2019.

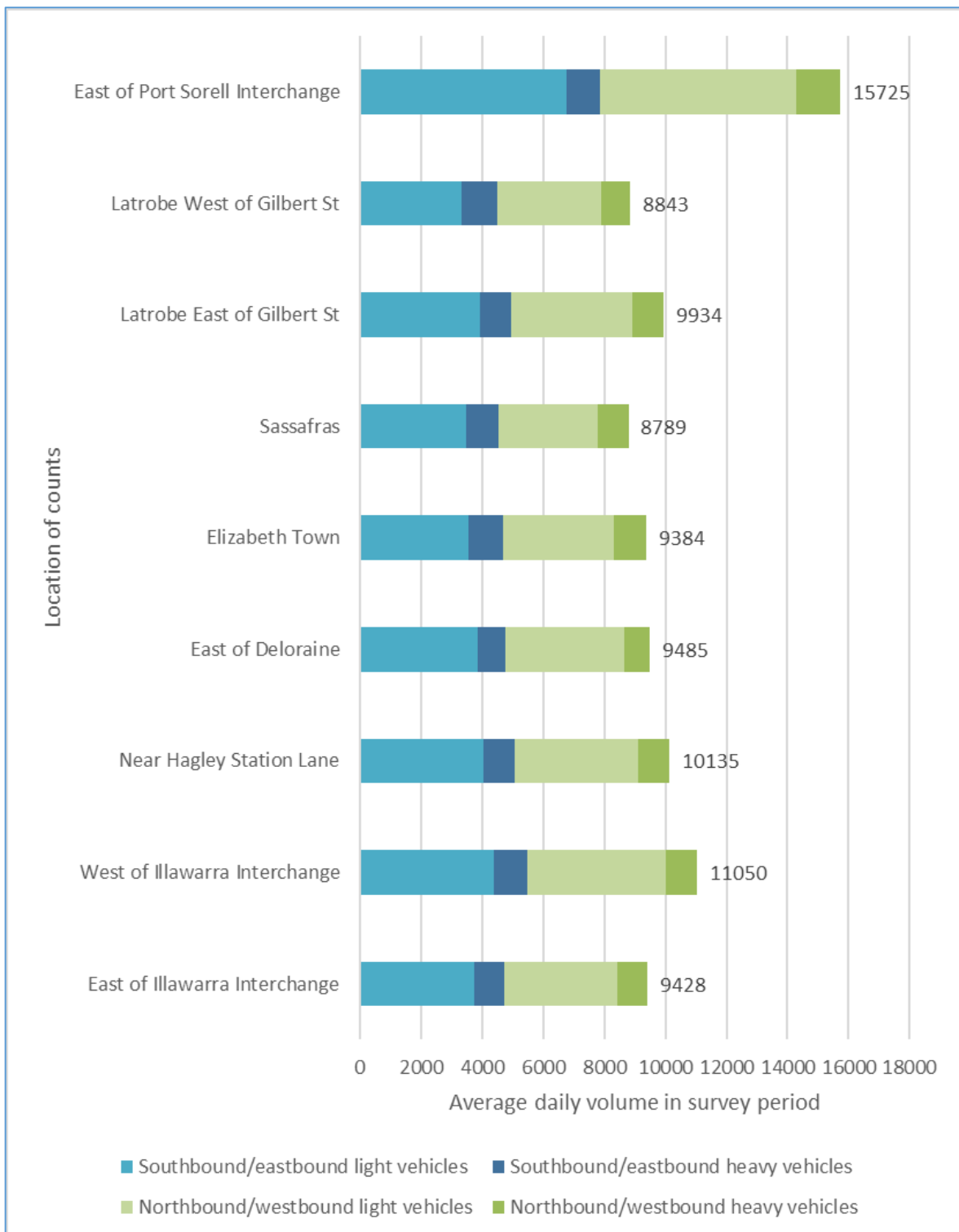


Figure 3.10: Survey period AADT across the corridor with directional volumes of light and heavy vehicles¹²

¹² Department of State Growth, 2019 Permanent Traffic Counters, unpublished

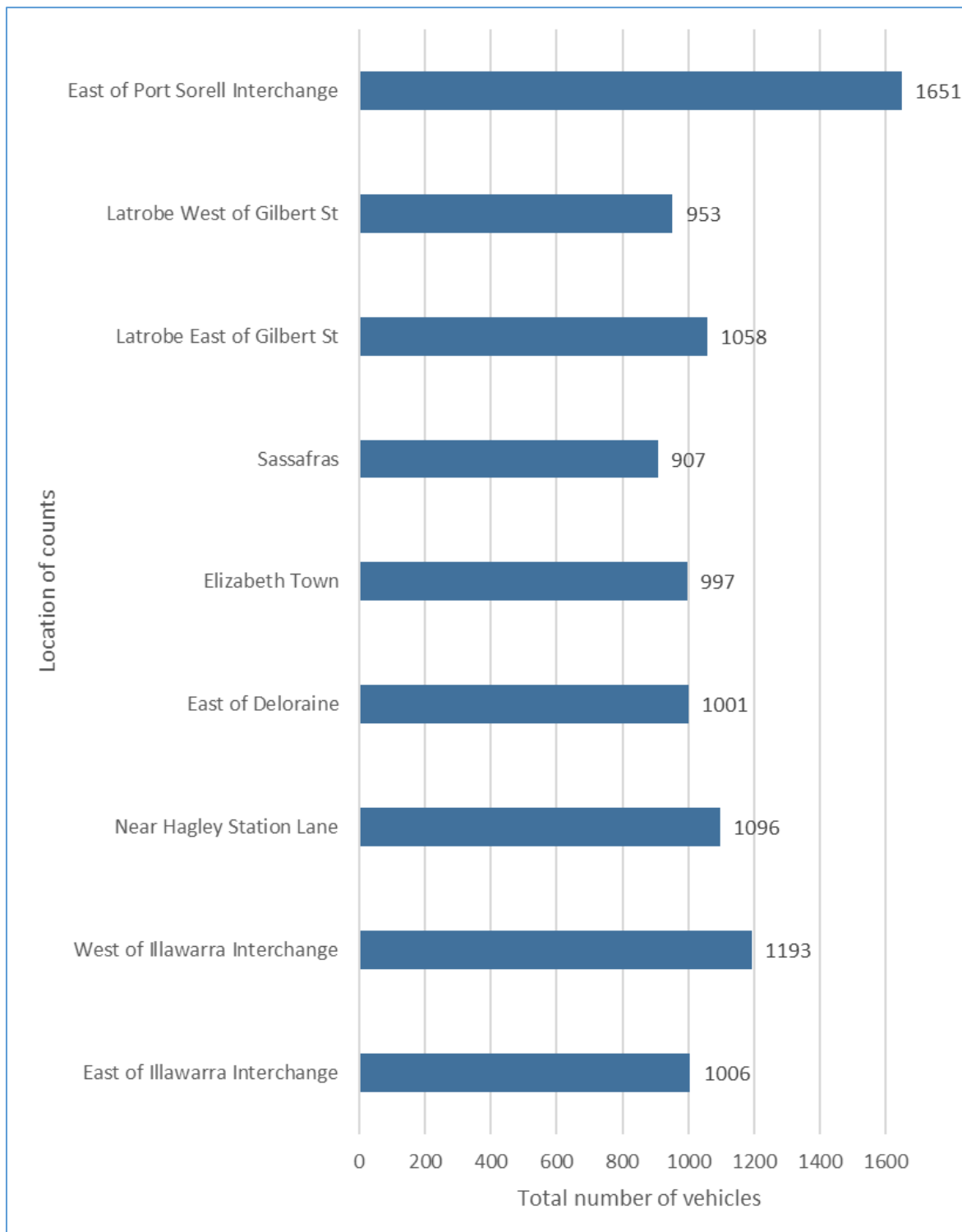


Figure 3.11: 2019 maximum hourly two-way traffic volume across the Bass Highway¹³

¹³ Department of State Growth, 2019 Permanent Traffic Counters, unpublished

3.4 Industry and economic activity

The dominant employment sectors within the two municipalities are health care and social assistance, retail trade, agriculture, forestry and fishing, as shown in Figure 3.12.

The Bass Highway has a key role in connecting industries with each other and linking these employment industries with population centres, including Burnie, Ulverstone, Devonport, Latrobe, Deloraine, Westbury, Longford and Launceston. It also plays a key role in enabling the movement of goods between the ports of Devonport and Burnie and the rest of Tasmania.

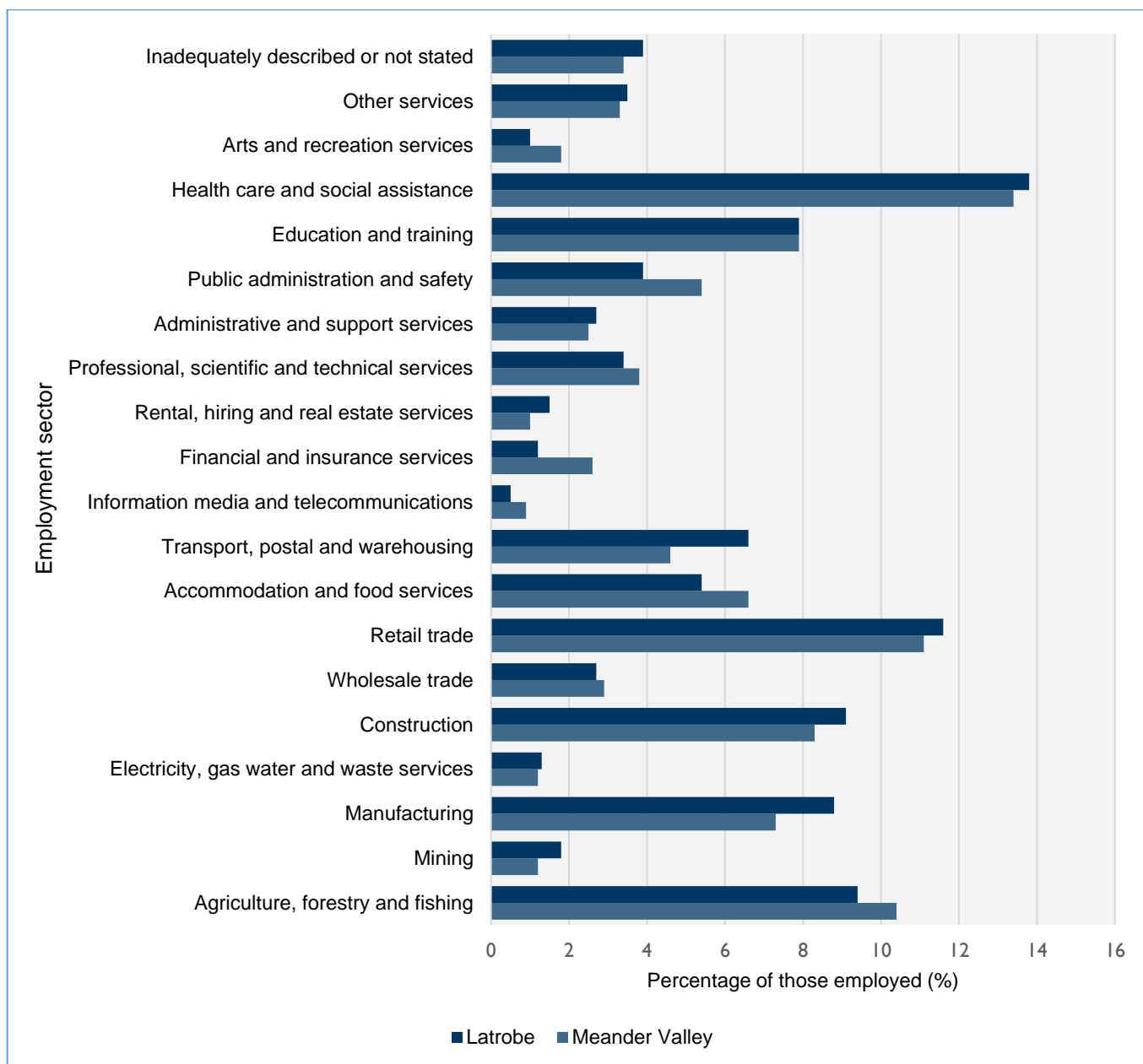


Figure 3.12: Key employment sectors in each municipality (2016)¹⁴

¹⁴ Australian Bureau of Statistics, 2016, *Census Data*, ABS, Canberra

3.5 Public transport and active transport

3.5.1 Public transport

Public bus service

The intercity bus service between Launceston and Devonport is currently operated by Tasmanian Redline on behalf of the State Government. This service operates three times a day in each direction, using both the Bass Highway and Meander Valley Road. In addition to the intercity bus services, school buses also operate along the Bass Highway.

The timetable for the intercity route between Launceston and Devonport does not indicate any bus stops along the Bass Highway within this study area. State Growth's database lists seven general access bus stops, including stops in Elizabeth Town, Sassafras and Latrobe, which are shown in Figure 3.13. The bus stops are currently not marked along the route.

A photo of the Elizabeth Town bus stop is provided in Figure 3.15.



Figure 3.13: General public bus stops¹⁵

¹⁵ Department of State Growth, general access bus stop locations, 2021, unpublished
Bass Highway Corridor Strategy – Launceston to Devonport

School bus routes

State Growth's database lists 11 school bus stops along the Bass Highway between Deloraine and Latrobe. These are identified in Figure 3.14 and are considered to be formal bus stops. Formal bus stops are listed in the bus operator contract, and drivers must stop at them. Drivers can choose to stop in other locations (informal bus stops) along the school bus route if it is safe to do so and the stop is more than 200 metres from a formal bus stop. The school bus stops on the highway are generally located at intersections, driveways and G-turns on the Bass Highway. These bus stops do not currently have facilities for buses or for passengers waiting for the bus.

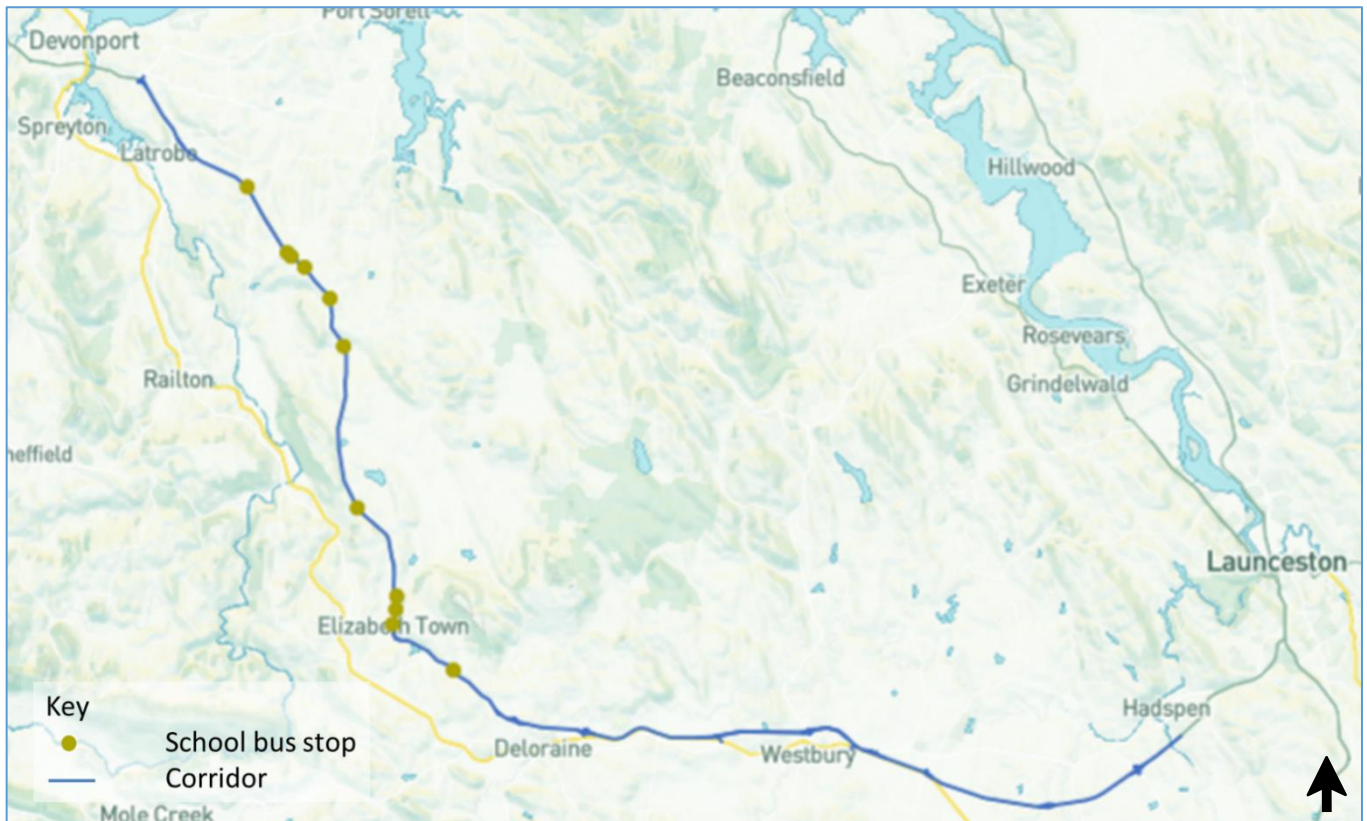


Figure 3.14: School bus stops¹⁶

Coaches

No data is available detailing the number of coaches that use the Bass Highway corridor or any common coach stopping locations. However, to support tourism in Tasmania, it is understood that several tourist coach operators use the corridor and stop at key tourist locations along the route, such as Anvers Chocolate Factory in Latrobe and the Christmas Hills Raspberry Farm Café in Elizabeth Town. Both these locations include coach off street parking.

Taxi and peer to peer ride sharing

No data detailing taxi or peer-to-peer ride-sharing demand has been collected for the corridor. These vehicles would operate as other light vehicles and are likely to use off-street car parks to pick up or drop off passengers at key destinations along the corridor.

¹⁶ Department of State Growth, school bus stop locations, 2021, unpublished

3.5.2 Active transport

Pedestrian and cycling facilities

The Bass Highway does not function as an active transport link between towns. There are no facilities or infrastructure servicing active transport apart from an unsealed path adjacent to the Elizabeth Town Bakery Café and a short section of sealed footpath and an uncontrolled crossing at the Bass Highway/Moriarty Road roundabout.



Figure 3.15: Bus stop location in Elizabeth Town

4 Current corridor performance

The Bass Highway alignment follows the tracks used by the early settlers to the region. In the 1850's a road was built through Sassafras to Latrobe. In 1877 the Tasmanian Parliament passed a vote for the first of three stages of a new main road between Elizabeth Town and Latrobe. This route followed the existing roads where possible and passed through Sassafras. These early roads were progressively upgraded with bitumen pavements. Over the last 50 years the Bass Highway has been realigned numerous times to bypass towns including the Latrobe Bypass and progressive town bypasses between Deloraine and Hadspen from the late 1980's to 2001. Between Deloraine and Sassafras, the Bass Highway still largely follows the routes established in the late 1800's by the early settlers.

The current corridor performance has been assessed against current design practises including a Safe Systems approach. A safe systems approach aims to provide a road environment that is more forgiving to driver error and reduces the severity of crashes.

Roads are not upgraded each time a design standard is updated. Instead, these new standards are applied when any changes are made to the road network. This results in sections of the road having a design legacy that potentially impacts safety, operation and efficiency.

Meeting community expectations of safe, efficient and well-maintained roads requires a clear set of performance measures. For the Bass Highway, the performance measures are based on how road characteristics support safe travel.

There are two factors influencing the current road performance. The first type is the road's geometric or physical layout, which does not usually change greatly over time and may be constrained by topography, land ownership or management. Examples include lane width, alignment and shoulder width. The second influencing factor is the road condition that varies significantly over time due to wear, loading or physical degradation, such as pavement condition.

This document considers the Bass Highway's current corridor performance based on the following road characteristics:

- road safety
- traffic
- road design and geometry
- road pavement condition
- environment.

4.1 Road safety

The *Towards Zero—Tasmanian Road Safety Strategy 2017–2026, 2016*, outlines Tasmania’s plan to reduce serious injuries and fatalities on the roads. The long-term vision is that no one is seriously injured or killed as a result of a crash on Tasmanian roads, with a short-term aim to reduce annual serious injuries and fatalities to fewer than 200 by 2026.

A fatality crash is where a person is killed at the time of the crash or dies of injuries sustained in the crash within 30 days of the crash. A serious injury crash is defined as a crash in which a person is hospitalised for 24 hours or more.

4.1.1 Existing crash data analysis

Crash data was obtained from State Growth for the Bass Highway within the study area between the start of August 2015 and the end of July 2020.

Number of crashes

A total of 330 crashes were recorded on the corridor during this period. Of these crashes, 28 required first aid only, 69 resulted in minor injuries, 17 resulted in serious injuries and five resulted in fatalities. Figure 4.1 shows a heat map of crashes on the corridor. While crashes have been recorded along the entire length of the corridor, it is noted that there are specific locations with a higher density of crashes, most notably around Elizabeth Town and Latrobe.

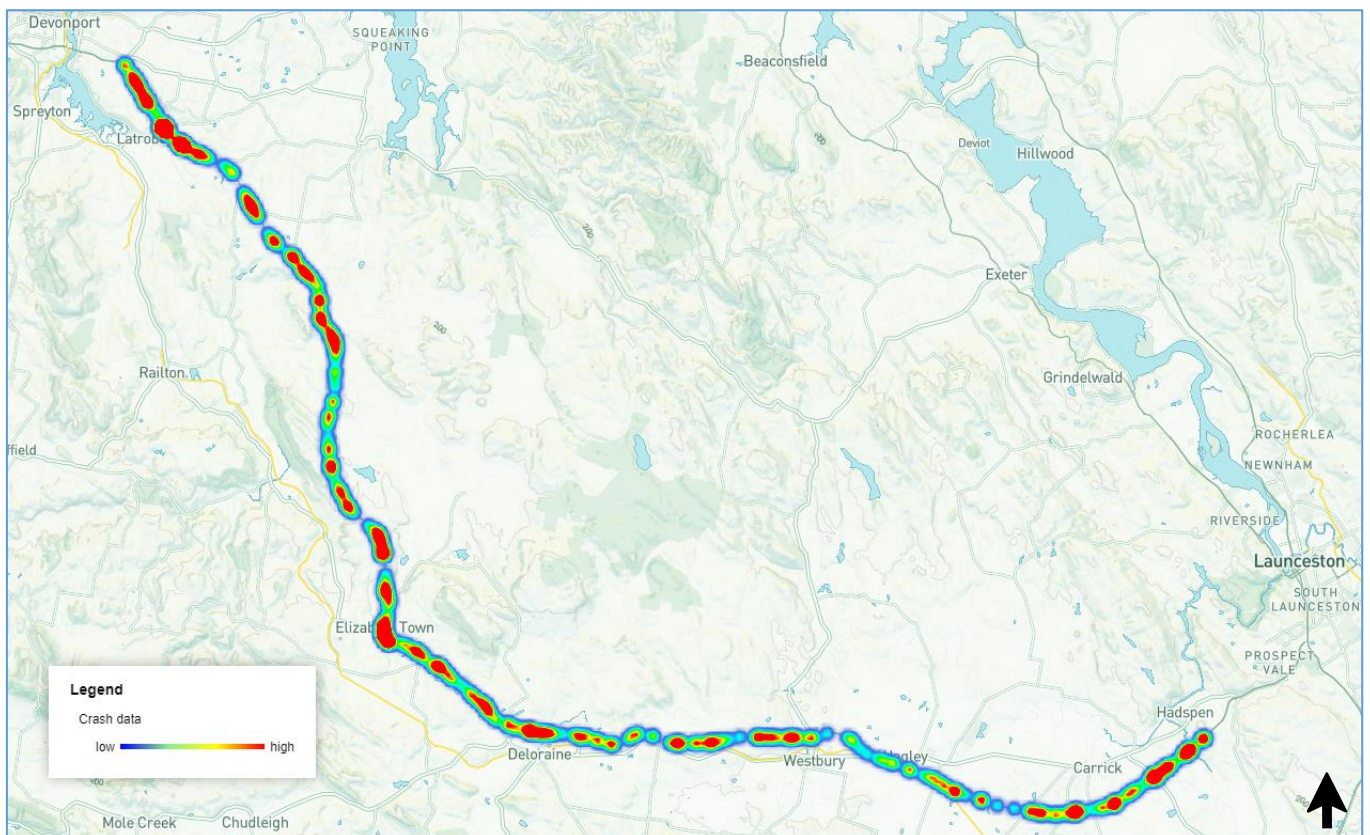


Figure 4.1: Heat map of crash density, August 2015 to July 2020

Figure 4.2 shows the distribution of crash types on the corridor during the assessed period. It also defines the crashes by severity. While run off road and rear end crashes were the most prevalent on the corridor, head on and overtaking crashes resulted in more Fatal and Serious Injury (FSI) crashes.

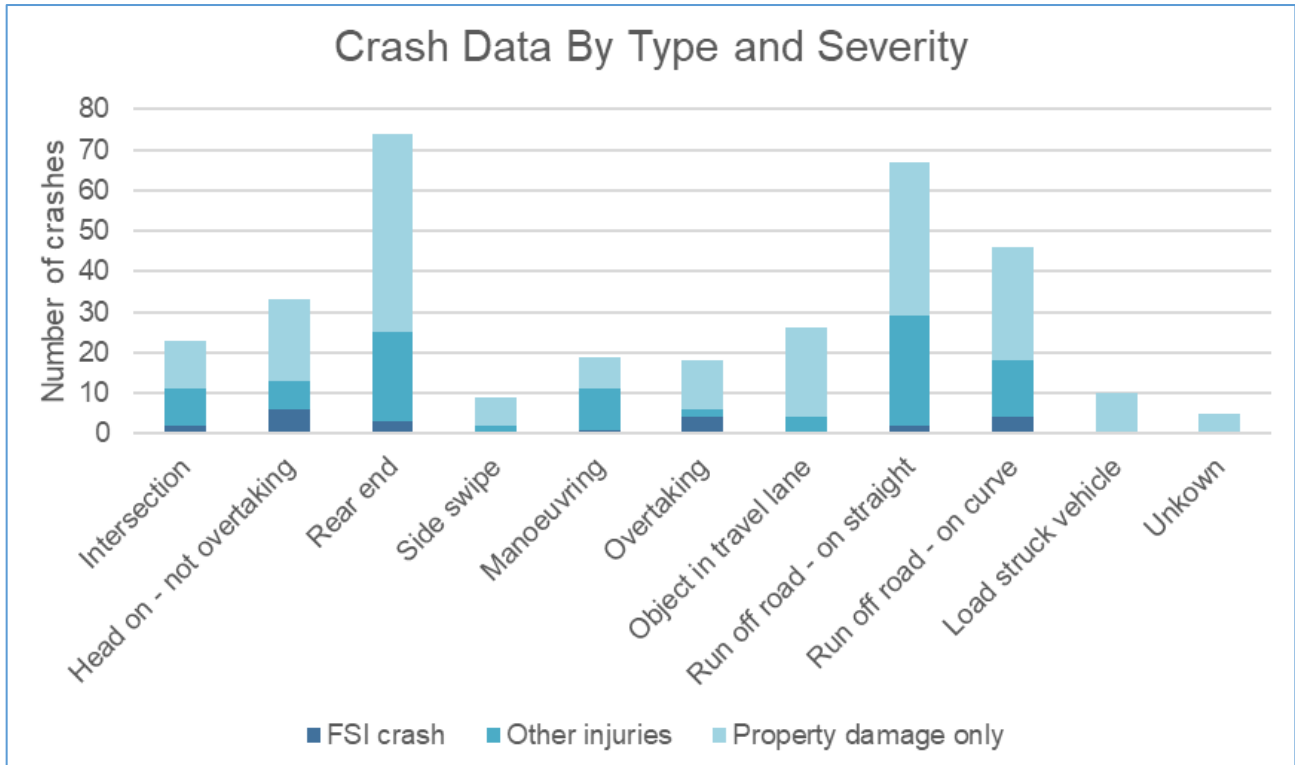


Figure 4.2: Crashes by type and severity between August 2010 and July 2020

The proportion of crash types also differed in profile during the day compared with the night. Figure 4.3 shows the profiles of crashes by type during the day (including dawn and dusk) compared with the profile of crashes by type during the night. During the day, a larger proportion of the crashes are intersection related. During the night, a higher proportion of the crashes are run off road crashes or object in travel lane crashes. Note that object in travel lane crashes includes collisions with animals.

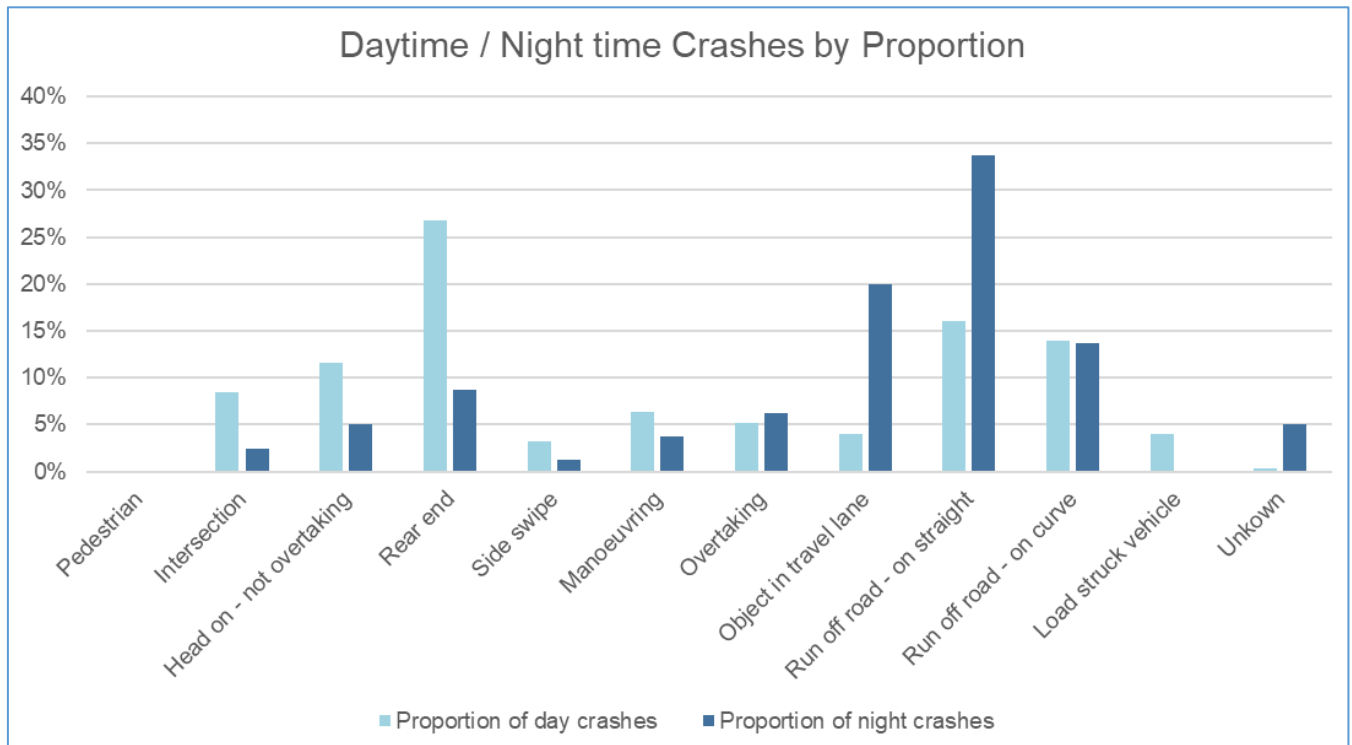


Figure 4.3: Crashes type profiles for day and night

4.1.2 Road safety hazard identification

A road safety audit was conducted in accordance with the Austroads *Guide to Road Safety Part 6: Managing road safety audits, 2019*. The key findings from the road safety audit are provided in Table 4.1.

Table 4.1: Road safety hazard identification

Category of findings	Key findings
Road Geometry and Configuration	The majority of the corridor is a two lane single carriageway with no separation between the directions of travel. The majority of the corridor has narrow shoulders, limited number of overtaking lanes, high traffic volumes and high-speed limits.
	Sections of the corridor have steep grades, particularly for trucks.
	Some curves can cause sight distance issues, particularly at high speeds.
Intersections and access points	Acceleration and deceleration lanes do not always fully meet the current design standards.
	At many minor intersections and access points, there is no provision for entering or exiting vehicles.
	For many intersections and access points, there are little to no warning signs present.
	The location of some intersections, interchanges and driveways is not clearly visible due to vertical or horizontal curves.
Delineation and signposting	Reflective pavement markers are not clearly visible for some sections of the corridor at night.
	Some curves are not clearly marked at night.
	Many of the safety barrier end terminals do not have reflective markings.
Roadside hazards	There is no warning signage or facilities for bus stops on the corridor.
	There is an insufficient number of rest areas along the corridor. Where rest areas are present, the facilities are often poor, and exits do not provide acceleration lanes back onto the highway.
	Safety barrier end terminals often do not meet current design standards for direct impacts.
Surface conditions	Surface and pavement conditions could be improved in sections.

4.2 Traffic

4.2.1 Corridor capacity

To assess the theoretical capacity of the corridor, the road has been divided into eight regions where the cross section, heavy vehicle percentage and topography is relatively consistent. These regions and their characteristics are described in Table 4.2. The general terrain of a roadway that influences capacity is derived from Austroads *Guide to Traffic Management Part 3: Transport Study and Analysis Methods*.

Table 4.2: Road characteristics

Region	Lane width	Heavy vehicle proportion	Sealed shoulder width	Topography
End of dual carriageway south of Hadspen to start of dual carriageway near Westbury	3.5 m	20%	2.0 m	Moderate
Dual carriageway between Westbury and Exton	3.5 m	19%	2.0m	Moderate
End of dual carriageway near Exton to Bengeo Road	3.6m	18%	1.5 m	Moderate
Elizabeth Town	3.5 m	23%	1.5 m	Moderate
Elizabeth Town to Parramatta Creek	3.5 m	23%	1.5 m	Moderate
Parramatta Creek to Sassafras	3.3 m	23%	1.0 m	Moderate
Sassafras to Abeys Road	3.5m	23%	1.0m	Moderate
Abeys Road to start of dual carriageway near Port Sorell Road interchange	3.3 m	16%	1.5 m	Level

Table 4.3 shows the theoretical capacity (for one direction) for each region described in Table 4.2, as well as the highest hourly volume (in a single direction) recorded for that section. Theoretical capacities were derived from *Austrroads Guide to Traffic Management Part 3: Transport Study and Analysis Methods*. A two lane, two-way road often has a theoretical capacity between 1,500 and 2,400 passenger cars per hour. This theoretical capacity can be reduced by factors such as steep road grades and high proportion of heavy vehicles.

Table 4.3: Road region theoretical capacity and existing peak volumes

Regions	Number of lanes in each direction	Theoretical capacity (vph)	Existing peak volume (vph)
End of dual carriageway south of Hadspen to start of dual carriageway near Westbury	1	1,125	698
Dual carriageway between Westbury and Exton	2	1,547	565
End of dual carriageway near Exton to Bengeo Road	1	1,052	565
Elizabeth Town	1	959	564
Elizabeth Town to Parramatta Creek	1	959	564
Parramatta Creek to Sassafras	1	852	488
Sassafras to Abeys Road	1	959	488
Abeys Road to start of dual carriageway near Port Sorell Road interchange	1	1,241	924

4.2.2 Overtaking opportunities

While the highway has a theoretical capacity, as shown in Table 4.3, the actual effective capacity and level of service is influenced by opportunities for faster vehicles to overtake slower vehicles. The availability of overtaking lanes is a key aspect of travel time reliability, which has a direct impact for business, tourism planning and logistics.

At several points along the highway, faster vehicles are provided with an opportunity to overtake slower vehicles, particularly as they climb hills. A high-level assessment was conducted to determine if the existing provision of overtaking lanes is sufficient for the corridor. The assessment, based on criteria defined in *Austrroads Guide to Road Design Part 3: Geometric Design*, found that the 2019 traffic volumes and heavy vehicle proportions (see Table 3.2) were high enough to meet the guideline recommendations to have overtaking lanes at spacings of 10 to 15 kilometres.

Although the corridor has overtaking lanes at the minimum recommended spacing, the traffic volume and proportion of heavy vehicles, as well as restricted visibility due to poor horizontal and vertical geometry reduce overtaking opportunities on sections which are one lane each way. This prevents road users from being able to overtake safely in between formal overtaking lanes, resulting in slower travel. Figure 4.4 depicts cars queuing along the Bass Highway on the approach to Elizabeth Town. In this location the topography prevents safe overtaking.



Figure 4.4: Queue of cars into Elizabeth Town

4.2.3 Pedestrians and cycling facilities

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

Cyclists

There is no dedicated road cycling infrastructure between Launceston and Devonport. While cyclists are permitted to ride on the Bass Highway, the road configuration does not always allow motorists to provide the required 1.5m clearance to the riders and stay within their designated lane.

Pedestrians

There is limited dedicated pedestrian infrastructure between Launceston and Devonport. Localised movement is likely to be along the road shoulder or verge.

4.2.4 Bus facilities

While there are bus stops along the corridor, there are no bus stop facilities at any of these locations.

4.3 Road design and geometry

The route for the Bass Highway was selected many years ago and the road constructed to respond to the topography of the route. Over time the road design guidelines and standards have been updated to incorporate increased understanding of road safety and to respond to faster and more powerful vehicles.

An assessment of the road geometry was undertaken to understand how the existing road conforms to current design expectations. The assessment was undertaken based on the road design information supplied by State Growth.

The key findings from the road geometry assessment are provided in Table 4.4.

Table 4.4: Road geometry assessment

Category of findings	Key findings
<p>Road Geometry and Configuration</p>	<p>Lane widths largely meet the desirable minimum width of 3.5m for a straight highway.</p> <p>Shoulder widths are not consistent along the highway.</p> <p>Where there are curves on the road, additional pavement may be required to allow heavy vehicles to manoeuvre safely and to remain on the pavement. This additional pavement could be provided as additional lane width and/or shoulder width. Figure 4.5 shows an example of a curve with a narrow shoulder.</p>  <p>Figure 4.5: Narrow shoulder near Long Hill</p> <p>Steep grades are evident at 26 of the 295 locations checked. Steep grades may result in varying speeds between vehicles in both the downhill and uphill direction. For the majority of the uphill steep grades a dedicated overtaking lane exists.</p> <p>Provision of additional dedicated overtaking lanes on uphill grades without an overtaking lane will provide an opportunity for vehicles to overtake. Where the corridor is constrained, signage informing drivers of the next overtaking lane location may reduce the prevalence of driver risk taking behaviour.</p>

Category of findings	Key findings
Road Geometry and Configuration (cont.)	<p>Motorists need to be able to navigate through curves, dips and crests effectively and assess any potential danger on the roadway in enough time to avoid an incident.</p> <p>Of the road curves assessed, motorists may feel the need to slow to at least 10km/hr below the signposted speed at:</p> <ul style="list-style-type: none"> • 19 of the 98 horizontal curves (road corners) • 16 of the 94 sag curves (dips) • 44 of the 92 crest curves. <p>Where vehicles are frequently reducing speed below the signposted speed an advisory speed limit sign should be used to guide drivers.</p> <hr/> <p>Stopping sight distances at 36 of the 138 locations checked do not meet current design standards for the posted speed limit. The highest number were identified between Emu Bay Road and Gannons Hill Road. This would tally with the high incidences of tight horizontal and vertical geometry within this section of the Bass Highway.</p> <p>If the sight distance is compromised at the approach to a high-risk area such as a merge or an intersection, sight distance should be improved, the risk removed, speed reduction or warning signage be provided to inform drivers.</p>

Category of findings	Key findings
<p>Intersections and access points</p>	<p>Interchanges - A grade separation of two or more roads with one or more interconnecting roadways</p> <p>Of the 13 entry ramps assessed, issues were identified at 12, generally related to the limited acceleration distance.</p> <p>Seven of these were eastbound entry ramps and six westbound.</p> <p>A sample of specific interchange entry ramp issues is provided below.</p> <ul style="list-style-type: none"> • Illawarra Road eastbound entry ramps acceleration distance only allowed cars to reach an approximate speed of 55 km/h before merging with the through traffic travelling approximately 110 km/h. • Oaks Road eastbound entry ramps acceleration distance only allowed cars to reach an approximate speed of 88 km/h before meeting with the through traffic travelling approximately 110 km/h. Additionally, road users require a minimum distance of 122 m at this location to identify a gap in the through traffic, although only approximately 50 m is available. This combination is considered a safety concern. • Oaks Road westbound entry ramp only allows cars to reach an approximate speed of 72 km/h before meeting with the through traffic travelling approximately 110 km/h. • Emu Bay Road and Highland Lakes westbound entry ramps do not provide sufficient distance to allow road users to identify a gap in the through traffic. The entry ramps however do include extended tapers which will likely mitigate this hazard. <p>Note: exit ramps were not assessed</p> <hr/> <p>Intersections without turn lanes</p> <p>Between Deloraine and Latrobe, many local roads joining the Bass Highway do not have turn lanes. 18 intersections were assessed as requiring turn lanes.</p> <p>In addition, the majority of private properties have direct access to the highway, where the speed limit is up to 110 km/h.</p> <p>While it is impractical to justify turning lanes for each property along the route, the shoulders could be widened near property entrances to provide greater allowance for vehicles turning left onto the highway or better clearance from through traffic. Further to this, local access consolidation will create an opportunity to provide improved access arrangements. Where direct access cannot be improved, and is a safety risk, left-in, left-out arrangements are recommended.</p>

Category of findings	Key findings
Intersections and access points (cont)	<p data-bbox="619 275 999 309">Intersections with turning lanes</p> <p data-bbox="619 324 1457 389">38 intersections with turning lanes were assessed with issues at 27 of them identified.</p> <p data-bbox="619 409 1374 474">The two intersections with the issues posing the highest safety concern are:</p> <ul data-bbox="643 495 1457 741" style="list-style-type: none"> <li data-bbox="643 495 1457 645">• right turn into House of Anvers café on the northern side of Latrobe, where a 60 metre right turn lane is provided instead of a desirable length of 100 metres. This is based on the sign posted speed limit of 80km/hr at this location <li data-bbox="643 667 1457 741">• left turn into Gannons Hill Road, where a 71 metre turn lane is provided instead of the desirable length of 185 metres. <p data-bbox="619 831 1457 896">The location of some intersections, interchanges and driveways is not clearly visible due to vertical or horizontal curves.</p>
Delineation and signposting	Not assessed as part of the road geometry assessment
Roadside hazards	<p data-bbox="619 1057 1425 1122">Much of the Bass Highway was designed prior to when the current roadside environment standards came into effect.</p> <p data-bbox="619 1142 1465 1411">The desirable width of a clear roadside environment depends on traffic volumes, traffic speeds and road geometry. Where adequate safe roadside environments cannot be provided due to factors such as challenging topography, safety barriers should be installed. Safety barriers deflect straying vehicles by absorbing energy, thereby reducing the severity of collisions. Safety barriers can be located in the median to separate opposing traffic and on the roadside to protect against challenging topography.</p>

4.4 Heavy vehicle driver rest areas

Heavy vehicle driver rest areas (HVDRA) are provided to help heavy vehicle drivers manage fatigue and comply with driving hours regulation. Formal rest areas are maintained by State Growth. Informal rest areas have evolved through ongoing use by heavy vehicle drivers and may not provide suitable provisions for the drivers.

Along the corridor drivers pull over for rest breaks at the locations identified in Figure 4.6. The heavy vehicle driver rest areas shown in Figure 4.6 are a mix of formal and informal rest areas, as well as locations that appear to be favoured by drivers. The Tasmanian Transport Association (TTA) was consulted and have in principle support for the information detailed in this strategy. Where the TTA advocates for the area to be used as a HVDRA, the TTA's name for the site has been adopted.

For the eastbound direction (from east to west) the following are heavy vehicle driver rest areas:

- Westbury, west of Biralee Road (B72) Exit
- Long Hill west of Paramatta Creek at termination of overtaking lanes
- Opposite Ampol Service Station, Sassafras

For the westbound direction (from east to west) the following are heavy vehicle driver rest areas:

- Hagley, South of Hagley / Whitemore Overpass
- Deloraine, visitor information bay (refer to Figure 4.7)
- Christmas Hills, (DSG Designated HV Parking Area # 11), located north of Emu Bay Road on ramp
- Forest Farm weighbridge, located north of Gannons Hill Road
- Long Hill west of Paramatta Creek (westbound)
- Caltex service station, Latrobe (refer to Figure 6.5)

These rest areas do not currently include facilities. Due to poor facilities at these rest areas, and insufficient spacing between rest areas, heavy vehicles are often parked on the shoulder of the road near commercial premises that do have driver amenities, or in G-turn bays. Parking on the shoulder poses a safety risk to both heavy vehicle drivers and other vehicles on the Bass Highway. In addition, the HVDRA were sometimes used for storing gravel, limiting heavy vehicle drivers' ability to manoeuvre within the rest stop.

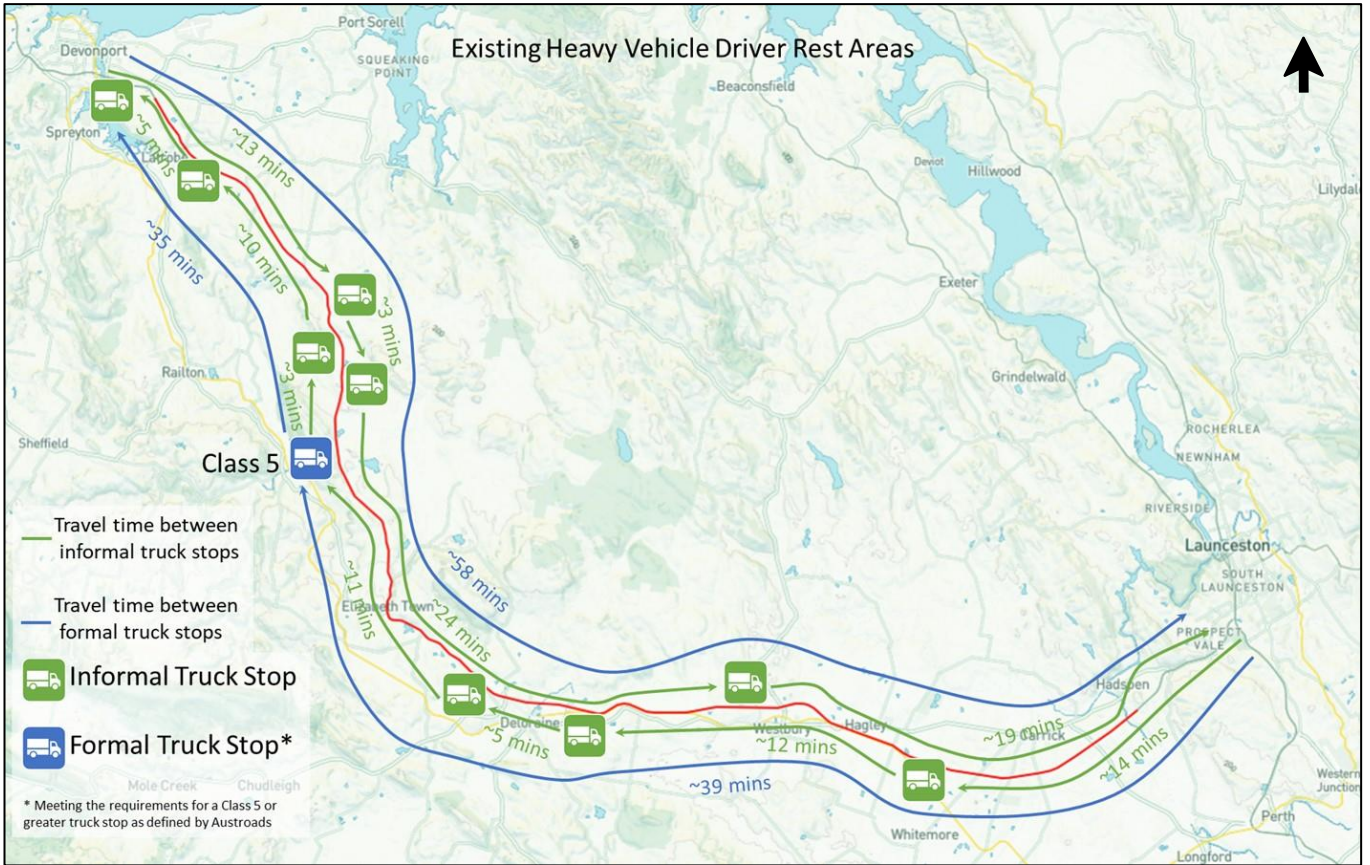


Figure 4.6: Existing heavy vehicle driver rest areas



Figure 4.7: Rest stop at the Deloraine, visitor information bay east of Meander Valley Road (A5) interchange

4.5 Road pavement condition

Pavement condition data was provided by State Growth for both surface and base pavement rating. This data showed large grouped sections of poor base pavement and/or surface rating which can affect both comfort and safety of the road. The three key areas found are:

- poor to fair surface and base pavement ratings from approximately 500 metres south of Huon Factory Road to Conservatory Road
- fair surface and base pavement rating from approximately 3 km west of Birralee Road overpass to 500 metres north west of The Avenue Road
- poor to fair surface rating from approximately 500 metres north west of Henry Street to East Davenport interchange (beyond the study area).



Figure 4.8: Pavement near Elizabeth Town showing localised pavement patching

Figure 4.8 shows a section of road that has localised pavement patching.

Figure 4.9 and Figure 4.10 provide pavement assessment findings for both the base and surface.



Figure 4.9: Base pavement condition

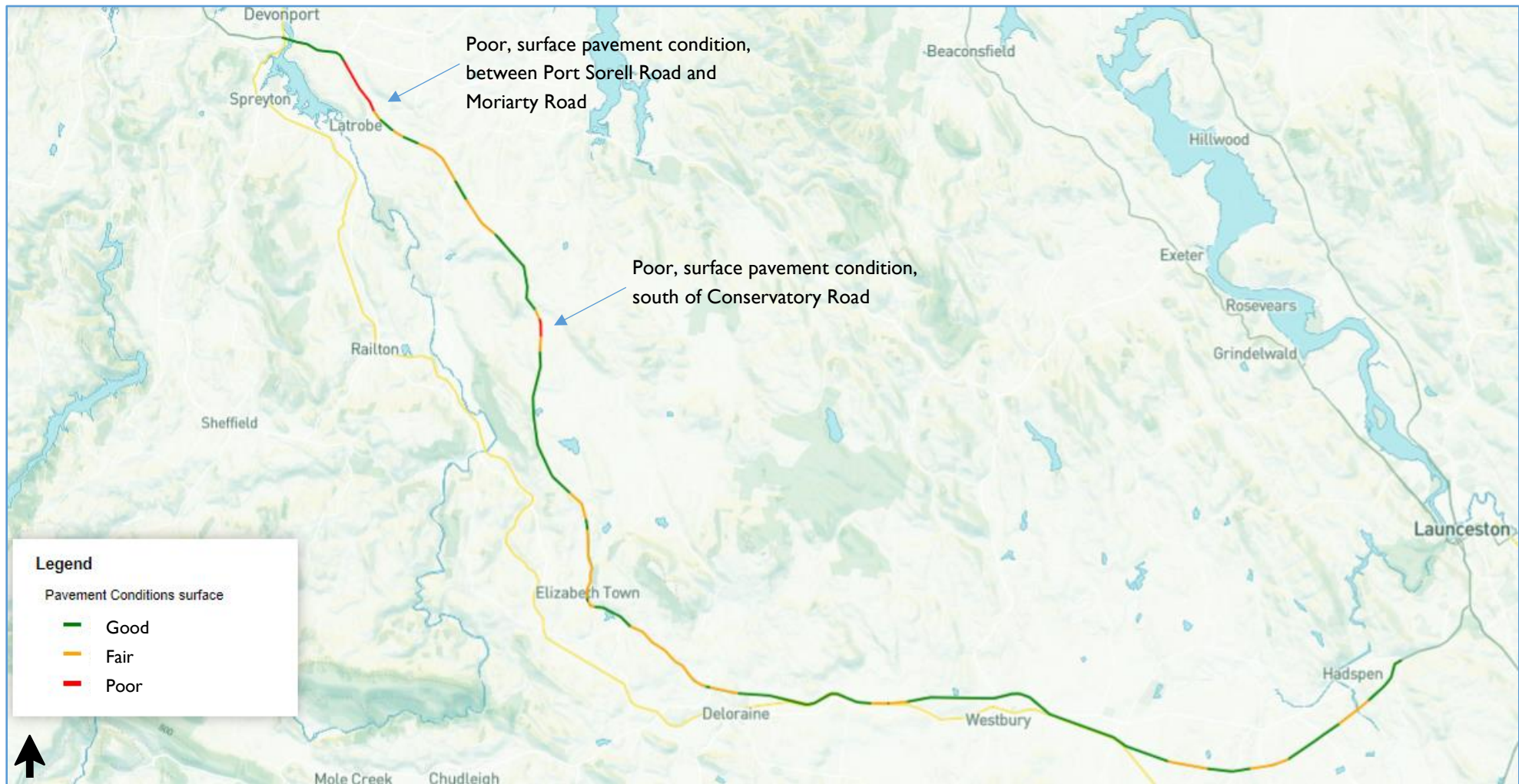


Figure 4.10: Surface pavement condition

4.6 Environment

4.6.1 Introduction and summary

The Bass Highway corridor between Launceston and Devonport is a rich source of biodiversity, cultural heritage and agricultural production.

The study area passes through some of Tasmania's most productive farmlands and is located within two different local government areas, Latrobe Council and Meander Valley Council.

Adjacent to the highway, recognisable changes to the type of farming generally correspond with the availability of water, the qualities of the soil and other environmental factors, acknowledging both the Greater Meander Valley and the Sassafras Wesley Vale irrigation schemes which collectively cover approximately half of the study area. The consistency and certainty of water supply within these irrigation districts enables productivity gains across several different types of primary industry including dairy, beef, cropping, forestry and orchards.

East of Deloraine the land use is predominantly characterised by dry land farming such as sheep and cattle, interspersed with some irrigation farming and forestry. The landform is flat to gently undulating. The Meander River crosses the Bass Highway at Deloraine and tributaries cross the Bass Highway near Carrick. The Bass Highway bypasses the towns of Deloraine, Exton and Westbury.

Between Deloraine and south of Sassafras, the Bass Highway passes through the Christmas Hills Road area as well as Elizabeth Town. The land to the east of Elizabeth Town is predominantly conservation land reserves. North and south of Elizabeth Town, in the undulating terrain, the land use is a mix of forestry and dry land farming and includes tourism centres and aquaculture factories. Figure 4.11 shows the highway north of Elizabeth Town

Through Sassafras the land use is predominately irrigated agriculture, including orchards and miscellaneous crops. The approaches to Latrobe are characterised by rural residential and small acreages. Land use within the urban centre of Latrobe is predominantly residential subdivisions, commercial and industrial developments.

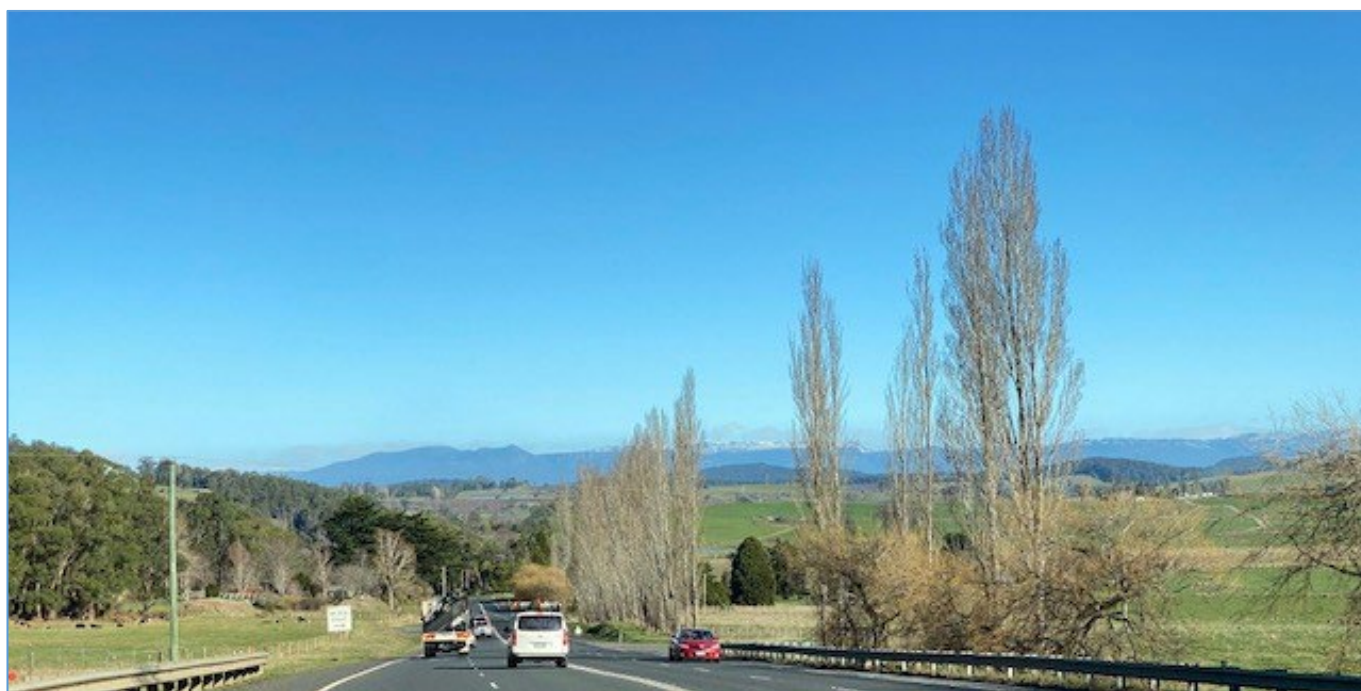


Figure 4.11: Highway north of Elizabeth Town

4.6.2 Aboriginal and non-Aboriginal heritage

Tasmania's historic heritage places are recorded in many different heritage lists: world; national; commonwealth; state and local. There are several sites registered by the Tasmanian Heritage Register or Latrobe Council that are within 400 metres of the Bass Highway. Meander Valley Council currently does not hold a publicly available list of places that are offered protection from a heritage perspective.

Several sites of Aboriginal heritage and historic significance have been identified. The locations of the sites of Aboriginal significance are not listed or displayed in this strategy to provide protection for these items. Table 4.5 identifies the historic heritage places, listed as having protection from future development, and that are within 400 metres of the Bass Highway.

Table 4.5: Non-Aboriginal heritage sites within 400 metres of Bass Highway

Approximate location	Number of sites on the register	Place name
Hagley	8	Hagley House Hagley Mill Hagley Uniting Church & Cemetery Woodside Homestead and Farm
Westbury	3	Culzean Gardens
Deloraine	3	Bowerbank Sheepfolds
Elizabeth Town	1	Our Lady Help of Christians Catholic Church
Sassafras	2	35 Shelbrook Lane, Sassafras 8108 Bass Highway, Sassafras

Based on the desktop assessment, many of the places may be unaffected by the highway upgrades, but further investigation will be required in relation to these specific sites listed in Table 4.5.

Prior to commencing any improvement works, it is recommended that both Latrobe Council and Meander Valley Council are consulted to determine if there are any unlisted sites that may be impacted by the works.

In addition, an Aboriginal Heritage Assessment Report will be required to confirm the protection afforded to sites of Aboriginal heritage value.

4.6.3 Flora and fauna

Areas of threatened flora, fauna and vegetation communities are situated on the lands adjacent to the Bass Highway. The location of these sites and communities are identified in Figure 4.13.

Where any improvement works to the Bass Highway are outside the existing road formation, ecological surveys should be undertaken. These surveys are required to map the type and extent of native vegetation and to determine the presence and potential impacts on Matters of National Environmental Significance (MNES) and state-listed ecological values. In addition, appropriate assessment of potential environmental impacts would also be required, to understand and quantify the potential impacts of any proposed upgrade works to soil and water bodies.

The potential for occurrence of threatened species should be considered based on the presence of particular habitat types as follows.

- Where treed habitat exists such as shown in Figure 4.12 , assessment should include particular consideration and mapping of any habitat trees present for listed threatened nesting bird species, namely the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) listed Wedge-tail Eagle, Masked Owl and Swift Parrot.
- Habitats with appropriate vegetative cover (including woodland and forests) should include consideration and mapping of habitat for listed threatened mammal species, namely the EPBC Act listed Tasmanian Devil, Eastern Barred Bandicoot, Spot-tailed Quoll and Eastern Quoll.
- Areas of aquatic habitat should be assessed to determine suitability for listed threatened frogs, namely the EPBC Act listed Green and Golden Frog, fish, namely the EPBC Act listed Australian Grayling, crustaceans, namely the EPBC Act listed Giant Freshwater Crayfish, Central North Burrowing Crayfish and Mount Arthur Burrowing Crayfish, and birds that utilise inland aquatic habitats, namely the EPBC Act listed Australasian Bittern.
- Where native vegetation exists, assessment should include consideration of the suitability of habitat for threatened flora species, especially those listed on the EPBC Act.



Figure 4.12: Bass Highway at Parkham Road travelling south

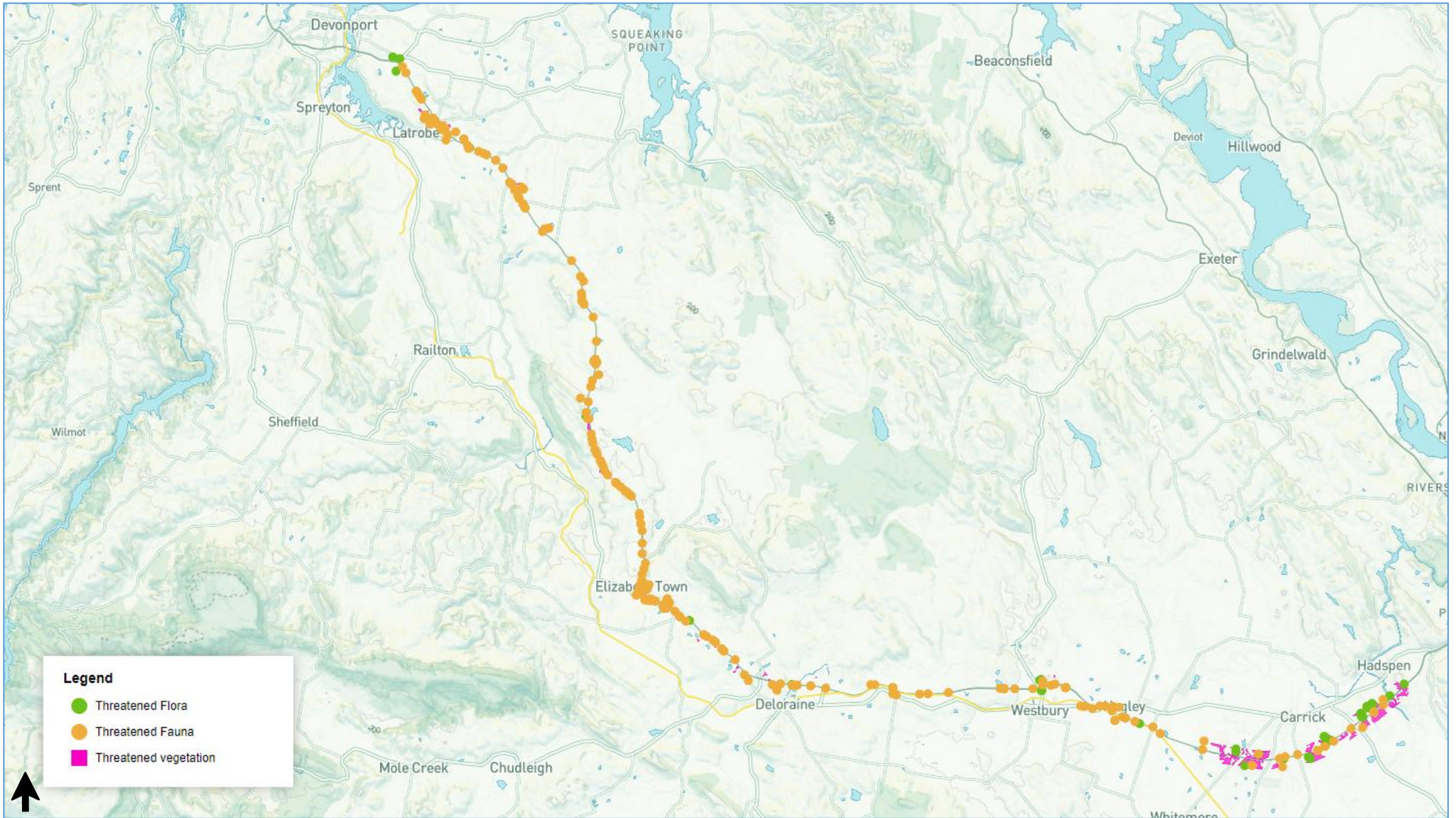


Figure 4.13: Environmental constraints

5 Future corridor changes

5.1 Population and demographics

There are several ways that population can impact traffic demands on the corridor. This can be through population growth, as a larger population typically generates more people movements, directly impacting demand along the corridor.

Historical population statistics sourced from the ABS for the Meander Valley and Latrobe municipalities between 2001 and 2016 show the population across both local government areas increased from 25,190 to 32,049.

Based on the Department of Treasury and Finance projections, the population of the Latrobe Municipality is projected to increase to approximately 13,800 people by the year 2042 with a declining growth rate over that period. For the Meander Valley Municipality, the projections indicate increasing rates of decline until the year 2042, when the population is projected to have fallen to approximately 18,200 people.

This growth in population is shown in Figure 5.1.

The age profiles for each municipality show that on average, the percentage of the population up to the age of 64 is decreasing and the percentage of the population aged 65 and over is increasing.¹⁷

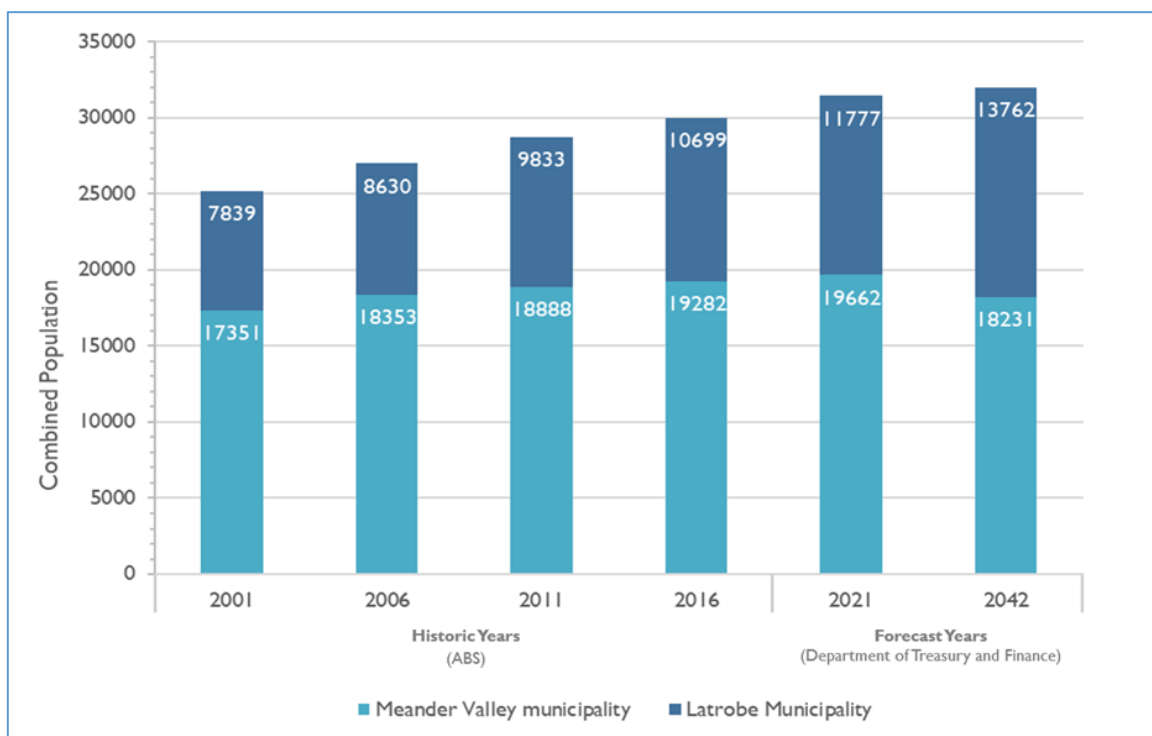


Figure 5.1: Historic and forecast population growth for Meander Valley and Latrobe municipalities^{18, 19}

¹⁷ Australian Bureau of Statistics, 2001–2019, *Census Data*, ABS, Canberra

¹⁸ Department of Treasury and Finance, Tasmanian Government, *2019 Population projections for Tasmania and its Local Government Areas*, <https://www.treasury.tas.gov.au/economy/economic-data/2019-population-projections-for-tasmania-and-its-local-government-areas>

¹⁹ Australian Bureau of Statistics 2011–2017, *Census Data*, ABS, Canberra

Population movements are only one of several factors in determining projections for commuter traffic volumes. ABS data taken in 2011 and 2017 for both municipalities indicates a decrease in the percentage of people that work from home (refer to Table 5.1) and no significant change in the percentage of people who travel to work by car (refer to Table 5.2) . Without additional data on the changing nature of vehicle usage and data to support the anecdotal rise in the percentage of people that work from home, projections relating to the number of people that are likely to commute to and from work using the Bass Highway are not reliable enough to determine likely impacts on Bass Highway usage.

Table 5.1: Number of people working from home²⁰

Year	Meander Valley Municipality	Latrobe Municipality
2011	632	236
2017	551	217

Table 5.2: Number of people travelling to work by car²¹

Year	Meander Valley Municipality	Latrobe Municipality
2011	6,289	3,199
2017	6,261	3,413

Due to the slowing of population growth rate in the Latrobe Municipality and the decline of population in the Meander Valley Municipality, it is unlikely that change in population will play a significant role in changing traffic volume on the Bass Highway. The impact of Covid-19 pandemic may result in changes to population trends and it is recommended that population trends are reassessed following the release of the 2021 census data, with full detail expected to be released by mid 2023.

²⁰ Australian Bureau of Statistics, 2011 – 2017, *Census Data*, ABS, Canberra

²¹ Australian Bureau of Statistics, 2011 – 2017, *Census Data*, ABS, Canberra

5.2 Land use and economic development

As the Bass Highway functions as a major transport corridor for the entire state, state-wide economic development will likely have an impact on the Bass Highway. The following sectors have been identified as having an impact on the traffic growth rates on the Bass Highway.

- Retail in Tasmania has been growing at a higher rate than the national average²². The COVID-19 pandemic has seen an increase in online shopping which will likely continue to increase the number of retail-related heavy vehicle movements on the corridor in the future.
- Agriculture has been a sector growing in value in the 10-year period up to 2018²³. While growth in value does not necessarily directly relate to a growth in output, it has been assumed that the growth experienced in the 10-year period is at least in part due to the growth in agricultural output. Therefore, if the growth continues, it can be expected that heavy vehicle volumes on the Bass Highway relating to agriculture will continue to grow.
- Tourism in Tasmania has grown in both the domestic and international markets in the 10-year period up to 2018²⁴. Tourism Tasmania forecast that this growth will continue to at least 2030 with international tourism growing at a slightly lower rate than the pre-2018 growth and domestic tourism growing at a higher rate. While these forecasts were made before the COVID-19 pandemic, it is assumed that once the pandemic has been controlled to a level where it does not affect tourism, tourism growth rates will return to the forecast levels. Therefore, it can be assumed that this would result in an increase in tourism-related traffic on the Bass Highway.
- Manufacturing in Tasmania has been declining for nearly 30 years²⁵. If this decline continues, it is possible that heavy vehicle traffic relating to manufacturing will also decline.
- While the health care and social assistance sector is the most dominant employment sector in the state and is anticipated to grow, the focus of the growth is decentralising from hospitals and moving toward providing care closer to patients' homes. Therefore, any growth in the sector will likely be offset by the decentralising of services, reducing the need for people to travel, and resulting in minimal impact to traffic on the Bass Highway.

As the Bass Highway serves as a major connector within Tasmania, it is anticipated that growth and decline in sectors Tasmania-wide would likely translate to impacts on the corridor itself. Therefore, as there is growth in tourism, agriculture and retail across Tasmania, it is anticipated that traffic relating to these sectors will grow. While there is some decline in industries such as manufacturing, it is anticipated that growth in the other sectors will result in a net gain of traffic volume on the Bass Highway in future years.

²² Tasmanian Government – Department of Treasury and Finance, 2019, *2019 Population projections for Tasmania and its Local Government Areas*, [Department of Treasury and Finance website](#)

²³ Department of Primary Industries, Parks, Water and Environment (DPIPWE), Tasmanian Government, *Tasmanian Agri-Food ScoreCard SNAPSHOT 2017-2018*, [DPIPWE website](#)

²⁴ Tourism Tasmania, *Fact Sheet Tasmania's 2030 Tourism Demand and Supply Forecast, 2019*, [Tourism Tasmania website](#)

²⁵ Tasmanian Chamber of Commerce and Industry, <http://www.tcci.com.au> and Australian Bureau of Statistics, <https://www.abs.gov.au/>

5.3 Traffic growth forecasts

Traffic growth projections for the Bass Highway are based on the long-term data available at the nine counters located along the corridor²⁶ listed in Table 5.3. Using these historic growth trends an average linear growth rate of 2% of the 2019 volume per year is predicted across the corridor. Elizabeth Town has the lowest average growth rate of 1.6% per year and counters west of Hagley Station Lane and between Deloraine and Exton, recording the highest growth rate of 2.2% per year. This growth is likely to be a consequence of increased tourism, agriculture and retail activity. Projected 2041 traffic developed from long-term historic growth is shown as Base Line growth in Table 5.3.

To account for the increased rate of traffic growth measured in recent years, as well as the increased forecast growth rate for domestic tourism and retail, a high growth scenario was forecast using the 2017 to 2019 change in traffic volume. Across the corridor, this resulted in a growth rate of 2.9% of the 2019 volume per year. Growth rates were uneven across the entire corridor, with counters between Launceston and Deloraine (first four counters in Table 5.3) recording an average growth of 3.2% of the 2019 volume per year, and counters at Elizabeth Town and Sassafras recording an average growth of 4.9% of the 2019 volume per year.

²⁶ The Department of State Growth, 2019, Permanent Traffic Counters, unpublished

Table 5.3: Bass Highway traffic projections²⁷

Counter location	2019 Traffic Volumes		2041 Projected Traffic Volumes		
	Total Vehicles per day (vpd)	Heavy Vehicle Proportion	Base Line Growth (vpd) High Growth Scenario	High Growth Scenario (vpd)	Heavy Vehicle Proportion
East of Illawarra Road Interchange	9,833	21.2%	13,468	16,885	29.2%
West of Illawarra Road Interchange	11,525	19.1%	16,948	19,755	24.1%
West of Hagley Station Lane	10,354	19.2%	15,300	17,748	29.9%
Between Deloraine and Exton	9,892	18.4%	14,764	16,956	20.2%
Elizabeth Town	9,627	23.2%	13,007	19,977	29.4%
Sassafras	9,026	23.4%	13,201	18,729	29.8%
Latrobe (east of Gilbert Street)	10,202	20.4%	14,374	16,737	24.8%
Latrobe (east of Moriarty Road)	9,082	23.8%	12,737	14,899	29%
East of Port Sorell Road	16,149	16.1%	23,164	26,493	19.3%

5.3.1 Future freight task and heavy vehicle volumes

Historic trends have also been used to determine the proportion of traffic that is heavy vehicle. Historic trends indicate that heavy vehicles are growing at a greater rate than general traffic (4% of the 2019 heavy vehicle volume per year). This aligns with the high forecast growth in retail and agriculture and results in a higher proportion of heavy vehicle traffic in 2041 compared to 2019.

²⁷ Australian Bureau of Statistics 2011 – 2017, *Census Data*, ABS, Canberra

5.4 Future public transport and active transport needs

5.4.1 Public transport

State Growth is committed to providing appropriate public transport services within Tasmania. The level of service for this public transport is outlined in *Project 2018 General access service standards* and *Project 2018 Public Bus Transport Network purchasing principles and Design Approach*.

The route between Launceston and Devonport is an inter-connection service which requires a minimum of three services per day in each direction on weekdays and two services per day in each direction on public holidays and weekends. The existing bus service meets this minimum requirement.

With improved identification of bus stop locations both within towns and on the timetables, it is possible that public transport usage may increase.

5.4.2 Active transport

The Bass Highway does not function as an active transport link between towns. Bicycle Network Tasmania identifies a number of alternative routes to connect cyclists between towns along the corridor.

5.4.3 Electric vehicles

While the uptake of electric vehicles (EVs) in Australia is currently low and is influenced by policy, global trends and motorists, including Tasmania's zero carbon target, EVs will be making up an increasing proportion of Tasmania's fleet in coming years. Charging points should therefore be installed at strategic locations along the highway, such as existing fuel stations, towns and/or rest areas. This may require upgrades to electrical infrastructure along the road corridor.

5.5 Climate change

The Tasmanian Government developed the *Climate Action 21: Tasmania's Climate Change Action Plan 2017–2021*, outlining Tasmania's contribution to keeping global temperatures below a 2°C average increase. The six priorities of this plan are:

1. understanding Tasmania's future climate
2. advancing renewable energy capability
3. reducing transport emissions
4. growing a climate-ready economy
5. building climate-resilience
6. supporting community action.

Understanding the future climate is critically important to provide upgrade designs that cater for future Bass Highway conditions. The following sections summarise the predicted changes and discuss potential options to be considered in future design of the highway.

5.5.1 Precipitation

Total rainfall is expected to increase over time, but this may mean rain events are less frequent but more intense, increasing the risk of flooding. Figure 5.2 and Figure 5.3 show rainfall anomalies and high water marks from floods in 2016 respectively. The Bass Highway is shown in red in these figures.

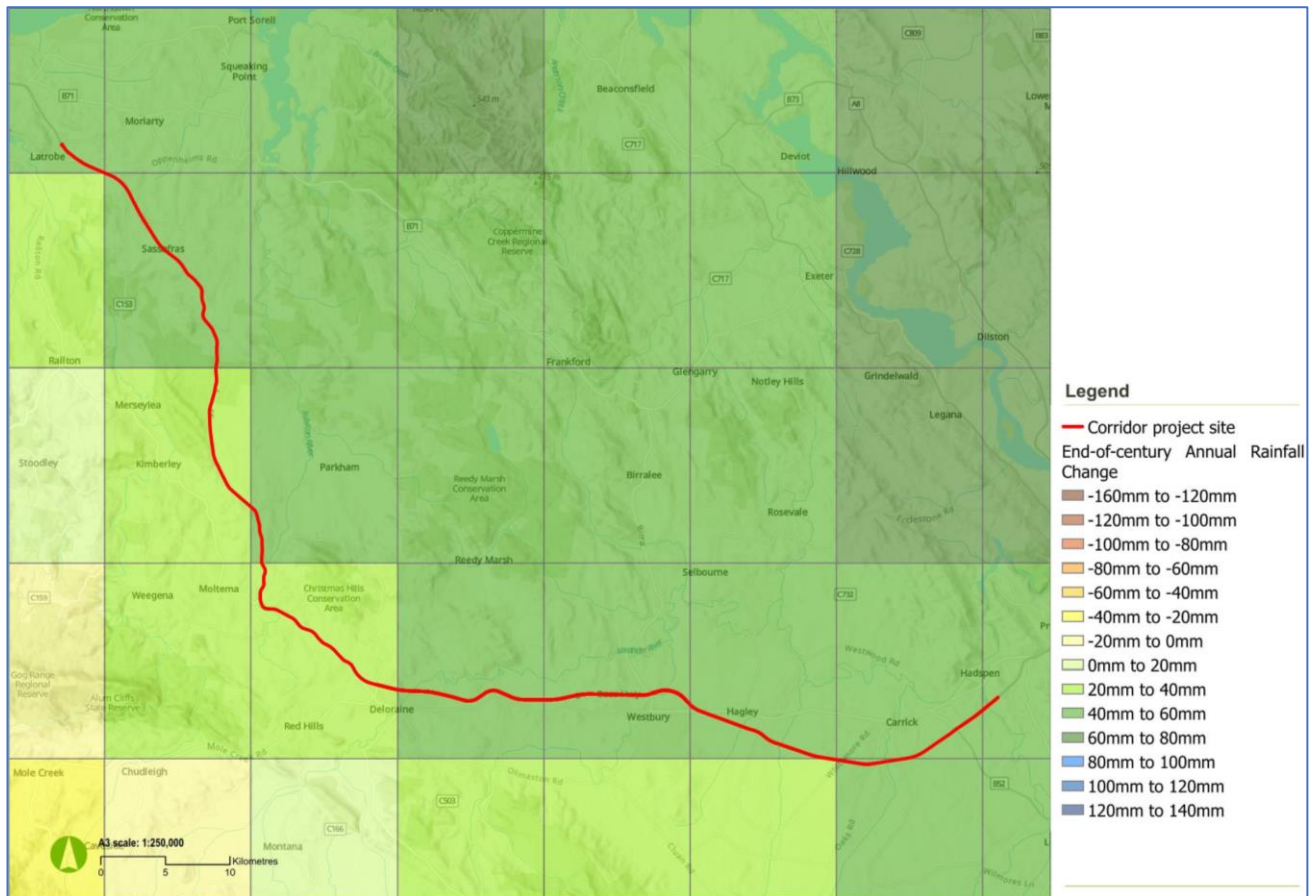


Figure 5.2: Annual rainfall change 2070–2099 compared to present, high emissions scenario²⁸

²⁸ Tasmanian Government, 2021, The LISTmap, www.thelist.tas.gov.au

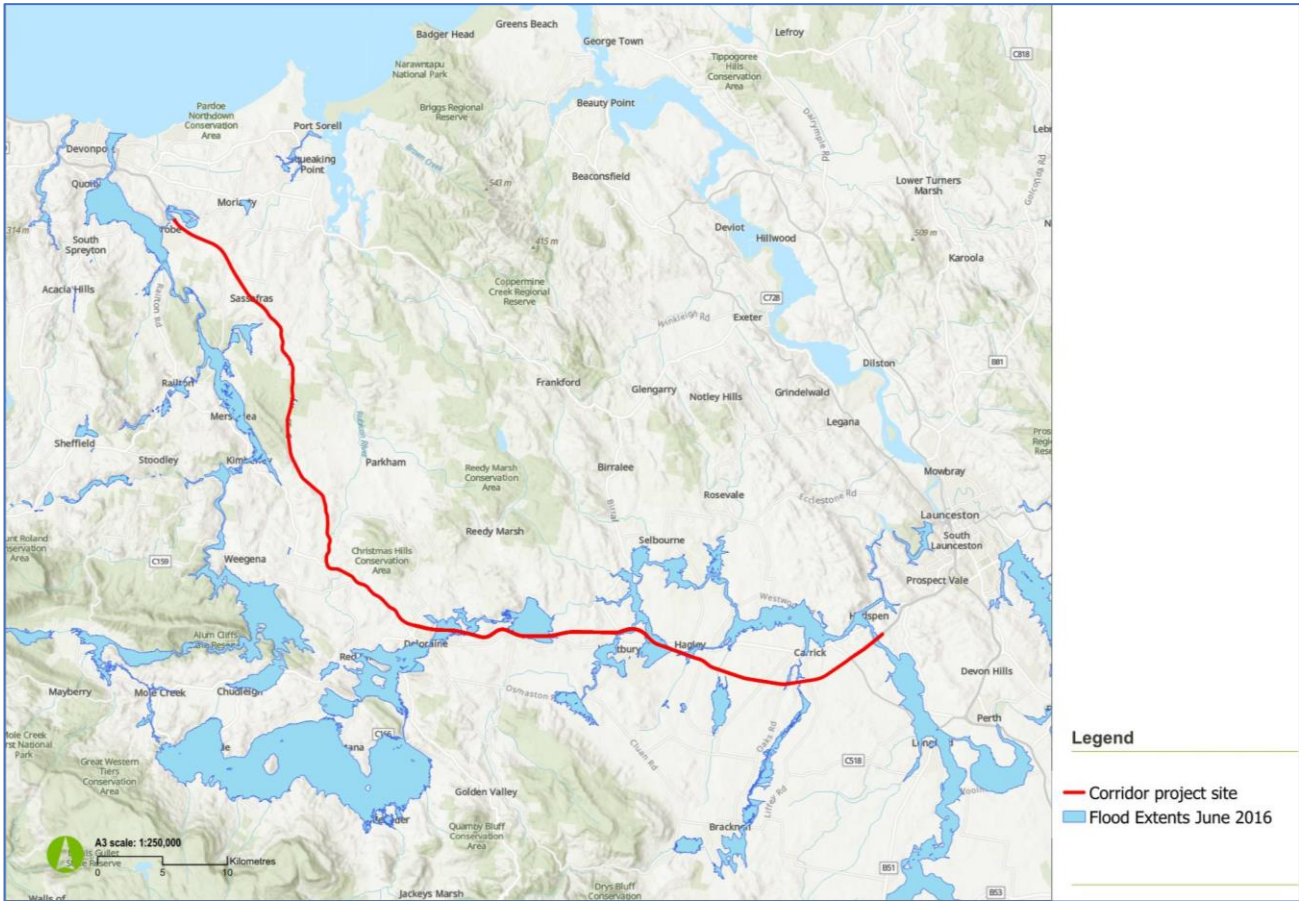


Figure 5.3: 2016 flood high water marks (blue) along Bass Highway²⁹

²⁹ Tasmanian Government, 2021, The LISTmap, www.thelist.tas.gov.au

This data suggests flooding along the highway is likely to worsen and will need to be considered in any upgrade works. In particular, the following could be considered in future design, ideally in combination.

- Road design
 - Hydrological studies. Hydrological studies based on future forecasts extreme rainfall events should be undertaken to design for increased rainfall and potential impacts of flooding along the corridor.
 - Flood levels. Ensure road upgrades, particularly at bridges and culverts, are resistant to scouring/undercutting in the event of being exposed to floodwaters by designing infrastructure that is able to withstand expected future flood levels.
- Non-infrastructure solutions, *Our Infrastructure Future 30-Year Infrastructure Strategy Consultation Draft, 2019*
 - Check dams in the watershed. Capturing and slowing water upstream may help reduce impacts on the road itself. This would need coordination between landholders elsewhere in the watershed and State Growth.
 - Tree planting. Stormwater can also be slowed through planting more trees in the watershed to take up the water. While this would obviously affect some of the farmland and need careful planning and coordination, it would also help with carbon sequestration and biodiversity, and if productive forests are planted, presents an alternative revenue stream for landholders. However, it also affects bushfire risk, so trees would need to be away from the road.
 - Soil management. Increasing organic content of soil improves its water carrying capacity, which would reduce severity of flooding. This can best be achieved through regenerative farming techniques.

Detailed climate modelling and hydrological studies are recommended to be undertaken for this area.

5.5.2 Temperature

Average annual temperatures in the vicinity of the highway are expected to increase. Global temperatures have already increased by 1.1°C from its long-term average, and a global average increase of 1.5°C is almost certain by the end of the century. Australia is forecast to exceed the global warming average, meaning temperatures will rise by more than 1.5°C. Figure 5.4 shows that the forecast temperature change under a high emissions scenario along the Bass Highway is likely to be between 2.4°C and 2.7°C. The Bass Highway is shown as a blue line in this figure.

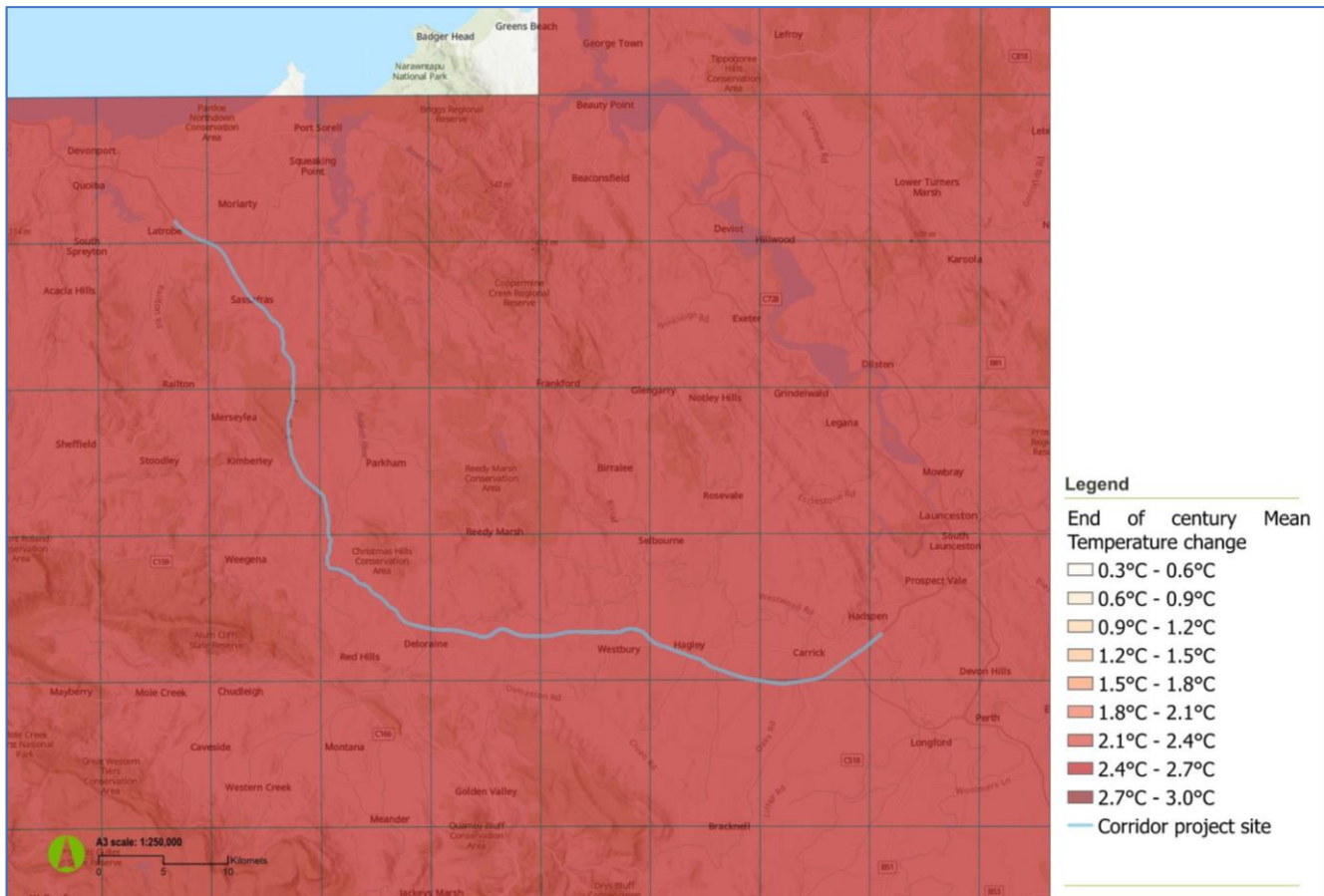


Figure 5.4: Annual temperature change 2070–2099 compared to present, high emissions scenario³⁰

Higher temperatures have several implications which need to be considered in future road development.

- Bitumen can melt in extreme heat, so it is important the asphalt mix is designed for this.
- If not properly designed, the roads can crack if the underlying ground dries out, which is a likely occurrence with increased evaporation. Soil management mentioned above would assist here.
- Bus stops, assuming public transport along the corridor is improved, need to include shelters from the summer sun (and increased rainfall). These could incorporate solar panels of increasing renewable energy capacity in line with *Climate Action 21: Tasmania's Climate Change Action Plan 2017–2021*.
- Evaporation from the land will increase, drying it out and increasing bushfire risk. Initiatives that help retain moisture in the soil such as those mentioned above will help counteract this.

³⁰ Tasmanian Government, 2021, The LISTmap, www.thelist.tas.gov.au

5.5.3 Bushfires

The Bass Highway passes close to or through several forested areas (including plantation) which are at increasing risk of bushfire due to climate change. Figure 5.5 shows areas of bushfire risk. While not all the highway is shown as passing through high risk areas, it should be noted that historically fires have occurred elsewhere, as shown in Figure 5.6. This implies the risk in these areas, such as around Hadspen and Carrick near Launceston, may increase in the future.

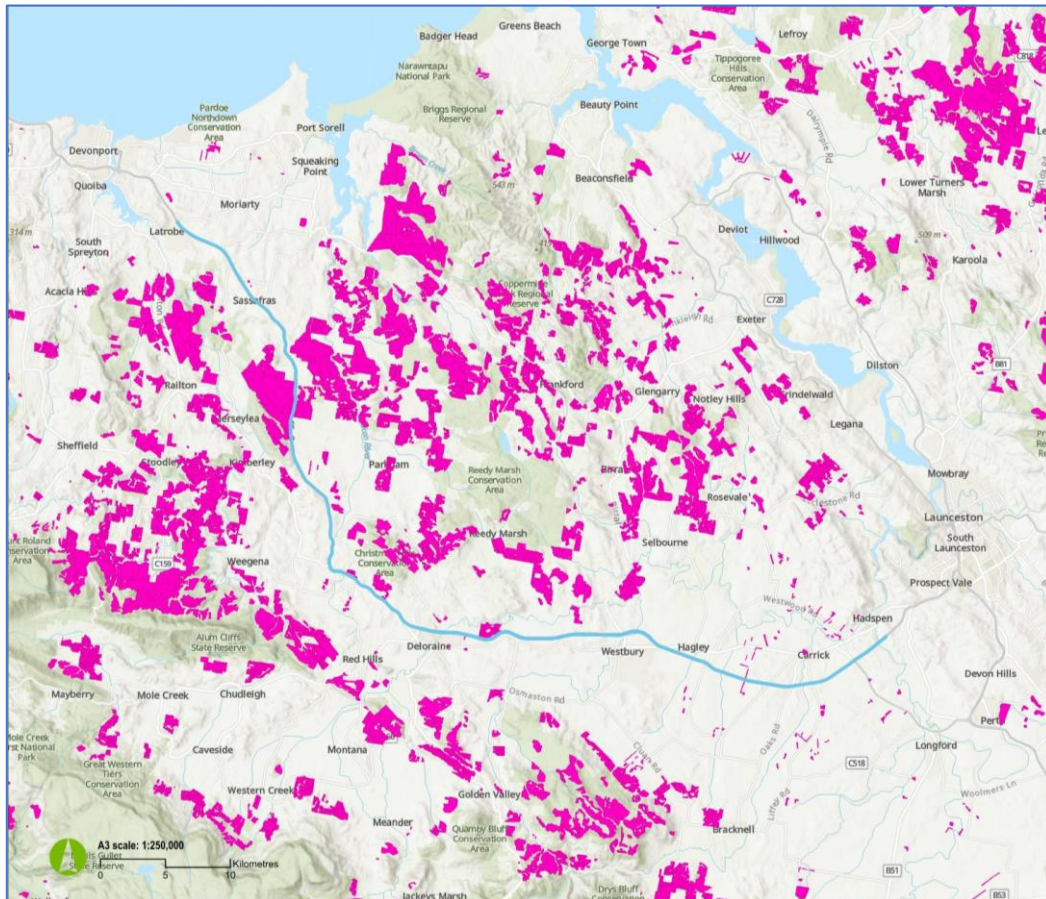


Figure 5.5: Bushfire risk (pink polygons) near the Bass Highway³¹

³¹ Tasmanian Government, 2021, The LISTmap, www.thelist.tas.gov.au

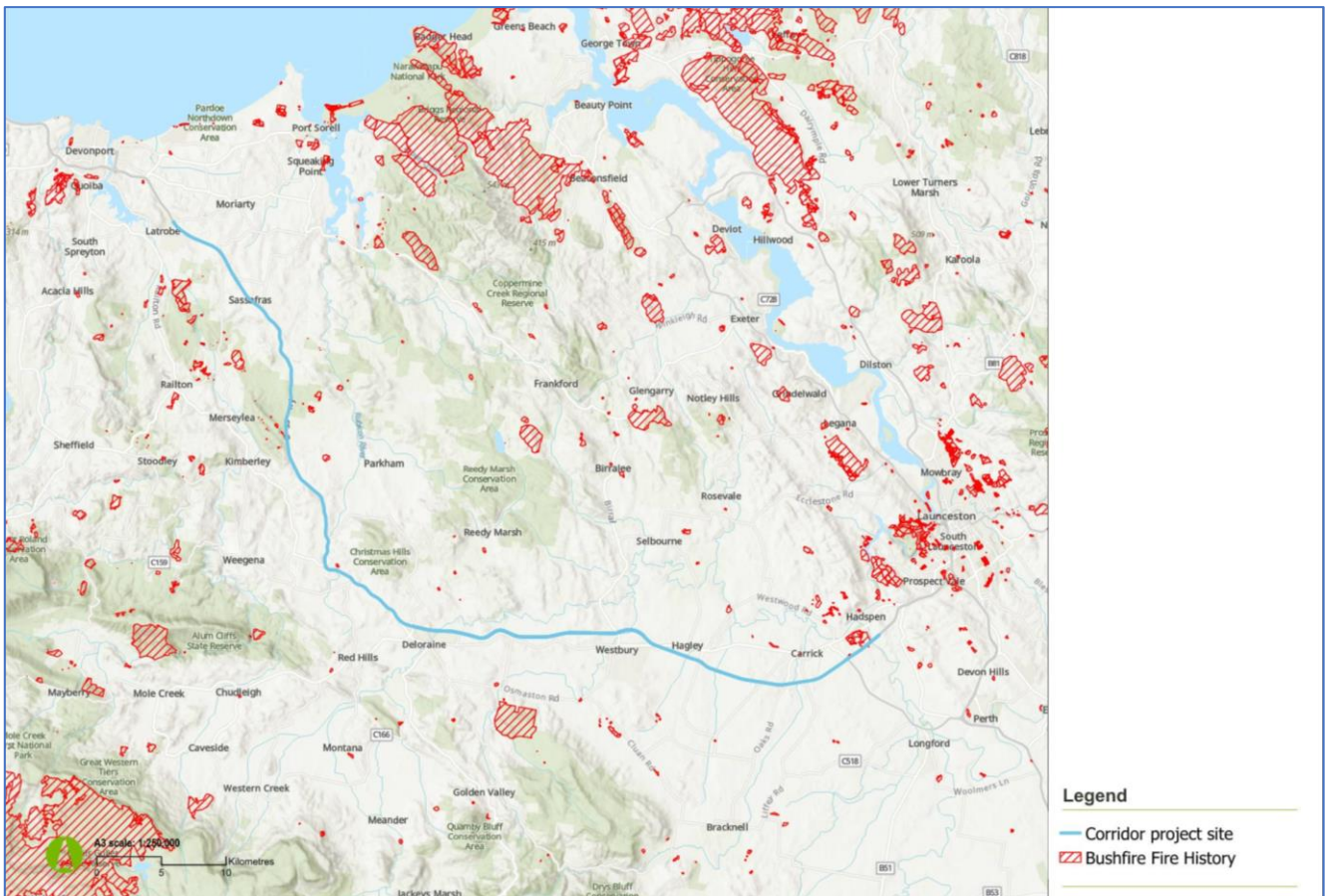


Figure 5.6: Historic bushfire locations near the Bass Highway³²

To account for fire in highway design, consideration should be given to structural design of bridges that can withstand fire and to ongoing management.

To reduce bushfire risks to highway users, the removal of fuel load from the corridor should be considered. This could potentially result in the road acting as a firebreak. Where the road passes through important environmental habitats, any road upgrades, extensions or bypasses should be planned to maintain these existing important habitats.

³² Tasmanian Government, 2021, The LISTmap, www.thelist.tas.gov.au

5.5.4 Biodiversity

Resilience to climate change is ultimately underpinned by adaptable and biodiverse ecosystems. These are under increasing stress from the 2019-2020 summer fires, which affected a considerable variety of plant and animal life, thus impacting biodiversity in Australia. Furthermore, this stress has been exacerbated by the impacts of climate change, which are detailed in recently released Intergovernmental Panel on Climate Change (IPCC) reports. It must be noted that the planet's ecosystems are interconnected and produce the air, water and food needed for survival. Damage to one site may not cause an immediate breakdown but might further affect the health of the overall system on which plant, animal and human life depend.

Care needs to be taken to ensure habitats are not fragmented or otherwise destroyed by the works and any upgrades are considered in the wider context of their environment. Design and construction solutions that enhance natural processes, sequester carbon, improve biodiversity and increase climate resilience should all be prioritised over business as usual approaches that may cost less financially but imperil Tasmania's natural capital and resilience and therefore its future.

One measure of a road's impact on biodiversity is roadkill. Figure 5.7 shows roadkill of Tasmanian devils and quolls since 2016. Similar data is available for other species and show that native animals, important members of the ecosystem, are killed all along the highway. The roadkill data may underestimate the number of actual animal deaths along the road as not all roadkill may be reported. Wildlife corridors to reduce roadkill should therefore be considered and new works that fragment existing habitat should be avoided.

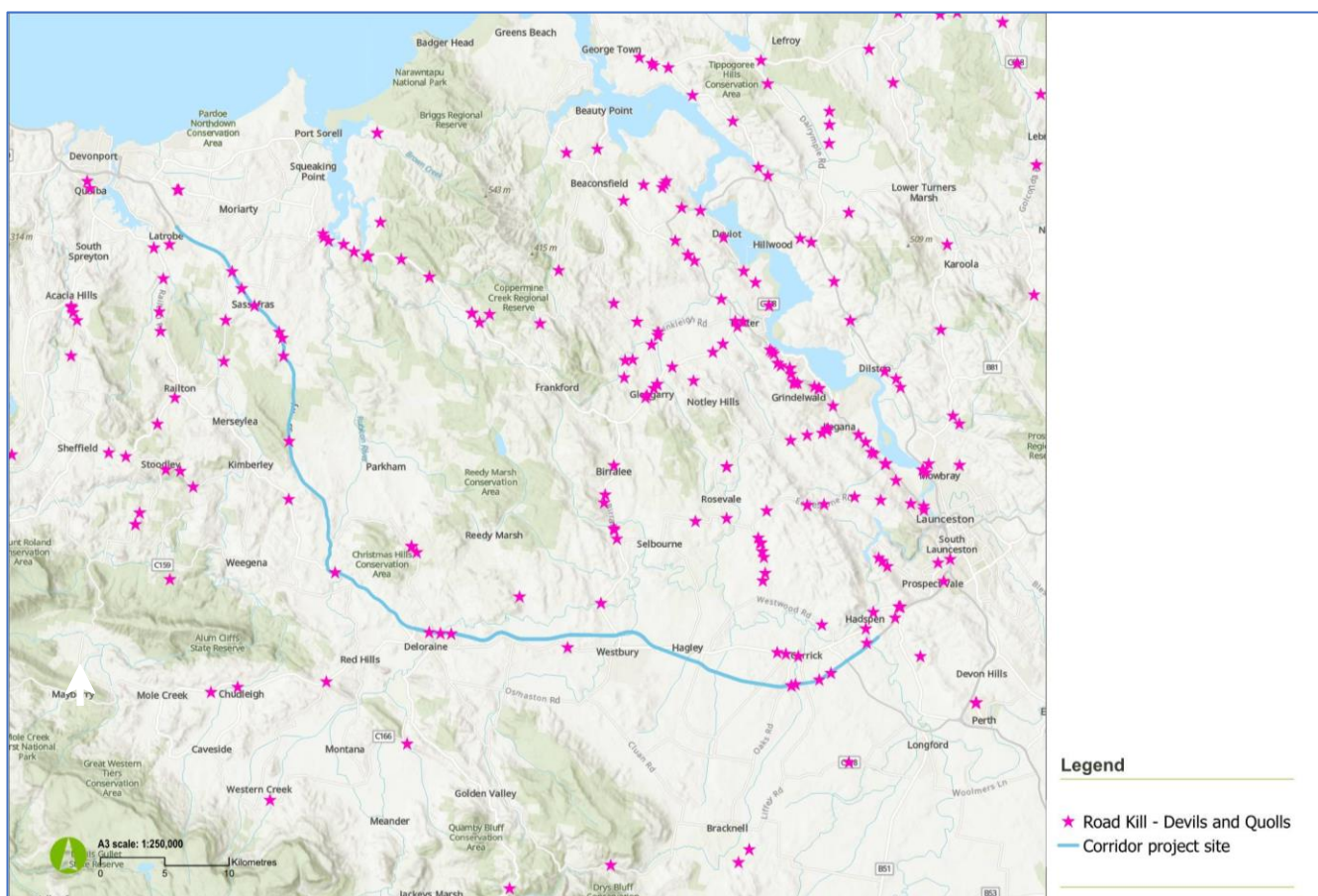


Figure 5.7: Roadkill of devils and quolls, 2016–2021³³

³³ Tasmanian Government, 2021, The LISTmap, www.thelist.tas.gov.au

5.5.5 Other considerations

Atmospheric carbon dioxide is a major cause of concrete reinforcement corrosion, which is further increased by higher temperatures. Current Australian standards for bridge design do not account for rising CO₂ levels, meaning that structures along the Bass Highway may fail inside their design life. Studies undertaken by CSIRO³⁴ suggest carbonation risks will increase 400% by 2100. Concrete structures such as bridges, will therefore need to be designed for increased resilience to atmospheric carbon dioxide, by considering concrete mix design to minimise crack sizes and maximise durability. The Bass Highway has several concrete bridges, including the bridge over the South Esk River shown in Figure 5.8.

Furthermore, the concrete used should be designed to minimise the Portland cement content, the production and use of which is a key driver of atmospheric carbon dioxide levels in the first place. Conveniently, alternative pozzolanic materials can be selected that improve durability – stated in the above paragraph as a requirement.

Road construction should include recycled materials. End of life tyres – identified in the *Our Infrastructure Future 30-Year Infrastructure Strategy Consultation Draft, 2019* – are just one material that could easily and cheaply be incorporated.

Installing systems along the highway to provide early warning of climate-related incidents should be considered to improve both safety and response times.



Figure 5.8: Bass Highway, bridge over South Esk River

³⁴ CSIRO, 2010, *Climate Change Impact and Risks of Concrete Infrastructure Deterioration*, [CSIRO Publications website](#)

6 Corridor challenges and priorities

6.1 Corridor objectives

The Tasmanian Government is committed to providing efficient road infrastructure and services for our customers and visitors that:

- are as safe as reasonably possible
- support economic growth through responsible investment
- enhance the travelling experience for road users³⁵.

The Bass Highway has been identified as requiring upgrades to meet these objectives and Federal Government funding was received in the 2021-22 Budget for the *Bass Highway Safety and Freight Efficiency Upgrades Package - Future Priorities*.

The Bass Highway corridor-specific objectives developed in consultation with the stakeholder working group are:

- improved safety outcomes
- improved efficiency, reliability and resilience of road network
- enabled economic growth and development.

To identify current gaps in meeting these objectives along the corridor, both a road safety audit and geometric review were conducted as well as consultation with the working group and the community.

A summary of the key challenges across the length of the corridor are summarised in section 6.2. A detailed breakdown of challenge locations is described in section 6.3.

6.2 Key challenges

Challenges associated with the Bass Highway are the gaps in the current design and operation that need to be overcome to meet the corridor objectives. These include challenges already evident and others that are expected to emerge as the result of future changes in land use and demographics.

Key challenges associated with the Bass Highway have been classified into five themes shown in Table 6.1.

³⁵ Tasmanian Government, 2014, *State Roads Infrastructure Service Policy*, [Transport Services website](#)

Table 6.1: Key challenges

Narrow carriageway	Points of conflict	Historic design	Poor road conditions and legibility	Inadequate heavy vehicle driver rest areas
Single lane in each direction No separation Narrow shoulders Limited overtaking opportunities Narrow traffic lanes	Townships at Latrobe and Elizabeth Town Local road intersections Private access intersection	Not always designed for current high speed requirements Interchanges Geometry Sight distance Bus stops Turn lanes	Inconsistent and limited wayfinding signage Poor pavement condition Poor road delineation, particularly at night	Heavy vehicle driver rest areas with no facilities Informal heavy vehicle driver rest areas Challenging access arrangements Poor access to service station and township parking

6.2.1 Narrow carriageway

The majority of the corridor is single carriageway with one lane in each direction, separated only by delineation. While there are overtaking lanes for both directions along the corridor, there are often long sections of single lane in between overtaking opportunities. This can lead to queuing behind slow vehicles which cannot be cleared using the currently provided overtaking opportunities. The limited provision of overtaking lanes can also result in road users performing risky overtaking manoeuvres.



Figure 6.1: Example of narrow shoulder near Deloraine

The corridor also has narrow shoulders, which are particularly noticeable where there is also a safety barrier, as depicted in Figure 6.1. Narrow shoulders and safety barriers close to the edge of the traffic lane prevent vehicles from being able to pull off to the side of the road safely. If a vehicle must stop on the side of the road where there is a narrow shoulder, there is a risk that they will partially block the traffic lane, resulting in an increased

likelihood of a crash. Additionally, vehicles may slow down to pass the stopped vehicle, temporarily reducing the capacity of the road.

6.2.2 Points of conflict

The function of the road, particularly through townships is a source of conflict. The highway's function as a high-speed national highway conflicts with its local function as a primary means of access through the town. There are several areas along the highway with a high number of direct accesses and local road intersections that also result in conflict between local traffic and highway through-traffic. Points of conflict may result in an increased risk of collision as vehicles travelling on the highway may not be expecting other vehicles to be turning on and off the highway at locations other than interchanges. The presence of local vehicles, particularly large agricultural vehicles as shown in Figure 6.2, also impacts the reliability of travel time on the corridor.



Figure 6.2: Large agricultural vehicles can significantly disrupt traffic flow on the highway

6.2.3 Historic design

Outside of townships, the Bass Highway has a posted speed limit of 110 km/h. There are locations along the highway where the road is not designed for the current expectations many road users have at this speed. This has an impact on both safety and operation of the highway by forcing road users to slow vehicles down unexpectedly or make decisions abruptly. This occurs in some sections of the highway where there are:

- insufficient turn lanes and interchange ramp lengths resulting in vehicles having to abruptly stop or speed up to merge onto the highway`
- insufficient sight distance for vehicles travelling at the posted speed limit to see an obstruction and act
- tight horizontal curves compromising sight distance and forcing vehicles to slow down unexpectedly.

The design of bus stops along the Bass Highway has not kept up with contemporary requirements. At the locations where buses stop, there is no infrastructure in place to alert road users to the presence of the bus stop, nor any infrastructure to protect pedestrians as they wait for the bus. In providing infrastructure, consideration should be given to providing locations for the bus to move safely from and back into the traffic, as well as bus stops that meet the accessibility requirements of the community.

6.2.4 Poor wayfinding and road conditions

Both wayfinding and warning signage along the length of the corridor are limited and inconsistent. Road users unfamiliar with the highway may be confused at intersections due to the lack of signage and may drive erratically as a consequence. Vehicles suddenly slowing or turning pose a safety risk to other vehicles on the highway. As well as the warning signage, reflectors were also found to be insufficient at night, making it difficult to see the road ahead.

The condition of the pavement in several sections was also identified as a key issue for the corridor. Poor pavement may result in motorists losing control of their vehicles or swerving to avoid potholes. Figure 6.3 shows an example of a pothole that a road user may swerve to avoid.



Figure 6.3: Pothole near the Parramatta Creek Rest Area

6.2.5 Inadequate heavy vehicle driver rest areas

There are very limited opportunities for truck drivers to stop along the corridor. Almost all opportunities are at informal rest areas. An example of an informal rest area at Elizabeth Town is shown in Figure 6.4.

The Forest Farm weighbridge is the only stopping location that meets the requirements for the lowest tier formal heavy vehicle driver rest area, with all the remaining stopping locations being designated as informal. None of the stopping locations have driver facilities and some provide neither separation from the main carriageway nor acceleration lanes to allow trucks to re-enter the highway easily and safely.



Figure 6.4: Truck using a G-turn as a rest area near Elizabeth Town

There are poor access arrangements, and no dedicated parking in townships and at service stations for trucks. Vehicles parked on the road shoulder near Latrobe are shown in Figure 6.5. To access these facilities, truck drivers have been observed parking on shoulders and walking to their destinations, sometimes having to cross the highway, which poses a risk to these truck drivers from being hit by highway traffic. In addition, the trucks parked on the shoulder pose a safety risk to other road users by obstructing sight distances at accesses.



Figure 6.5: A truck, two vehicles and caravans parked on the shoulder at the Latrobe Caltex service station

6.3 Challenges by location

A detailed breakdown of the challenges along the length of the corridor has been undertaken. To capture the differences in issues along different sections of the highway, the corridor has been broken into eleven geographic zones based on the road environment, including factors such as the road cross section and the number of direct accesses on the highway. These zones are shown in Figure 6.6.

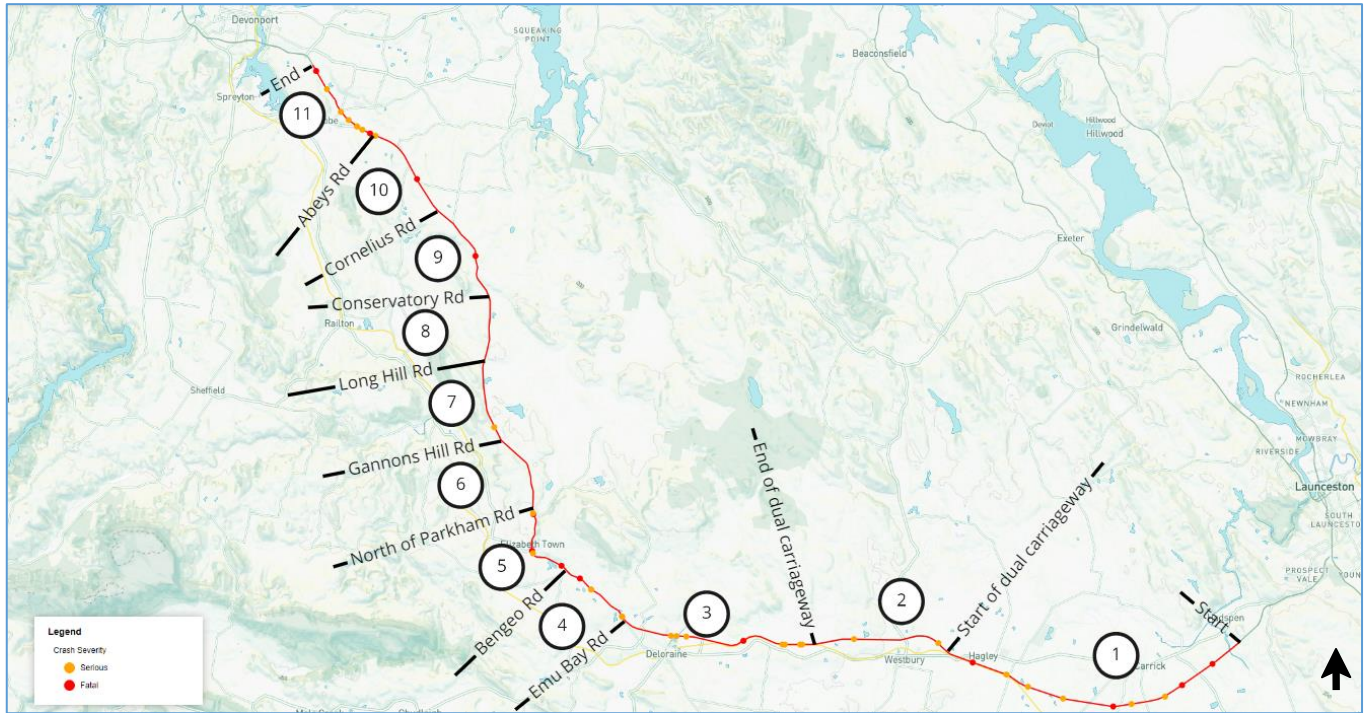


Figure 6.6: Bass Highway geographic zones identified between Launceston and Devonport

Within each zone, the challenges have been mapped against the project objectives that emerged through stakeholder and community consultation. These objectives are:

- improved safety outcomes
- improved efficiency, reliability and resilience of road network
- enabled economic growth and development.

To provide consistency in articulating the corridor challenges, gaps in achieving each of the project objectives have been defined in Table 6.2.

Table 6.2: Corridor challenge identification criteria

Project objective	Gap identification criteria
Improved safety outcomes	<ul style="list-style-type: none"> • User experience as reported through the community consultation process • Frequency and severity of crashes over the past 10 years • Compliance of road design against current standards expected for a national highway • Condition of pavement as compared against current standards expected for a national highway • Degree of traffic separation as recommended for a road with similar signposted speed and traffic use • Adequacy of vehicle rest areas, considering heavy vehicle drivers as the primary users
Improved efficiency, reliability and resilience of the road network	<ul style="list-style-type: none"> • Consistency of the speed environment as observed and reported • Potential for network disruption as a result of the road geometry and usage
Enabled economic growth and development	<ul style="list-style-type: none"> • Capacity to support expected future road demand • Alignment with road function and place making expectations

Each of the geographic zones shown in Figure 6.6 was assessed against the criteria detailed in Table 6.2 using working group input and outputs from a road safety audit and technical assessment. The summary of these findings presented in sections 6.3.1 to 6.3.11 detail:

- observed challenges in meeting the project objectives
- challenging locations and details.

6.3.1 Zone I – Hadspen to start of dual carriageway

Zone I is the 20 kilometres of the Bass Highway from Hadspen to the start of the dual carriageway, as shown in Figure 6.7.

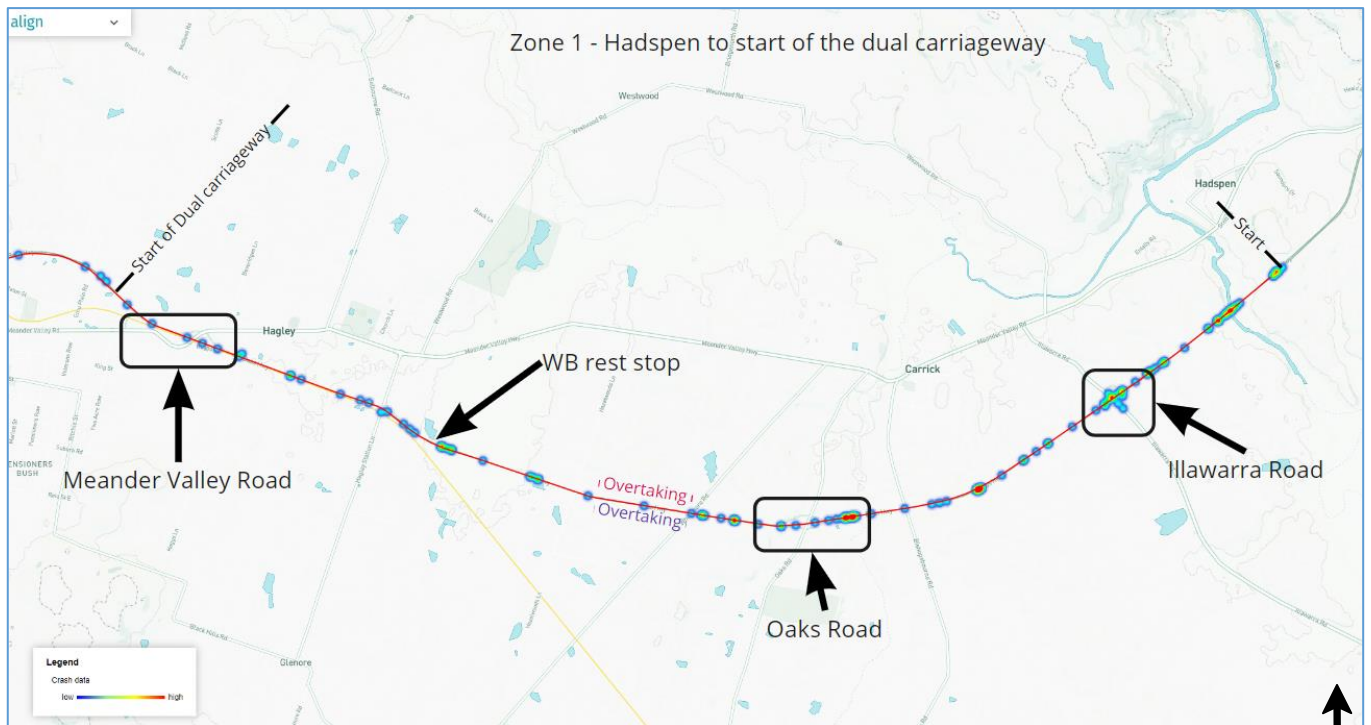


Figure 6.7: Zone I – Hadspen to start of the dual carriageway

Key challenges for this zone of the Bass Highway are provided in Table 6.3.

Table 6.3: Zone I – Corridor challenges

Corridor challenges – Zone I	Challenging location and details
Improved safety	
Interchange slip lanes providing entry and exit to and from the Bass Highway do not meet the current standard expected for a national highway	The technical assessment, as well as working group and community consultations identified short entry and exit ramp length at the Oaks Road and Illawarra Road interchanges.
High frequency of overtaking and out of carriageway crashes are a significant road safety issue	Crash analysis identified that 32 crashes (25% of all crashes in this zone) involved a vehicle crossing into the opposing traffic lane, resulting in nine fatal or serious injury crashes between 2010 and 2020. Community consultation also identified dangerous overtaking as an issue for this zone.
Lack of adequate lighting and signage, particularly at and prior to interchanges	Working group feedback identified the need for improved lighting at key interchanges such as Meander Valley Road.
Shoulders often excessively narrow	Narrow shoulder widths observed, preventing a vehicle from pulling over safely.
Poor night visibility	The road safety audit found that night visibility was poor due to quality of reflectors on low-beam headlights as well as poorly designed vertical crests and sags impacting headlight range, particularly east of Oaks Road.
No separation of east and westbound traffic	The road safety audit determined high speeds, limited overtaking opportunities, high traffic volumes and the lack of separation between opposing directions are contributing to the number and severity of crashes.
Improved efficiency, reliability and resilience of road network	
Limited pull over areas of heavy vehicle driver rest areas	There are no general traffic pull over areas or heavy vehicle driver rest areas for eastbound traffic along the Bass Highway east of Westbury. A rest area for westbound vehicles is provided east of Hagley Station Lane.
Lack of safe locations for overtaking	The working group and community feedback as well as the technical assessment identified the need for more overtaking lanes in this zone. As noted above, a high number of overtaking crashes occurred in this zone.
Enabled growth and development	
Road capacity unlikely to meet future demand	A single carriageway arrangement with one lane in each direction will not meet expected future traffic growth and demand.

6.3.2 Zone 2 – Dual carriageway around Westbury

Zone 2 is the dual carriageway zone around Westbury, as shown in Figure 6.8. This section of the Bass Highway includes median separation.

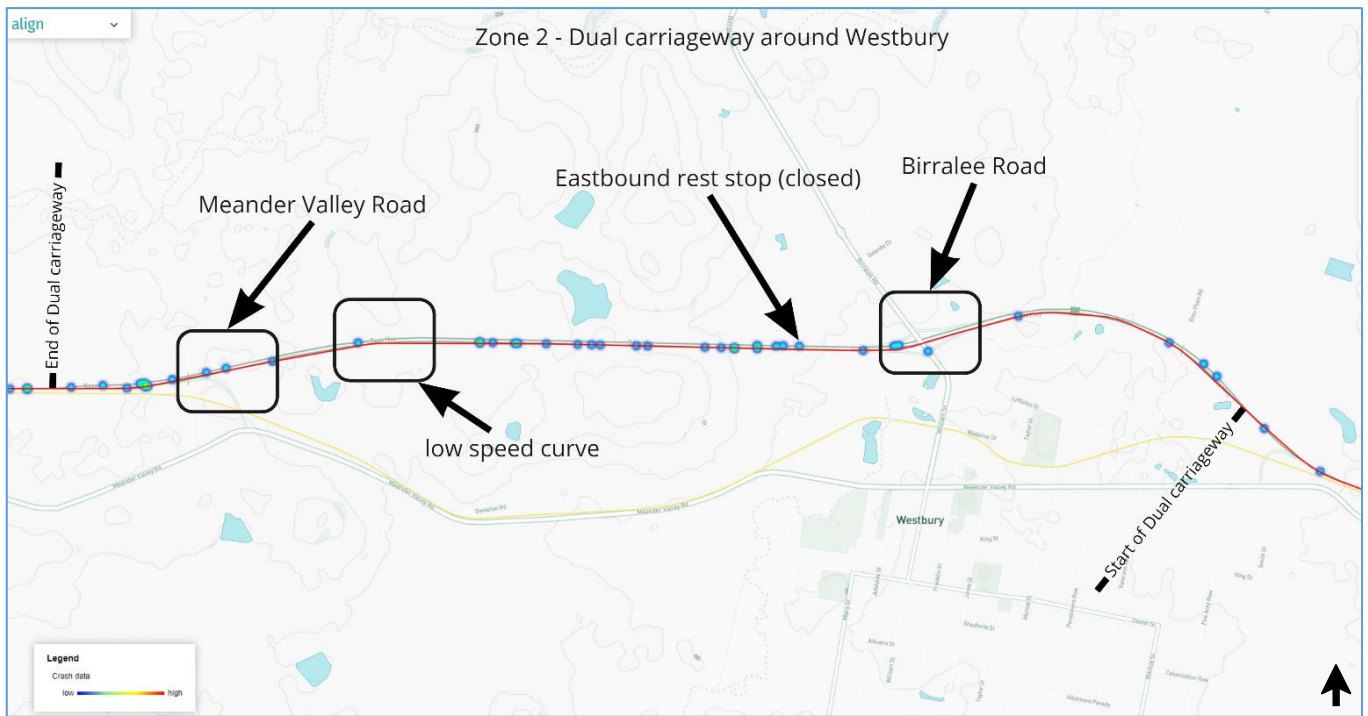


Figure 6.8: Zone 2 – Dual carriageway around Westbury

Key challenges for this zone of the Bass Highway are provided in Table 6.4.

Table 6.4: Zone 2 – Corridor challenges

Corridor challenges – Zone 2	Challenging location and details
Improved safety	
Interchange slip lanes providing entry and exit to and from the Bass Highway do not meet the current standard expected for a national highway	The technical assessment found that entry ramps onto the highway at Birralelee Road and Meander Valley Road do not have a length meeting current design guidelines for a highway operating at 110 km/h.
Lack of adequate and appropriate signage, particularly at and prior to interchanges	<p>The working group commented on the sign on the eastbound carriageway prior to the Birralelee Road interchange, 'Westbury EXIT 800m', that directs vehicles into an informal heavy vehicle driver rest area prior to the Birralelee Road interchange. This issue was also identified in the technical assessment.</p> <p>While the heavy vehicle driver rest area on the approach to the Birralelee Road interchange is not a formalised area, the working group noted that heavy vehicle drivers were still using it.</p>
Presence of deer within the road corridor	Working group consultation noted that deer within the road corridor presents a safety hazard to road users.
Road geometry below the standard expected for a national highway	<p>The technical assessment found that the curve at the western end of the section was not suitable for a 110 km/h speed limit.</p> <p>The technical assessment also found that the sight distance does not meet current design guidelines in areas around the Birralelee Road interchange.</p>
Improved efficiency, reliability and resilience of road network	
Road subject to flooding	The working group identified that the highway under the Birralelee Road interchange is subject to flooding.
Lack of access for emergency vehicles from one side of the highway to the other	Due to the presence of median separation, there is a 6 km section of the Bass Highway with no opportunity for emergency vehicles to move from one carriageway to the other.

6.3.3 Zone 3 – End of dual carriageway to Emu Bay Road

Zone 3 is the 11.6 kilometres of single carriageway west of Westbury to Emu Bay Road, as shown in Figure 6.9.

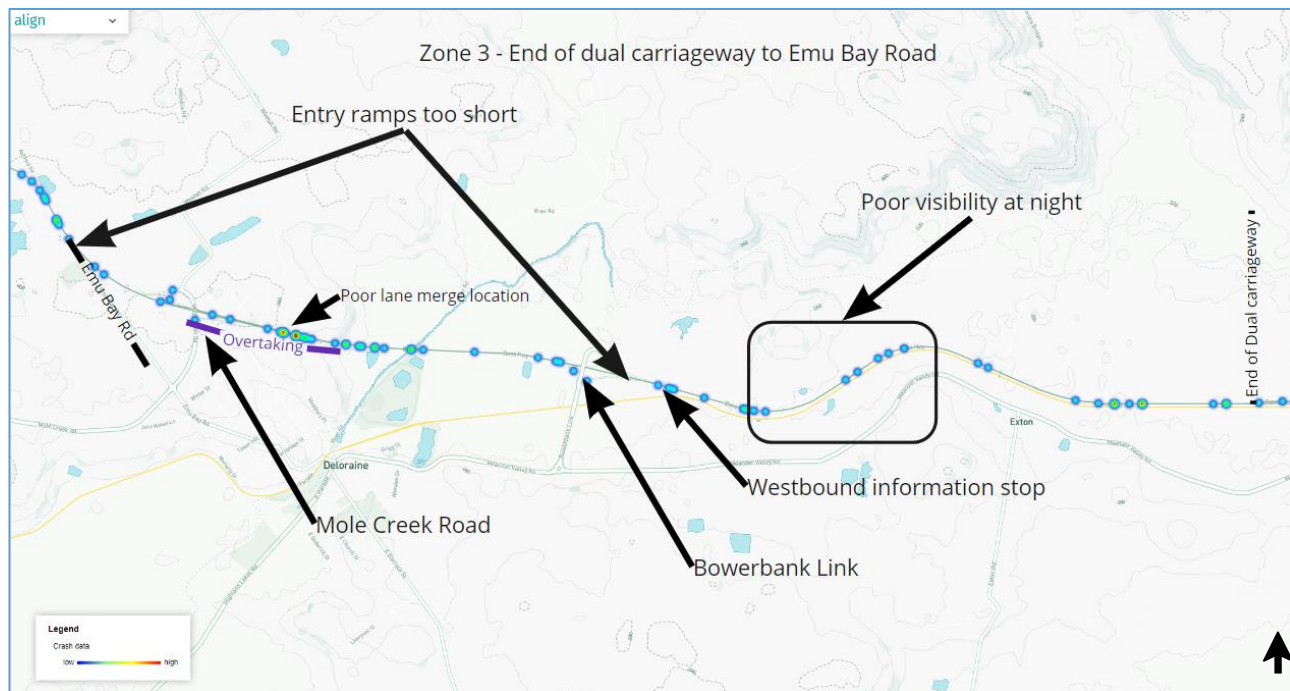


Figure 6.9: Zone 3 – End of dual carriageway to Emu Bay Road

Key challenges for this zone of the Bass Highway are provided in Table 6.5.

Table 6.5: Zone 3 – Corridor challenges

Corridor challenges – Zone 3	Challenging location and details
Improved safety	
Interchange slip lanes providing entry and exit to and from the Bass Highway do not meet the current standard expected for a national highway	Working group consultation and technical assessment identified the slip lane onto the Bass Highway from Bowerbank Link as well as at both on and off ramps at Mole Creek Road and Emu Bay Road do not have the length meeting current design guidelines for a highway operating at 110 km/h.
High frequency of overtaking and out of carriageway crashes a significant road safety issue	Crash analysis identified that 41 crashes (62% of all crashes in this zone) involved a vehicle running off the road or crossing into the opposing direction carriageway, resulting in six fatality or serious injury crashes between 2010 and 2021.
Lack of adequate line marking and road visibility, particularly in foggy road conditions	<p>Working group consultation identified that the road marking at River Road crossing was difficult to see in foggy conditions.</p> <p>The technical assessment found that the sight distance does not meet current design guidelines due to horizontal alignment near Emu Bay Road and vertical geometry to the west of Bowerbank Link.</p>
Lack of adequate and appropriate signage, particularly at and prior to interchanges	The road safety audit identified the existing signage does not provide sufficient warning to road users of upcoming interchange and changed road conditions.
Shoulders often exceedingly narrow	There are sections of this zone where shoulders do not provide sufficient room for vehicle to pull off the road if required.
No separation of north and southbound traffic	<p>The road safety audit determined high speeds, limited overtaking opportunities, high traffic volumes and the lack of separation between opposing directions are contributing to the number and severity of crashes.</p> <p>Community consultation identified that lack of separation between lanes, particularly on curves, was an issue.</p>
Improved efficiency, reliability and resilience of road network	
Inconsistent speed on the uphill section of road between Mole Creek Road and River Road	<p>It is noted that there is an overtaking opportunity for westbound traffic between River Road and Mole Creek Road. However, traffic lanes and shoulders in this zone are narrow, making it difficult for vehicles to comfortably overtake large trucks.</p> <p>Furthermore, the additional lane in the eastbound direction from Mole Creek Road terminates on the other side of a crest, making it difficult to merge.</p>
Lack of safe locations for overtaking	Working group consultation feedback and the technical assessment identified a lack of safe overtaking locations in this zone. This is further supported by the high proportion of overtaking crashes.

Corridor challenges – Zone 3	Challenging location and details
Enabled growth and development	
Road capacity unlikely to meet future demand	A single carriageway arrangement with one lane in each direction will not meet expected future traffic growth and demand.
Lack of designated heavy vehicle driver rest areas	<p>Working group consultation identified insufficient heavy vehicle driver rest area near the Mole Creek interchange.</p> <p>There is a westbound information stop east of Bowerbank Link. The general rest area does not include an acceleration lane for exiting vehicles and has limited space to accommodate heavy vehicles.</p>

6.3.4 Zone 4 – Emu Bay Road to Bengoe Road

Zone 4 is the 4.8 kilometres of single carriageway from Emu Bay Road to Elizabeth Town (at Bengoe Road), as shown in Figure 6.10.

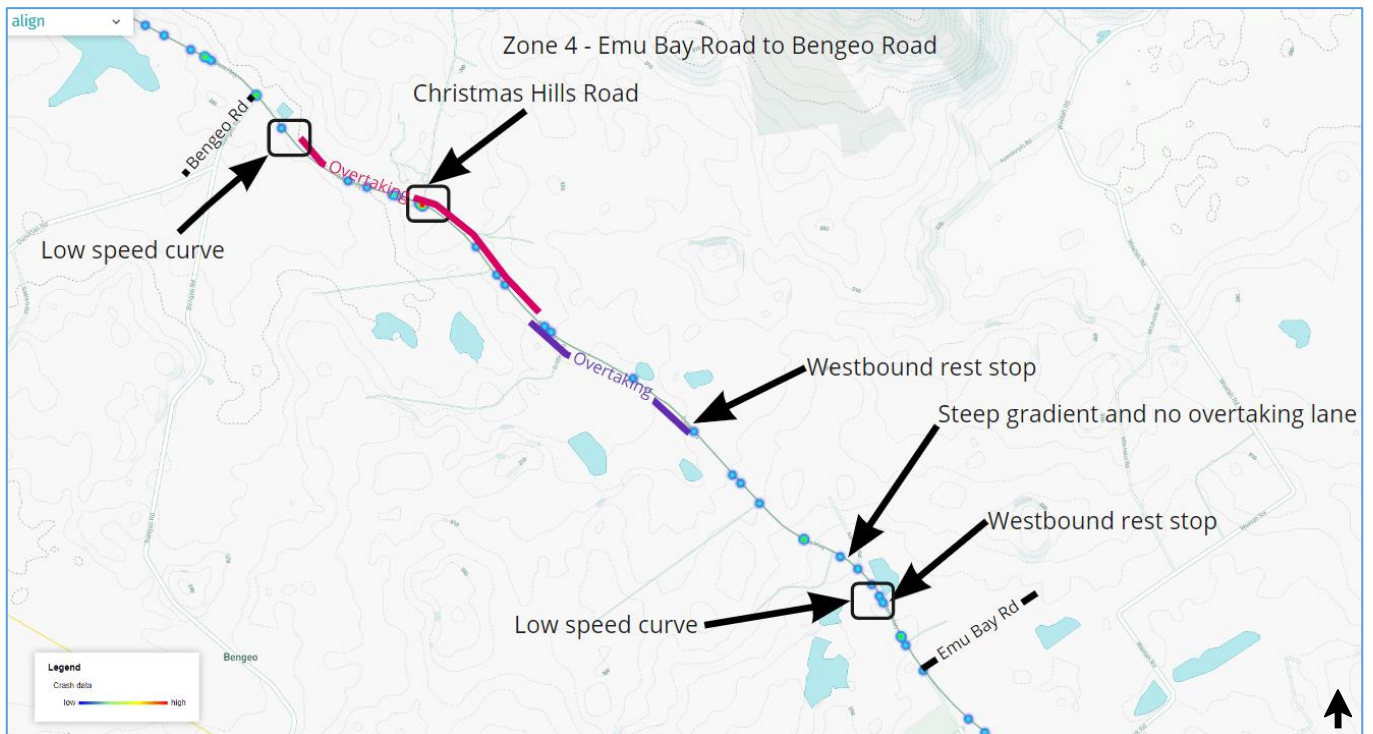


Figure 6.10: Zone 4 – Emu Bay Road to Bengoe Road

Key challenges for this zone of the Bass Highway are provided in Table 6.6.

Table 6.6: Zone 4 – Corridor challenges

Corridor challenges – Zone 4	Challenging location and details
Improved safety	
Lack of adequate warning and short turning lanes at Christmas Hills Road intersection	Working group and community consultation reported difficulty to enter and exit the Christmas Hills Road intersection at Elizabeth Town. This location includes several tourist destinations. This was supported by the technical assessment which indicates limited sight distance at this intersection and an identified crash hotspot, including a fatality crash between 2010 and 2020.
Difficult entry and exit from property and farm accesses onto Bass Highway for all vehicles	Narrow shoulders or short acceleration or deceleration lanes and G-turn facilities across three or four traffic lanes make turning into and out of properties difficult. This was supported by the crash analysis, which shows crashes around access points onto the highway in this zone.
Shoulders often excessively narrow and do not provide sufficient room for a vehicle to pull off the road	The community identified narrow shoulders as a concern. The technical assessment confirmed narrow shoulders along this section do not permit a vehicle to pull over safely nor pull over without blocking the traffic lane.
Poor visibility	Working group consultation identified poor visibility due to the horizontal alignment and the narrow road pavement, particularly between Christmas Hills Road to Railton Road. Technical assessment supports this, identifying limited sight distance in this zone in multiple locations as well as areas east of Christmas Hills Road.
High tourist volumes	The working group identified this zone as having high tourist activity. These road users are likely to be unfamiliar with the area, which may result in an additional safety hazard.
Road geometry below the standard expected for a national highway	The technical assessment found that the horizontal curves at either end of the highway as well as vertical crests along the highway within Zone 4 do not meet current design guidelines for the posted speed limit of 110 km/h. In some cases, this leads to poor sight distance as well as reduced vehicle speed by motorists.
No separation of north and southbound traffic	The road safety audit determined high speeds, limited overtaking opportunities, high traffic volumes and the lack of separation between opposing directions are contributing to the number and severity of crashes.
Improved efficiency, reliability and resilience of road network	
Steep sections of road	The technical assessment found that there are steep sections of road that do not include overtaking lanes, particularly in the vicinity of Ashford Road.
Lack of safe locations for overtaking	Working group consultation feedback and the technical assessment identified a lack of safe overtaking locations in this zone.

Corridor challenges – Zone 4	Challenging location and details
Enabled growth and development	
Road capacity unlikely to meet future demand	A single carriageway arrangement with one lane in each direction will not meet expected future traffic growth and demand.
Lack of designated heavy vehicle driver rest areas	Working group consultation identified a lack of appropriate locations and facilities for truck drivers to stop.

6.3.5 Zone 5 – Elizabeth Town

Zone 5 is the 5 kilometres of single carriageway in Elizabeth Town, from Bengoe Road to the curve north of Parkham Road, as shown in Figure 6.11.

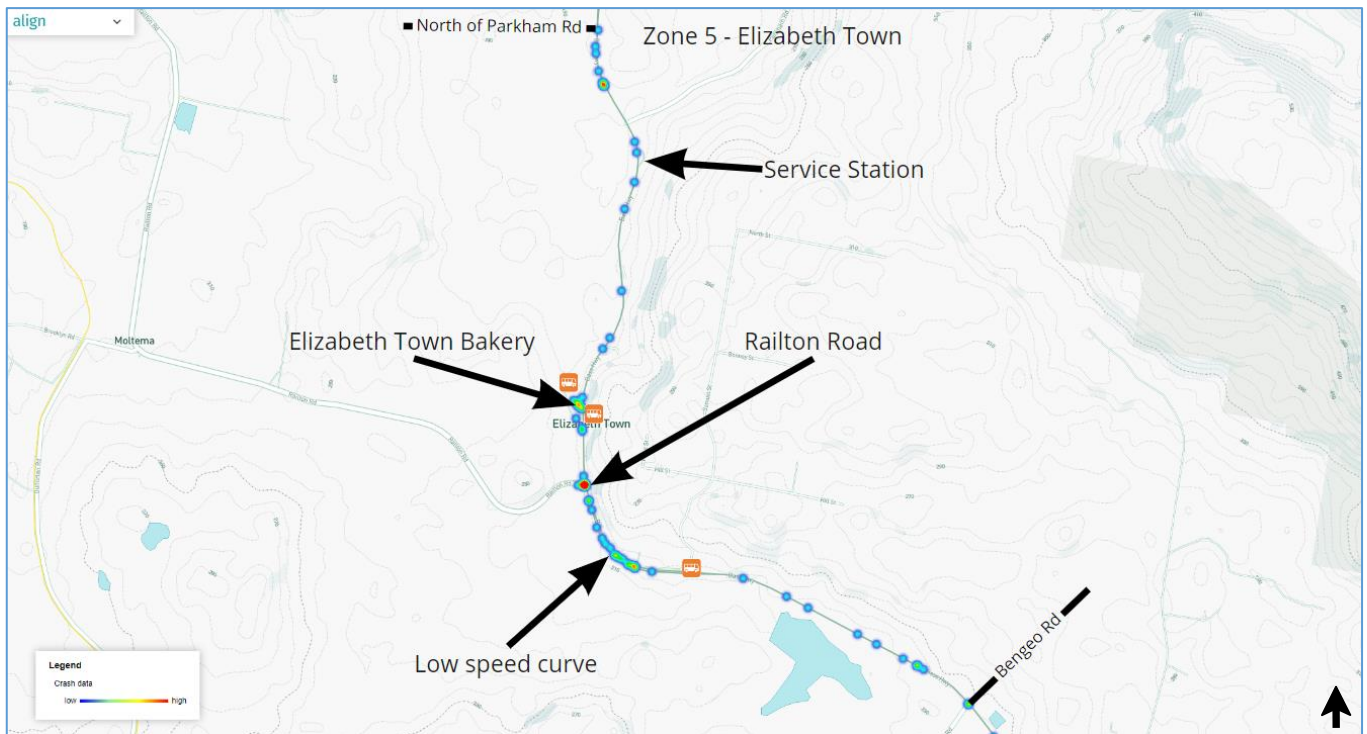


Figure 6.11: Zone 5 – Elizabeth Town

Key challenges for this zone of the Bass Highway are provided in Table 6.7.

Table 6.7: Zone 5 – Corridor challenges

Corridor challenges – Zone 5	Challenging location and details
Improved safety	
<p>Difficult entry and exit from property and farm accesses onto Bass Highway for all vehicles</p>	<p>Narrow shoulders and short acceleration or deceleration lanes make turning into and out of properties difficult.</p> <p>Working group consultation noted access into Railton Road and the bakery as having short turn lanes, making it difficult to access. It was also noted that the grade on Railton Road resulted in vehicles entering the highway at slow speeds. Based on the limitations within Elizabeth Town, the working group suggested that an Elizabeth Town bypass be considered.</p> <p>The technical assessment also identified poor access arrangements to the bakery and service station. Turn lane lengths insufficient for trucks travelling at posted speed limit and poor sight distance at the bakery approach results in insufficient notice given to road users.</p>
<p>Inconsistent lane and shoulder width, with some sections below the standard expected for a national highway</p>	<p>The road safety audit identified traffic lanes and shoulders are narrow, not at the recommended width for large trucks and do not allow vehicles to safely pull over.</p>
<p>Road geometry below the standard expected for a national highway</p>	<p>Working group consultation noted that the Bass Highway south of Railton Road has a sharp curve and is a known local accident hotspot.</p> <p>This was supported by the crash analysis which shows a high number of out of carriageway crashes on the curve.</p> <p>The technical assessment found that the speed reductions (from 100 km/h to 90 km/h) are not adequate to comfortably traverse the existing road curvature at this location.</p> <p>In addition, the technical assessment found that the sight stopping distance does not meet the current standard expected for a national highway.</p>
<p>Lack of adequate and appropriate signage, particularly at and prior to intersections and approaching towns</p>	<p>Working group consultation identified the existing signage on the approach into Elizabeth Town does not indicate the town gateway.</p> <p>The technical assessment found that through Elizabeth Town there was little change to the road characteristics compared to the sections either side. This was particularly apparent at night when there is little indication that you are driving through a township.</p>
<p>Lack of adequate line marking and road visibility, particularly at night</p>	<p>Working group consultation identified that the existing line marking delineation does not enhance night driving safety.</p> <p>The working group reported difficulty in accessing the houses near Parkham Road as well as poor night visibility in general.</p> <p>The technical assessment found that night visibility was poor due to both horizontal and vertical geometry.</p>

Corridor challenges – Zone 5	Challenging location and details
Pavement condition considered fair	<p>The working group consultation identified poor road condition in the vicinity of Railton Road.</p> <p>The technical assessment identified the pavement base and surface condition in the vicinity of Railton Road was in fair condition.</p>
No separation of north and southbound traffic	The road safety audit determined high speeds, limited overtaking opportunities, high traffic volumes and the lack of separation between opposing directions are contributing to the number and severity of crashes.
Improved efficiency, reliability and resilience of road network	
Poor provision of public transport facilities	The site inspection identified that bus stops do not have a signed dedicated area to safely stop. Public transport users are not provided with safe areas to wait and stops are not universally accessible.
Enabled growth and development	
Road capacity unlikely to meet future demand	<p>A single carriageway arrangement with one lane in each direction will not meet expected future traffic growth and demand.</p> <p>In addition, the reduced speed limit through Elizabeth Town puts this zone at high risk of becoming a bottleneck along the corridor.</p>
Lack of designated heavy vehicle driver rest areas	<p>The working group consultation identified that the café is used as an informal rest area by both tourists and freight drivers, creating frustration due to heavy vehicles parking in Elizabeth Town so the drivers have access to amenities.</p> <p>The technical assessment found that heavy vehicles drivers stop on the road shoulder, which impacts the safety of vehicles driving on the adjacent road as well as reducing through-traffic speed.</p>

6.3.6 Zone 6 – North of Parkham Road to Gannons Hill Road

Zone 6 is the 5.1 kilometres of single carriageway from Elizabeth Town (north of Parkham Road) to Gannons Hill Road, as shown in Figure 6.12.

Zone 6 includes approximately 1.3 kilometres of both north and south overtaking lanes.

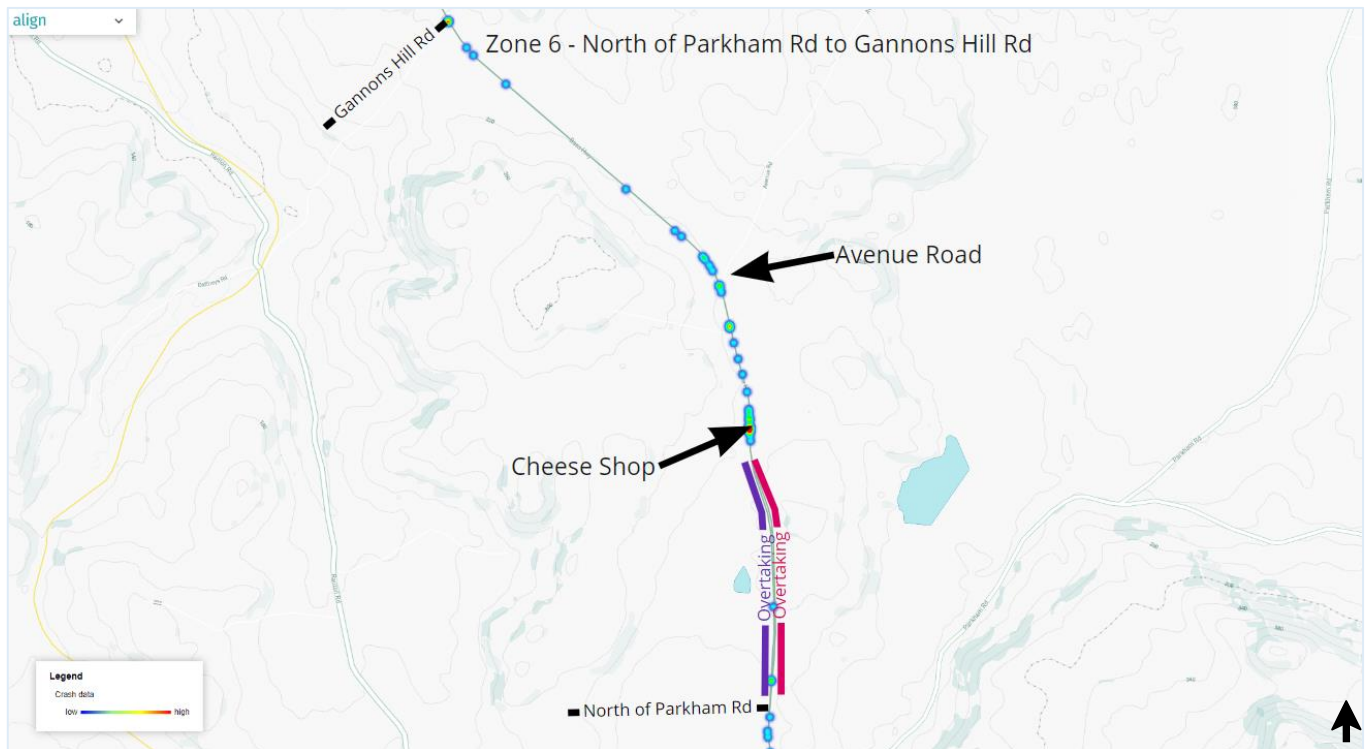


Figure 6.12: Zone 6 – North of Parkham Road to Gannons Hill Road

Key challenges for this zone of the Bass Highway are provided in Table 6.8.

Table 6.8: Zone 6 – Corridor challenges

Corridor challenges – Zone 6	Challenging location and details
Improved safety	
<p>Difficult entry and exit from property and farm accesses onto Bass Highway for all vehicles</p>	<p>Narrow shoulders, no turn lanes and short acceleration or deceleration lanes make turning into and out of properties difficult, particularly for the Ashgrove Cheese Dairy Door, which is a tourist destination.</p> <p>This was supported by the crash analysis which shows a high number of crashes at the Ashgrove Cheese Dairy Door access.</p>
<p>Southbound overtaking lane on a downhill gradient which encourages road users to speed</p>	<p>Working group consultation identified traffic speeding near Ashgrove Cheese Dairy Door as a concern.</p>
<p>Shoulders often excessively narrow and do not provide sufficient room for vehicle to pull off the road</p>	<p>The working group consultation identified a safety concern posed by the wire rope safety barriers to the north of Ashgrove Cheese Dairy Door. These safety barriers constrain shoulder width and prevent a vehicle pulling off the road safely.</p>
<p>Road geometry below the standard expected for a national highway</p>	<p>The technical assessment identified several locations with limited sight distance, particularly at the Gannons Hill Road and Avenue Road intersections.</p> <p>Horizontal alignment near the Ashgrove Cheese Dairy Door and Avenue Road intersections is not suitable for the posted speed limit.</p>
<p>Lack of adequate and appropriate signage, particularly at and prior to intersections and approaching tourism destinations and towns</p>	<p>The road safety audit identified the existing signage does not provide sufficient warning to road users of upcoming intersections and changed road conditions.</p>
<p>No separation of north and southbound traffic</p>	<p>The road safety audit determined high speeds, limited overtaking opportunities, high traffic volumes and the lack of separation between opposing directions are contributing to the number and severity of crashes.</p>
Enabled growth and development	
<p>Road capacity unlikely to meet future demand</p>	<p>A single carriageway arrangement with one lane in each direction will not meet expected future traffic growth and demand.</p>
<p>Lack of designated heavy vehicle driver rest areas</p>	<p>There are a limited number of heavy vehicle driver rest areas along the corridor when travelling from Devonport to Launceston. There is no formal southbound heavy vehicle driver rest area south of Long Hill Road.</p>

6.3.7 Zone 7 – Gannons Hill Road to Long Hill Road

Zone 7 is the 5 kilometres of single carriageway from Gannons Hill Road to Long Hill Road, as shown in Figure 6.13.

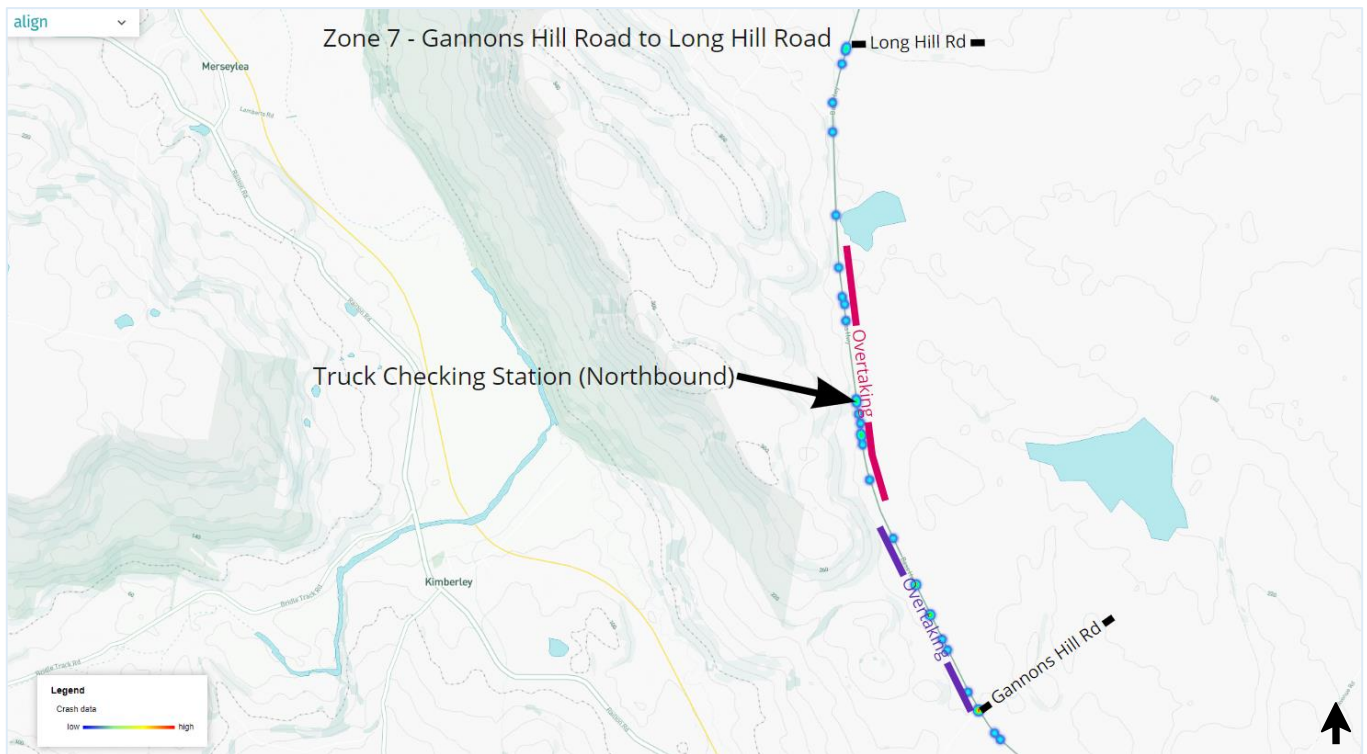


Figure 6.13: Zone 7 – Gannons Hill Road to Long Hill Road

Key challenges for this zone of the Bass Highway are provided in Table 6.9.

Table 6.9: Zone 7 – Corridor challenges

Corridor challenges – Zone 7	Challenging location and details
Improved safety	
Difficult entry and exit from property and farm accesses onto Bass Highway for all vehicles	Narrow shoulders, no turn lanes and short acceleration or deceleration lanes make turning into and out of local roads and properties difficult.
Shoulders often excessively narrow and do not provide sufficient room for vehicles to pull off the road	Shoulders are narrow and constrained by wire rope safety barrier and do not provide sufficient room for a vehicle to pull off the road safely.
Enabled growth and development	
Road capacity unlikely to meet future demand	A single carriageway arrangement with one lane in each direction will not meet expected future traffic growth and demand.
Lack of designated heavy vehicle driver rest areas	There are a limited number of heavy vehicle driver rest areas along the corridor when travelling from Devonport to Launceston. There is no formal southbound heavy vehicle driver rest area south of Long Hill Road.

6.3.8 Zone 8 – Long Hill Road to Conservatory Road

Zone 8 is the 4 kilometres of single carriageway from Long Hill Road to Conservatory Road, as shown in Figure 6.14.

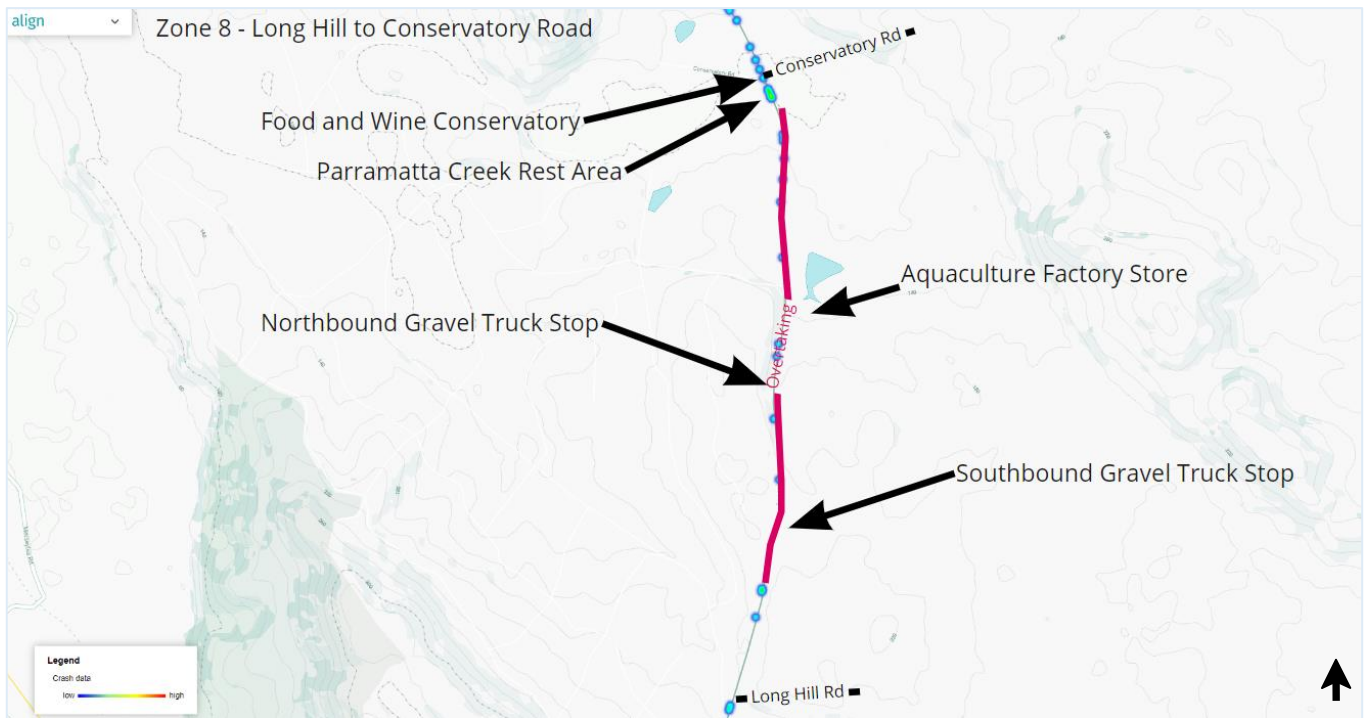


Figure 6.14: Zone 8 – Long Hill Road to Conservatory Road

Key challenges for this zone of the Bass Highway are provided in Table 6.10.

Table 6.10: Zone 8 – Corridor challenges

Corridor challenges – Zone 8	Challenging location and details
Improved safety	
<p>Pavement condition below standard for a national highway</p>	<p>The working group consultation identified pavement condition as not supporting the signposted speed:</p> <ul style="list-style-type: none"> • Road users avoid using the rutted lanes for fear of damaging their vehicles near the entrance to the Huon processing facility at Paramatta Creek. • near the intersection with Conservatory Road. <p>This is supported by the technical assessment that identified poor base and surface pavement condition between Conservatory Road and the Huon processing facility.</p> <p>Community consultation identified that pavement in the Launceston-bound direction was very poor.</p>
<p>Inconsistent lane and shoulder width, with some sections below the standard expected for a national highway</p>	<p>Site audit identified narrow shoulders and traffic lanes, particularly in the section with a southbound overtaking lane.</p> <p>The technical assessment identified limited visibility due to the horizontal alignment, vertical crests and the narrow road pavement, particularly around Conservatory Road intersection. The technical assessment also found the curve to the south of Conservatory Road does not meet the current design guidelines for the posted speed limit.</p> <p>The working group consultation and technical assessment also identified this challenge near the entrance to the Huon processing facility.</p>
<p>No separation of north and southbound traffic</p>	<p>The road safety audit determined high speeds, limited overtaking opportunities, high traffic volumes and the lack of separation between opposing directions are contributing to the number and severity of crashes.</p>
Improved efficiency, reliability and resilience of road network	
<p>Steep grades and no overtaking lane</p>	<p>Single northbound lane with steep grade on approach to Conservatory Road.</p>
Enabled growth and development	
<p>Road capacity unlikely to meet future demand</p>	<p>A single carriageway arrangement with one lane in the north direction will not meet expected future traffic growth and demand.</p> <p>The single carriageway in the southbound direction includes an overtaking lane which may meet future demand.</p>
<p>Lack of designated heavy vehicle driver rest areas in both north and south direction</p>	<p>The technical assessment noted that access geometry prevents large trucks from accessing the Parramatta Creek rest area.</p> <p>Working group consultation identified a lack of appropriate locations and facilities for truck drivers to stop.</p>

Zone 9 – Conservatory Road to Sassafras

Zone 9 is the 6.5 kilometres of single carriageway from Conservatory Road to Sassafras (Cornelius Road) as shown in Figure 6.15.

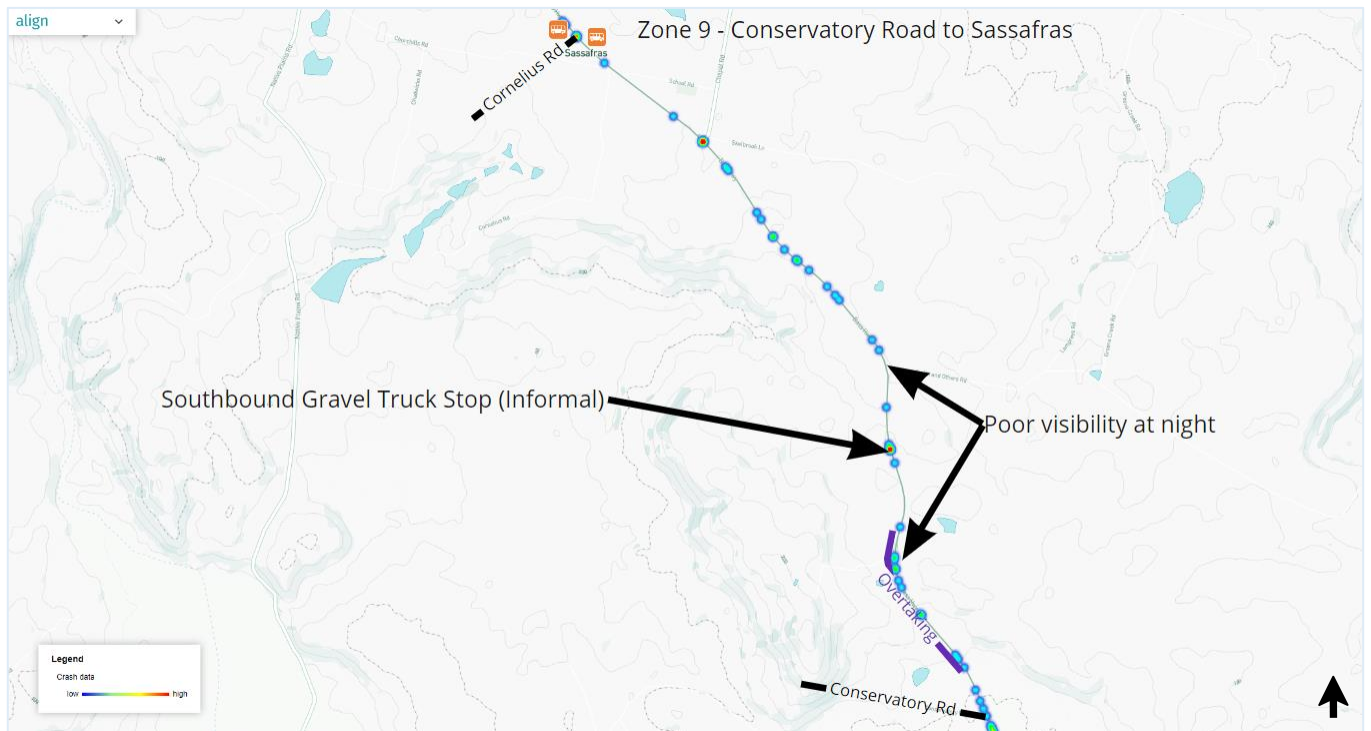


Figure 6.15: Zone 9 – Conservatory Road to Sassafras

Key challenges for this zone of the Bass Highway are provided in Table 6.11.

Table 6.11: Zone 9 – Corridor challenges

Corridor challenges – Zone 9	Challenging location and details
Improved safety	
Difficult entry and exit from property and farm accesses onto Bass Highway for all vehicles	Narrow shoulders, no deceleration lanes or short acceleration or deceleration lanes make turning into and out of properties difficult. Community consultation referred to dangerous intersections between Conservatory Road and Sassafras. Chapel Road was identified as a key issue.
Inconsistent lane and shoulder width, with some sections below the standard expected for a national highway	The technical assessment identified narrow lanes and shoulders in sections with overtaking lanes making overtaking large trucks difficult and dangerous.
Road geometry below the standard expected for a national highway	Working group and community consultation identified that the northern end of the overtaking lane is on a corner and a crest which leads to road user stress and indecision. The technical assessment supported this, finding sight distance in this section does not meet the current design guidelines for the 110 km/h speed limit. The technical assessment identified sections with poor vertical and horizontal geometry to the south of Smith and Others Road that impact travel speed and visibility.
Lack of adequate line marking and road visibility, particularly for night driving	Although audio-tactile edge line and centreline are in place, the road safety audit found night visibility was poor due to vertical geometry impacting effectiveness of headlights.
Poor provision of public transport facilities	Bus stops are located at key intersections, in areas of high speed. There is no warning signage to identify a bus stop or area for a bus to safely stop. Public transport users are not provided with safe areas to wait and stops are not universally accessible.
No separation of north and southbound traffic	The road safety audit determined high speeds, limited overtaking opportunities, high traffic volumes and the lack of separation between opposing directions are contributing to the number and severity of crashes.
Improved efficiency, reliability and resilience of road network	
Steep grade with ineffective overtaking lane	The technical assessment identified steep grade north of Conservatory Road where the overtaking lane starts part way uphill and lanes and shoulders narrow, making passing large trucks difficult and dangerous.
Enabled growth and development	
Road capacity unlikely to meet future demand	A single carriageway arrangement with one lane in each direction will not meet expected future traffic growth and demand.
Lack of designated heavy vehicle driver rest areas in both north and south direction	The technical assessment noted lack of formal heavy vehicle driver rest areas and identified a gravel area is used as an informal heavy vehicle driver rest area for southbound vehicles.

6.3.9 Zone 10 –Sassafras to Latrobe

Zone 10 is the 6.1 kilometres of single carriageway from Sassafras (Cornelius Road) to Latrobe (Abeyes Road) as shown in Figure 6.16.

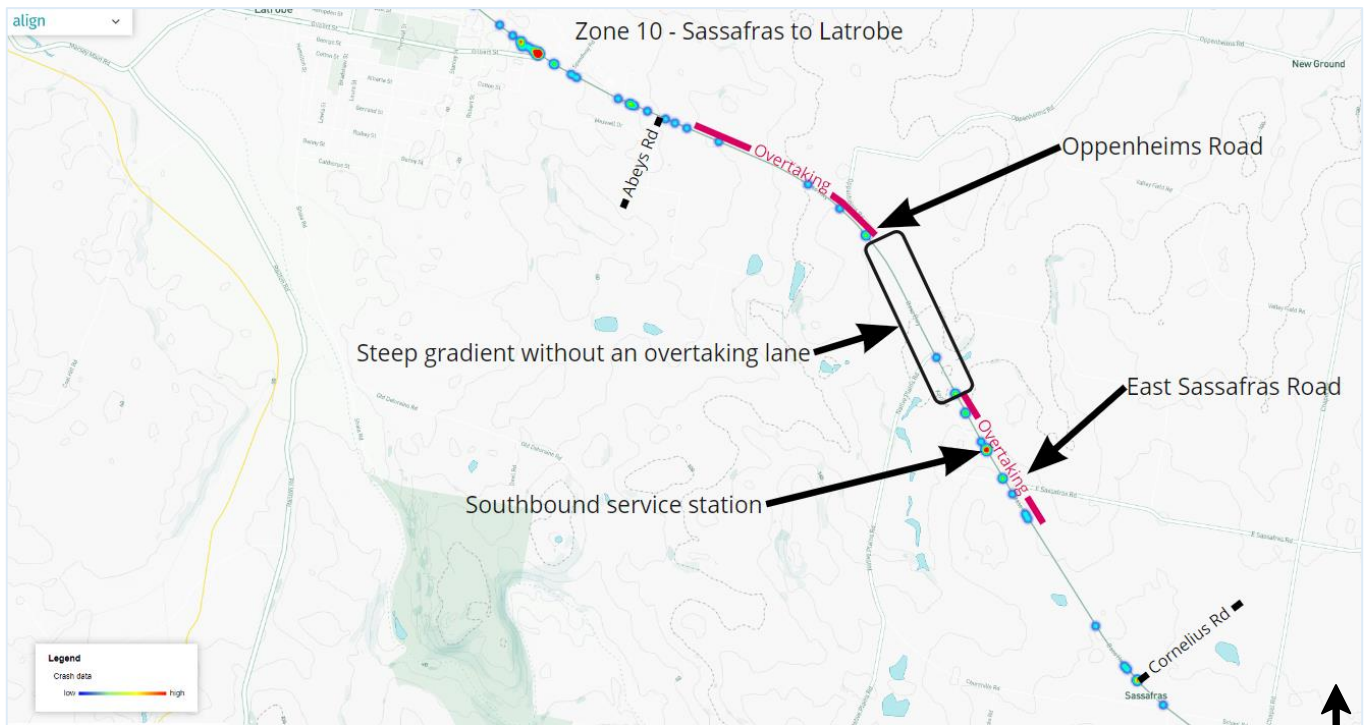


Figure 6.16: Zone 10 – Sassafras to Latrobe

Key challenges for this zone of the Bass Highway are provided in Table 6.12.

Table 6.12: Zone 10 – Corridor challenges

Corridor challenges – Zone 10	Challenging location and details
Improved safety	
Oppenheims Road intersection	The working group identified this intersection as an issue due to the high speed on the Bass Highway. The technical assessment found that this intersection is on a steep grade.
Difficult entry and exit from property and farm accesses onto Bass Highway for all vehicles	<p>Narrow shoulders, no turn lanes or short acceleration or deceleration lanes make turning into and out of local roads and properties difficult, particularly at the service station. This was supported by the crash data which shows a high number of crashes at the service station.</p> <p>The community consultation identified the westbound United service station and the eastbound Ampol service station as having poor access arrangements.</p>
No separation of north and southbound traffic	The road safety audit determined high speeds, limited overtaking opportunities, high traffic volumes and the lack of separation between opposing directions are contributing to the number and severity of crashes.
Inconsistent lane and shoulder width, with some sections below the standard expected for a national highway	The audit identified sections with narrow traffic lanes and shoulders, particularly where the southbound overtaking lane is located.
Unsafe heavy vehicle stopping location	Both the working group and the technical assessment identified that a lack of appropriate parking facilities for heavy vehicles at the service station and shoulder widening opposite the service station resulted in heavy vehicles parking on the shoulder, requiring motorists users to cross the road.
Improved efficiency, reliability and resilience of road network	
Lack of safe locations for overtaking	Both the technical assessment and the working group identified a lack of northbound overtaking lane on the uphill section of Bass Highway is leading to speed inconsistency for northbound traffic.
Enabled growth and development	
Road capacity unlikely to meet future demand	A single carriageway arrangement with one lane in each direction will not meet expected future traffic growth and demand.

6.3.10 Zone II – Latrobe

Zone II is the 6 kilometres of single carriageway through Latrobe (Abeys Road to start of dual carriageway) as shown in Figure 6.17.

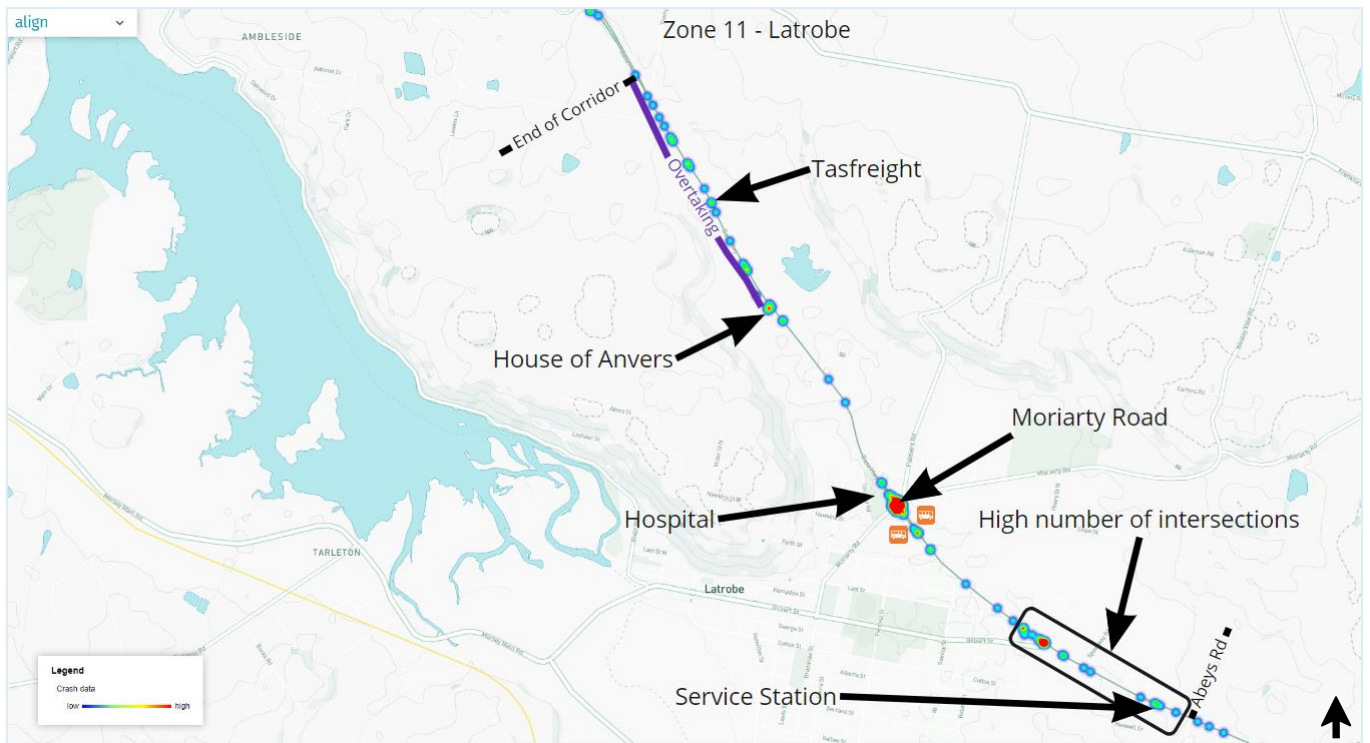


Figure 6.17: Zone II – Latrobe

Key challenges for this zone of the Bass Highway are provided in Table 6.13.

Table 6.13: Zone 11 – Corridor challenges

Corridor challenges – Zone 11	Challenging location and details
Improved safety	
<p>Conflict between highway and local traffic requirements for the Latrobe community – active transport</p>	<p>The working group consultation identified a number of safety threats posed by the conflicts between the highway traffic and the needs of the Latrobe community, especially with respect to ‘active transport’.</p> <p>These included:</p> <ul style="list-style-type: none"> • conflict between pedestrians and heavy vehicles • lack of safe pedestrian crossing infrastructure at the Bass Highway/Moriarty Road intersection near the hospital • opportunity for improved wayfinding and access to the mountain bike trails accessed via the Latrobe Municipality. <p>The technical assessment supported this, noting no formal active transport crossings provided from the east to the west of Bass Highway and acknowledging this is the one location of a recorded pedestrian crash between 2010 and 2020 along the entirety of the study area.</p>
<p>Conflict between highway and local traffic requirements for the Latrobe community – local community</p>	<p>The working group consultation identified a number of safety risks posed by the conflicts between the highway traffic and the needs of the Latrobe community, especially with respect to ‘local community’.</p> <p>These included:</p> <ul style="list-style-type: none"> • access into the residential area near Gilbert Street • noise generated through the town, creating a nuisance for residents and hospital patients adjacent to the highway • access into the service station. <p>Community consultation referred to several junctions as dangerous and causing traffic congestion. These include:</p> <ul style="list-style-type: none"> • Moriarty Road • House of Anvers • Tasmanian Freight Services (Tasfreight).

Corridor challenges – Zone 11	Challenging location and details
<p>Conflict between highway and local traffic requirements for the Latrobe community – highway traffic</p>	<p>The working group consultation identified several safety risks posed by the conflicts between the highway traffic and the needs of the Latrobe community, especially with respect to ‘highway traffic’.</p> <p>These included:</p> <ul style="list-style-type: none"> • frustration with local traffic movements across traffic (such as turns into local accesses) • inconsistent speed limits for a national highway through Latrobe • Access and safe parking at the service station. <p>This was supported by the technical assessment which found that local traffic also had to use the Bass Highway through Latrobe, creating conflict between local and through traffic.</p> <p>Crash data shows a significant proportion of crashes relating to intersections and access points directly off the highway in this location. The Moriarty Road/Bass Highway roundabout was identified as one of the major crash hotspots on the corridor. Note, that of the 19 crashes at the roundabout, 18 resulted in property damage only, and the remaining crash was an ‘other injury’ crash.</p>
<p>Pavement condition below standard for a national highway</p>	<p>The working group and community consultation identified poor pavement condition near Tasfreight.</p> <p>This was supported by the technical assessment that identified poor pavement surface condition north of Moriarty Road.</p>
<p>Difficult entry and exit from property and farm accesses onto Bass Highway for all vehicles</p>	<p>Narrow shoulders, no turn lanes or short acceleration or deceleration lanes make turning into and out of properties difficult, particularly turning right into properties across traffic.</p> <p>The working group consultation identified several areas with more difficult access, including:</p> <ul style="list-style-type: none"> • right turn facilities for existing industrial area • access to industrial estate (Speedway Drive) and Latrobe Council depot. <p>This was supported by the crash analysis which shows a high number of rear end and intersection crashes near Gilbert Street and Speedway Drive.</p>
<p>Poor provision of public transport facilities</p>	<p>Bus stops are located at key intersections, in areas of high speed. There is no warning signage to identify a bus stop or area for a bus to safely stop.</p> <p>Public transport infrastructure does not meet the minimum standard for accessibility.</p>

Corridor challenges – Zone 11	Challenging location and details
No separation of north and southbound traffic	The road safety audit determined high speeds, limited overtaking opportunities, high traffic volumes and the lack of separation between opposing directions are contributing to the number and severity of crashes.
Improved efficiency, reliability and resilience of road network	
Conflicting local and through traffic	Poor separation between local traffic and through traffic impacts travel time and reliability on the highway through Latrobe.
Enabled growth and development	
Physical separation of residents on eastern and western sides of highway	The Bass Highway provides a physical barrier and a challenge for Latrobe Council planners to provide a consistent amenity for all residents.
Lack of designated heavy vehicle driver rest areas with appropriate amenities in the north direction	<p>The technical assessment noted that there were no heavy vehicle driver amenities at the service station as well as a lack of formal heavy vehicle driver rest areas in this zone.</p> <p>Working group consultation identified that the visitor information bay is used as a rest area prior to the port. There are no facilities at this location for road users.</p>
Road capacity unlikely to meet future demand	<p>A single carriageway arrangement with one lane in each direction will not meet expected future traffic growth and demand between Devonport and Latrobe.</p> <p>The working group consultation identified a high level of commuter traffic between Latrobe and Devonport.</p>

7 Corridor strategy

The aim of this strategy is to identify opportunities for upgrading the corridor to align better with the corridor objectives: improved safety outcomes; improved efficiency, reliability and resilience of road network and enabled economic growth and development.

To address challenges described in section 6, changes need to be made to improve the Bass Highway and provide alignment with the corridor objectives. Improvements can be grouped into five categories:

- carriageway separation
- intersection upgrades
- travel mode management initiatives
- visibility and road condition improvements
- improved heavy vehicle driver rest areas.

The improvements, as well as their effects are described in section 7.1.

Resolving some challenges such as poor provision of heavy vehicle driver rest areas and overtaking opportunities required a systematic approach along the length of the corridor rather than isolated individual projects.

Therefore, guiding strategies for duplication, overtaking lanes and heavy vehicle driver rest areas have been developed and are outlined in section 7.2.

A full list of improvement opportunities is provided in Table 7.8. Given the number of improvement opportunities identified along the corridor, future individual upgrade projects will have to be staged. Section 7.3 outlines the priority improvement opportunities based on the working group and community feedback. Section 7.5 suggests opportunities for delivery efficiency by constructing co-located improvement opportunities at the same time.

7.1 Key improvements

Five types of improvements were developed in response to the key challenges identified along the corridor listed in Table 6.1. The five types of improvements are summarised in Table 7.1.

These improvements and their effectiveness in facilitating the corridor objectives of road safety, efficiency and enabling growth is described in sections 7.1.1 to 7.1.5.

Table 7.1 Key improvements

Carriageway separation	Intersection upgrades	Travel mode management initiatives	Visibility and road condition improvements	Improved heavy vehicle driver rest areas
Duplicate Shoulder widening Overtaking lanes Improve separation between opposing lanes Safety barrier upgrades/installation	Intersection redesign Interchange upgrades Provide turn lanes Lighting Consolidate local accesses	Bypass towns Bus stop upgrades Speed management Pedestrian crossings Amenity	Pavement upgrades Delineation improvements Signage improvements	Provide formalised heavy vehicle driver rest areas Improve truck access to service stations and short-term parking in townships

7.1.1 Carriageway separation

Carriageway separation improvements include the addition of lanes, provision of central medians, safe emergency vehicle turning opportunities or widening the shoulders of the road. While carriageway separation projects typically improve road safety and resilience, only improvements that add additional lanes increase the capacity of the corridor. Installing overtaking lanes with a safety barrier in the central median further improves road safety outcomes. The effectiveness of the carriageway separation improvements is shown in Table 7.2.

Table 7.2: Effectiveness of Carriageway separation improvements

Improvement Type	Effectiveness in meeting project objectives			
	Improving Safety	Improving Reliability	Enabling Growth	
Duplication	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	
Shoulder widening	✓	✓ ✓ ✓	—	
Installing overtaking lanes	✓ ✓	✓ ✓	✓ ✓	
Installing overtaking lanes with safety barriers in the central median	✓ ✓ ✓	✓ ✓	✓ ✓	
KEY:	High ✓ ✓ ✓	Medium ✓ ✓	Low ✓	None —

7.1.2 Intersection upgrades

Intersection upgrades can be designed to increase capacity, operation and safety depending on the specific site challenges. However, the primary objective for most intersection improvements for the Bass Highway corridor will provide road safety enhancements. The effectiveness of the intersection upgrade improvements is shown in Table 7.3.

Table 7.3: Effectiveness of intersection upgrade improvements

Improvement Type	Effectiveness in meeting project objectives			
	Improving Safety	Improving Reliability	Enabling Growth	
Intersection redesign	✓ ✓ ✓	✓	—	
Interchange upgrades	✓ ✓ ✓	✓	—	
Provision of turn lanes	✓ ✓ ✓	✓ ✓	✓	
Lighting	✓ ✓	—	—	
Consolidation of local accesses	✓ ✓ ✓	✓ ✓	—	
KEY:	High ✓ ✓ ✓	Medium ✓ ✓	Low ✓	None —

7.1.3 Travel mode management initiatives

Travel mode management initiatives provide benefits to the road environment through townships and high activity areas, where there is a conflict between through traffic using the Bass Highway and local traffic, including pedestrians, bike riders and public transport users. These travel mode management initiatives:

- consider the safety of people using each of the travel modes as they use or cross the Bass Highway
- consider all travel modes for each location and make prioritisation based on the locational context (i.e. perhaps pedestrians in towns like Elizabeth Town, buses around school routes, and heavy vehicles near commercial business hubs)
- support productivity by facilitating the movement of good and people.

The improvement types primarily focus on safety for all road users, but ultimately recognise that some improvements comes at the expense of highway efficiency. The highway’s reliability and capacity cannot be improved without separating the highway from town centres or areas of high activity. While it is also noted that some amenity improvements, such as installing noise walls, provide benefits to locals, these benefits do not fall within the corridor objectives.

The effectiveness of the travel mode management initiatives improvements is provided in Table 7.4.

Table 7.4: Effectiveness of travel mode management initiatives improvements

Improvement Type	Effectiveness in meeting project objectives			
	Improving Safety	Improving Reliability	Enabling Growth	
Bypass of towns	✓ ✓ ✓	✓ ✓	✓ ✓ ✓	
Bus stop upgrades	✓ ✓ ✓	✓	—	
Speed management	✓ ✓	—	—	
Pedestrian crossings	✓ ✓ ✓	—	—	
Amenity improvements	—	—	—	
KEY:	High ✓ ✓ ✓	Medium ✓ ✓	Low ✓	None —

7.1.4 Visibility and road condition improvements

Visibility and road condition improvements primarily impact safety. However, both pavement upgrades and improvements to wayfinding signage will also positively impact other corridor objectives. Visibility and road condition improvements benefit all highway users. The effectiveness of the visibility and road condition improvements is provided in Table 7.5.

Table 7.5: Effectiveness of visibility and road condition improvements

Improvement Type	Effectiveness in meeting project objectives			
	Improving Safety	Improving Reliability	Enabling Growth	
Pavement upgrades	✓ ✓	✓ ✓	✓	
Delineation improvements	✓ ✓	—	—	
Signage improvements	✓ ✓	✓	—	
Installing or improving safety barriers	✓ ✓ ✓	—	—	
KEY:	High ✓ ✓ ✓	Medium ✓ ✓	Low ✓	None —

7.1.5 Improved heavy vehicle driver rest areas

The Bass Highway is a strategic freight corridor in Tasmania and facilitates long haul travel. The provision of visible and accessible heavy vehicle driver rest areas at regular intervals will improve safety outcomes for all road users by providing dedicated accessible areas for all road users to stop and rest. The effectiveness of the heavy vehicle driver rest area improvements is shown in Table 7.6.

Table 7.6: Effectiveness of heavy vehicle driver rest area improvements

Improvement Type	Effectiveness in meeting project objectives			
	Improving Safety	Improving Reliability	Enabling Growth	
Provision of formalised heavy vehicle driver rest areas	✓ ✓	✓	—	
Improved truck access to service stations and short-term parking in townships	✓ ✓	✓	—	
KEY:	High ✓ ✓ ✓	Medium ✓ ✓	Low ✓	None —

7.2 Corridor wide improvements

Improvements such as duplication, provision of overtaking lanes and heavy vehicle driver rest areas cannot be identified as individual projects, instead they should be considered systematically along the length of the corridor. To ensure this, guiding principles for each of these improvements have been developed and are discussed in the following sections.

7.2.1 Duplication across corridor

The working group identified that the ultimate vision for the corridor is to provide a fully separated dual carriageway where viable along the full length of the highway. Given the length of the corridor, duplication of the single carriageway will need to be staged. The recommended order of duplication works has been developed to provide road user consistency along the corridor in response to community feedback. Figure 7.1 shows the recommended sequencing of duplication, starting with the eastern section of highway. Duplication of this section will result in the connection of existing dual carriageway sections.

It is noted that the feasibility of providing a fully separated dual carriageway along the length of the corridor has not been evaluated. Factors such as topology, corridor width and environmental factors will influence the feasibility of road widening.

The provision of a high-speed dual carriageway environment through Latrobe and Elizabeth Town is constrained by land-use as well as activity that conflicts with the operation of the highway. It is recommended that these sections of highway be further investigated to identify suitable alternative routes that allow for the provision of a safe and efficient high-speed dual carriageway highway. Recognising the additional investigation and planning works required, these sections of corridor have been identified last for duplication.

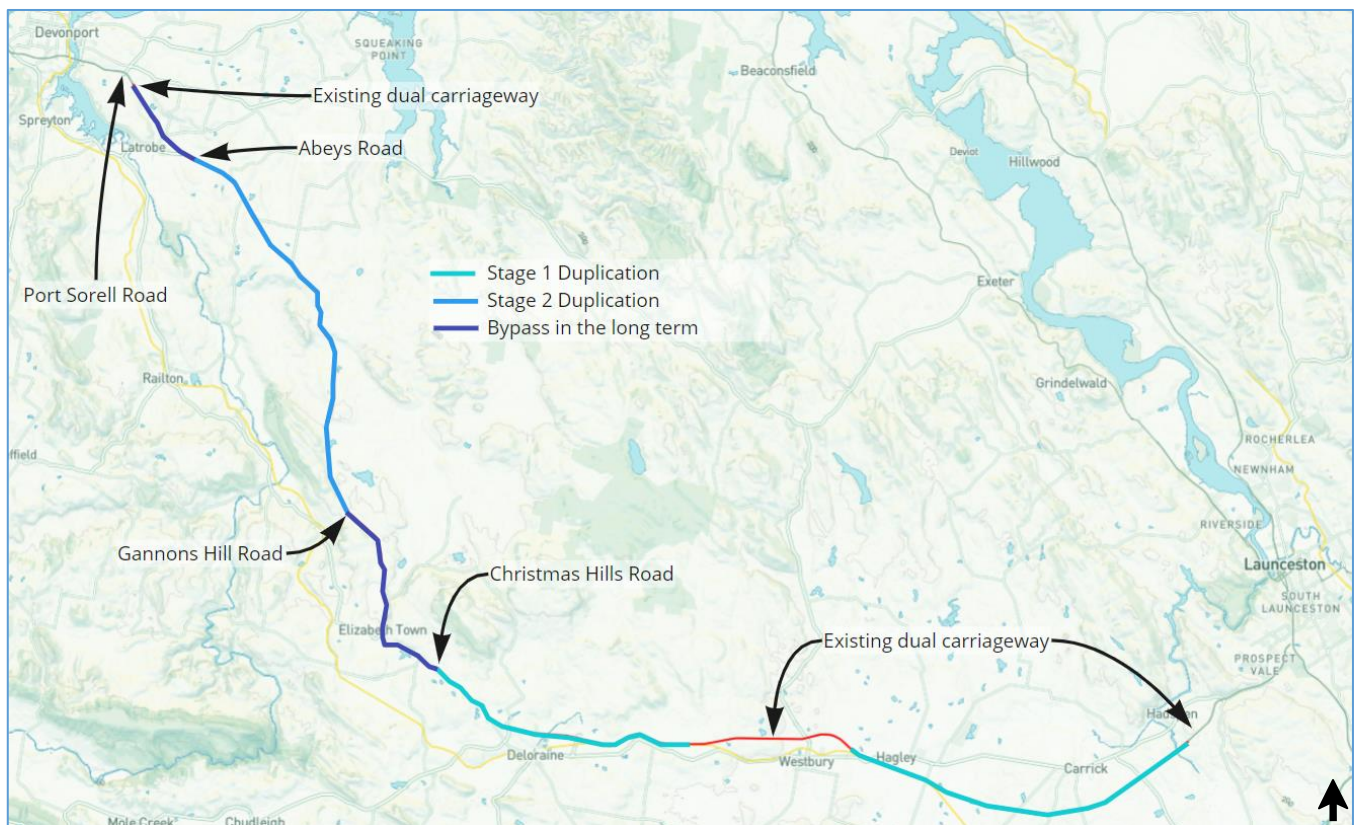


Figure 7.1: Duplication corridor wide improvement

7.2.2 Overtaking lanes corridor wide solution

While the working group long-term vision is for a fully separated dual carriageway for the corridor, it will take time and may not be feasible across all sections of the highway. For this reason, it is recommended that additional and improved overtaking opportunities be provided in the interim to better align the corridor with the road safety and efficiency objectives. The overtaking lane works illustrated in Figure 7.2 includes the provision of overtaking lanes for uphill sections of the highway as well as the provision of overtaking lanes every seven kilometres (approximately five minutes driving) in each direction. To improve road safety at existing and future overtaking lanes, it is recommended that a safety barrier is installed in the central median to separate travel directions where possible.

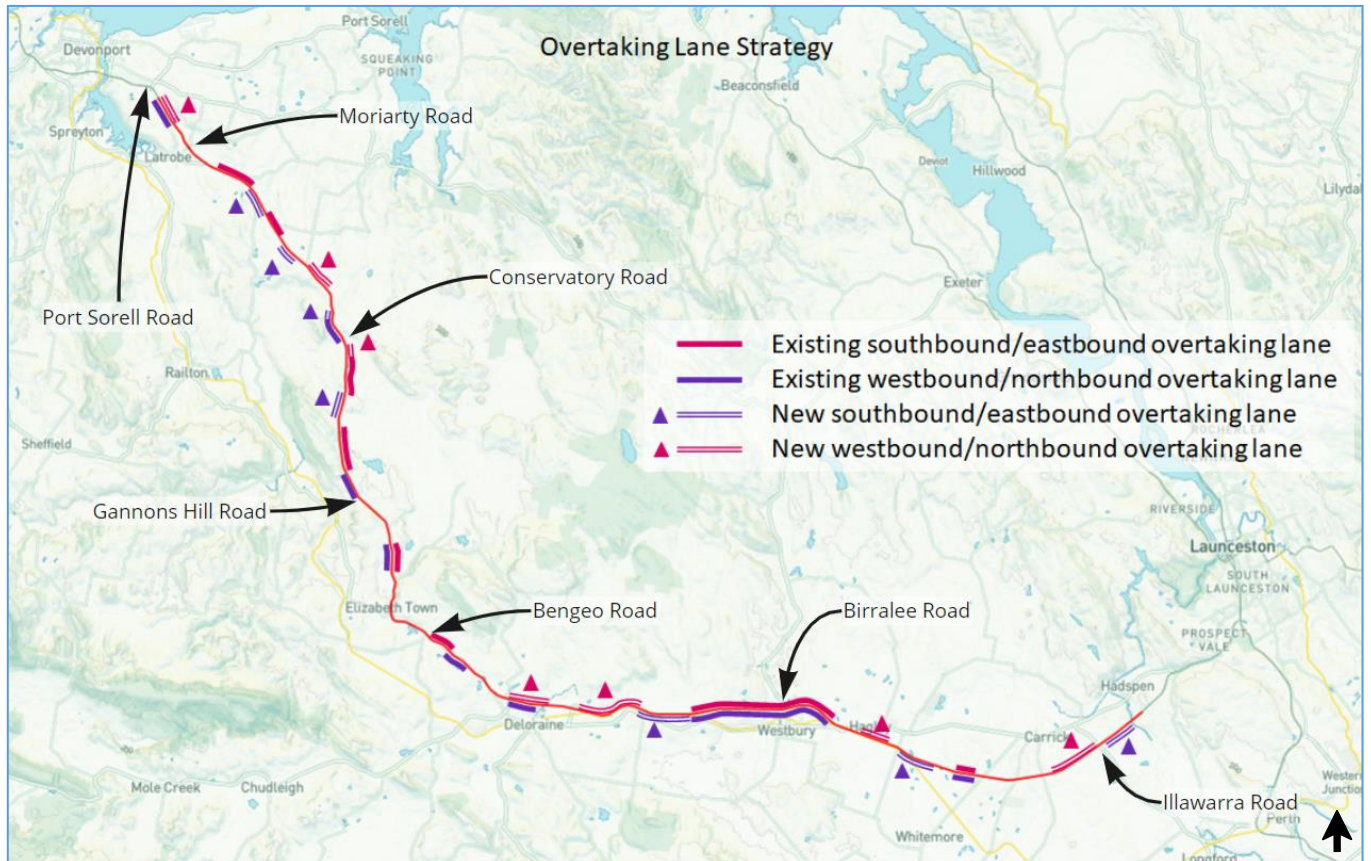


Figure 7.2: Overtaking lane corridor wide improvements

7.2.3 Bass Highway Heavy Vehicle Driver Rest Area corridor solution

A Bass Highway heavy vehicle driver rest area corridor solution has been developed in response to the need to improve quality of heavy vehicle driver rest areas along the corridor. The corridor wide solution details the number, class and location of heavy vehicle driver rest areas required to service the needs of truck drivers along the Bass Highway. Indicative locations for rest areas were identified to facilitate suitable heavy vehicle driver rest area spacing and remove the need for drivers to use informal rest areas that do not include adequate infrastructure to provide safe access, stopping and egress.

This corridor wide solution has been informed by the *Tasmanian Heavy Vehicle Driver Rest Stop Strategy, 2020*, as well as the road safety and design assessments that have been conducted as part of this corridor strategy.

Based on the *Austrroads Guide for Provision of Heavy Vehicle Rest Area Facilities*, there are five classes of formal heavy vehicle driver rest areas. The lowest class is a Class 5 rest stop with capacity for five trucks. The highest-class heavy vehicle driver rest area is a Class 1 with capacity for 20 or more trucks.

Figure 7.3 shows the distribution of the formal heavy vehicle driver rest areas recommended for the Bass Highway. Approximate travel times have been used to demonstrate the spacing of the heavy vehicle driver rest areas. Travel times have been taken from where the Bass Highway crosses the Mersey River in Devonport to where the Bass Highway intersects with the Midland Highway in Launceston. While this extends beyond the scope of the corridor covered in this strategy, it has been done so to cover the entire journey between Launceston and Devonport.

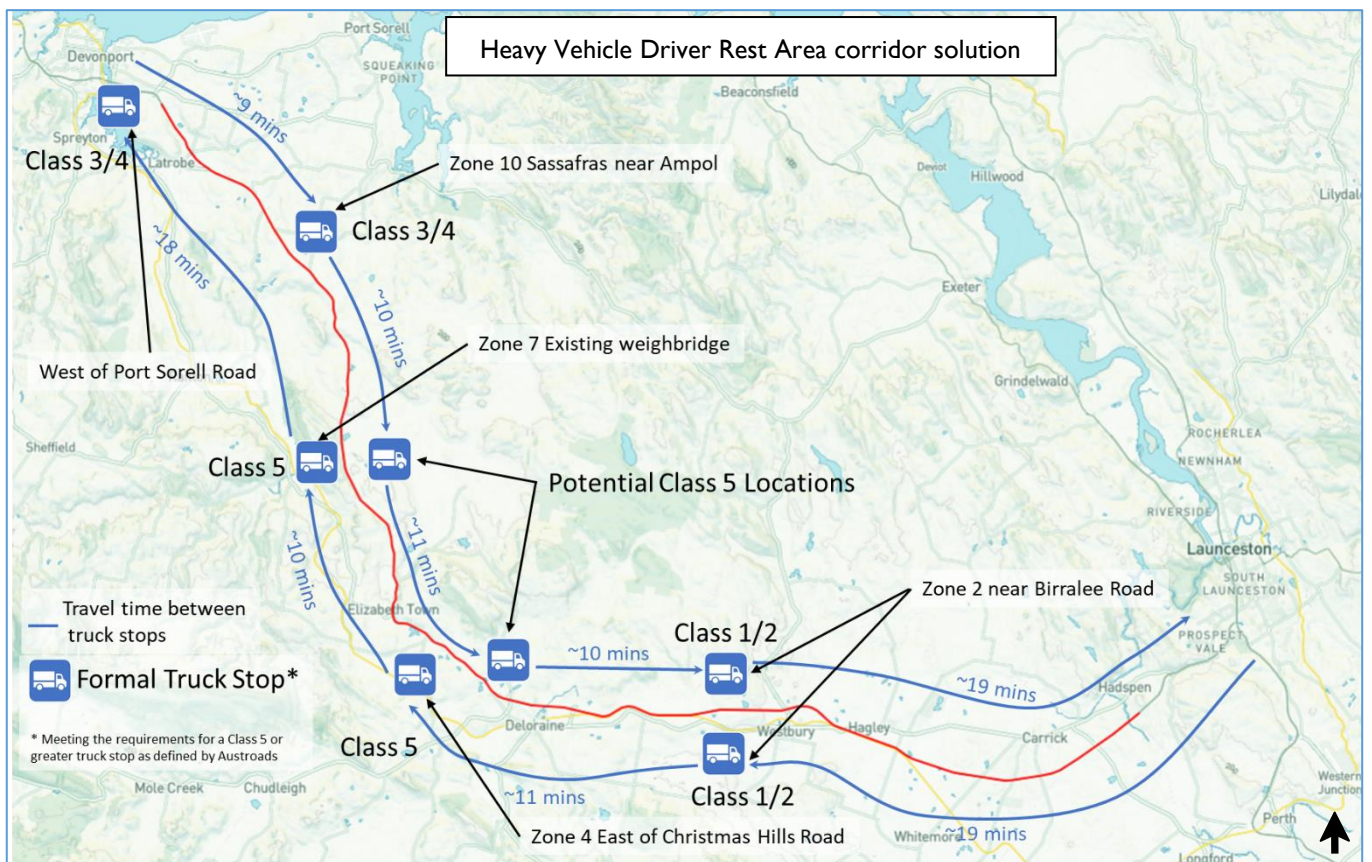


Figure 7.3: Heavy vehicle driver rest area corridor solution for formal heavy vehicle driver rest areas

It is noted that the heavy vehicle driver rest area corridor solution does not include any formal heavy vehicle driver rest areas within Elizabeth Town. However, it is recommended that short-term truck parking (rather than a large formal rest stop) is provided within Elizabeth Town to allow truck drivers to safely park and access key destinations and facilities within Elizabeth Town.

It is also recommended that the existing informal rest areas are retained, as far as is practical, to provide safe stopping locations for passenger vehicles and tourists. This is particularly important where there are safety barriers close to the edge of the shoulder as these informal areas provide safe location for emergency stopping if required. Where these informal rest areas are retained, actions to actively discourage continued use as heavy vehicle driver rest areas should be taken.

7.3 Implementation prioritisation

To assist in developing the timeframes for implementation, the working group and community nominated improvement opportunities that they considered to be high priority. The twelve improvement opportunities nominated through consultation as being high priority are listed in Table 7.7.

Table 7.7: High priority improvement opportunities

Improvement Opportunity	Timeframe	Working Group	Community Feedback
Duplicate, staging to consider consistent road cross section where possible. Refer to Section 7.2.1	Long-term	High	Key priority
Provide additional overtaking lanes or improvements to existing overtaking lanes. Priority locations are: <ul style="list-style-type: none"> northbound overtaking lane north of Parramatta Creek to be extended, option with a safety barrier in the central median to be explored southbound overtaking lane south of Parramatta Creek to be extended, option with a safety barrier in the central median to be explored additional overtaking lane in northbound direction at Sassafras between Deloraine and Hadspen 	Short to medium-term	Medium to high	Key priority
Christmas Hills Road/Bass Highway intersection upgrade	Short-term	High	Key priority
Moriarty Road/Bass Highway intersection upgrade	Medium-term	High	Key priority
Chapel Road/Bass Highway intersection upgrade	Short-term		Key priority
Illawarra Road interchange with Bass Highway upgrade (lengthen westbound on and off ramps)	Short-term	High	Key priority
Resurface areas of poor pavement. Key locations include: <ul style="list-style-type: none"> near Conservatory Road (Parramatta Creek) north of Moriarty Road 	Short-term	High*	Key priority
Upgrade signage, delineation and safety barriers	Short-term	High	Key priority
Provide Class 2 heavy vehicle driver rest area at Birralee Road for both directions	Short-term	High	
<p>Note: * The working group initially rated this improvement opportunity as “Medium”. However, in response to community feedback on the condition of the Bass Highway, this improvement opportunity was updated to “High”.</p>			

7.4 Improvement opportunities

The Bass Highway Strategy identifies 66 opportunities that when implemented will provide a consistent driving experience for users of the Bass Highway through a duplicated highway from Launceston to Devonport.

It is expected that funding for the upgrade of the Bass Highway – Launceston to Devonport program will occur progressively over time. The improvements have been prioritised so that projects that provide the greatest immediate benefit are undertaken as early as possible.

The 66 improvement opportunities are prioritised into short, medium and long-term delivery timeframes by assessing the degree that each action contributes to the key strategy objectives of safety, efficiency and resilience.

- Short-term improvements will solve a corridor challenge requiring immediate attention, primarily to address a safety objective as well as projects that will take considerable planning prior to implementation due to the likely complexity of implementation.
- Medium-term improvements will address corridor objectives and are primarily actions that were not identified as requiring immediate attention (short-term) and are actions that will provide significant benefit to the safety, efficiency and resilience of the corridor.
- Long-term improvements are actions that, when implemented, will provide a corridor that is duplicated from Launceston to Devonport.

The Bass Highway Opportunities Prioritisation plan, provided in Table 7.8:

- lists the individual 66 opportunities
- provides a relative timeframe for their commencement (short, medium, long-term)
- lists improvement opportunities from east to west.

In selecting opportunities to deliver, any works undertaken should not preclude the ultimate duplication of the highway. The delivery of improvement opportunities is subject to further design and site investigation works and funding approval and availability.

Table 7.8: Bass Highway, Launceston to Devonport –Opportunities Prioritisation Plan

Delivery timeframes	Zone	Improvement opportunity	Improvement type
Short term	1	Extend westbound on-ramp and off-ramp at Illawarra Road Interchange	Intersection Upgrade
Short term	2	Provide a new class 1/2 heavy vehicle driver rest areas for both directions to west of Birralee Road	Heavy vehicle driver rest area Upgrade
Short term	4	Upgrade Bass Highway intersection with Christmas Hills Road	Intersection Upgrade
Short term	5	Provide suitable bus stop infrastructure in Elizabeth Town	Bus Stops
Short term	5	Lower the speed limit through Elizabeth Town	Other Road Works
Short term	6	Install speed cameras at or near Ashgrove Cheese Dairy Door where speeding is an issue	Road furniture/signage upgrade
Short term	7 and 8	Provide a northbound overtaking lane at the zone 7/8 interface with a safety barrier in the central median to separate opposing traffic	Road Widening
Short term	8	Resurface road pavement south of Conservatory Road	Pavement resurfacing
Short term	9	Provide suitable bus stop infrastructure in Sassafras.	Bus Stops
Short term	9	Upgrade the Bass Highway intersection with Chapel Road	Intersection Upgrade
Short term	9	Extend existing northbound overtaking lane north of Conservatory Road.	Road Widening
Short term	10	Provide a northbound overtaking lane between East Sassafras Road and Oppenheims Road (uphill) with safety barrier located in the central median to separate opposing traffic.	Road Widening
Short term	11	Improve side street access arrangements onto the highway between Henry Street and Abeys Road	Intersection Upgrade
Short term	11	Resurface the road pavement north of Moriarty Road	Pavement resurfacing
Short term	All	Corridor wide signage strategy (general, warning wayfinding consistent tourist signage)	Road furniture/signage upgrade
Short term	All	Improve lane delineation through line marking, reflectors, rumble strips, safety barriers and warning/delineation signage around curves along the whole corridor for both day and night conditions	Road furniture/signage upgrade

Delivery timeframes	Zone	Improvement opportunity	Improvement type
Medium term	1	Install additional overtaking lanes east of Oaks Road (both directions) with a safety barrier in the central median.	Road Widening
Medium term	1	Install additional overtaking lanes near Hagley Station Lane (both directions) with a safety barrier in the central median separating opposing traffic.	Road Widening
Medium term	1	Relocate the safety barriers on the edge of the pavement to widen shoulders at key locations such as but not limited to: east of South Esk River, between Bishopsbourne Road and Hagley Station Lane (Zone 1)	Road Widening
Medium term	2	Extend on ramp from Meander Valley Road east of Exton and provide lighting	Intersection Upgrade
Medium term	2	Extend both on ramps, provide lighting and improve drainage at Birralee Road interchange	Intersection Upgrade
Medium term	3	Lengthen westbound on ramp at Bowerbank Link and provide lighting at interchange	Intersection Upgrade
Medium term	3	Extend merge from Emu Bay Road and provide lighting	Intersection Upgrade
Medium term	3	Install better delineation near River Road for fog conditions	Road furniture/signage upgrade
Medium term	3	Extend eastbound on ramp lane from Mole Creek Road to River Road to improve safety and capacity for eastbound flow (becomes an add on lane)	Road Widening
Medium term	3	Provide overtaking lanes (in both directions) with a safety barrier in the central median to separate opposing traffic in suitable locations between Bowerbank Link and the duplicated section of the highway.	Road Widening
Medium term	3	Relocate the safety barriers on the edge of the pavement to widen shoulder at key locations such as but not limited to: near Meander River (Zone 3)	Road Widening
Medium term	4	Provide a westbound Christmas Hills Class 5 heavy vehicle driver rest area (removing existing designated)	Heavy vehicle driver rest area Upgrade
Medium term	4	Provide a new eastbound class 5 heavy vehicle driver rest area opposite Forest Farm (Zone 4) or Weighbridge (Zone 7)	Heavy vehicle driver rest area Upgrade

Delivery timeframes	Zone	Improvement opportunity	Improvement type
Medium term	5	Upgrade the Bass Highway intersection with Railton Road intersection	Intersection Upgrade
Medium term	5	Upgrade the Elizabeth Town Café access	Intersection Upgrade
Medium term	5	Improve the intersection of the Bass Highway with the Elizabeth Town service station access and Parkham Road	Intersection Upgrade
Medium term	5	Relocate the safety barriers on the edge of the pavement to widen shoulder at key locations such as but not limited to: northbound north of Elizabeth Town centre (Zone 5)	Road Widening
Medium term	5	Provide truck parking in Elizabeth Town	Heavy vehicle driver rest area Upgrade
Medium term	6	Upgrade the Bass Highway intersection with the access to the Ashgrove Cheese Dairy Door	Intersection Upgrade
Medium term	6	Relocate the safety barriers on the edge of the pavement to widen shoulder at key locations such as but not limited to: north of the Ashgrove Cheese Dairy Door (zone 6).	Road Widening
Medium term	7	Relocate the safety barriers on the edge of the pavement to widen shoulder at key locations such as but not limited to: area near Gannons Hill Rd, south of Dan Road (zone 7).	Road Widening
Medium term	7	Provide a new eastbound class 5 heavy vehicle driver rest area opposite Forest Farm (Zone 4) or Weighbridge (Zone 7)	Heavy vehicle driver rest area Upgrade
Medium term	8	Relocate the safety barriers on the edge of the pavement to widen shoulder at key locations such as but not limited to: north of Byrons Road, north of Long Hill Road (zone 8)	Road Widening
Medium term	9	Consolidate / remove direct accesses onto the highway north of Conservatory Road and Sassafras	Intersection Upgrade
Medium term	9	Provide a southbound overtaking lane in a suitable location within zone 9 with a safety barrier in the median to separate opposing traffic.	Road Widening
Medium term	9	Consider providing a northbound overtaking lane in a suitable location within zone 9 with a safety barrier in the central median to separate opposing traffic.	Road Widening

Delivery timeframes	Zone	Improvement opportunity	Improvement type
Medium term	10	Upgrade the Bass Highway intersection with East Sassafras / Cutting Road	Intersection Upgrade
Medium term	10	Upgrade the Bass Highway intersection with Oppenheims Road	Intersection Upgrade
Medium term	10	Provide a new southbound class 3/4 heavy vehicle driver rest area at Sassafras southbound service station	Heavy vehicle driver rest area Upgrade
Medium term	11	Improve access to service station in Latrobe	Intersection Upgrade
Medium term	11	Upgrade the Bass Highway intersection with Moriarty Road consider a grade separated intersection with a pedestrian crossing	Intersection Upgrade
Medium term	11	Consolidate / remove the direct accesses onto the highway north of Moriarty Road.	Intersection Upgrade
Medium term	11	Provide noise attenuation through Latrobe	Road furniture/signage upgrade
Medium term	11	Provide a southbound overtaking lane between Moriarty Road and Port Sorell Road with safety barrier located in the median to separate opposing traffic.	Road Widening
Medium term	11	Upgrade existing visitor information bay west of Port Sorell Road to be a class 3/4 heavy vehicle driver rest area	Heavy vehicle driver rest area Upgrade
Long term	1	Extend both on ramps and provide lighting at Oaks Road interchange	Intersection Upgrade
Long term	1	Duplicate the road between Hadspen and Westbury (Zone 1)	Road Widening
Long term	3	Duplicate the road between Exton and Deloraine (Zone 3)	Road Widening
Long term	4	Consolidate / remove direct accesses onto the highway between Deloraine and Elizabeth Town	Intersection Upgrade
Long term	4	Duplicate the road between Deloraine and Christmas Hills Road (Zone 4)	Road Widening
Long term	4, 5, 6	Consider an Elizabeth Town Bypass from Christmas Hills Road to Gannons Hill Road (Zone 4 - 6)	Bypass
Long term	5	Improve road alignment through Elizabeth Town to improve sight distances, visibility and curves	Other Road Works

Delivery timeframes	Zone	Improvement opportunity	Improvement type
Long term	6	Consolidate / remove the direct accesses onto the highway between Elizabeth Town and Gannons Hill Road	Intersection Upgrade
Long term	7	Consolidate / remove of direct accesses onto the highway between Gannons Hill Road and Long Hill Road	Intersection Upgrade
Long term	7	Duplicate the highway from Gannons Hill Road to Long Hill Road (Zone 7)	Road Widening
Long term	8	Duplicate the highway from Long Hill Road to Conservatory Road (Zone 8)	Road Widening
Long term	9	Duplicate the highway from Conservatory Road to Sassafras (Zone 9)	Road Widening
Long term	10	Consolidate / remove the direct accesses onto the highway between Sassafras and Latrobe	Intersection Upgrade
Long term	10	Duplicate the highway from Sassafras to Latrobe (Zone 10)	Road Widening
Long term	11	Consider a Latrobe Bypass from Abeys Road to Port Sorell Road (Zone 11)	Bypass

7.5 Delivery efficiencies

In order to minimise cost and disruption of construction works along the corridor, it is suggested that projects that are located in the same geographic region are implemented at the same time.

There are six areas along the Bass Highway that contain a higher density of short and medium term improvement opportunities and where it is recommended that individual projects are grouped to provide delivery efficiencies. The locations with a higher density of short-term improvement opportunities are shown in Figure 7.4.

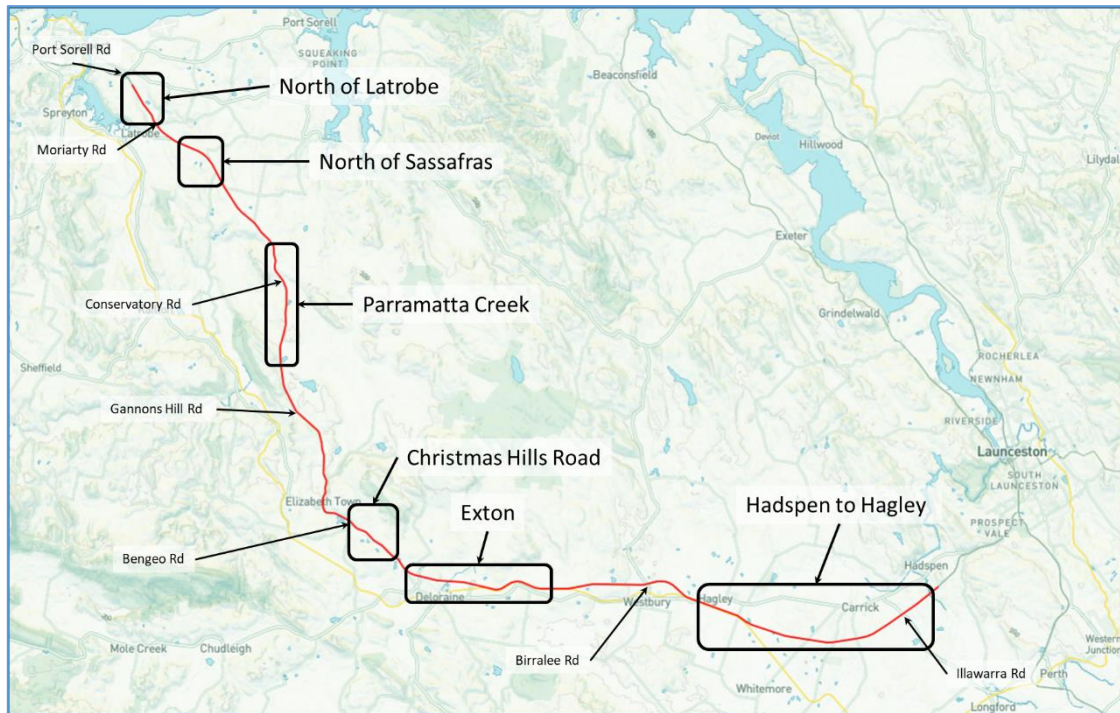


Figure 7.4: Locations with higher density of short term improvement opportunities

8 Summary of strategy recommendations

The Bass Highway Launceston to Devonport Strategy provides a list of improvement works, that once completed, will provide a consistent driving experience along the highway. These improvement works address the five current and future key challenge themes identified along the corridor. The five types of improvement projects are listed below.

- Carriageway separation.
- Intersection upgrades.
- Travel mode management initiatives.
- Visibility and road condition improvements.
- Improved heavy vehicle driver rest areas.

From these five types of improvement projects, three example corridor-wide responses were developed that must be considered as a whole if the corridor were developed. These are:

- Duplication
- Overtaking lanes
- Heavy vehicle driver rest areas.

Using these improvement themes and corridor wide solutions, 66 individual improvement opportunities were developed for the corridor, that collectively will provide a duplicated Bass Highway. This is in acknowledgment that duplication of the corridor is the ultimate outcome desired by the working group and community for this highway

8.1 Next steps

Bass Highway – Launceston to Devonport Corridor Strategy recommends the following short, medium and long-term actions to address the highway’s challenges and meet strategy objectives.

8.1.1 Short-term recommendations to achieve strategic objectives

Improvements along the Bass Highway corridor should focus on improving safety and providing both consistency in travel time and network resilience. Providing a consistent driving experience for locals, tourists and industry will support the economic development of Tasmania by facilitating efficient freight and people movement. A consistent driving experience will be delivered by implementing continuous improvements initiatives that provide and maintain a standard network to support all road users’ needs.

The following works are recommended as high-priority improvement opportunities and to be implemented in the short term:

- Parramatta Creek (north and south of Conservatory Road)
 - resurfacing the pavement works in the vicinity of Parramatta Creek
 - providing a northbound overtaking lane north of Dan Road
 - extending the northbound overtaking lane north of Conservatory Road
 - widening the shoulder pavement
 - providing a safety barrier located in the central median to separate north and southbound traffic lanes between Smith and Others Road and Dan Road
 - reviewing access arrangements to reduce the number of conflict points.
- North Sassafras:
 - providing northbound overtaking lane near Native Plains Road between East Sassafras Road and Oppenheims Road (uphill)
 - widening the shoulder pavements
 - providing a safety barrier located in the central median barrier
 - upgrading the intersections at Oppenheims Road and Cutting Road/East Sassafras Road intersections to improve road safety
 - consolidating and removing the direct accesses onto the highway between Sassafras and Latrobe
 - Providing a new southbound class 5 heavy vehicle driver rest area at Sassafras near the southbound service station.
- Christmas Hills Road:
 - Upgrading the Christmas Hills Road intersection
 - Widening the shoulder pavement
 - Providing a safety barrier located in the central median to separate the north and southbound lanes
 - Providing a westbound Christmas Hills class 5 heavy vehicle driver rest stop (removing existing designated)
 - Consolidating and removing the direct accesses onto the highway between Deloraine and Elizabeth Town
 - Updating signage and lane marking delineation to improve visibility of wayfinding

A short-term high-priority improvement, recommended for immediate implementation is:

- improved signage and delineation along the length of the Bass Highway.

In addition to the recommended high-priority improvement opportunities, further assessment and design works are required prior to implementing the improvements listed. The following investigations are recommended to commence in the short-term to allow the medium and long-term priority projects to be actioned.

- Investigate options to resolve conflict in Latrobe between the Bass Highway through traffic and local traffic. Including:
 - retain the Bass Highway in its current alignment with controlled intersections or grade separation to manage conflicting through and local traffic movements, and
 - provide an alternative route/bypass option for the Bass Highway to avoid Latrobe
 - These investigations will need to consider the interface with the Mersey Community Hospital and any planning requirements to preserve land.
- Investigate options to resolve conflict in Elizabeth Town between the Bass Highway through traffic users and local traffic. Including:
 - improving the existing highway alignment
 - alternative routes to bypass Elizabeth Town
 - appropriate parking for heavy vehicles
 - developing a strategy to secure land for future requirements.
- Reserve and re-zone land to accommodate duplication along the corridor, except for Zone 2, which is already duplicated and zones where a bypass is proposed.
- Consult with emergency services regarding access along the corridor, ensuring that any upgrades do not adversely affect their ability to function.
- Provide suitable bus stop infrastructure in Elizabeth Town and Sassafras.

8.1.2 Medium-term recommendations to achieve strategic objectives

The medium-term actions, when implemented, continue towards the ultimate duplication of the Bass Highway. The locations of these medium priority improvement opportunities are:

- Latrobe
 - implement the improvements recommended from the short-term actions to improve the conflict between the Bass Highway users and the local traffic.
 - integrate recommendations with the Latrobe, north of Moriarty Road improvement opportunity as appropriate.
- Latrobe, north of Moriarty Road
 - extend dual carriageway from Port Sorell Road to Moriarty Road
 - resurface road pavement north of Moriarty Road
 - improve safety at local accesses north of Moriarty Road through intersection improvement, consolidation/removal of direct accesses onto the highway.
- Exton
 - provide overtaking lanes (in both directions) with a safety barrier in the central median to separate opposing traffic between Bowerbank Link and the duplicated section of the highway
 - install better delineation near River Road for fog conditions
 - lengthen westbound on ramp at Bowerbank Link and provide lighting at interchange
 - extend merge from Emu Bay Road and provide lighting
 - extend eastbound on ramp lane from Mole Creek Road to River Road to improve safety and capacity for eastbound flow (becomes an add-on lane)
- Hadspen to Hagley
 - duplicate the highway between Hadspen and Westbury
 - extend westbound on-ramp and off-ramp at Illawarra Road Interchange
 - extend both on-ramps and provide lighting at Oaks Road interchange
 - provide additional overtaking lanes east of Oaks Road (both directions) with a safety barrier located in the central median.
 - provide additional overtaking lanes near Hagley Station Lane (both directions) with a safety barrier located in the central median.

- Elizabeth Town

Taking into consideration the outcomes from the further options assessment through Elizabeth Town, implement the following:

- provide heavy vehicle parking in Elizabeth Town
 - improve Parkham Road intersection and access to the service station in Elizabeth Town
 - upgrade access to the Elizabeth Town café
 - updated Railton Road intersection.
- Upgrade the intersection with the unnamed road that provides access to the Ashgrove Cheese Dairy Door.
 - Review the Bass Highway Opportunities prioritisation plan (Table 7.8), identify any additional packages of work that consist of several projects that are in the same vicinity, and if delivered as a single package of works, will provide cost efficiency.

8.1.3 Long-term recommendations to achieve strategic objectives

Once the long-term actions are implemented, the Bass Highway between Launceston and Devonport will have two lanes in each direction with appropriate separation, either as dual carriageway or with safety barriers located in the central median. The following actions are recommended as long-term improvement opportunities to complete the duplication of the Bass Highway:

- duplicate from Exton to Deloraine
- duplicate from Gannon Hills Road to Long Hill Road
- duplicate from Conservatory Road to Sassafras.

8.2 Review of strategy

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 opportunities is recommended to ensure actions are achieved, through delivering the suggested improvements or adjusting them should conditions change.

References

- Australian Bureau of Statistics, [Australian Bureau of Statistics website](#)
- Australian Bureau of Statistics, [Australian Bureau of Statistics website](#), *2001–2019 Census Data*, accessed February 2021
- Australian Bureau of Statistics, [Australian Bureau of Statistics website](#), *2011–2017 Census Data*, accessed February 2021
- Australian Bureau of Statistics, [Australian Bureau of Statistics website](#), *2014–2019 Census Data*, accessed February 2021
- Australian Bureau of Statistics, [Australian Bureau of Statistics website](#), *2016 Census Data*, accessed February 2021
- Austrroads, 2019, *Guide to Road Safety Part 6: Managing road safety audits, Edition 1.0*
- Austrroads, 2019, *Guidelines for the Provision of Heavy Vehicle Rest Area Facilities, Edition 1.1*
- Austrroads, 2020, *Guide to Traffic Management Part 3: Transport Study and Analysis Methods, Edition 4.0*
- Austrroads, 2021, *Guide to Road Design Part 3: Geometric Design, Edition 3.4*
- Commonwealth Scientific and Industrial Research Organisation (CSIRO), 2010, *Climate Change Impact and Risks of Concrete Infrastructure Deterioration*, [CSIRO Publications website](#), accessed July 2021
- Department of Infrastructure Energy and Resources, Tasmanian Government, 2013, *Northern Integrated Transport Plan*
- Department of Premier and Cabinet, Tasmanian Government, 2017, *Climate Action 21: Tasmania's Climate Change Action Plan 2017–2021*, [Department of Premier and Cabinet website](#), accessed February 2021
- Department of Primary Industries, Parks, Water and Environment (DEPIPWE), Tasmanian Government, *Tasmanian Agri-Food ScoreCard SNAPSHOT 2017-2018*
- Department of State Growth, Tasmanian Government, (unpublished) *BassHwy-Hadspen-PortSorellTO-10Yr.xlsx*, crash data
- Department of State Growth, Tasmanian Government, (unpublished) *Bus_routes_affected.shp*, (*GeneralAccess_BusStops_And_Routes_AffectedBy_PortSorell_to_Hadspen_upgrade.zip*) general bus stop locations
- Department of State Growth, Tasmanian Government, (unpublished) *Bus_routes_affected.shp*, (*School_BusStops_And_Routes_AffectedBy_PortSorell_to_Hadspen_upgrade.zip*) school bus stop locations
- Department of State Growth, Tasmanian Government, 2016, *Tasmanian Integrated Freight Strategy*
- Department of State Growth, Tasmanian Government, 2018, *State Road Upgrades – North West and West Coast Plan*
- Department of State Growth, Tasmanian Government, 2019, *Our Infrastructure Future 30-Year Infrastructure Strategy Consultation Draft*

Department of State Growth, Tasmanian Government, 2019, Permanent Traffic Counters (unpublished), [Department of State Growth website](#), accessed February 2021

Department of State Growth, Tasmanian Government, 2020, *Professional Services Specifications*, [Department of State Growth website](#), accessed February 2021

Department of State Growth, Tasmanian Government, 2020, *Tasmania Heavy Vehicle Driver Rest Area Strategy*

Department of State Growth, Tasmanian Government, Spatial Selector, [Department of State Growth website](#), accessed February 2021

Department of State Growth, Tasmanian Government, Corporate Plan, [Department of State Growth website](#), accessed December 2021

Department of Treasury and Finance, Tasmanian Government, 2019 *Population projections for Tasmania and its Local Government Areas*, [Department of Treasury and Finance website](#), accessed February and May 2021

Latrobe Council, 2013, *Latrobe Interim Planning Scheme 2013*, [Latrobe Council website](#), accessed February 2021

Meander Valley Council, 2021, *Tasmanian Planning Scheme – Meander Valley*, [Meander Valley Council website](#) (replaces the *Meander Valley Interim Planning Scheme 2013*)

Tasmanian Chamber of Commerce and Industry, [Tasmanian Chamber of Commerce and Industry website](#)

Tasmanian Department of Primary Industries, Parks, Water and Environment (DPIPWE), Created by: tdcoates, Service Layer Credits: the LIST, 2021, *List base data*

Tasmanian Department of Primary Industries, Parks, Water and Environment (DPIPWE), 2016, *Meander River Catchment Water Management Statement*, [DPIPWE website](#), accessed February 2021

Tasmanian Government, 2009, *State Policy on the Protection of Agricultural Land 2009*

Tasmanian Government, 2010, *Cradle Coast Regional Land Use Planning Framework 2010–2030*, [Tasmanian Government website](#), accessed February 2021

Tasmanian Government, 2016, *Towards Zero–Tasmanian Road Safety Strategy 2017–2026*, [Towards Zero website](#), accessed July 2021

Tasmanian Government, 2018, *Building your Future*

Tasmanian Government, 2018, *Northern Tasmania Regional Land Use Strategy* (2021 strategy was published to the [Tasmanian Government website](#) in June 2021)

Tasmanian Government, 2020, *Tasmanian Heavy Vehicle Driver Rest Area Strategy*, [Tasmanian Government Transport website](#), accessed September 2021

Tasmanian Government, 2021, [The LISTmap](#), accessed February 2021

Tasmanian Irrigation, 2010, *Sassafras Wesley Vale Irrigation Scheme*, [Tasmanian Irrigation website](#), accessed February 2021

The Department of Infrastructure, Transport, Regional Development and Communications, Australian Government, 2021, *Tasmanian Roads Package - Bass Highway Safety and Freight Efficiency Upgrades Package - Future Priorities*, [Australian Government Infrastructure Investment website](#), accessed July 2021

The Department of Infrastructure, Transport, Regional Development and Communications, Australian Government, 2021, *Tasmanian Roads Package - Bass Highway Safety and Freight Efficiency Upgrades Package - Future Priorities*, [Australian Government Infrastructure Investment website](#), accessed July 2021

Tourism Tasmania, 2019, *Fact Sheet Tasmania's 2030 Tourism Demand and Supply Forecast*, [Tasmania Visitor Economy Strategy website](#), accessed June 2021

Transport Tasmania, Tasmanian Government, 2018, *Project 2018 General access service standards*, [Transport Tasmania website](#), accessed July 2021

Transport Tasmania, Tasmanian Government, 2018, *Project 2018 Public Bus Transport Network purchasing principles and Design Approach*, [Transport Tasmania website](#), accessed July 2021



Department of State Growth

4 Salamanca Place
Hobart TAS 7000
Australia

Phone: 1800 030 688

Email: info@stategrowth.tas.gov.au

Web: www.stategrowth.tas.gov.au