

BREAK O'DAY COUNCIL TRANSPORT MASTER PLAN 2013-2018



17th March 2014

Ref: P1390.002





BITZIOS CONSULTING

ABN: 46 029 951 547

PO Box 5102
Q SUPER CENTRE
MERMAID WATERS QLD 4218

Copyright in the information and data in this document is the property of Bitzios Consulting. This document and its information and data is for the use of the authorised recipient and this document may not be used, copied or reproduced in whole or in part for any purpose other than for which it was supplied by Bitzios Consulting. Bitzios Consulting makes no representation undertakes no duty and accepts no responsibility to any third party who may use or rely upon this document or its information and data.

Gold Coast

Suite 26, 58 Riverwalk Avenue
Robina QLD 4226
P: (07) 5562 5377

Brisbane

Level 2, 428 Upper Edward Street
Spring Hill QLD 4000
P: (07) 3831 4442

Sydney

Studio 203, 3 Gladstone Street
Newtown NSW 2042
P: (02) 9557 6202

W: www.bitziosconsulting.com.au

E: admin@bitziosconsulting.com.au

Issue History	Prepared by	Reviewed by	Issued by	Date	Issued to
<i>P1390.001 Break O'Day Transport Master Plan</i>	<i>S. Vetevoood-Saar</i>	<i>A. Bitzios</i>	<i>A. Bitzios</i>	<i>18/12/2013</i>	<i>Chris Hughes , chris.hughes@bodc.tas.gov.au Break O'Day Council</i>
<i>P1390.002 Break O'Day Transport Master Plan</i>	<i>S. Vetevoood-Saar</i>	<i>A. Bitzios</i>	<i>S. Vetevoood-Saar</i>	<i>18/03/2014</i>	<i>Chris Hughes , chris.hughes@bodc.tas.gov.au Break O'Day Council</i>

CONTENTS

	Page
FOREWORD	1
PLANNING CONTEXT	2
Existing Plans and Policies	3
ABOUT BREAK O'DAY	9
Introduction about LGA	9
GROWTH TRENDS	10
Household Characteristics	10
Household Composition	10
Household Income	11
Car Ownership	11
Population Location	11
Employment	12
Economic Characteristics	13
Current Travel Characteristics	13
CHALLENGES AND OPPORTUNITIES	14
Road Network	14
COMMUNITY VIEWS	19
Public Transport	19
Information for Travellers	19
Road Conditions	19
Pedestrians, Cyclists and Motorised Vehicles	20
THE PLAN	23
Overview	23
Vision	23
Objectives	23
Road Safety	25
Sustainable and Public Transport	31
Growth Management (Parking, Traffic)	32
Economic Growth	34
STRATEGIES	35
1. Travel Reliability Supporting Economic Development	35
Details relating to these initiatives are further outlined below:	36
1.1 Improve the reliability of St Mary's Pass and provide viable alternative routes during closures of the Pass	36
1.2 Improve the reliability of Weldborough Pass	36
1.3 Provide improved and more reliable access to Ansons Bay	36
1.4 Provide a more reliable road to Stieglitz	37
1.5 Maximise resource sharing and inter-organisational coordination	37
1.6 Develop a network strategy for east to west intra-regional and short distance inter- regional movements	38
1.7 Upgrade St. Helens Airport to unlock economic opportunities for business and industry	38
1.8 Improved access to Binalong Bay to address impacts from flooding	38
1.9 Develop Reliable Esk Main Road	39
1.10 Develop the 'S' Road so that it is fit-for-purpose	39
1.11 Achieve unimpeded access to George's Bay through Pelican Point, Dora Point and the Barway	40
1.12 Secure funding to implement required works of 10 Year Bridge Renewal Program	40
Figure 36: Bridge Asset Condition	41
Figure 37: Programs of Works	42
2. Road Safety	43

2.1 Improve the safety of key roads	43
2.2 Improve the safety at rural and urban intersections	44
2.3 Introduce lower speed limits in high conflict/ accident areas	44
3. Positive Visitor Experience	45
3.1 Provide timely advice and accurate on road conditions	45
3.2 Improve Information for travellers	45
4. Connectivity and Stronger Communities	49
4.1 Integrate community transport services	50
4.2 Increase the role of cycling and walking in Break O'Day	50
ACTION PLAN AND PRIORITIES	52
Prioritisation Considerations	52
Immediate Recommended Actions for Implementation	52
The Action Plan	53
Key Projects	57
St Mary's Pass, Weldborough Pass and Elephant Pass	59
The Sealing and Extension of the Airport, Including New Link*	59
Binalong Bay Access Road	60
All Weather Esk Main Road	60
Developing the 'S' Road	61
The Barway	61
Fully Funded Bridge and Road Program (Asset Renewal and Upgrade Program)	61
Supporting the Growth of Town Centres	61
Improving Connectivity between Centres	62
Review and implement sustainable road and bridge maintenance procedures and best practices	62
Funding	63
Asset Management Challenges	63
Strategic Infrastructure	63
REFERENCES	64

Tables

Table 1:	Esk Main Road Upgrade Options
Table 2:	Action Plan

Figures

Figure 1:	Region's Planning Context
Figure 2:	Tasmanian Infrastructure Strategy Model Overview
Figure 3:	Freight Survey Data Summary
Figure 4:	Break O'Day LGA
Figure 5:	Population Growth Forecast Comparison
Figure 6:	Age Groups Historical Data
Figure 7:	Age Groups Comparison
Figure 8:	Household Structure
Figure 9:	Weekly Household Income
Figure 10:	Car Ownership
Figure 11:	Employment
Figure 12:	Historical Unemployment Rates
Figure 13:	Historical Unemployment Rates
Figure 14:	Work Trip by Mode
Figure 15:	Break O'Day Road Hierarchy
Figure 16:	Break O'Day Daily Traffic Volumes
Figure 17:	Weldborough Pass Land Slip
Figure 18:	Aging and Obscured Signage, Binalong Bay
Figure 19:	Bridge Condition in St Marys
Figure 20:	Community Consultation
Figure 21:	Traffic Issues Identified as Part of Community Consultation
Figure 22:	Council's Transport Objectives

Figure 23:	Break O'Day Vehicle Registrations
Figure 24:	Number of Injuries (1996-2005)
Figure 25:	Posted Speed Limit and Severity of Crash
Figure 26:	Type of Crash by Severity
Figure 27:	Time and Frequency of Crash
Figure 28:	Time of Crash by Month
Figure 29:	Location of Crash by Time of Day
Figure 30:	Location of Crash by Month
Figure 31:	Location of Crash by Type
Figure 32:	Kerbing Too High
Figure 33:	Amortised Wooden Bridge Needing to be Replaced
Figure 34:	St. Helens Point Rd, Stieglitz Land Slip
Figure 35:	10 Year Bridge Renewal Expenditure
Figure 36:	Bridge Asset Condition
Figure 37:	Program of Works
Figure 38:	St Helens Transport Actions and Improvements
Figure 39:	St Marys and Fingal Town Improvements
Figure 40:	Trade-off between Urgency and Cost
Figure 41:	An Example of How Esk Main Road Will Look after the Upgrade Works
Figure 42:	Break O'Day Council Key Projects
Figure 43:	Upgrades to Major Accesses are Required
Figure 44:	Binalong Bay Access Way

FOREWORD

From Council

PLANNING CONTEXT

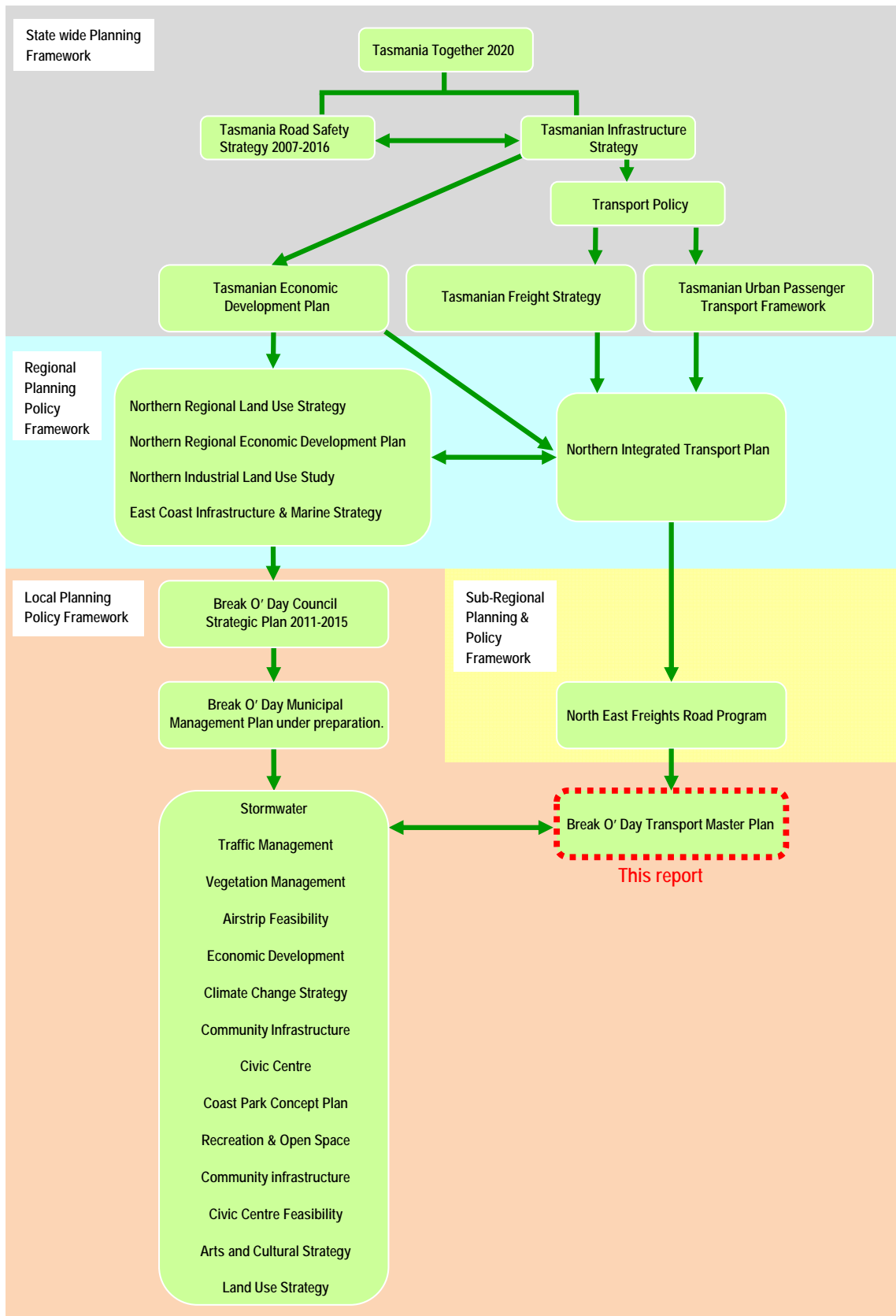


Figure 1: Region's Planning Context

Existing Plans and Policies

State Policies

Tasmania Together 2020

Tasmania Together is the Tasmanian Government's long-term social, economic and environmental plan for the future. This *Tasmania Together* Plan incorporates 12 goals and 155 benchmarks to lay the foundations for a community that is healthier, better educated, environmentally sustainable and more equitable. Together, the goals and benchmarks add up to a comprehensive framework for tackling problems and achieving the aspirations of the Tasmanian community.

By measuring for progress, *Tasmania Together* supports informed decision-making in government, business and community organisations, and provides a focus for cooperation to achieve the community's vision.

Tasmania Together includes a number of specific **targets for road safety**, which can be monitored for application within the Break O'Day Council:

- By 2010: a 20% reduction in serious injuries and fatalities from 2005;
- By 2015: a 20% reduction in serious injuries and fatalities from 2010; and
- By 2020: a 20% reduction in serious injuries and fatalities from 2015.

Tasmanian Infrastructure Strategy

Tasmanian Infrastructure Strategy recognizes that Tasmania's economy is heavily reliant on the ability of the transport system to move freight from producers to processors and on to markets - within Tasmania, nationally and internationally. The linkages to Tasmania's northern ports are critical as the departure points for the majority of the State's exports.

For the transport system to continue to cater for Tasmania's growing transport task, existing infrastructure must be utilised more effectively, while making strategic investments to bolster the capacity and efficiency of the system. This includes **better integration of transport planning with land use planning** - by locating residential areas and urban centres closer together, to reduce trip lengths and reduce the overall numbers of trips. We can also locate producers, processors and export points closer to each other, connected by our existing transport network.

10-year transport infrastructure vision for Tasmania is as follows:

- Co-ordinated land use and infrastructure planning;

- Commercial delivery of road, rail and ports;
- Infrastructure built in accordance with 'safe system' principles;
- Sustainable funding;
- Cost reflective pricing;
- Logistics chain efficiency;
- Transport user charter;
- Public transport system a first choice option providing a cost effective alternative to more road infrastructure; and
- Integrated passenger transport system with appropriate services and concessions to alleviate social disadvantage.

Overarching Tasmanian Government objectives are summarised in Tasmanian Infrastructure Strategy Model as shown in Figure 2 below.



Source: *Tasmanian Infrastructure Strategy Overview*

Figure 2: Tasmanian Infrastructure Strategy Model Overview

Key activities proposed by the plan are to drive economic growth, social inclusion and meet climate change challenges. Transport strategies for 10 year planning horizon were established in the following categories:

- General transport strategies;
- Passenger strategies;
- Ports strategies;
- Rail strategies; and
- Freight strategies.



Tasmanian Economic Development Plan

Tasmanian Economic Development Plan (EDP) charts a clear direction for Tasmania's economic development priorities over the next ten years. Whole-of-economy policy issues of **population, productivity and participation** are all strongly connected to successful economic development and Tasmania's future depends on growth in these areas.

Tasmanian EDP establishes a clear purpose and four goals to guide a whole-of-government effort. The purpose of the plan is to improve the prosperity of all Tasmanians through economic development which is socially and environmentally sustainable.

Four main goals of *Tasmanian EDP* are as follows:

- To support and grow businesses in Tasmania;
- To maximise Tasmania's economic potential in key sectors;
- To improve the social and environmental sustainability of the economy; and
- To support and grow communities within regions.

Goal Four of the Economic Development Plan is 'To support and grow communities within regions'. Three *Regional Economic Development Plans*, for North-West, Northern and Southern Tasmania, have been developed to identify the specific opportunities and challenges of each region and integrate these with the overarching economic development priorities outlined in the *Economic Development Plan*.

The Northern Tasmania Regional Economic Development Plan intends to secure record funding for roads and rail. It contains a regional action plan for developing infrastructure in the northern region. The actions listed below are currently being undertaken by the Australian, Tasmanian and Local Governments to develop a planning environment that supports and grows communities in the northern region.

The action plan includes the following proposed actions:

- **Upgrade road access to the north east** - Break O'Day Council will be seeking a commitment of government funding to improve road access to the district as a project of regional significance. The proposed project is supported by Northern Tasmania Development (NTD) in their Northern Tasmania Regional Transport Funding Priorities Report, 2012;
- **Develop a structure plan for Break O'Day municipality** - Department of Economic Development, Tourism and the Arts (DEDTA) is partnership with Break O'Day Council finalised developing a structure plan for the key east coast settlement of St Helens, including Binalong Bay in March 2013;

- **Develop an East Coast Marine Infrastructure Strategy** - DEDTA has partnered with Marine and Safety Tasmanian (MaST), Tasman, Sorell, Glamorgan Spring Bay and Break O'Day Councils to develop an East Coast Marine Infrastructure Strategy that was finalised in 2013. This plan provides direction for public and private maritime infrastructure investment. The project focuses primarily on the potential, opportunity and need for recreational and commercial boating infrastructure, including private sector marina development, and the siting of onshore aquaculture and fishing operations. Recommendations include specific infrastructure projects in Break O'Day municipality, including: **St Helens Wharf replacement; improving parking arrangements at Burns Bay Boat Ramp; improving parking and access arrangements at the Binalong Bay boat ramp/jetty**; and investigating options to improve accessibility at low tide and improve all weather access at the Stieglitz Boat Ramp; and
- **Update the Northern Regional Integrated Transport Plan** - There is a continued focus on collaborative transport planning by Tasmanian and local Governments, which is crucial to enabling access to employment, education and recreation, and the growth and health of Tasmania's communities. The major priority in the north is updating the Northern Regional Integrated Transport Plan, 2003. A background report has been prepared following stakeholder workshops, with the revised plan due for completion in 2013.

Tasmanian Road Safety Strategy 2007 – 2016

The Tasmanian Road Safety Strategy 2007-2016 provides the strategic direction to support the achievement of the targets for road safety as set in *Tasmania Together* document.

Four Key Strategic Directions of the strategy are as follows:

- Safer Travel Speeds;
- Best Practice Infrastructure;
- Increased Safety for Young Road Users; and
- Enhanced Vehicle Safety.

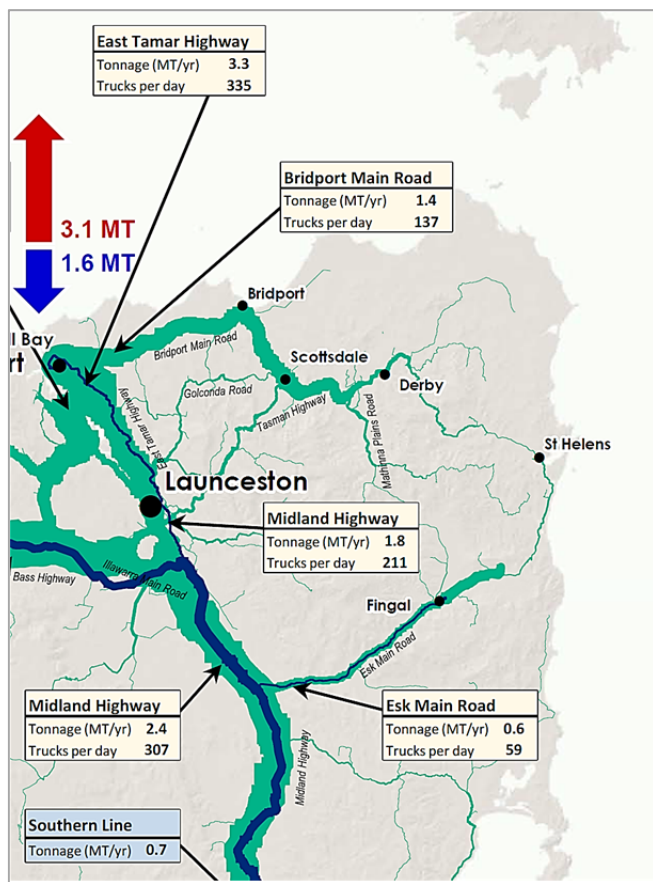
The Tasmanian Road Safety Strategy 2007-2016 provides the Strategic Directions to guide road safety activities in Tasmania. Proposed road safety initiatives are detailed in the supporting Action Plans. The Strategy covers a 10 year period, a review of progress against targets will be made at regular intervals, so that adjustments can be made to programs as necessary. The Tasmanian Road Safety Council will also report against *Tasmania*



Together targets in 2010 and 2015.

Tasmanian Freight Survey 2008-2009

A Tasmania Freight Strategy will soon be developed for the State. The 2008/09 freight survey data is shown in Figure 3 below.



Source: DIER, TasPorts and Tasmanian Freight Survey

Figure 3: Freight Survey Data Summary

Figure 3 indicates that heavy vehicle usage is relatively low on the main access routes to and from Break O'Day Local Government Area. Thus, it is very unlikely that heavy vehicle usage on the Esk Highway will be a reason for funding any future road upgrades.

Regional Policies

Northern Tasmania Integrated Transport Plan

The Northern Integrated Transport Plan is a framework to respond to the challenges and opportunities in the region. Its purpose is developing a transport system that is safe, supports connectivity for communities and promotes industry efficiency and productivity. The Northern Integrated Transport Plan focuses on the following strategic policy areas:

- Freight;
- People;
- Land Use Planning;
- Environment; and
- Tourism.

Freight Goals

- A regional freight network which *can cater for the current and future freight task* including intrastate, interstate and international linkages. The network must support lowest cost, efficient and reliable supply chains;
- A *safe freight transport system* including road, rail, bridges, ports, airports and intermodal facilities; and
- Priority Actions include supporting the continuation of *St Helens* port as a working port for fishing vessels.

People Goals

- *Improved transport safety* for communities;
- Passenger system which provides a *long-term plan* for the future;
- *Improved liveability and accessibility* for communities;
- Improved travel time reliability on key urban transport corridors; and
- Priority Actions include *maintaining* major regional routes including *Tasman Highway and Esk Main Road*.

Land Use Planning Goals

- *Greater integration of transport with economic and land use planning* for the Region at a strategic and operational level;
- *Protect the strategic function* of regionally significant transport infrastructure; and
- Transport investment and planning decisions in the Region to be informed by *evidence-based strategic land use planning*.

Environment Goals

- *Reduced emissions* from transport;
- *Reduce the impact of climate change* on transport infrastructure; and
- *Minimise the adverse impact of transport* on communities and the environment.

Tourism Goals

- Provide transport infrastructure and services that contribute to a positive tourism experience.

NTD Regional Transport Funding Priorities

The document has outlined transport funding priorities in collaboration of eight northern councils including Break O'Day Council. The purpose of *NTD Regional Transport Funding Priorities* is to ensure they deliver a regional advantage and provide increased opportunities to a significant proportion of the Northern Tasmania population.

Individual Priority Projects relevant for Break O'Day Council are as follows:

- *Road Access to East Coast Region* - the St Helens, Scamander and Greater North Eastern Region contribute to the overall economy of Tasmania through income generation within the industries of primary production, forestry and tourism. This contribution is estimated to be in the vicinity of

20 percent of total GDP of Tasmania, and therefore highlights the importance of the region utilising a safe and functional road network system in support of continual growth and prosperity. The North Eastern Region is currently accessed via three major arterial routes - St Mary's Pass, Elephant Pass and Weldborough Pass, which have all now deteriorated to unsafe levels. To ensure the long term viability of the North Eastern Region's coastal communities, together with the safety of the general public and all road users, *exploration of available options for an alternate or an upgraded transport route* is required by Break O'Day Council and State Government;

- **North East Freight Strategy Stage 2 Including Mathinna Plains Road and Break O'Day Bridges** – the bridges currently managed by Break O'Day Council:
 - Bridge 472 (high degree of deterioration - requires replacement);
 - Bridge 1251 (high degree of deterioration - requires replacement); and
 - Bridge 3043 (high degree of deterioration - requires replacement) \$1M.

Break O'Day Council is not sufficiently resourced alone to fund the required municipal infrastructure work. State and Commonwealth regional funding is vital to ensure that the transport infrastructure is returned to an acceptable and sustainable standard for business and community users.

Regional Land Use Strategy of Northern Tasmania

The Regional Land Use Strategy for Northern Tasmania (RLUSNT) is a strategic plan for the region's future development and planning to 2032. It is the state government's current strategic direction document for the northern region of Tasmania. This encompasses the Break O'Day municipality. It is the state government's current strategic direction document for the northern region of Tasmania. This encompasses the Break O'Day municipality.

It has a 20 year planning time horizon for *integrated infrastructure, land use development and transport planning*, underpinned by economic development, social and environmental strategies. The aim of the document is to enhance the northern region's attractiveness as a place to live, invest and visit; and seek to enhance the quality of life for all both now and into the future.

The RLUSNT places an emphasis on the need to better integrate land use and transport as outlined in as follows:

- Co-ordinate transport planning and land use planning by:
 - safeguarding planned network improvements;
 - identifying key transport networks and future networks; and
 - understanding growth predictions.
- Encourage sustainable modes of transport by:
 - protecting the rail and road network from encroachment of sensitive issues;
 - ensuring traffic impacts and car parking are adequately considered; and
 - encourage greater cycling, walking and public transport use.

The RLUSNT also has a strong emphasis on promoting the use of non-car based modes of travel as follows:

- Integrated Sustainable Transport Design
 - encourage access by means other than private car and creating opportunity and infrastructure for sustainable transport;
 - ensure that residential and freight transport and travel demands are central concerns in the location of new development; and
 - ensure full consideration is given to creating and securing opportunities for sustainable transport initiatives such as improved access to walking, cycling and public and freight transport networks.

Key strategic challenges of land use planning defined in the RLUSNT include:

- *Isolation;*
- *Maximising Regional Location and Position;*
- *Ageing Population and Decreasing Workforce; and*
- *Workforce Labour Supply and Skill Shortages.*

Tourism Tasmania Strategic Plan 2010-2013

Tourism Tasmania Strategic Plan 2010-2013 is a plan that evolves its goals, strategies and priorities and consolidates an integrated approach for collaboration with partners and stakeholders. The plan sets out 5 key goals as follows:

- Maximise Tasmania's tourism potential;
- Drive demand for Tasmania;
- Foster the supply of tourism products and experiences;
- Enhance industry's competitive position with market leading research and analysis; and
- Be a highly effective organisation.

Local Policies

Break O'Day Council Strategic Plan 2011-2015

The Break O'Day Strategic Plan 2011-2015 provides an important context for the development of priorities that sit behind the *Transport Master Plan*. The Strategic Plan has been developed to accord with the requirements of 'Tasmania Together 2020', ensuring that Break O'Day Council is working with Local, State and Federal Government, industry and the broader Tasmanian community.

The Break O'Day Strategic Plan will play a vital role in guiding the future directions of the Break O'Day Community and the Council. The Strategic Plan identifies five key goal areas that will be addressed by the Break O'Day Council

- **Community Building Goal** – Build capacity to improve community spirit and enhance a sense of wellbeing;
- **Environment and Planning Goal** - Ensure sustainable management of natural and built resources is respectful to our unique location;

- **Leadership and Governance Goal** – Provide strong and informed leadership and effective management of community resources, empowering and involving the community at all levels;
- **Economic Development Goal** - Achieve sustainable economic development; and
- **Asset Management Goal** - Ensure the efficient and effective provision of appropriate community assets.

Given the deliberate alignment to the Council Strategic Plan, the Transport Master Plan has an important role in achieving the above goals and intended outcomes.

The Transport Master Plan will also have an important role to play in influencing DIER and Northern Tasmania Development (NTD) who are jointly preparing a new Northern Integrated Transport Plan taking into account current issues, challenges and opportunities for the northern region transport system.

Break O'Day LGA Economic Development Strategy

Break O'Day Local Government Area (LGA) Economic Development Strategy has set out six main goals as follows:

1. **Growing the region** - through encouraging sustainable population growth in the LGA;
2. **Generating on-going sustainable jobs** - through growing the economy; building on existing industries; and encouraging new activities;
3. **Building skills and a productive workforce;**
4. **Reinforcing the strategic role of St Helens as a regional service centre;**
5. **Improving liveability of the towns and villages** - through recognising the importance of place and improving infrastructure and connectivity; and
6. **Taking an active approach to economic development** - to implement all elements of the strategy. This includes new structures in Council and improved regional and industry information.

The key requirements for Break O'Day in terms of economic and community infrastructure include the following:

Town Centres

- Improve town centre and their transport access and mobility (e.g. St Helens and St Marys);
- Ensure provision for future floor space requirements - retail, commercial and light industrial; and
- Allow for development of industrial land at St Helens and Scamander.

Tourism

- Improve investment in tourism infrastructure at major destinations such as Steiglitz, Binalong Bay, St Helens and Scamander;
- Develop waterfront (St Helens) facilities covering the wharf area, marina, and the precinct. Activate the area while ensuring it is maintained as a commercial port;
- Develop an East Coast Marine Infrastructure Strategy; and
- Extend bike paths and develop mountain bike trails and walking tracks to link areas and to utilise national park areas.

Transport

- Maintain St Helens Airstrip's facility and its potential for future long term uses; and
- Upgrade of roads linking the north east region.

Break O'Day Tourism Development Strategy 2012-2017

The Break O'Day Tourism Development Strategy identified that whilst there was growth in visitors to the area in 2009/2010, there has been a dramatic reduction in visitations in 2011.

A key focus of the strategy is the need to lobby for support for an alternative 'robust and safe' road link between St Marys and St Helens. The strategy also discusses developing initiatives that provide 'year round' benefits. The key issue surrounding the viability of providing an alternative high quality traffic route is the low traffic volumes that exist in the area and the low return on investment that would be expected (from a traffic perspective only). The *Break O'Day Tourism Development Strategy 2012-2017* was prepared as part of the preparation of the *Break O'Day Municipal Management Plan*.

Break O'Day Land Use & Development Strategy

Break O'Day Land Use & Development Strategy is currently being prepared in order to provide direction for future land use and development in Break O'Day. The document is one of a number of comprehensive studies which will inform the Municipal Management Plan, thereby ensuring that an appropriate level of infrastructure is provided within the municipality and that the future vision for Break O'Day and its townships is realised.

The purpose and objective of the Land Use and Development Strategy is to inform and identify land use and development issues and opportunities requiring further action, including recognition in state and local planning policy frameworks and implementation in the Break O'Day Planning Scheme.

It is intended that this Land Use and Development Strategy will be used as the integrated policy document for guiding future land use



and development in Break O'Day. Specifically, the Strategy will provide the principles and guiding settlement patterns in order to make changes to the Break O'Day Planning Scheme for sustainable long term economic development for the locality. The document will provide for a sense of place for the existing towns and villages within Break O'Day.

The main objectives of the Strategy are the following:

- Analyse and report on the existing land use conditions in Break O' Day;
- Identify opportunities and constraints to new use and development;
- Analyse and review the existing conditions and identified issues to determine relevant policy directions to pursue with each issue;
- Resolve all of the relevant policy directions into one organised Land Use and Development Strategy; and
- Thoroughly consult with the community through each identified stage of the project.

The document's scope aims to:

- Provide a sound framework for strategically planned and orderly future development;
- Understand and identify settlement patterns and existing land uses within Break O'Day in context of the social, cultural, environmental and economic features of the region;
- Understand the Municipality's historical development, natural heritage, urban form, diverse social, cultural and scenic character, and economic influences;
- Analyse current demographic features and trends relevant to population and land use within Break O'Day;
- Identify opportunities and constraints for future use and development including provision of residential land, community, health, tourist and recreational services over the next 20 years;
- Analyse the capacity for growth in relation to opportunities and constraints for each major township within Break O'Day;
- Estimate future requirements over the next 20 years for residential, commercial and industrial zoned land in respect to vacant land ability and servicing requirements;
- Assess the necessity of Environmental Living, Rural Living and Environmental Management zones within the Break O'Day Municipality;
- Identify areas of resource, land and environmental value for protection of biodiversity;
- Identify areas of hazard risks, particularly in relation to flooding, and necessary mitigation measures;
- Interpret the impact of Climate Change upon land use within the Break O'Day LGA;
- Assess localised impact of climate change impacts upon current and future land use opportunities
- Respond to any relevant requirements of State Policies and Regional Frameworks; and
- Provide policy directions into a Land Use and Development Strategy, and assist in facilitating a vision for future

management for new development within Break O'Day over the next 20 years.

Settlement Hierarchy

Based on existing settlement patterns and consideration of all previous documents and strategies relating to settlement in Break O'Day, specifically in the application of the zones translated under the Regional Model Template for the Break O'Day Planning Scheme (as at May 2013), the following more detailed Settlement Hierarchy has been developed.

- *District centre* - St Helens (with District Service Centre and Industrial Precinct);
- *Major towns* - St Marys (with Town Centre) & Scamander (with Town Centre);
- *Town* - Fingal (with Local Centre and Industrial Precinct);
- *Coastal Village settlements* - Ansons Bay, Beaumaris, Binalong Bay, Falmouth;
- *Rural village settlements* - Cornwall, Mathinna;
- *Coastal (Environmental) living cluster areas* - Four Mile Creek, The Gardens, Seymour;
- *Rural living cluster areas* - Mangana, Weldborough; and
- *Rural settlements* - Gray, Lottah, Pyengana.

ABOUT BREAK O'DAY

Introduction about LGA

The Break O'Day area is located on Tasmania's pristine East Coast (refer to Figure 4), the region boasts many coastal towns including: St Helens, Scamander, Falmouth, Four Mile Creek, Beaumaris, Stieglitz, Seymour, Ansons Bay and Binalong Bay. This spectacular region also includes the stunning Bay of Fires, Tasmanian's Game Fishing Capital and the Mount William National Park.

Inland population centres include St Marys, Fingal, Mathinna, Mangana, Cornwall, Pyengana, Goshen and Weldborough, some magnificent attractions can be found in these towns, including: the St Columba Falls, the Blue Tier and portions of the Douglas Apsley National Park.

With an area of 3,809 square kilometres, Break O'Day is one of the largest Local Government areas in Tasmania. The population stands at approximately 6,500 which more than doubles during the summer holiday season. The principal industries in the areas are tourism, mining, forestry, agriculture, fishing and aquaculture.

Tasmania's car dependency as whole is high with 92 per cent of the households owning at least one private vehicle whereas 36 per cent own two and 18 per cent three vehicles. Car ownership rate in Break O'Day Local Government Area (LGA) at 93 per cent is slightly higher compared to Tasmanian average.

The number of vehicles registered in the LGA has remained relatively stable over the last few years, but is still growing steadily. Last year's growth was approximately 1 per cent per annum with circa 8,600 vehicles registered in the LGA.

75 per cent of the overnight visitors use private vehicle as their main mean of transport and over 63 per cent of residents travel to work by private vehicle (57.4 per cent as drivers and 5.9% as passengers).

The LGAs population is changing. The resident population is reducing and ageing gradually. Reducing the number of people leaving Break O'Day for work, education, shopping and recreation means that the LGA needs to grow. Better transport access to its centres will be key to making these centres regionally competitive and allowing them to grow.



Source: the Department of Infrastructure and Transport

Figure 4: Break O'Day LGA

At the same time, an ageing population will rely more and more on community and public transport for local accessibility, and so local transport within LGA needs to be improved.

The area is highly dependent on the road network which supports the movement of residents, tourists, export freight and goods and services. Maintaining roads and bridges and other assets is important to ensure this continues. The region also has a significant future potential which needs to be unlocked by providing strategic transport infrastructure to support air, sea, rail and road significant movements. Continued economic and social development of the region is therefore highly dependent on the efficiency and safety of this network.

There are a number of challenges that affect the performance of the network. These range from the maintenance of access routes subject to flooding and landslips, through to the development of safe and attractive main streets within townships.

The variable condition of a number of key roads linking different parts of the northern region are impacting on tourism travel, the transport of agricultural and forestry product and the provision of efficient and effective access for residents to key services.



GROWTH TRENDS

Household Characteristics

Break O'Day LGA experienced population growth over the 2001-2006 period, attributed in part to inward migration of 'sea changers'. Break O'Day LGA population growth over the last decade has been approximately 1 per cent per annum. Break O'Day is projected to have population growth of 20.5% (1,343 persons between 2011 and 2031). Figure 5 below provides a forecast of expected population growth in the LGA.



Source: Demographic Change Advisory Council

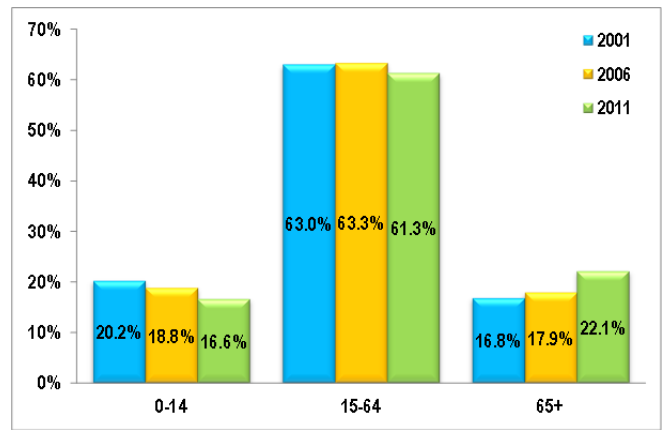
Figure 5: Population Growth Forecast Comparison

Analysis of the Economic Development Strategy however concluded that the above projections may not be realised with the recent slowdown in population growth. Based on the lower actual population figure of 6,000 in 2011 and assuming the current projected growth rate of 20% applied then the resident population would be 7,200 in 2031 (compared with the projection of 7,908).

The population growth slowed down after 2006 and has been flat over the last 5 years to 2011. These more recent trends of a loss of population are related to a decline in the number of full time jobs in the area (jobs loss from resource sectors including agriculture, forest industries, fishing) and the impacts of a slow economy and weakening visitor market on businesses in the LGA. Long term projections are for growth in the population as people are attracted to the coastal lifestyles.

In relation to age structure, the population of Break O'Day LGA is ageing, i.e. nearly 40 per cent of the estimated resident population in 2010 was aged 55 years and over. In the last 10 years persons aged 55 and over increased from 31% of the population to 41% in 2011. Reflecting this ageing, the median age increased from 43 years in 2001 to 49 years in 2011.

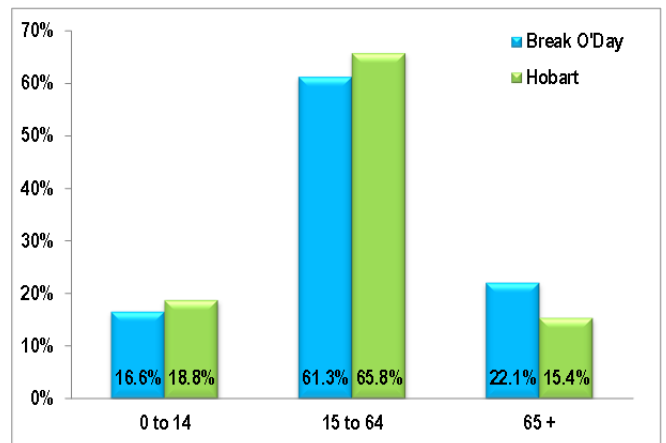
The number of wage and salary earners has been static in the period 2006-2009. Figure 6 indicates that the proportion of children and salary earners has been dropping steadily over the last decade, whereas the proportion of retirees is on the rise.



Source: Australian Bureau of Statistics

Figure 6: Age Groups Historical Data

Typically younger persons aged 25-44 years and mainly families have been leaving the area. This trend has accelerated in the 5 years to 2011. Departures are primarily related to education requirements and limited full time jobs in the region. Compared to Hobart, Break O'Day has a lower proportion of young people at age 0-14 and the 65+ age group is approximately 7 percent higher as shown in Figure 7.



Source: Australian Bureau of Statistics

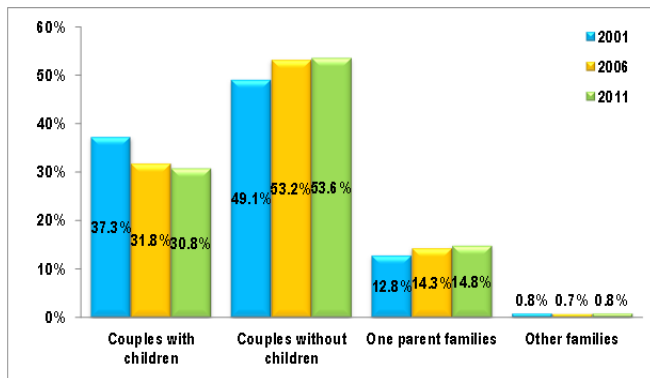
Figure 7: Age Groups Comparison

Household Composition

Break O'Day household and family structure is one of the key demographic indicators revealing the LGA's residential role and function, and providing key insights into the level of demand for services and infrastructure.

Analysis of the household composition data shows that the proportion of *couples with children* is declining from 37.3% in 2001 to 30.8% in 2011, whereas the share of *couples without children* is on the rise (refer to Figure 8) from 49.1% in 2001 to 53.6% in 2011.

The average household size has fell from 2.3 to 2.1 persons and the average number of children per family in 2011 was 1.9.

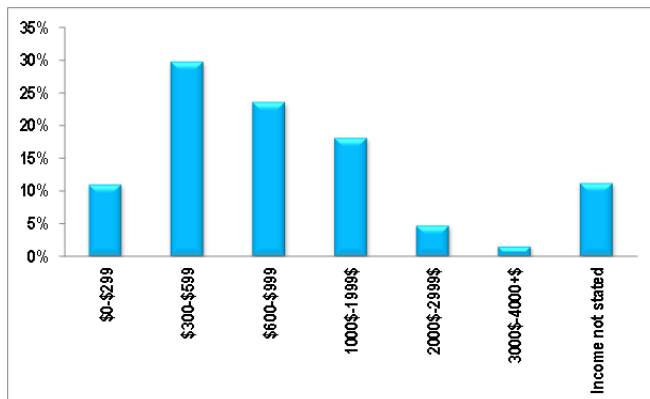


Source: Australian Bureau of Statistics

Figure 8: Household Structure

Household Income

Analysis of household income levels in Break O'Day LGA in 2011 shows that 31% of the households are low income households (those earning less than \$600 per week), 59% mid-range earners and 5% are high income households (those earning \$2,500 per week or more) as shown in Figure 9.



Source: Australian Bureau of Statistics

Figure 9: Weekly Household Income

Average median weekly household income is approximately \$654 in Break O'Day, which is significantly lower than Greater Hobart's average of \$1065 or Australia's \$1234.

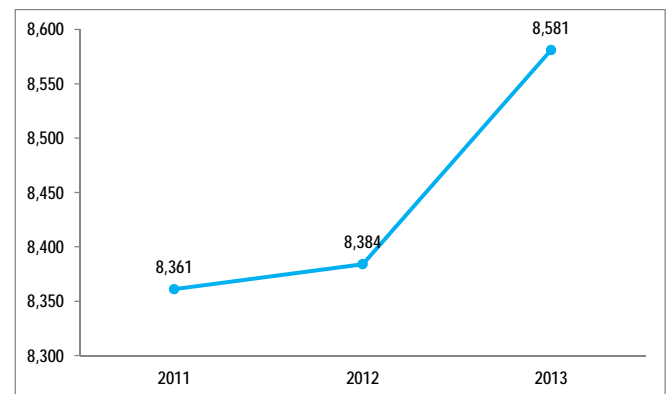
Car Ownership

The average number of vehicles per household is 1.7 in Break O'Day which is equal to Greater Hobart's and Australia's average rate.

As with elsewhere in Australia, the number of vehicles on Tasmanian roads is increasing. In the 10-year period from 1997 to 2006 total vehicle registrations increased from 418,000 to 487,000, an increase of 16.5%. In the same period the number of driver licences increased by 11% from 295,750 to 329,145.

The number of Heavy vehicles registrations has increased by 21% and it is estimated that Tasmania's freight growth will double by 2030, with current trends supporting this level of growth.

Figure 10 shows that the car ownership in the LGA continues to grow steadily. Previous year's annual growth rate was two per cent.



Source: Australian Bureau of Statistics

Figure 10: Car Ownership

There were only 7% of people during 2011 Census who did not have a car in their household, 37% have one vehicle, 35% two and 18% three or more cars.

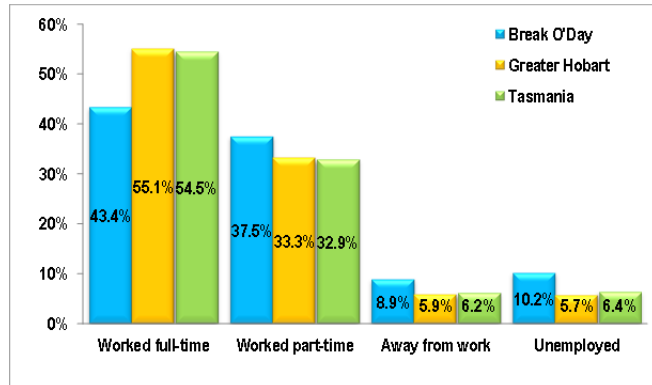
Population Location

The population is focused in coastal locations (home to 76% of residents). St Helens/Stieglitz is the major regional centre (with 45% of the population); other main centres are St Marys (13%) and Scamander (12%). The population is concentrated in the coastal areas of the LGA. Coastal populations have been growing, while some inland areas have been losing population. Local discussions indicate that around 30% of the holiday housing stock is owned by persons from mainland Australia (i.e. around 450-500 houses) with the remaining owners mainly persons resident in Launceston, Hobart or in some inland areas.

Holiday homes represent around 38% of dwellings (1607). The downturn in the economy over the last 3 years has seen a number of holiday houses being put on the market.

Employment

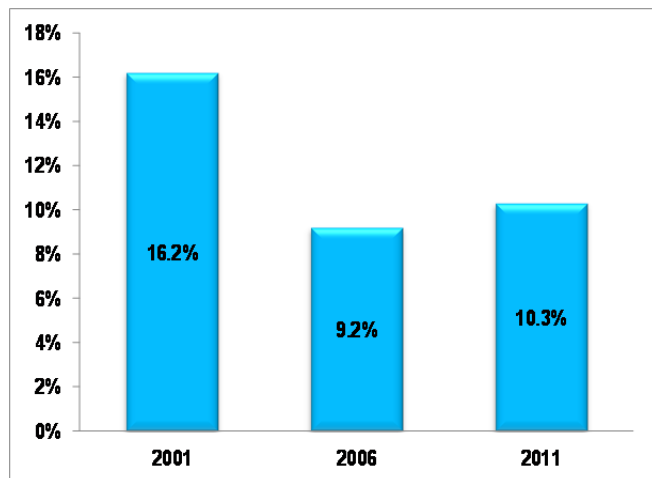
There were 2,260 people who reported being in the labour force according to 2011 Census. Approximately 43% of workforce is employed full-time. Figure 11 below shows that labour force participation rates in the LGA are lower compared to Greater Hobart area and Tasmania as a whole reflecting older age structure of the population (including some early retirements).



Source: Australian Bureau of Statistics

Figure 11: Employment

Break O'Day unemployment rate was approximately 10 per cent during the Census in 2011. It has slightly increased from 2006 Census, but has significantly decreased after peaking in 2001 at 16.2 per cent (refer to Figure 12).

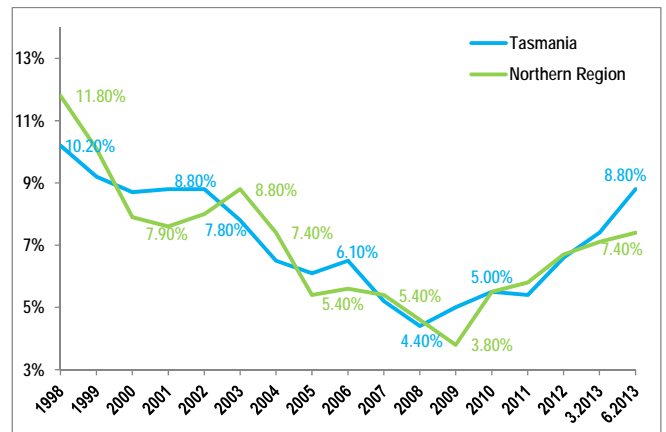


Source: Australian Bureau of Statistics

Figure 12: Historical Unemployment Rates

Figure 13 provides a comparison of historical unemployment rates between whole Tasmania and the Northern Region. The figure indicates Northern Region's unemployment rate was the lowest around 2009 and has been moving upward since then. The LGA's level of unemployment is however significantly higher compared to the Northern Region and Tasmania's average.

The employment market has been influenced by a slow economy over the last 5 years with limited growth in full time jobs (and no overall growth in male full time jobs) and a loss of jobs in several of the key resource industries (that have historically been a key part of the local economy). Trends over the last 2 years are linked to



Source: www.economicprofile.com.au

Figure 13: Historical Unemployment Rates

the impacts of a slow economy and weakening visitor market on businesses in the area. Long term projections are for continued growth in Break O'Day's population as people are attracted to the coastal lifestyle. However, given the static population numbers in the last 5 years, the long term targets are unlikely to be achieved and will need to be revised.

There is a clear two-way linkage between population growth and jobs. A loss of jobs and no replacement jobs encourages people/families to move out of the area to other locations that offer better job prospects. This outmigration slows the overall growth of the population and reduces the local market for services. The lack of jobs also discourages persons from moving into the area, other than persons moving for retirement. This slowdown in the regional economy has led to a shakeout in some local businesses.

Location of Jobs

In 2011 there were 1682 jobs in the LGA and 2006 employed residents, a difference of 324 jobs. This implies that a number of persons are travelling to jobs outside of the LGA (to adjacent LGAs). The actual movements would be higher as there would be a number of persons from outside the LGA travelling to their jobs in Break O'Day.

The typical pattern is that females tend to hold local jobs in the service sector, while males are more likely to travel to jobs in adjacent areas (e.g. as tradespersons in construction, forestry workers, and persons employed in processing plants).

Another element of business and employment is home based businesses. From ABS Census data this was estimated at 143 persons in 2011 (7% of employed persons) and the data indicates a decline from 198 persons in 2001. The data also show that home based employment involves both males and females and the main age ranges are persons aged 35-54 years and 55-64 years. The latter age group may indicate persons transitioning to retirement by operating a business from home.

In 2011 78% of employed residents were resident in coastal areas and 22% lived in inland areas. Over 45% of employed persons live in St Helens/Stieglitz area.

St Helens area has an estimated 928 jobs (56% of jobs in the LGA), St Mary's area 239 (14%) and Fingal area 167 jobs (10%).

Economic Characteristics

Overview

According to Break O'Day LGA Economic Development Strategy there are several key features of the regional economy:

- The industry base of the area has narrowed and it has become a service economy servicing the local/regional population (East Coast/North East) and the visitor market;
- There are limited regional export industries, as there have been major declines in the traditional resource sectors of seafood, forest products and agriculture;
- Much of industry located in the industrial areas is light industry servicing local and regional industries (e.g. servicing agriculture, mining, boats, building and construction);
- Most businesses are small businesses and many are owner operated-with no employees (or employing family members only);
- Tourism is important for St Helens and the other coastal locations - but the sector has been under pressure in recent years with declining visitor numbers. The sector is highly dependent on the summer season and Easter and holiday peaks;
- Major areas of employment in the LGA are in-person services that are servicing a local/regional population (e.g. retail, education, health services);
- The recession have impacted on the region: Break O'Day went from strong growth in jobs in the period 2001-2006 to experience almost no growth in jobs between 2006-2011;
- Job impacts have several dimensions: no increase in jobs that traditionally employ males (except for construction and some manufacturing jobs); and an increase in service jobs that mainly employ females (e.g. in health, aged care, retail, education). Much of this jobs growth over the last decade has been part-time jobs; and
- The only current major industry development in the region is Hard Rock Coal's mine project, which will generate around 60-70 direct jobs in the construction phase and up to 200 direct jobs when the mine is fully operational.

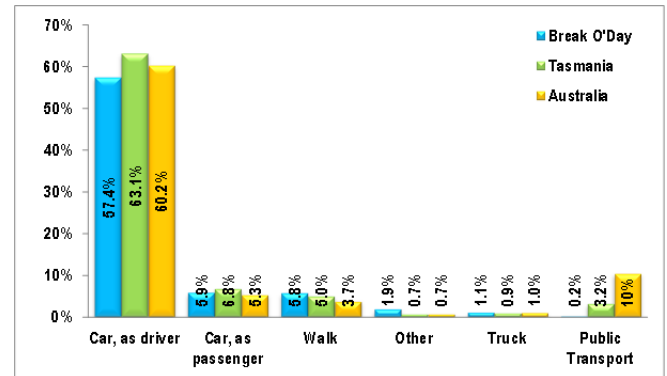
Most businesses in the region are small businesses: only 9 businesses employed 20 or more persons (the 3 largest businesses employed over 100 persons and were in agriculture, forestry and in fishing and 3 retailers employed over 50 persons); 66 employed 5-19 persons and these were in agriculture, retail and accommodation and in food service. Almost 90% of local businesses did not have employees or employed between 1-4 persons. On a turnover basis, only 21 businesses (of a total of 555) had annual turnovers of \$1 million or more, with these businesses being in retail, agriculture forestry and fishing, and in transport.

A significant issue for the region is that viable and sustainable businesses are needed to provide employment for the local population. These jobs are dependent on regional market size and growth, resource based industries and growth in the visitor market.

Current Travel Characteristics

90% of Break O'Day working residents work in the same LGA. 63.6% employed people travelled to work by car either as a driver or passenger which is slightly lower compared to all Tasmania's or Australia's car share as shown in Figure 14 below.

Whereas Australia's average public transport mode share is around 10 per cent Break O'Day's public transport usage is only 0.2 per cent.



Source: Australian Bureau of Statistics

Figure 14: Work Trips by Mode

Improving upon sustainability indicator measures such as Journey to Work (JTW) figures will assist with improved and more efficient land use, transport and infrastructure planning decisions including investment.

This will lead to greater sustainable development outcomes such as reduce reliance upon private motor vehicle and/or time spent travelling to work both in distances and time. The role of regional activity centres existing and future industrial lands is crucial to address access to employment and greater job self-containment within existing LGA sub-regions.

CHALLENGES AND OPPORTUNITIES

Road Network

Road Hierarchy

The Tasmanian State Road Hierarchy is specified by DIER that has three roads or parts thereof within the Break O'Day LGA as follows:

- **Tasman Highway** starts at Hobart and runs north up the east coast and then west to Launceston;
- **Esk Main Road** starts at the Midland Highway and runs east past St Marys to the Tasman Highway; and
- **Elephant Pass Road** starts at the Tasman Hwy and runs northwest to Esk Highway. Entirely within Break O'Day.

Figure 15 below shows Road Hierarchy in the LGA. The State Road hierarchy maps show that Esk Highway and sections of Tasman Highway are Category 3 roads – Regional Access Road. The Tasman Highway to the north between St Helens and Ringarooma Main Road and south of Esk Highway are classed as a Category 4 – Feeder Road.



Source: Tasmanian State Road Hierarchy

Figure 15: Break O'Day Road Hierarchy

Regional Access Roads are intended to facilitate:

- Connection of smaller regional resource bases with trunk and regional freight roads;
- Local commercial interaction;
- Sub-regional and inter-regional freight movement by connecting with trunk and regional freight roads;
- Sub-regional passenger vehicle movement and connection to trunk and regional freight roads; and
- Sub-regional tourist movement and connection to trunk and regional freight roads.

Feeder Roads are intended to facilitate:

- Local commercial interaction;
- Local freight movement;
- Smaller regional resource bases;
- Local passenger vehicle movement; and
- Tourists and major tourist destinations.

Elephant Pass Road is a Category 5 road. Category 5 includes the remainder of all State Roads.

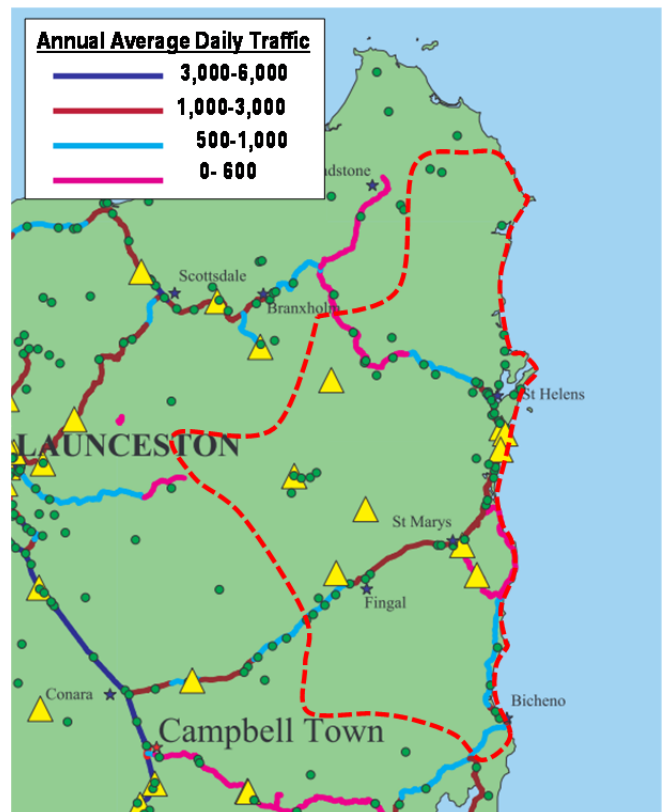
Determining Road Categories Categorisation is based on:

- Measured use - for example, road count and survey data;
- Current and planned function - including the road's role in connecting towns, cities, ports and airports;
- Trends - such as the projected growth of population centres and changes in road counts over time; and
- Strategy - for example, choosing a preferred route between roads that duplicate each other.

In particular, the road categories reflect their usage by passenger vehicles, road freight transport and value in supporting cities, towns, tourism, and business.

Traffic Volumes

Figure 16 below shows Break O'Day core road network's traffic volumes. Sections of Esk Highway and Tasman Highway carry 1,000-3,000 vehicles per day whereas the rest of the network has the daily volumes up to 1,000 vehicles or less per day.



Source: Tasmanian Road Safety Strategy 2007-2016

Figure 16: Break O'Day Daily Traffic Volumes

As can be seen from the volume figure above the traffic volumes are very low throughout the road network in the LGA.

Heavy Vehicles (Freight)

Inter-Regional Freight - Nearly half of Tasmania's mining freight task is moved relatively short distances (less than 5 km) and has a limited impact on local road networks. Movement of construction materials, including bitumen, building materials, concrete, stone, sand and clay, comprises nearly a quarter of the state's freight task by tonnage. The major intra-regional freight tasks include coal from the Fingal Valley. The key implications are **heavy movements between the St Marys and Fingal section of Esk Main Road**.

If present trends continue, the Tasmanian road freight task measured in tonnes will almost quadruple by 2020. As heavy vehicle traffic causes the most damage to the roads, this will place a **huge demand on maintenance**. Logging and coal are the key two areas that concentrate freight in Break O'Day.

- Pulpwood plantations, mostly concentrated in the north-west and north, have started to be harvested and will increase in volumes, at least doubling in the next 15 years;
- There will be new industrialisation, and there is the likelihood that there may be a new, major wood processing facility to process the logs that will result in changed flows of logs and road use;
- The global market is causing the increasing centralisation of manufacturing and processing and is causing increasing demand for greater efficiency in road transport and greater competition between road service providers. This in turn will lead to the continuation of the trend towards greater use of high productivity vehicles and technical innovation in vehicles, and may lead to new demands for which the existing road system was never designed;
- The Tasmanian economy is largely export oriented. To maintain and improve this position, Tasmania needs to have efficient and effective access to its industrial sites with a road transport system;

Intra-Regional Light Freight demand is increasing with couriers, parcel freight and home deliveries, in particular with the availability of increasing use of just-in time delivery and increasing use of internet home ordering. While this may impact many local roads more than State Roads, those roads connecting outlying industrial estates and areas of low density housing development on the fringes of urban areas, will carry increasing numbers of light freight vehicles.

Other arterial road links through the area, in particular the link between St Marys and St Helens and between St Helens and Derby through the Weldborough Pass, carry smaller volumes of freight, but are nevertheless clearly important for the movement of products within and through the area.

The consumer goods task generally makes a higher number of trips on the network than other freight tasks, as consumer goods are generally moved from a port to a distribution centre, then on to retailers.

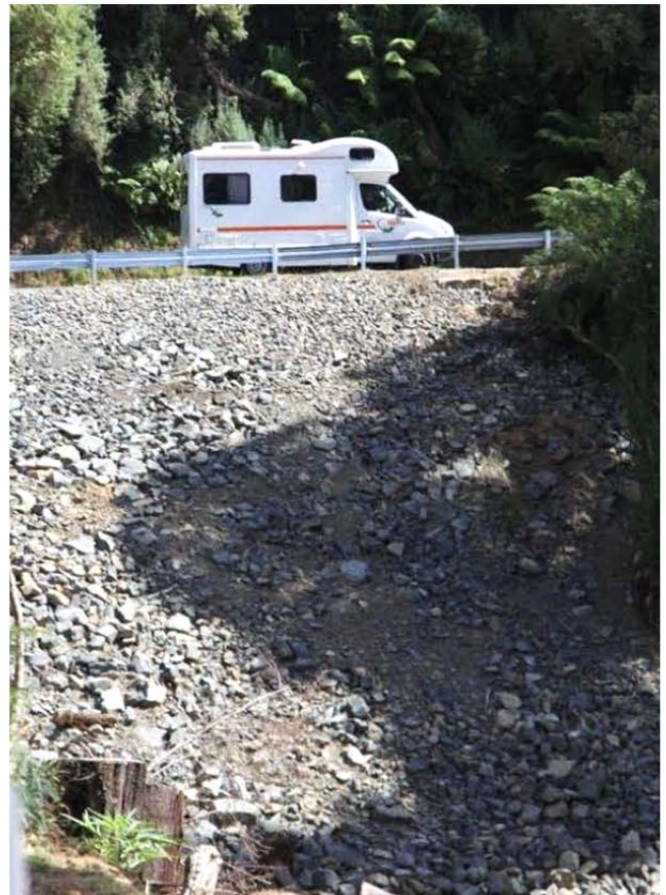
Local Government-owned roads carry a smaller proportion of the State's overall freight task, but are important for the last mile of the

overall freight task from freight producers who are often located on local roads to the State and National Networks, and to freight destinations.

Challenges and Opportunities

Low Reliability of Access

The region has a number of vastly unstable geological areas that have experienced major land slips in the past (St Marys Pass, Elephant Pass and Weldborough Pass (refer to Figure 17)) which display signs of ongoing instability. When routes are closed, the region experiences severe disruption to school and other access, in commerce, tourism and potential safety. As recently as 2011 all the mountain routes were cut at the one time and the region was effectively cut off from much of the State.



Source: Break O'Day Transport Master Plan Issues Report

Figure 17: Weldborough Pass Land Slip

The St Helens Point Road to Stieglitz also passes through highly unstable landslip areas between the foreshore and Chimney Heights Road. This road has also been cut in recent years and currently displays high landslip activity.

Alternate routes down to the coast from central Tasmania have been considered, such as the 'S' road. These are currently gravel roads of variable standard and are often used by forestry vehicles and would require significant upgrading if they were to become major access routes.

The access reliability could be increased by improving the maintenance of the current routes to reduce the impact of water on pavement stability.

Resulting from the above the following actions should be considered

- Investigate the feasibility of developing alternate routes for St Marys Pass between St Marys and St Helens;
- Retain the existing major mountain routes and investigate the provision of alternative access routes for times when the major roads are blocked;
- Investigate the feasibility of both segregating freight and other traffic, or introduce a one-way pair of routes using St Marys Pass and Elephant Pass roads;
- Improve the maintenance of existing routes to reduce the impact of water on road stability; and
- Investigate the feasibility of developing an alternate access road to Stieglitz.

Local roads are also prone to flooding. A number of the coastal roads experience flooding when rainfall is heavy and this can be exacerbated by high tides along the low level coastal areas. Access roads with the greatest exposure to flooding are those to Ansons Bay and Binalong Bay. On the Ansons Bay Road flooding primarily occurs at the existing bridges, on Binalong Bay it occurs on the bridges and along the foreshore road, while the causeway floods on Reids Road between Ansons Bay Road and Binalong Bay. Flooding can also occur on the St Helens Point Road during high tides. Flooding can take several days to retreat and results in communities being cut off and extensive damage to roads and structures. Inland flooding can occur on the Esk Highway between Fingal and Avoca. Inland flooding tends to disperse more quickly than the coastal flooding.

Some possible solutions for reducing the impacts of flooding are as follows:

- Develop a reliable route to Ansons Bay, either along Ansons Bay Road or Gladstone Road or if not doable at least minimise road damage from the effects of flooding;
- Develop a reliable route to Binalong Bay, either along Binalong Bay Road or Reids Road or if not possible at least minimise road damage from the effects of flooding;
- Develop an alternative non flooding route to Stieglitz; and
- Allow for potential sea level rise when designing coastal infrastructure.

Missing or Obstructed Signage

Feedback from the public indicates that Break O'Day area needs a signage review and signage improvements. Currently a number of information related issues occur when roads are closed due to flooding or land slips. There is a lack of advanced signage and therefore drivers have to retrace their steps when they reach a road block.

In addition, information in regards road closures is not updated once the road is open, leading to motorists being advised not to enter the region even though routes are open. Signage improvements are also required on recreational and tourist trails in the reserves and national parks.

Break O'Day maps should be complemented in order to better correspond to different users' needs. Existing tourist maps do not specify if routes are suitable for caravans, particularly forest roads. Furthermore, in times of emergencies, such as fires, volunteer fire crews from outside the region do not have access to reliable maps. In more routine situations local fire groups are not kept informed of short term load limits on roads or bridges that may limit the movement of water trucks.



Source: Break O'Day Transport Master Plan Issues Report

Figure 18: Aging and Obscured Signage, Binalong Bay

Possible actions for improving the signage:

- Provide advanced warning of road closures before motorists leave the Midland Highway;
- Provide up to date information on road networks for emergency services; and
- Establish clear responsibilities and protocols for road closures and signing.

Condition of Bridges

Several bridges located in Break O'Day have approached or are approaching the later years of their life and require either replacement, or servicing and maintenance.

If bridges fail not only is there an immediate safety risk, but communities will be cut off from the region which obviously has social and economic consequences. In addition, load limits on bridges restrict access for freight and emergency vehicles.



Figure 19: Bridge Condition in St Marys

A review of bridge conditions and prioritisation for maintenance and replacement is recommended.

Airport Link

The airport at Stieglitz provides a vital air ambulance link for the region, particularly when road access is restricted. Access to the airport is via St Helens Point Road and so if the road is closed due to land slip or flooding, access to the airport is cut.

Some communities that have access roads which are subject to closures, such as Ansons Bay, do not have emergency helicopter landing facilities.

Some suggested actions.

- Provide all weather road access to the airport for emergency flights; and
- Review emergency helicopter landing facilities in communities, and identify and maintain landing sites.

Options for upgrading the existing airside infrastructure/facilities at St Helens Airport, including the runway (and associated lighting), taxiway and apron were investigated in *Break O'Day Airstrip Feasibility Study* by Michael Connell & Aurecon in September 2013, in order to achieve compliance with Civil Aviation Safety Authority (CASA) regulations for existing and future aircraft operations. The study found that in the longer term there may be future potential for seafood industry freight and this should be taken into account in any infrastructure development of the airport. However, further investigation is required.

St Helens Existing Traffic Issues

The key findings from the existing issues assessment are as follows:

- The Regional Land Use Strategy of Northern Tasmania (RLUSNT) places an emphasis on the need to better integrate transport and land use planning as well as encouraging sustainable modes of transport through integrated transport strategies;
- RLUSNT identifies St Helens as a 'district centre' which is described as a town providing a high concentration of businesses, supporting a local workforce with local amenities including employment generating land uses, education, sporting and health facilities, churches, community services and administration offices;

- The Break O'Day Tourism Development Strategy identified that a key strategy for St Helens is to improve traffic management and reduce the impact of caravan and RV's. The strategy also discusses developing initiatives that provide 'year round' benefits and lobbying the State Government on the importance of the road access through the St Marys pass;
- The road hierarchy in St Helens is a typical grid pattern in the commercial centre with the collector roads feeding onto the Tasman Highway / Cecilia Street. There are opportunities to reduce local traffic movements away from Cecilia Street by improving routes around the town centre via Georges Bay Esplanade. This should be further considered in the development of the longer term Master Plan by promoting the development of the Esplanade. Routes through St Helens should focus on improving tourism by improving road-side attractions and signage to encourage tourists to 'stop' within the town centre. As Cecilia Street is a DIER controlled, road focusing development away from Cecilia Street will provide Council with more flexibility in improving the town centre. This is also considered to be beneficial to the DIER as it will potentially improve traffic flow through St Helens for freight and general through traffic;
- The traffic volumes within the town centre are relatively low with traffic congestion mainly due to parking manoeuvring. The Cecilia Street / Circassian Street intersection, Cecilia Street / Quail Street intersection and the Tasman Highway / St Helens Point Road intersection are most likely to be affected by traffic impacts in the coming years;
- Cecilia Street could potentially be improved by:
 - additional and improved directional and priority signage;
 - providing turn treatments where warranted; and
 - providing cycle lanes and/or pedestrian crossing improvements to reduce lane widths and act as traffic calming measures.
- The Tasman Highway to the south of the town centre includes a number of T-intersections with local and collector roads as well as concealed driveways/entrances. There are no turn treatments at any of these intersections and due to the meandering nature of the roadway there are sight distance restrictions that introduce safety concerns. Turn treatments are warranted at some of these intersections, however due to the geographical constraints of the roadway, turn treatments may not be a viable solution at some locations and therefore a reduction in the speed limit with more cautionary signage and advanced warning signs may improve safety; and
- Urban consolidation within the town centre will promote urban renewal and in conjunction with developer contributions will provide opportunities to improve the public domain and increase the proportion of non-car based trips. An increase in walking and cycling movements within the town centre will increase its vibrancy and overall attractiveness, which will ultimately increase the demand for a greater level of re-development.

St Marys Existing Traffic Issues

St Marys Traffic Study was undertaken by Bitzios Consulting in April 2013. The key findings from the existing issues assessment are as follows:

- The St Marys Traffic Management Review (2006) and St Marys Townscape Project (1995) provide an good foundation to use as a basis to develop a town centre Master Plan;
- The adoption of a roundabout as an intersection control measure at the Story Street / Main Street intersection should be further considered and debated as a possible longer term solution as it also provides an opportunity for tourists to turn around after driving past the town centre;
- The community were consulted on two options for the main street which focussed around including a series of pedestrian refuges. The community opted for a do nothing option, desiring to keep their current 45 degree angle parking. Notwithstanding this, the replacement of angle parking with parallel parking will reduce the road footprint substantially, providing greater opportunities for improved 'main street' public areas as well pedestrian crossing facilities. The reduced roadway width will also provide an impression of a busy vibrant town centre, slowing traffic down and encouraging tourists to stop and visit;
- Improvements to line marking and kerb extensions can be effective in slowing traffic down and reducing pedestrian crossing distances. Combined with other road side elements such as vertical banners, streetlights, trees, interesting architecture and land uses can all assist with improving the local environment;
- Consideration should be given to reducing the 50kph zone to the east to increase its effectiveness. The start of the zone should coincide with a 'gateway' treatment to the immediate east of the town centre (in the vicinity of the Library);
- The pavement along the southern edge of Main Street should be raised to reduce the kerb height. Wheel stops should be removed and the parking bays marked and signposted in accordance with AS2890.5;
- Improvements to widening existing footpaths to cater for mobility scooters will also assist with cycle movements. Traffic volumes and road width suggests that cyclists could safely share the road in the current environment;
- The St Marys Townscape Project (1995) recommended a signposting strategy for St Marys. This should be adopted as a starting point in developing a local signposting strategy that may be submitted to DIER for approval prior to implementation; and
- Consideration should be given to relocating the tourist information board adjacent to town hall, along with a town park, with appropriate guidance signage for motorists approaching from all directions.

COMMUNITY VIEWS

Eleven stakeholder meetings were held throughout Break O'Day during February and March 2012. A comprehensive report on the consultation process is available from the Council.

The results of this consultation were combined with technical analysis to identify the major transport related drivers that will shape transport in Break O'Day over the coming decades.



Figure 20: Community Consultation

A number of communities in the LGA have community buses to assist those who cannot use other forms of transport. Respondents who know about the options available there is a high level of support for the services offered.

Some respondents were not aware in regards what services were available and who could access them. Coordination of services was identified as a way to maximise access by the community and increase the utilisation of available resources.

Public Transport

Both community buses and long distance bus services were generally well regarded. Issues identified that limit the use of buses included:

- Inadequate regional bus coverage, such as to Launceston Airport;
- Inadequate local services;
- Uncertainty over bus timetables; and
- High bus fares for non-concession holders.

Information for Travellers

Reliable and Timely Road Condition Information

When roads are influenced due to flooding and/or land slips a number of information related issues have emerged:

- The lack of advanced warning for traffic coming from the Midland Highway along the Esk Main Road means motorists have to retrace their steps when they reach a road block;
- Breakdowns in actions between agencies (DIER, Police, Council) over the erection and removal of road closure signs;

- Information on road closures is not updated once the road is open, leading to motorists being advised not to enter the region even though routes are open; and
- Radio coverage is patchy and so it is difficult to use radio as a means of advising of closures.

At times on weekends, fuel is not available between Avoca and St Helens, but visitors are not advised of the situation prior to entering the region. Petrol station opening hours also vary throughout the year. This has led to reports of visitors being stranded in places such as Fingal and St Marys.

In times of emergencies, such as fires, volunteer fire crews from outside the region do not have access to reliable maps. In more routine situations, local fire groups are not always kept informed of short term load limits on roads or bridges that may limit the movement of water trucks.

Public Transport Information

Residents at several community meetings were not aware of available services, timetable and fare information for public and community transport.

It is difficult to keep track of available services or plan to use buses with confidence as some bus services change throughout the year, such as school/non-school terms, and some service trials are reportedly only in place for a short time.

Information on long distance public transport services (routes, timetables and fares) is not readily available for tourists.

Tourism and Way Finding

Tourism is a major industry in the region and a number of tourist information needs were identified, including:

- Understanding the spread out nature of the Bay of Fires area;
- Provision of travel information for tourists entering the region;
- Improvements to directional signing to key locations and points of interest;
- Information on the location of facilities for disposal of grey/black water; and
- Provision of reliable information on the suitability of secondary and forestry roads for vans and caravans.

Road Conditions

Rural Roads

Roads in the region carry a mix of general traffic, general freight, specialist freight (timber, coal), caravans/motor homes, cyclists, motor bikes and buses. Roads are often narrow and have substandard pavements. There is a lack of overtaking lanes on all major routes. This can lead to driver frustration and unsafe overtaking.

Roads are often narrow and shoulders on sealed roads are often in poor condition, have uneven seals and steep drop offs. Load limits on bridges restrict access for freight and emergency vehicles.

A number of communities are accessed by unsealed roads. There were differing views on the importance of sealing these roads, or if

improvements in flood prone bridges would provide greater benefits to communities and businesses.

Some of the key secondary roads in the region, for example Upper Esk Road and Mathinna to Launceston Road, are partially or fully managed by the Forest industry. If there is a reduction in logging in these areas, these roads may no longer be maintained to their current standard. This could limit their use by the general public, and make their use in emergencies, such as land slips on the main roads, more difficult.

Rural Intersections

For a number of 'T' intersections, such as entering Ansons Bay and at the Mathinna/Mangana Road intersection, it is not clear which vehicle has right of way. In other cases, intersections have limited sight distance or priority is not clear at staggered cross intersections.

Road Maintenance

Maintenance is essential to maintain roads in safe and appropriate condition for the traffic that uses them. The major maintenance challenges in Break O'Day are maintaining the stability of land slip areas, maintaining safe road pavements and shoulders and roadside drainage.

A large number of Council roads are gravel roads and some of these roads require high levels of road maintenance due to the quality of the road materials available to the Council and/or current maintenance practices. In these areas maintenance costs are higher than is reasonable.

Due to the large area and small number of staff, the timing of maintenance, such as grass slashing, drain clearance, reflectors, signs and pavement grading, can be later than desirable. This is particularly an issue in areas away from the main towns due to the distances crews have to travel and scheduling activities over a large area.

Pedestrians, Cyclists and Motorised Vehicles

Walking and Cycling Routes

Footpaths within a road reserve provide an important part of the transport network either for trips taken entirely by walking or the first/last part of the journey.

The footpaths within the townships are narrow (1 metre wide at some locations), not well-connected and do not form a legible and permeable network suitable for the diversity of pedestrians who may wish to walk.

The region has many areas of high value for recreational walkers and cyclists, such as along water frontages, however connected networks do not exist. Good quality paths are not always provided resulting in a difficult walking environment as well as poor way-finding for tourists looking for activities. This means it is not comfortable to walk or cycle from one community to another, and residents are not encouraged to leave their car at home for short trips.

In some communities, such as Ansons Bay, footpaths are not available in areas where there is traffic/pedestrian conflict.

Cycle tourism is popular throughout Tasmania, including within the Break O'Day Council area, and is reported to be increasing. However, between townships, most roads are narrow and do not have shoulders, forcing cyclists to use the narrow roadway. This prevents motorists from overtaking on winding roads and results in an intimidating environment for cyclists and frustration for motorists.

Motorised Wheel Chairs and Other Mobility Vehicles

Break O'Day has one of the highest percentages of retirees in Tasmania and the use of motorised wheelchairs is expected to increase. In busy pedestrian areas there can be conflict between 'gophers' and other footpath users, while in other communities there are no sealed footpaths. In areas with heavy demand, such as St Helens, footpaths are not wide enough to accommodate the multiple users. Also, disabled parking spaces are limited in busy shopping areas.

Urban Design

A number of towns, such as St Marys and Fingal, have wide main streets with large expanses of bitumen that detract from the amenity of the areas. There is significant scope to improve these streets with well-designed landscaping, kerb extensions, well located street furniture and medians that will improve the attractiveness and increase safety. In these communities there are differing views on the relative benefits of retaining the existing street layout or incorporating street-scaping which would likely result in the removal of some car parks. Heavy vehicle access needs to be retained through these main streets and must be considered in any work to be undertaken.

In St Helens there is conflict between through traffic, local traffic, parking, pedestrians in the shopping area and pedestrians accessing the foreshore during the peak periods over summer and Easter. In Scamander the spread out nature of the town along the straight road makes self-enforcement of speed limits difficult.

Environmental Constraints

Part of the attraction of Break O'Day is the high quality bush land that covers large areas of the municipality. This bush land includes areas that are managed by multiple bodies that have placed constraints on vegetation removal and other engineering activities. These constraints may limit the ability of the Council to undertake road works in some areas.

Removal of vegetation to improve drainage or sight lines may weaken the stability of ground in landslip areas. Conversely, trees and other vegetation in road reserves can compromise the fast removal of water from road pavements and hence lead to pavement failure. They are also potentially a safety risk, either by limiting sight distances or providing obstacles that a vehicle could hit.

Geology and Hydrology

Parts of the region have a number of unstable geological formations and are flood prone. Both these factors will impact on

the design and maintenance of existing and new transport infrastructure.

Climate Change Impacts

In Break O'Day, coastal areas such as St Helens will see more frequent and widespread damage of the type that occurred during storms in 2011. With the projected rainfall to increase in the north-east, a one in 200-year event may become something more like a 20-year event so the probabilities of heavy rainfall into a potential flooding situation become 10 times more likely (Michael Grose ACE CRC 2011). This means that by mid-century, residences and businesses in the area are very likely to be impacted regularly. An analysis of St Helens sea rise change rate combined with a 1% AEP river flood event (allowing for wind and wave set up) suggests that infrastructure and access will be affected at a number of locations.

Coastal Erosion

Tasmania's low lying protected shorelines are showing signs of recent and accelerating erosion, most likely caused by rising seas. The incidences of coastal erosion are increasing at the east coast. It has been predicted that state-wide, there could be between 15 and 30cm of sea level rise in the next 30 to 40 years, which would potentially mean 10 to 20 metres of erosion, which would impact the local road network. Coastal erosion is likely to cause severe disruptions to coastal communities as has happened in QLD on the Gold Coast and in NSW at Narrabeen, Kingscliff and Old Bar, causing a huge impact on tourism activities.

Figure 21 below summarises the traffic issues identified as part of the Community Consultation.

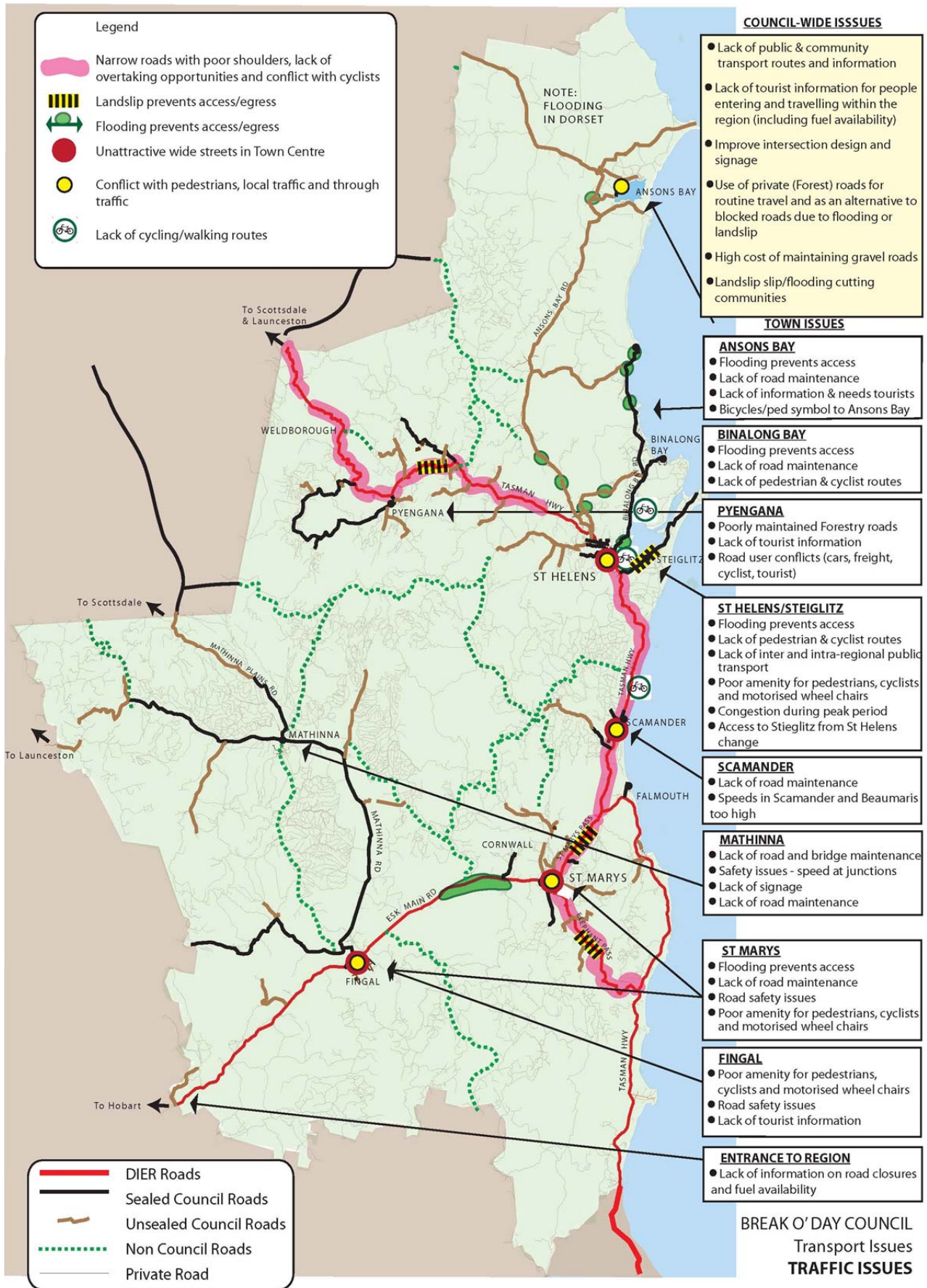


Figure 21: Traffic Issues Identified as Part of Community Consultation

THE PLAN

Overview

The *Transport Master Plan 2013-2018* is a comprehensive plan for the current and future transport needs of Break O'Day. *The Plan reflects the social, economic and environmental objectives of the Council.* The Plan identifies the key transport challenges that the region will face over the coming decades and sets out clear strategies and actions to meet these challenges.

This Transport Master Plan is focused on how best to achieve practical and robust transport outcomes for the Break O'Day Council ensuring that both short and long term objectives for the local transport network are achieved.

The Master Plan supports the following Break O'Day Council's Objectives:

- Drive economic growth and tourism, social inclusion, and meet climate change challenges;
- Maintain capacity and travel time reliability for efficient movement of freight and passengers;
- Improve road safety and reduce road crash rates, through strategies and infrastructure solutions;
- Improve local connectivity between residential areas and activity centres for both vehicles and pedestrians;
- Create land use planning and development patterns that support the function of the road network;
- Manage infrastructure assets to deliver appropriate levels of service and visual amenity; and
- Improve residential amenity.

Four *Transport Objectives* (refer to Figure 22 below) and a set of supporting strategies and actions have been developed through extensive consultation with Council, stakeholders and the community.

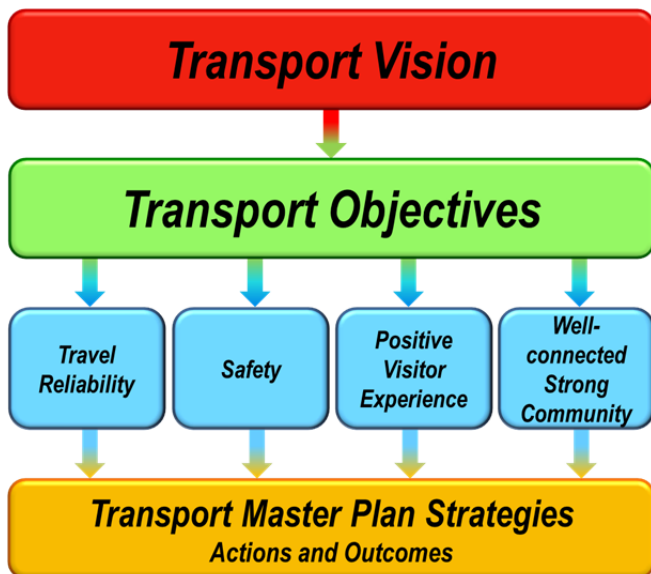


Figure 22: Council's Transport Objectives

Vision

Council's Vision for the Break O'Day Vision Master Plan –

A transport system for Break O'Day that delivers reliable and safe access for communities, businesses and visitors

Objectives

The Transport Master Plan and its actions will assist in the achievement of transport and non-transport objectives. These objectives have been developed based on consultation and Council's vision for the region. Four objectives have been developed, along with measures of their success.

1. Travel Reliability Supporting Economic Development

Reliable and safe access between Break O'Day and the rest of Tasmania is maintained at all times of the year. This will be achieved by:

- Improving the quality of access for communities and businesses by road; and
- Improving the quality of access for emergency services.

Reliable and safe access to communities within Break O'Day is maintained at all times of the year. This will be achieved by:

- Improving the quality of access for communities and businesses by road;
- Improving the quality of access for emergency services; and
- Improving the quality of access to regional attractions.

Economic opportunities for local businesses increase and the cost of doing business decreases. This will be achieved by:

- Making the import and export of goods in the region more efficient and reliable; and
- Supporting the tourism industry.

Public funds are used wisely to support community outcomes. This will be achieved by:

- Ensuring Council's investments are cost effective and are consistent with the Transport Master Plan.

2. Road Safety

Travel for all road users is safe. This will be achieved by:

- Reducing the level of risk exposure for all travellers; and
- Reducing the consequences of driver errors.

3. Positive Visitor Experience

Visitors to the region have a positive travel experience. This will be achieved by:

- Increasing the attractiveness of town centres;
- Ensuring that the quality of roads and public transport services meet visitor needs;
- A wide range of activities is accessible to visitors; and
- Information provided to visitors is of a high quality and is accessible.

4. Stronger Community

Transport positively contributes to community wellbeing and health outcomes. This will be achieved by:

- Encouraging and supporting active transport options;
- Ensuring that the quality of public transport services meet community needs; and
- Making walking and cycling trips more convenient, pleasant and safe.

The Council's principles that assist in identifying which of the many possible Transport Master Plan actions best align with

Council's Philosophies

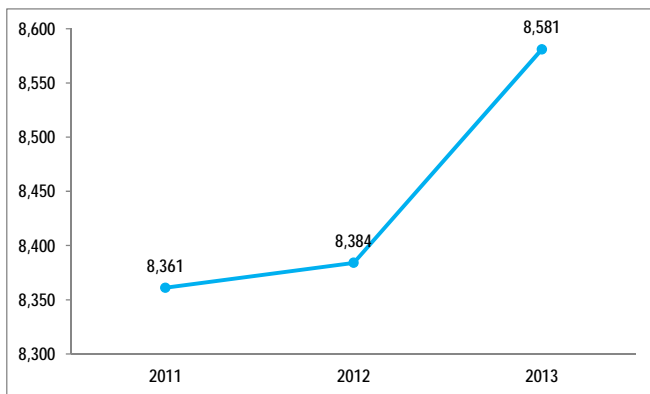
- Focus on people and goods access, not the vehicles that carry them;
- Maximise the benefits from existing investments;
- Give priority to more sustainable travel modes, where these can meet user needs;
- Integrate actions across sectors and governments to maximise community benefits from transport investments;
- Maintain or enhance the integrity of sensitive environmental areas when building and managing transport; and
- Implement cost effective actions consistent with the objectives.



Road Safety

As elsewhere in Australia, the number of vehicles on Tasmanian roads is increasing. In the 10-year period from 1997 to 2006 total vehicle registrations increased from 418,000 to 487,000, an increase of 16.5%. In the same period the number of driver licences increased by 11% from 295,750 to 329,145. Heavy vehicles registrations have increased by 21% and it is estimated that Tasmania's freight growth will double by 2030, with current trends supporting this level of growth.

Figure 23 below indicates that the number of vehicles in Break O'Day is on the rise as well. The number of vehicles registered in the LGA has increased from 8,361 in 2011 to 8,581 in 2013 which is an increase of 3%.



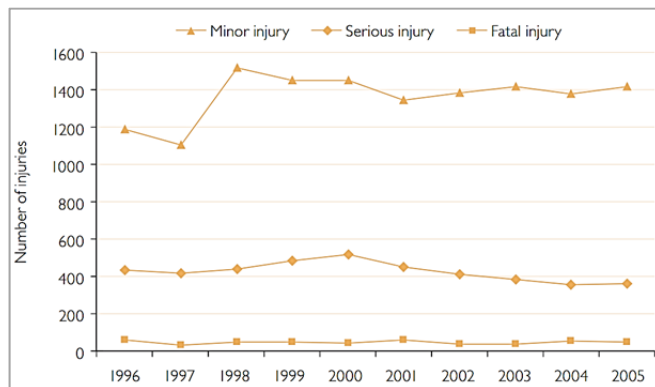
Source: www.transport.tas.gov.au

Figure 23: Break O'Day Vehicle Registrations

Break O'Day roads are used by a diverse mix of vehicles, with key freight routes often also being utilised for tourism or commuting purposes.

Tasmania has the oldest vehicle fleet in Australia, with an average age of 12.5 years, meaning that a large proportion of the driving population are unlikely to be protected by enhanced vehicle safety features.

Between 1996 and 2005 there were a total of 4,749 serious casualties resulting from road crashes in Tasmania. As Figure 24 shows, since 2000 there has been a downward trend in the number of serious injuries, which stabilised in 2004-2005, at an average of around 410 per year.



Source: *Tasmania Road Safety Strategy 2006-2017*

Figure 24: Number of Injuries (1996-2005)

Break O'Day Crash Data Analysis

Break O'Day crash data for the period of 2008-2013 has been analysed in order to determine patterns in historical crash data. Data analysis indicates that the majority of accidents do not have very serious consequences with most of the incidents only causing minor property damage.

However, some crashes resulted in fatalities and hospitalisations. The majority of the serious incidents occurred on roads where the speed limit was greater than 80km/h, as shown in Figure 25 below.

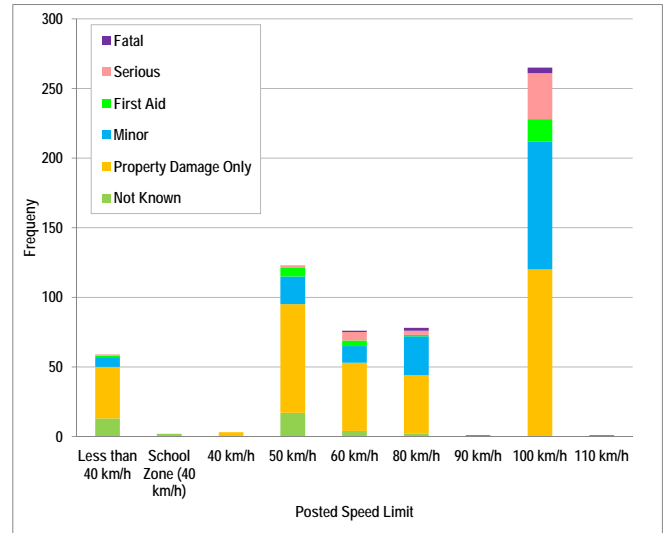


Figure 25: Posted Speed Limit and Severity of Crash

The majority of these fatal or serious crashes occurred within a cluster of crashes on a particularly convoluted and unlit section of the Tasman Highway. Another cluster of these incidents occurred just east of Mathinna. This section of road is relatively straight and contains no landmarks. As such, the crashes within this cluster were all as a result of vehicles driving off the road. As the road is sealed and is relatively wide, it is likely these crashes are the result of driver's fatigue. A map with the location of the severe crashes is shown in Figure 26 below.

As the majority of roads in the region are either poorly lit or unlit, it would be expected that the majority of crashes would occur during the night. However, the crash data clearly shows that the majority of traffic incidents occur during the day between 9am and 2pm. This trend supports the argument that a large number of crashes in Break O'Day can be attributed to visitors and tourists. The time of crashes are shown in Figure 27 below.

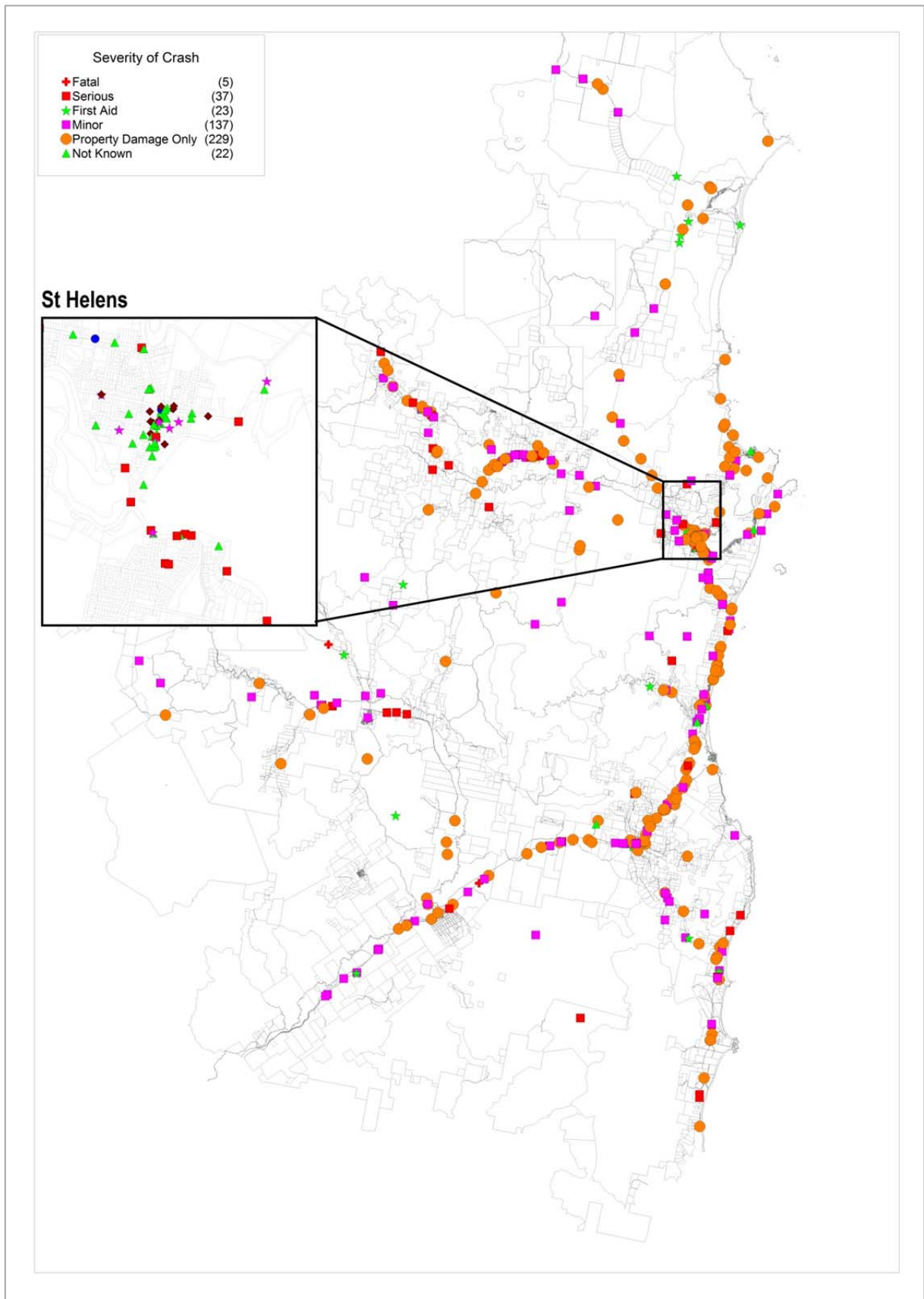


Figure 26: Location of Crash by Severity

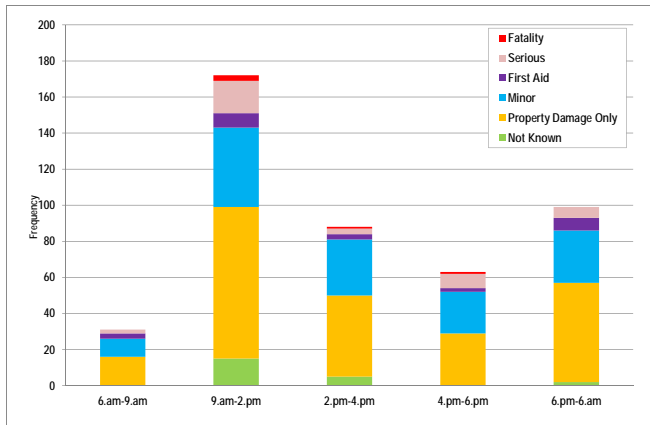


Figure 27: Time and Frequency of Crash

Figure 28 below summarises the occurrence of accidents in each month of the year. The majority of these crashes appear to occur in townships or on the region's arterial roads (refer to Figure 29 below). Most of crashes occur during the summer months in St Helens, as shown in Figure 30.

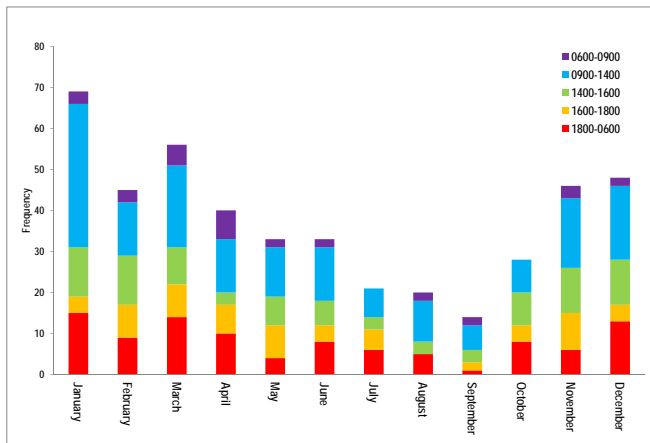


Figure 28: Time of Crash by Month

This trend is prevalent throughout picturesque towns as the summer months attract the highest amount of tourists. Visitors to the area are not as familiar with the road network, leading to more crashes in busy areas. Figure 31 supports this assumption and shows that the majority of crashes in the St Helen's area are attributed to "manoeuvring".

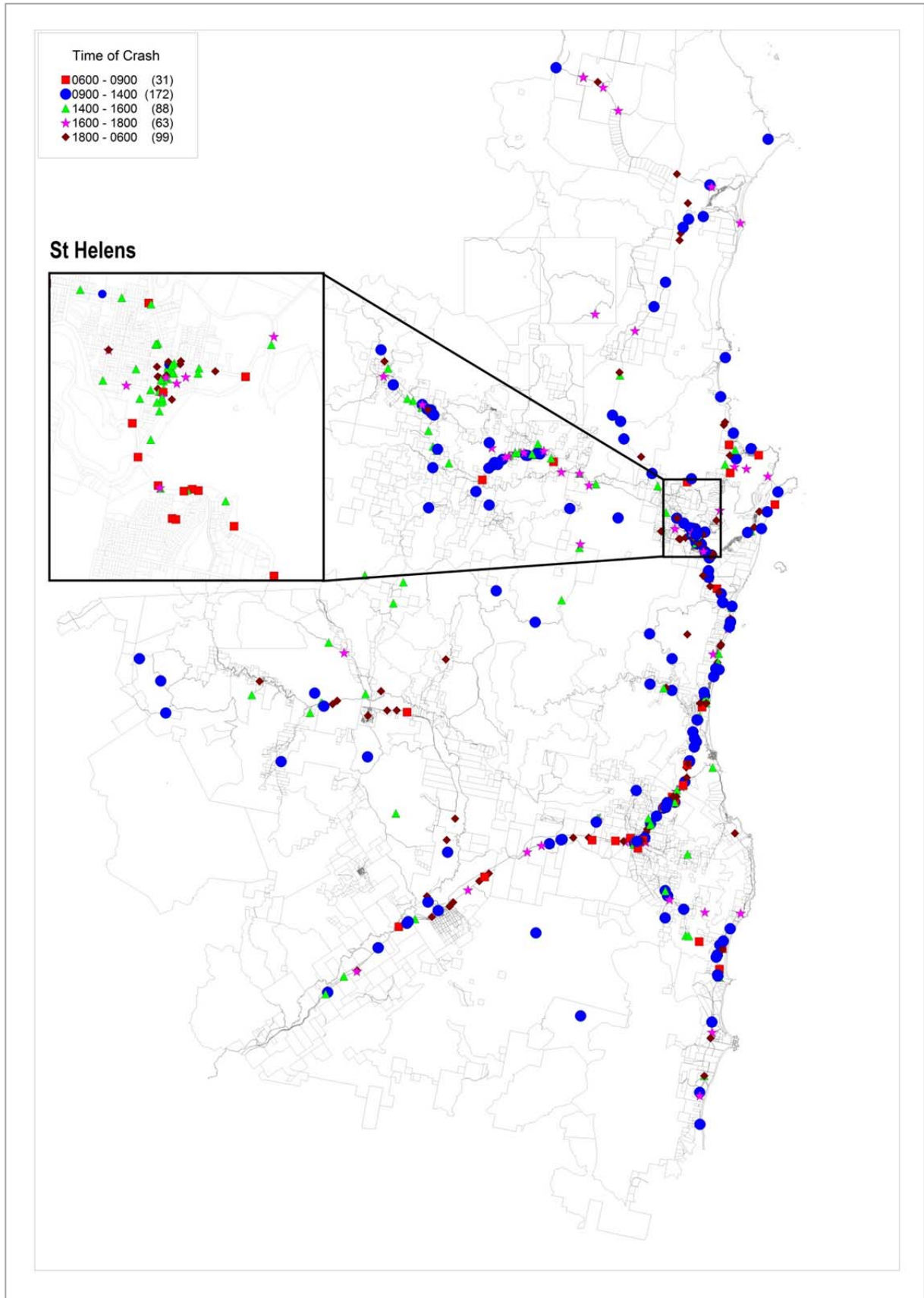


Figure 29: Location of Crash by Time of Day

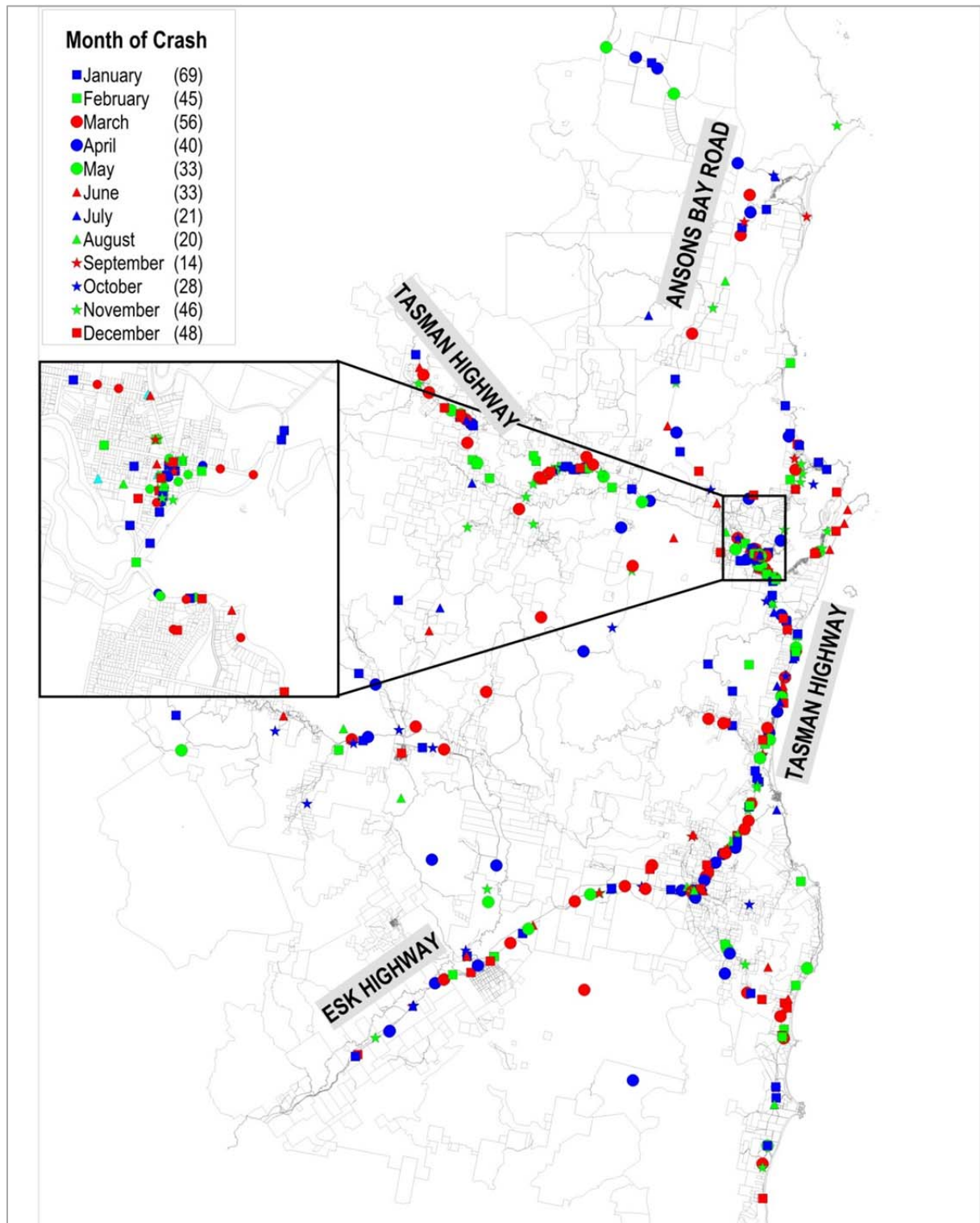


Figure 30: Location of Crash by Month

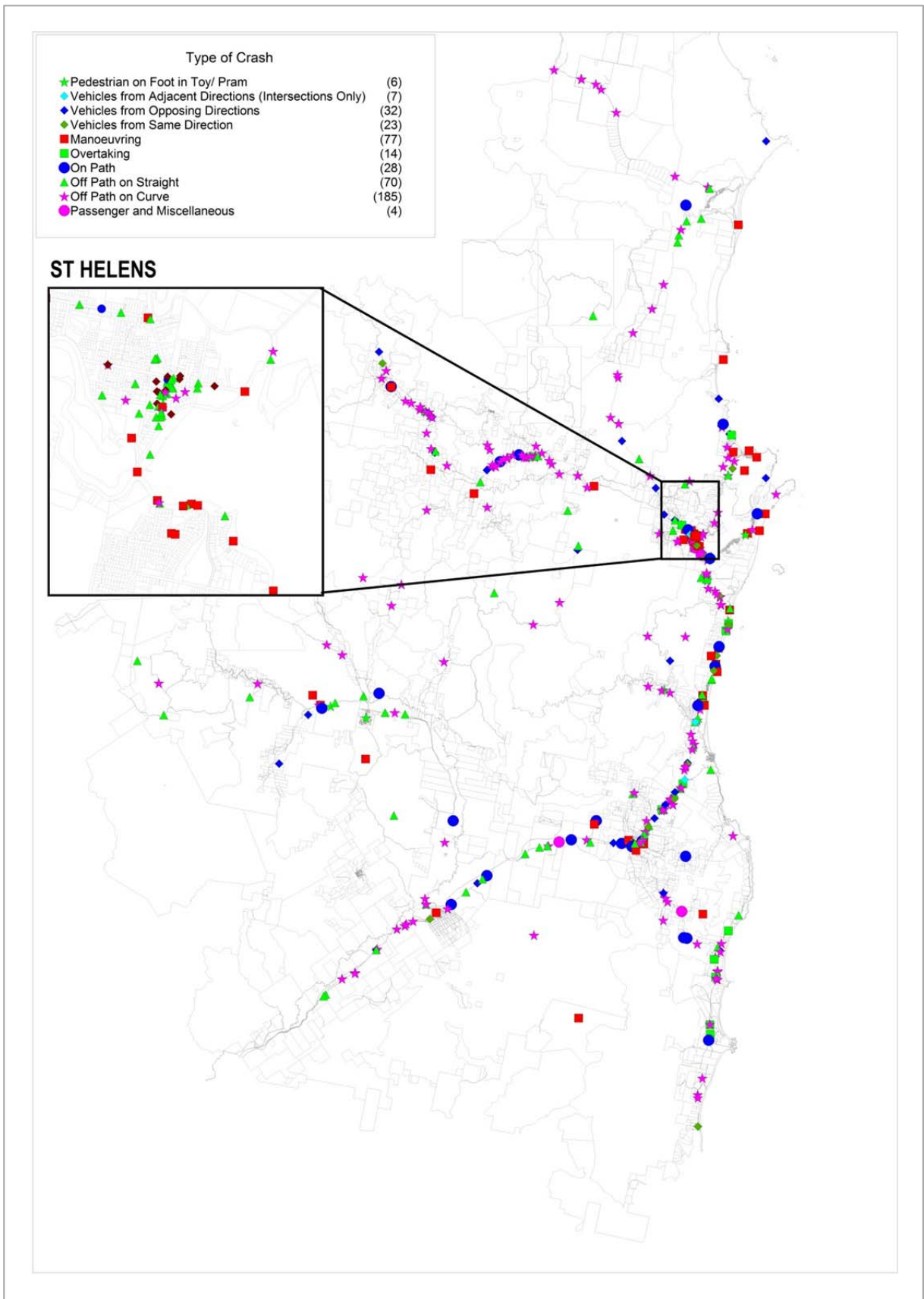


Figure 31: Location of Crash by Type

Sustainable and Public Transport

Break O'Day LGA is aging community with nearly 40 per cent of the estimated resident population in 2010 was aged 55 years and over. In the last 10 years persons aged 55 and over increased from 31% of the population to 41%. Therefore, it is expected that demand for public transport services for communities to access local services, such as government and medical services, will increase.

Community Transport

A number of communities in the LGA have community buses and the level of support for the services is high among the residents. The awareness in regards the services available could be increased and coordination of services could be improved so as to maximise access by the community and their utilisation. A review of community transport services would assist in coordinating the services and maximising community access to the services. There is also an opportunity to look into using school buses as supplement to community buses.

Public Transport

Local residents are generally satisfied with Break O'Day long distance bus services, but suggest network coverage, local service, timetables and public transport pricing would require a review. Current fares are considered too high especially for non-concession holders, timetables vary throughout the year and confuse customers and higher degree of integration between community transport and public transport is desirable.

Active Transport

St Helens

Pedestrian footpaths along the Cecilia Street in many locations are at the same grade as the on-street parking bays and driveway crossovers. Bollards and different pavement treatments are used to distinguish between the footpaths and on-street parking / driveway crossovers. Footpath widths are generally too narrow for the town centre areas, mainly due to roadside clutter.

More formalised pedestrian crossings are required through the town centre particularly near higher pedestrian activity areas. It is understood that the state may not consider 'zebra' crossings as an appropriate pedestrian crossing treatment in this area and that pedestrian refuge treatments are generally preferred throughout Tasmania. Due to the wide road widths available in many areas on Cecilia Street, it is recommended to provide more midblock crossings possibly in the form of road narrowing treatments.

The key cycling issues mainly relate to the lack of cycle provisions throughout St Helens and the restricted road widths available in some areas for on-road cyclists. There is a general lack of signage for cycle routes. There are opportunities to improve shared pathways along the Tasman Highway and in higher cycle activity areas within the town centre such as near the school, skate park and foreshore. There are also opportunities along Cecilia Street to incorporate on-road cycle lanes. This can be achieved due to the wide lanes that exist and the appearance of reduced lane widths could act as a traffic calming measure.

There are currently reasonably good trails along the Tasman Highway which provide for mountain bike users, however in the long term this should be upgraded to asphalt/concrete shared pathways to provide for all users.

St Marys

Footpath widths are substandard in majority of St Marys which is becoming more and more problematic in the future as the ageing community begins to increasingly access the town centre via mobility scooters. Strategies will need to be implemented to gradually upgrade the existing footpath areas to a suitable width. Wide road formations and a lack of dedicated pedestrian crossing facilities are common within the town centre.

St Marys currently does not have any formal on-street or off-street cycle facilities. Current marginal cycle mode share makes it difficult to justify the funding required to provide dedicated on-street or off-street facilities within the town centre. However, the road widths within the town centre are generally wide and the traffic volumes are low enough for safe shared on-road use.



Growth Management (Parking, Traffic)

Overview

Many of Break O'Day traffic issues are highly seasonal as residential areas are 100% occupied only during summer and Christmas holidays, while typical occupancy rate ranges around 20-30%.

St Helens

Traffic

Cecilia Street operates as a typical 'main street' environment with the majority of the commercial uses fronting and accessing via Cecilia Street. This 'main street' road network has the potential to significantly increase traffic issues over time as the traffic growth and development continues. Strategies should be developed that focus on creating a supporting street frame network to improve traffic circulation and potentially improving throughput on Cecilia Street. This could be achieved by promoting development away from Cecilia Street onto the supporting network such as on the Georges Bay Esplanade. Improving the Georges Bay foreshore could not only significantly increase tourism, but could also deter local traffic away from Cecilia Street and reduce traffic impacts.

As Cecilia Street is a DIER controlled road, focusing development away from Cecilia Street will provide Council with more flexibility in improving the town centre amenity and provide an improved framework to deliver many of the state and local government's objectives. This framework will assist with preserving the capacity of the state road network, separating pedestrians and slow moving traffic from the through traffic. This will also help reduce the amount of manoeuvring crashes through the town centre.

In St Helens there is conflict between through traffic, local traffic, parking, pedestrians in the shopping area and pedestrians accessing the foreshore during the peak periods over summer and Easter. This conflict may continue to increase and further degrade the amenity and safety of the main street.

Road Signage

The St Helens Point directional signage is confusing for tourists approaching St Helens as they may not be aware of the difference between St Helens Point and St Helens. It is recommended to provide directional signage for both 'St Helens Town Centre' and 'St Helens Point Road' with directional arrows to remove any confusion between the two locations. Advanced directional signage has been provided in many locations, but intersection direction signage is often missing. This leads to confusion and unfamiliar drivers turning at incorrect locations. A good example of this is the access to Binalong Bay via Quail Street, where it is known that many tourists turn down Pendrigh Place.

Parking Configuration

On-street parking configurations are inconsistent and in many locations may not comply with relevant standards. On Cecilia Street, on-street parking is included without kerbs and with a dish drain located between the roadway and the parking bays.

This is not ideal for a main road as the dish drain impacts traffic capacity with cars slowly parking and the lack of a kerb impacts pedestrian safety which also reduces clarity of where pedestrians should cross. As a result of the lack of kerbing there is a clutter of bollards throughout the area which affects the visual amenity of the town centre.

The high cost involved in re-configuring these on-street parking areas may not be viable. Strategies should therefore focus on improving these parking areas to a level that is considered to be acceptable to the relevant standards. Over time a standard four lane configuration with kerbs and gutters should be provided, enabling peak hour 'no stopping' areas during the high-season, and on-street parking during the off-peak periods and the low-season.

Parking Policy

There is currently a general lack of detail surrounding parking policy to manage parking supply requirements and design standards surrounding development proposals. In addition, consideration should be given to providing incentives for developers to contribute financially to the provision of public car spaces in lieu of private car spaces. The sharing of public car spaces across multiple land uses will result in improved levels of utilisation across the day, provide Council with better control and management of parking access and generally provides an improved use of limited space within the town centre.

St Marys

Inconsistencies

St Marys Main Street resides on the Esk Highway and is controlled by the State Government. It is 100kph either side of the St Marys township. The key traffic issue relating to Main Street is the need to overcome the inconsistent road environment where the pavement widths are narrow (7m width) in the 100kph speed zone, which then leads into a much wider (18m width) road section approaching the town centre where the speed limit reduces to 50kph.

Another key issue that requires rectification in the short term is the height of the kerbing that exists adjacent to the angle parking. The height different provides a physical separation / barrier between the parking bays and the footpaths, reducing the attractiveness and pedestrian amenity for the integration between parking areas and potential active public areas. The increased height also poses a significant challenge for the elderly.



Figure 32: Kerbing Too High

Increased Town Identity

Improvements to line marking combined with effective signposting of parking areas and key local destinations, along with roadside vertical elements such as banners, street lighting and trees can all assist with reducing vehicles speeds and improving the legibility of the town centre.

Parking

Community consultation has suggested that it is desired to retain the angle parking on the main street, whilst Story Street should retain its parallel parking arrangement. Angle parking is often preferred for smaller town precincts as the spaces are typically more convenient to access for drop-in trips (i.e. Post Office / Groceries / Coffee). Notwithstanding this, the replacement of angle parking with parallel parking will reduce the road footprint substantially, providing greater opportunities for improved 'main street' public areas and pedestrian crossing facilities. The reduced roadway width will also provide an impression of a busy vibrant town centre, slowing traffic down and encouraging tourists to stop and visit.

As the town matures, additional overflow parking will be required to be considered. Site servicing will also become slightly more problematic. Consideration should be given to extending the existing rear lane-way and creating 'back of shop' at-grade parking.

As the demand for parking along the main street intensifies, there will be a need to better manage the usage of existing parking spaces. Improvements required to be considered will mostly relate to the need for time restricted parking. This will ensure employees of the associated business premises are parking on the fringes of the town centre, with paying customers having direct access to premium parking locations. In the longer term, consideration for larger at-grade car parks at the rear of the main street will become necessary.

A low number of crashes occur within the town centre. The only crash trend noticeable were manoeuvring related crashes near existing car parks. If the town centre is to attract increased levels of tourist and local demands, improvements to the existing on-street parking configurations and introduction of formal pedestrian crossing facilities connecting parking areas to key land uses will be required. The emphasis of this guiding principle is to maintain the positive road safety record that exists within the town centre.

Pedestrian and Vehicle Conflicts

During busy holiday periods the centre of St Helens becomes heavily congested and there are several locations, where there are vehicle/pedestrian conflicts, for example at Quail Street and at Circassian Street.

A design review of major intersections in St Helens would assist in identifying measures for improving traffic operations and pedestrian safety. Also, establishing peak holiday period traffic management arrangements in the centre of St Helens would improve traffic operations.

In several other communities pedestrians have to walk on the road in areas with heavy pedestrian/vehicle traffic and limited sight distances.

In the areas with heavy traffic or poor sight lines linked off-road pedestrian paths that segregate pedestrians from traffic should be provided.

Disabled Parking Spaces

Break O'Day has the highest percentage of retirees in Tasmania and its population trends show the proportion of seniors is on the rise. The infrastructure needs to be reviewed and upgraded where required to be able to accommodate for the requirements of retirees. In busy pedestrian areas there can be conflict between mobility scooters and other footpath users, while in other communities no sealed footpaths are provided. In areas with heavy demand, such as St Helens, footpaths are not wide enough to accommodate the multiple users. Insufficient number of disabled parking spaces has also been raised as an issue by Break O'Day residents. The issue is especially prevailing in busy shopping areas.

Economic Growth

St Marys Town Centre Revitalisation

St Marys Town Centre has the potential to attract tourists as a 'drop in' destination on visiting other key attractions in the region. It is currently quite easy for traffic to pass through St Marys as there is no identifiable adjacent land uses, the road configuration is extremely wide and not intimate and there is a general lack of advisory and directional signage. St Marys currently lacks of an identity of a town centre core.

Re-defining a Master Plan for St Marys through providing a defined 'heart' of the town centre is essential to communicate to motorists of their arrival. The town hall site appears to provide a logical location to establish this identity where additional development supported by a 'town park' where people can stop for a picnic or take a short break. In addition to defining the 'heart' of the centre, additional supporting road treatments should be implemented to reinforce the arrival to St Marys. Implementation of well-structured signage to the key town centre community facilities such as the town park or town hall, as well as access locations to the main parking areas will also assist with managing this legibility issue.

Tourism

Visitors account for an estimated annual spending of \$39 million in Break O'Day LGA; around 20% of businesses in the area are dependent on the sector; and it supports around 213 local jobs which accounts for 13% of jobs in the LGA. Tourism revenues are around 2.5 times the value of farm gate revenues from agriculture (\$14.5 million).

The Tasmanian Economic Development Plan (EDP) clearly identifies tourism as a key component to grow the Tasmanian economy. The EDP acknowledges the importance of tourism to the State and its significant contribution to income generation, employment and investment, particularly in regional areas.

The more than doubling population during the summer holiday season, offers the industry an excellent opportunity to take advantage of it. The major issue for the future is developing the tourism market by maintaining and increasing visitor numbers and increasing the number of overnight stays. This requires improvements in tourism infrastructure and product and active marketing of Break O'Day as a destination on the East Coast.

Providing adequate access is critical to the region and the maintenance of access routes, both directly and indirectly through lobbying access/infrastructure owners to ensure year-round visitation, must be addressed by all tourism stakeholders. In the case of natural events that result in the closure of access points, a quick response to tourism markets is essential.

Tourism operators identified a concern with the lack of adequate signage for visitors, especially along the coast, and within other natural areas. A signage review is required in the centres, in the reserves, national parks and also on the forest trails. For instance St Helens is lack of good directional signage, particularly in the Bay of Fires/Blue Tier/Mt William National Park area. The signs leading to the St Helens visitor centre require repositioning and upgrading as they are currently lost amongst the other street signs and poles. It would probably be a good idea to minimise the use of

commercial signage within the settlements so that directional signs and signs leading to tourist attractions would stand out.

Narrow windy roads that cannot accommodate caravans or gravel roads that legally cannot be used by hired vehicles are both inhibitors for the tourism industry. Legal ways to visit major tourist sites such as St Columba Falls and Sloop Reef are required.

In addition to previous, more wheelchair accessible walkways and more activities for disabled people is a prerequisite to be able to attract a wider variety of visitors.

Cycle tourism seems to be becoming increasingly popular in Break O'Day and in Tasmania in general. Providing better linkage between major townships with pedestrian and bicycle networks with priority given to, St Helens foreshore network between St Helens and St Helens Road/Tasman Highway, St Helens to Binalong Bay, St Helens to Scamander and Tasman Highway/St Helens Road to Stieglitz is expected to significantly increase the number of cycle tourists in the area.

Employment

Given a slowdown in two of the major drivers of the regional economy - population and tourism, the regional economy has been flat in the 2006-2011. There is a clear two-way linkage between population growth and jobs. A loss of jobs and no replacement jobs encourages people to move out of the area to other locations that offer job prospects. This outmigration slows the overall growth of the population (and the local market) and has feed-back impacts on local demand for services. The lack of jobs also discourages persons (other than retirees) from moving into the area. In order to maintain and develop Break O'Day economy it is vital to keep the labour force and young people in the LGA.

The purpose of *Break O'Day Economic Development Strategy* is to increase the regional population; diversifying the industry base; developing the tourism market; and increasing the number of local jobs which requires a broader regional approach to economic development, business attraction and tourism.

Attraction of a younger demographic is highly dependent on the availability of employment opportunities, but it also relies upon accessibility to public transport and services. Outmigration of families and children which may indicate that there is a need to address the level of facilities provided for this sector of the community.

Airport

St Helens airport is currently only used for flying doctor and country fire services. It has been previously investigated for chartered tourism services and live seafood freight transport to mainland Australia. The sealing and extension of the airport, including a new all-weather road link would make the airport viable for numerous opportunities and would support economic growth.

The airport infrastructure upgrades are also required for providing more reliable emergency services. The airport at Stieglitz provides a vital air ambulance link for the region. Access to the airport is via St Helens Point Road and in case the road is closed due to land slip or flooding the access to the airport is cut.

STRATEGIES

The key strategies to address Break O' Day Councils objectives are:

- Travel Reliability Supporting Economic Development
- Road Safety;
- Positive Visitor Experience; and
- Connectivity and Stronger Communities.

1. Travel Reliability Supporting Economic Development

Objective: Improved reliability to and within Break O'Day

Overview

Due to its vicinity to the challenging mountain passes that limit the routes into the region, Break O'Day relies heavily on its major road links for access to the rest of Tasmania. The day-to-day task of ensuring inter-regional access is maintained to a sufficient level of service is an ongoing role for State Government and Council.

The development of a transport network that facilitates the social needs and interaction of Break O'Day's dispersed and diverse community is vital for the well-being of the region. Reliable inter and intra-regional access is also critical for the viability of the local economy.

Key reliability issues for Break O'Day

- Land slips on St Marys, Elephant and Weldborough Passes isolates the region from the rest of Tasmania;
- Flooding of the Esk Main Road west of Fingal;
- Flooding preventing access to Binalong Bay and Ansons Bay;
- Land slips and flooding restricting access to Stieglitz;
- Lack of suitable alternative routes when major access roads are cut;
- High cost of maintenance on some gravel roads; and
- Restrictions on access due to sub-standard timber bridges (refer to Figure 32) and poor standard of minor roads.

In some situations the problems identified only involve Council roads, in which case Council has complete control and responsibility for the investigation and implementation of treatments. In many instances, the key roads are under the control of DIER, and in these situations Council has an advocacy role to ensure that the concerns are properly addressed by the State.

Travel reliability aims are the following:

- Improving the quality of access for communities and businesses by road;
- Improving the quality of access for emergency services; and
- Improving the quality of access to regional attractions.

Asset management

The classified State road network system carries a substantial proportion (65%) of the total distance travelled by all vehicles in

Tasmania, as well as the majority of the freight task. It is thus a vital part of the economic and social wellbeing of the State, particularly as Tasmania has the most decentralised population of any State. Tasmania's isolation imposes a greater transport cost per unit of production, highlighting the need for transport efficiency.

The level and timeliness of DIER road construction and maintenance has a major impact on the quality of the main roads through Break O'Day.

DIER's strategic Asset Management Plan (first developed in 2005) is an important step in identifying the high level strategies for managing road and bridge assets to deliver appropriate levels of service for each category of road. This leads to two more detailed plans which cover management plans and life cycle plans for road assets:

- Road Asset Management Plan.
- Bridge Asset Management Plan.

These inform more specific 'Road Infrastructure Investment Strategies', Forward Programs and standards and specifications.



Figure 33: Amortised Wooden Bridge Needing to be Replaced

The key initiatives to increase the travel reliability are listed as follows:

- Improve the reliability of St Mary's Pass and provide viable alternative routes during closures of the Pass;
- Improve the reliability of Weldborough Pass;
- Provide improved more reliable access to Ansons Bay;
- Provide a more reliable road to Stieglitz;
- Maximise resource sharing and inter-organisational coordination;
- Develop a network strategy for east to west intra-regional and short distance inter- regional movements;
- Upgrade St. Helens Airport to unlock economic opportunities for business and industry;
- Improved access to Binalong Bay to address impacts from flooding;
- Develop improved more reliable Esk Main Road;
- Develop the 'S' Road so that it is fit-for-purpose;
- Achieve unimpeded access to George's Bay through Pelican Point, Dora Point and the Barway;

- Achieve unimpeded access to George's Bay through Pelican Point, Dora Point and the Barway; and
- Secure funding to implement required works of 10 Year Bridge Renewal Program

Details relating to these initiatives are further outlined below:

1.1 Improve the reliability of St Mary's Pass and provide viable alternative routes during closures of the Pass

Dependable access to the majority of the Break O'Day region is reliant on the quality of St Mary's Pass, which is the major connecting route for residents, freight and tourists between the East Coast and the rest of Tasmania. Elephant Pass is also used by vehicles travelling to the southern parts of Break O'Day but this route is the narrower of the two and is less desirable as an access route than St Marys Pass.

During extreme weather events (such as flooding and/or heavy rains) St Mary's Pass and Elephant Pass are prone to land slips, fallen trees or road slumps which create unsafe driving conditions or close the road. If one route is blocked traffic can be managed on the other route to maintain restricted access, but at times both routes have been blocked.

As it is not feasible to make major changes to the road itself, the quality of maintenance of St. Mary's Pass is critical to ensure the infrastructure is able to withstand extreme weather events. Improved maintenance of the road surface, drainage structures, roadside vegetation, railings/barriers and road cuttings will increase the structural integrity of St. Mary's Pass and improve the chance that it will withstand such weather events.

As well as ensuring St Mary's Pass is less susceptible to closure due to infrastructure deterioration a safe emergency access route is essential for times when both routes are closed.

The development of a 'Passes' scope of works is reliant on investigations currently being undertaken by DIER. Given that the three passes are owned by DIER the final scope of works will be determined by the State Government: however consultation with Council and the Community is imperative to ensure the most appropriate outcomes. The Break O'Day Council also have an integral role in advocating for improvements and upgrades and opportunities to work with DIER staff should be explored.

To determine possible scope of works, St Mary's Pass can therefore be used as an indicative case for upgrade and improvements (also pertinent given it is the most trafficked of the passes). Previous investigations by DIER have highlighted potential scope of works for upgrading and improving the passes. The works highlighted in a 1998 report for the upgrade of the Esk Main Road included: replacing Guard Rail, Construction overtaking lanes and construction of slow vehicle turnout facilities. The indicative 1998 cost of these works was estimated at \$2.6 million which equates to \$3.9 million in 2012 with inflation. Also these are only remedial works, and further investigations are required to determine how to make the pass impervious (or at least less vulnerable) to slips (including appropriate drainage and run-off works). The issue of drainage and runoff would need to be

addressed to ensure water build-up, or run-off scouring does not compromise the structural integrity of the passes.

Further to the outlined capital works that may be required, early detection of structural weaknesses is an integral component to ensure road-slips do not occur, and regular periodic asset condition inspections are necessary. These will determine the risk of a timely response by DIER to fix or maintain the asset (preventative or remedial works) would be in the best interest of DIER to ensure the longevity of their assets, as well as providing assurance to the communities connected to the passes are not cut-off.

1.2 Improve the reliability of Weldborough Pass

Although this route is not as heavily trafficked as the St Marys Pass route it provides an important link for communities along the corridor. Weldborough Pass is a significant link to Launceston: it links St Helens to Scottsdale and the tourism area around Pyengana and is a major tourist route into the region. It is also popular with bicycle and motorcycle tourists.

Maintenance of Weldborough pass is necessary to minimise land-slips. As with St Marys Pass, an alternative route is desirable if Weldborough Pass is closed, to ensure that communities are not cut off. Lottah Road provides an emergency alternative route. This route partially uses Council and Forestry Tasmania roads but also runs through private land on an easement managed by Forestry Tasmania. For this reason the route should be maintained for emergency use only and general use should not be encouraged..

Based on the remedial works that were costed for the 10km of St Marys Pass, the extrapolated and indicative cost to upgrade the 18km Weldborough Pass to improve hydrology, make it less susceptible to land slips and improve safety (with pull out bays as passing areas, rail guard) would be approximately \$7.4 million.

1.3 Provide improved and more reliable access to Ansons Bay

Ansons Bay is a major tourist attraction during the summer months, and has a small permanent population. The settlement is prone to periods of isolation due to flooding of Ansons Bay Road at several bridges and the causeway.

Ansons Bay Road is gravel and due to a combination of the gravel type and current maintenance procedures the road is difficult to maintain in a dust free and un-corrugated condition. This means that the road is potentially dangerous, particularly to vehicles towing vans and visitors not used to gravel roads.

The corridor between St Helens and Ansons Bay contains some of Break O'Day's most scenic coastline. At present the coastal road ends at The Gardens and visitors have to backtrack to go further north. Development of a route from the Gardens to Ansons Bay Road will open up an attractive tourist route, and provide an alternate largely sealed route to Ansons Bay.

Our early assessment of the Ansons Bay Road options are that the two options (using the coastal and fire track road versus existing unsealed road) each have both advantages and disadvantages.

The key advantage for the Fire Road alternative is that it provides a suitable sealed route between St Helens and Ansons Bay (Route B). Given there is already a sealed section between St Helens, Binalong Bay and The Gardens, a comparison of the two options with relation to the amount of un-sealed present indicates that Council would need to seal an additional 2.7 km of road using the current road to Ansons Bay (Route A).

Whilst the alternative route (Route B) would involve 2.7 km less length of road to seal, and a possible savings in having to strengthen / raise two timber bridges south of the Fire Road junction:

- There is a significantly higher cost of providing an all-weather access road through upgrading 11.5km of Fire Road (from narrow track to a sealed standard/or formed surface); and
- There is possibly an additional cost of structures to cross watercourses at four locations.

Whilst Route B would increase the distance travelled by 13 km from 41.5 km to 54.5 km the route would be more scenic and perhaps create a long term alternative.

The proposed actions will improve the reliability, safety and attractiveness of travel between St Helens and Ansons Bay.

Soil Stabilization

Alternative treatments for unsealed roads: while the basic technologies associated with roads are unlikely to change in the medium to longer term, a number of techniques are being developed to enhance the performance of gravel roads. These include:

- Stabilisation of granular pavements with lime, cement and bitumen;
- Polymers, geotextiles and emulsions for sprayed surfacing; and
- Open-graded, stone mastic and ultra- thin asphalts.

These treatments may offer a cost effective alternative to sealing of Ansons Bay Road.

Flooding

The Break O'Day area can experience very heavy summer storms with considerable rainfall over a short period. A number of the coastal roads flood and this can be exacerbated by high tides along the low level coastal areas. Roads within Ansons Bay have very high exposure to flooding. On the Ansons Bay Road, flooding primarily occurs at the existing bridges and the causeway at Ansons River while Reids Road gets inundated between Ansons Bay Road and Binalong Bay. Flooding can also occur on the St Helens Point Road during high tides. Flooding can take several days to retreat and results in communities being cut off and extensive damage to roads and structures.

1.4 Provide a more reliable road to Stieglitz

Stieglitz will continue to grow as a major residential area and as a gateway for boating and other recreational activities. The major transport challenge for the area is the highly unstable landslip zone on the single entrance road.

Council has undertaken works to stabilise the road, but it is unlikely that engineering measures will stabilise the land-slip zone to a level where major road failure may not occur at some time in the future. The long-term solution to this high level of risk is the development of a new access road that bypasses the high land-slip areas.

In developing a new route south of St Helens Point Road a number of issues have to be considered in detail. These include:

- The area has a number of high value ecosystems;
- The zoned airport land south of the existing runway must be protected to allow for future airport requirements;
- Land-slip zones need to be avoided;
- Impact on properties is to be minimised;
- The new route needs to join into St Helens Point Road with minimal disruption to properties; and
- A route further to the south will mean travel distances between Stieglitz and St Helens will be longer.

The development of eight alternative options is provided. The benefits and constraints for each option has been determined as well as an indicative cost for comparing options (to be further refined).

Also, the airport at Stieglitz provides a vital air ambulance link for the region. Access to the airport is via St Helens Point Road and so, if the road is closed due to land slip or flooding, access to the airport is cut.



Figure 34: St. Helens Point Rd, Stieglitz Land Slip

Some communities that have access roads subject to closures, such as Ansons Bay, do not have emergency helicopter landing facilities for these times.

1.5 Maximise resource sharing and inter-organisational coordination

Due to sparse road network, significant areas of Break O'Day and the surrounding Councils are isolated from the major construction and maintenance depots. This means that the travel costs associated with maintenance are high, the time between maintenance cycles can be excessive and it can be difficult for Council to respond quickly to maintenance needs.

Some roads run through several council areas and maintenance regimes can vary on the one road depending on who is responsible for each section.

In some instances councils have arrangements to assist adjacent areas when they have plant and staff just over the council boundary. These arrangements could be strengthened and formalised so that the resources of all three councils are better utilised, costs reduced and the roads are maintained to a higher standard than now.

When roads, such as the Esk Main Road, are cut due to flooding or land slip DIER, Police, Council and possibly Forestry Tasmania are required to take action to erect barriers and signs. Motorists require early warning of these closures, and equally timely advice when roads are reopened.

1.6 Develop a network strategy for east to west intra-regional and short distance inter-regional movements

The rationale behind the development of a network strategy for east to west intra-regional and short distance inter-regional movements is to ensure that people, goods and services can effectively get in and out of the region, as well as move effectively within the region.

A number of key routes cross council boundaries (e.g. Mathinna to Ringarooma, Ansons Bay to Gladstone), or are managed partially or completely by DIER (Esk Main Road, Tasman Highway) and/or Forestry Tasmania (Upper Esk Road, 'S' Road). This multiple management means that effective coordinated regional network planning and management is necessary to ensure that from a user perspective routes are logical and are maintained at a consistent standard along their length. Resource allocation across organisations may be improved so that users have better maintained roads at lower cost.

Flooding

The Break O'Day area can experience very heavy summer storms with considerable rainfall over a short period. A number of the coastal roads flood and this can be exacerbated by high tides along the low level coastal areas.

Flooding from heavy rainfall and high tides is forecast to increase over the coming years. It has also been projected that 1-in-200 year rainfall events have become something like a 1 in 20 year event in recent decades, so that the probability of heavy rainfall and flooding will increase significantly in the future.

Inland flooding can occur on the Esk Main Road between Fingal and Avoca. This flooding tends to dissipate more quickly than the coastal flooding but can still result in the road being cut for several days.

1.7 Upgrade St. Helens Airport to unlock economic opportunities for business and industry

Although the airport does not currently cater for a significant number of flights (in part due to its current standard and unsealed runway), sealing and extending the airport increases the carrying capacity and potential for higher flight frequency. The airport itself does not generate a significant amount of annual income (approximately \$2,000 per annum based on an airport charge of \$11 per engine); what has not been calculated is the potential for the airport to support industry and inject non-airport monies into the community. Sealing and extension of the airport may not be justified in terms of increased income from landing charges (even with a doubling of landing numbers the income generated falls well short of the annual \$15,000 maintenance and operating costs) however it is the potential community and industry benefits which justify the infrastructure spending.

A Council report drafted in February 2000 calculated to extend the runway with runway sealing calculated potential costs (excluding depreciation and opportunity costs) would be approximately \$1.25 million (accounting for CPI from 2000 to 2012).

The upgrade of the airport also highlights the need for supportive infrastructure as increased usage is likely to put some level of stress on associated airport infrastructure, such as the road to Steiglitz. The airport at Stieglitz provides a vital air ambulance link for the region. Access to the airport is via St Helens Point Road and so, if the road is closed due to land slip or flooding, access to the airport is cut. The long-term solution to this high level of risk is the development of a new access road that bypasses the high land-slip areas. The major transport challenge for the area is the highly unstable landslip zone on the single entrance road, however alternative routes can bypass this, supporting the associated airport infrastructure.

1.8 Improved access to Binalong Bay to address impacts from flooding

A 2012 report undertaken by engineering consultancy Pitt&Sherry on behalf of Council confirms that the causeway route is deficient now and alternative strategies require implementation in the near future. The general scope of works required to upgrade Binalong Bay access road includes elevating the causeway, ensuring appropriate flow-through flood capacity and replacing the bridge structures at either end of the causeway. The estimated cost of the works is \$16.6 million and would ensure that the section remains passable under projected end of century one-in-ten inundation levels, with closures marginally less frequent than those currently experienced. An alternative to upgrading the causeway was also estimated with a cost of \$14.3 million, and entailed upgrades and enhancements to Reids Road, the alternative access route to Binalong Bay. Reids Road is occasionally impassable due to overtopping of the bridge crossing Georges River. The \$14.3 infrastructure investment (incorporating some realignment, widening, sealing and bridge replacement along Rieds Road and improve to a class 3 rural arterial, and providing a new bridge across Fletchers Creek) would ensure that by the end of the century and factoring in the impact of climate change, the

frequency of road closures is significantly less than currently experienced.

Reids Road upgrade option provides increased resilience to flooding events; the report recommends that the Reids Road route is the more logical focus to address flooding and access being cut, despite being a less direct route. Despite this, there is also merit in upgrading the causeway (Binalong Bay Road) given it is the primary access point to Binalong Bay, it is a more direct route and it will be subject to increasing tidal and river flooding if not upgraded also contributing to increased vulnerability of the assets in the area.

It will be difficult to promote Reids Road as the primary access route to Binalong Bay given its current condition and it being an indirect route. The Binalong Bay Road is more direct, and takes approximately 12 minutes from St Helens to Binalong Bay over approximately 11 km. Reids Road, currently unsealed, is approximately 16 km from Binalong Bay, but takes approximately 30 minutes. Even though the road will be widened and sealed improving safety and travel time, the route is still longer and less direct. The overall purpose of both of these options is to maintain access to Binalong Bay, and although the Reids Road option addresses flood events more so than upgrading Binalong Bay Road, it would only be considered primary access in times of flooding. Access is also required for the properties to the north of the causeway and south of Binalong Bay on Binalong Bay Road, and no other alternative route is suitable.

Given this, and subject to funding priorities, both the Reids Road and Binalong Bay Road options are proposed:

- **Binalong Bay Causeway: \$16.6 million** - To ensure that increased level of flooding does not detrimentally impact on the bridge structures a range of measures would be required, including: Significantly enlarged capacity drainage and culvert capacity, Excavation below current road surface levels to ensure adequate drainage/flows, and Armouring of culverts inlets, outlets and upstream and downstream roadway edges; and
- **Reids Road Upgrades: \$13.3 Million.**

1.9 Develop Reliable Esk Main Road

A 1998 Study by DIER highlights a number of key projects for consideration to upgrade and import the Esk Main Road – although the main strategic priority of upgrading Esk Main road is to make it a reliable access route (which addresses issues of flooding which would require elevating sections of the road) the other key projects will address safety and improve the route to a fit for purpose role and function. The Esk Main Road upgrade options have been included in table 1 below.

Table 1: Esk Main Road Upgrade Options

No	Project	Ind.1998 Cost (\$'000)	Benefit Cost Ratio
1	Midland Highway/Esk Main Road Junction	280	3
2	Conara Rail Crossing	400	Na
3	Widen Road and Seal Shoulders – Conara to Avoca	4,000	3.2
4	Avoca Township Traffic Management	60	Na
5	Ormley Bypass Project	4,000	0.04
6	Widen Road and Seal Shoulders – Avoca to Fingal (part complete as of 2012)	6,500	2.8
7	Fingal Township Traffic Management	60	Na
8	Widen Road and Seal Shoulders – Fingal to St Marys	4,000	3.4
9	Elevate Road to Alleviate Flooding (chainage 61km to 71km)	950	0.2
10	St Marys Township Traffic Management	60	Na
11	Esk Main Road / Elephant Pass Roundabout	125	0.1
Total Costs (based on 1998 report)		\$21,435,000	
Total 2012 Costs (accounting for CPI inflation)		\$31,647,138	

1.10 Develop the 'S' Road so that it is fit-for-purpose

The 'S' Road (Top Marshes Road, German Town Road and Upper Scamander Road) is a 26km unsealed section of route that connects from Scamander into the Esk Main Road (at St Marys), and bypasses St Mary's and St Marys Pass. The route has been identified as an alternative route for access to the coastal townships of Scamander, Beaumaris, St Helens and Binalong Bay. The route consists of sections of Council owned roads (Upper Scamander Road, German Town Road and Top Marshes Road) with a significant section of the route being a Forestry Tasmania road ('S' Road). Despite this section being initially developed as a forestry route, it has become an important community access route for many road users.

The cost of upgrading and sealing the road is yet to be determined. However based on recent detailed costing for the sealing of Reids Road (2012) at a cost of \$4.75 million for 8.5km, the potential cost for the 26km of the 'S' Road route would nominally be \$14.5million. This is only an extrapolative cost estimate and does not take into consideration discounts, possible bridge works, intersections treatments or CPI. A more detailed costing study would be required to determine a more accurate figure.

1.11 Achieve unimpeded access to George's Bay through Pelican Point, Dora Point and the Barway

A 2012 report into the channel stability of Pelican Point to the Barway concluded that due to the constantly changing nature of the channel from tidal currents and wave action, dredging is likely to be effective only for short periods until it resorts to the existing condition. Therefore, any dredging is unlikely to result in any lasting deepening of the navigation route across The Barway. Consideration has also been given to maintaining a deeper channel by rock armouring the high sand banks at Pelican Point and forcing the channel to be controlled by the armouring wall. However, it is not certain that this would indeed be effective and it would be expensive to implement.

Given the seemingly limited options for improvement of Barway and Channel access improvements, the report recommended that a more general survey be undertaken for the shallower waterway section between Pelican Point and the deep water near the end of the existing seawall. It was reported that it may be possible to define a deeper natural channel, albeit a channel that migrates, and to define such a channel with relocatable navigational marks. This can be based on information gleaned from new aerial photographs taken specifically for this purpose.

1.12 Secure funding to implement required works of 10 Year Bridge Renewal Program

Securing funding for these essential asset management works is required to ensure that Council is consistently proactive in renewing bridge assets. The funding projections outlined in the Figure 35 below need review on an annual basis to ensure that budget allocations are commensurate to the required works. Budget allocations from Council are required, and where possible (such as the case with the 7 bridges being replaced under the North East Freight Roads Program) funding opportunities should be explored from State and Federal agencies.

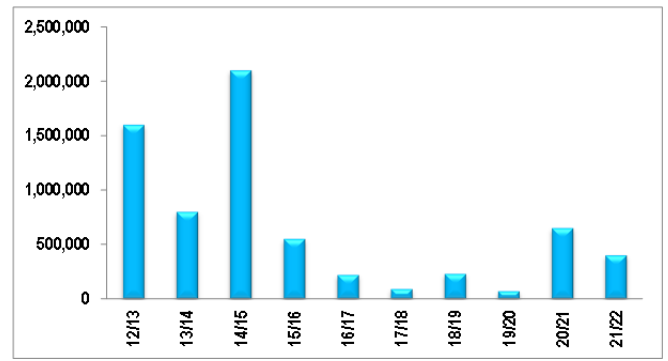


Figure 35:10 Year Bridge Renewal Expenditure

A consistent bridge management strategy must exist for implementing systematic asset management and appropriate best-practice throughout all departments of Council:

- Ensuring that Council's services and infrastructure are provided in a sustainable manner, with the appropriate levels of service to residents, visitors and the environment;
- Safeguarding Council's assets including physical assets and employees by implementing appropriate asset management strategies and appropriate financial resources for those assets;
- Creating an environment where all Council employees take an integral part in overall management of Council assets by creating and sustaining an asset management awareness throughout the organisation by training and development;
- Ensuring resources and operational capabilities are identified and responsibility for asset management is allocated; and
- Demonstrating transparent and responsible asset management processes that align with demonstrated best practice.

Current asset condition is shown in Figure 36 and the Program of Works in Figure 37 below.

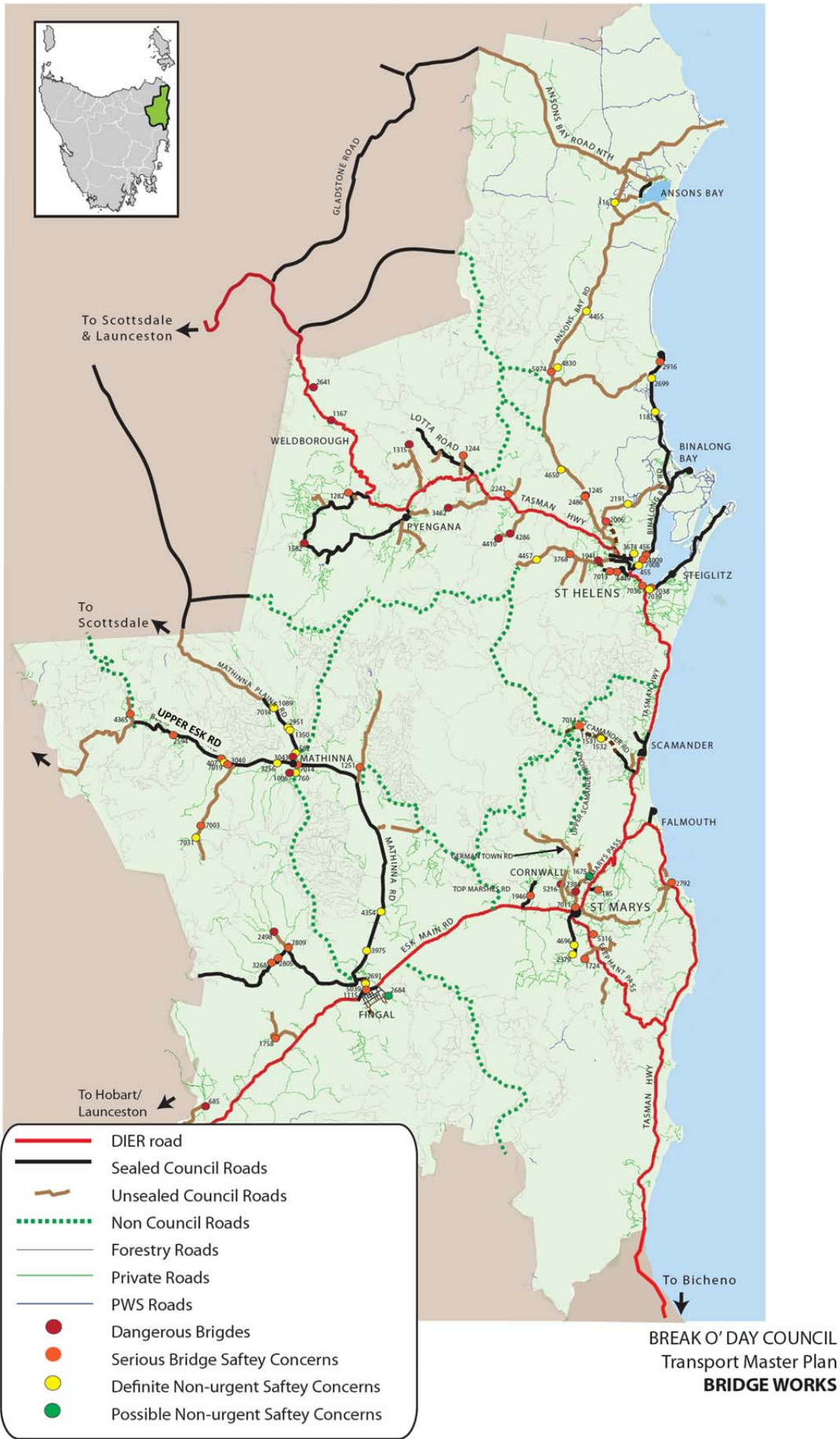


Figure 36: Bridge Asset Condition

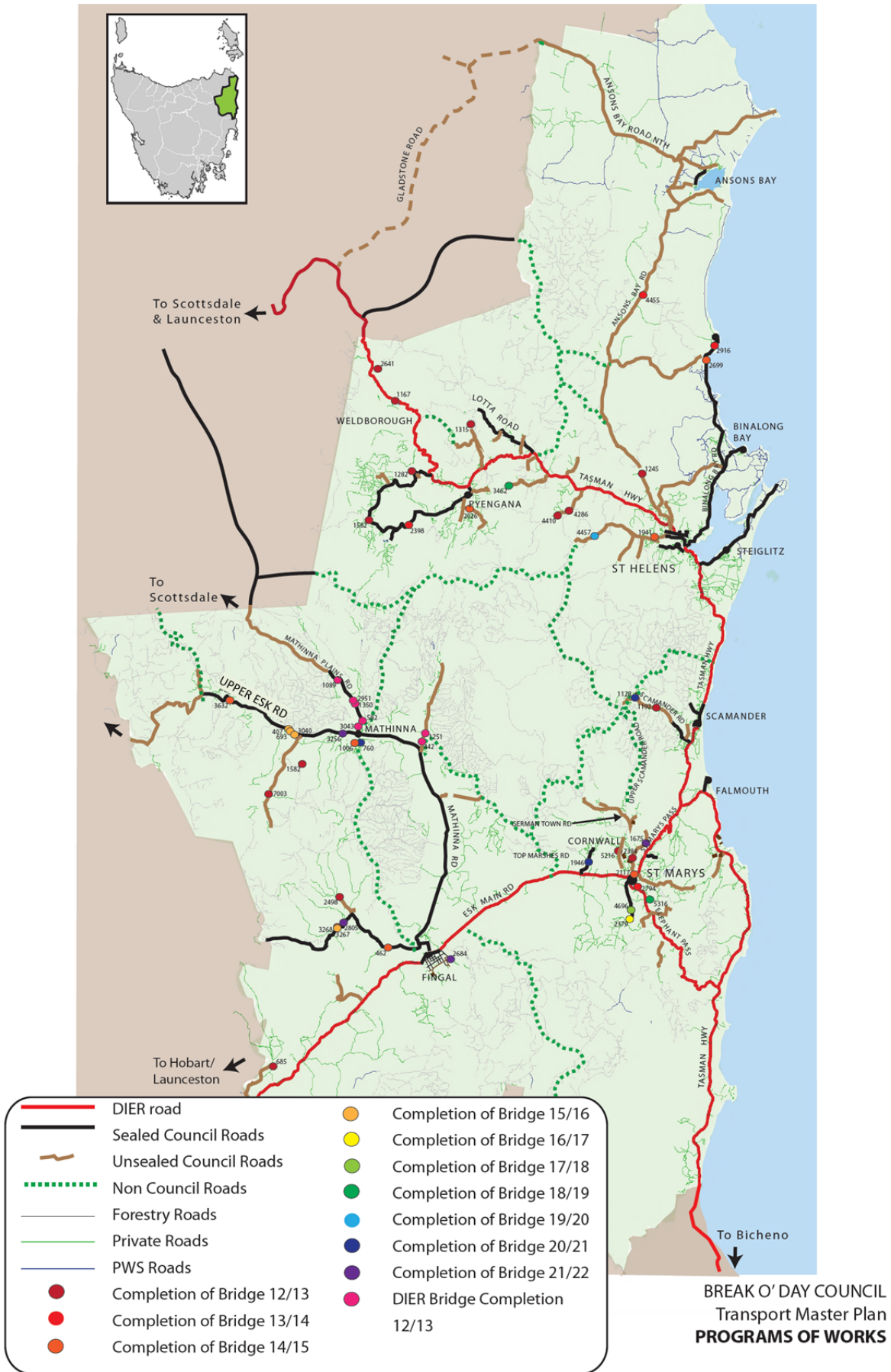


Figure 37: Programs of Works

2. Road Safety

Objective: Improve the safety for all transport users.

Overview

Within Break O'Day accidents are primarily focussed on the Esk Main Road and sections of the Tasman Highway between St Marys Pass and St Helens.

Road safety on long stretches of road between key townships has been a more serious contributor to accidents. Accident rates are also proportional to the number of vehicles using a particular road (exposure) and not just poor road conditions or geometry.

For DIER Roads the following was observed over the five year period to 2011:

- Sections of Esk Main Road near Fingal exhibited a high number of property damage accidents with 12 accidents recorded, the casualty rate being higher than average;
- Sections of the Esk Main Road/Tasman Highway on approach to St Marys exhibited a high number of property damage accidents with 32 accidents recorded, the casualty rate being higher than average for St Marys Pass;
- The stretch of Tasman Highway though Scamander and Beaumaris exhibited a very high number of accidents between Basin Creek Bridge and Priory Road (51 accidents) with injuries;
- The section of Tasman Highway on approach from the south and through St Helens had a very high accidents rate; and
- The section of Tasman Highway both east and west of Pyengana and associated with the Weldborough Pass exhibited higher than average accident rates (36 accidents).

For Council maintained roads:

- Ansons Bay Road had 10 accidents, several involving minor injury;
- Binalong Bay Road had 9 accidents, mainly involving property damage;
- Mathinna Road had 9 accidents however with several more serious accidents;
- Ansons Bay North Road had 7 accidents, 3 involving minor injuries; and
- St Helens Point Road had 10 accidents, 5 of which involved injuries.

The narrow roads, unstable terrain and lack of shoulders lead to a large number of safety concerns, including:

- Insufficient width and tight corners on narrow sections, such as St Marys Pass, make staying in designated lanes and safe passing difficult. There is limited or no room to pull over in an emergency;
- Tourists inexperienced in driving large motor homes and caravans find it difficult to stay within lanes;
- Lack of shoulders and pavement drop-offs on major roads used by cyclists and motorcyclists increases the risk of collisions or falls;

- Slow cyclists (particularly uphill) frustrate motorists which may result in unsafe overtaking manoeuvres; and
- Lack of overtaking lanes and/or pull over bays causes frustration and encourages unsafe overtaking actions.

The Tasmanian Government's Tasmanian Road Safety Strategy identifies safer roads as being one of the three keys factors to achieving the road safety vision of:

"Enhancing community wellbeing by minimising the number and severity of road crashes in Tasmania."

Key road safety issues in Break O'Day

- Narrow roads with poor shoulders;
- Lack of overtaking opportunities; and
- Pedestrian/vehicle conflicts in urban areas.

Strategic road maintenance has a critical role in the management of network hazards and the achievement of the safety vision.

In order to achieve reductions in serious casualties, research and best practice suggests a number of options to achieve lower vehicle speeds, including (see also Our Safety, Our Future, Tasmania Road Safety Strategy 2007-2016:

- Lowering speed limits;
- Increasing the number of speed cameras;
- Modifying infrastructure to force lower travel speeds; and
- Educating people to drive more slowly.

The best results will be delivered through a combination of measures. Break O'Day Council has limited resources to invest in road safety, increasing the importance of getting the greatest road safety benefits from every dollar we can. Independent research clearly demonstrates that the greatest reductions in serious casualties on Tasmanian roads will come from strategic investments in road and roadside infrastructure to prevent run-off-road and head-on crashes together with broad-based speed reductions on the open road and in built up areas.

Road safety aims are as follows:

- Reduce the level of risk exposure for all travellers; and
- Reduce the consequences of driver errors.

2.1 Improve the safety of key roads

Narrow widths and sub-standard shoulders on main roads, especially sections where caravans, school buses and trucks conflicts are the highest.

Main roads in Break O'Day are often narrower than standard and road shoulders can be narrow and worn. This means that there is little margin for driver error, particularly in high speed areas and where trucks/caravans/large vans pass. These problems are accentuated in areas such as St Marys Pass where sight distance is limited, the road is extremely windy, shoulders are often non-existent and there are steep drop-offs and cliffs on both sides of the road.

The Tasmanian Road Safety Strategy highlights that the greatest reductions in serious casualties will be achieved by implementing a combination of:

- Safer travel speeds;
- Provision of edge lines; and
- Tactile centre-line marking.

On local roads optimising the safety performance of road markings is the most cost effective road safety treatment available.

Shoulder sealing

Given the topographical restrictions and long sections of sub-standard road, shoulder sealing is the most feasible road safety action on many major roads in Break O'Day. The prime objective of shoulder sealing is to achieve a significant decrease in road crashes, targeting single vehicle run off road crashes and head on type crashes. A reduction of up to 40% in crashes can be expected along the improved length of roads. DIER has established standards for pavement width and shoulders that should form the basis for road upgrades and maintenance.

Single carriage width rural roads width

Another means of reducing road accidents is to increase safe overtaking opportunities. These roads have limited overtaking opportunities and this can lead to unsafe overtaking behaviour as motorists become impatient.

Injury accidents have also been found to increase significantly on a curve radius of between 100m and 500m. The Esk Main Road and Tasman Highway have large sections with curves within this range.

A program that addresses shoulder conditions, unsafe curves and overtaking opportunities is likely to have the greatest and most cost-effective safety and operational benefits to motorists.

Esk Main Road - Avoca to Leona Road:

Shoulder sealing

This project forms part of a coordinated, incremental upgrading of the Esk Main Road as a High Productivity Vehicle route and the key corridor connecting the Midland Highway with the east coast of Tasmania.

The Department of Infrastructure, Energy and Resources (DIER) has commenced design work for the reconstruction of a five kilometre section of Esk Main Road between Churchill Street and Leona Road. The Government has allocated \$5 million from the Community Roads Program to improve the safety of Esk Main Road. The work will include:

- Widening the road to provide two 3.0 metre lanes with 1.0 metre sealed shoulders to meet High Productivity Vehicle requirements;
- Strengthening the road surface to improve ride quality and reduce future road maintenance costs; and
- Curve widening and upgrading of the safety barriers, where required.

Where it is necessary for road safety reasons, the minimum of vegetation will be removed from the roadside reserve.

2.2 Improve the safety at rural and urban intersections

Break O'Day has a number of intersections where it is unclear which vehicle has the right of way. This usually occurs at 'T' intersections where the main traffic flow turns at right angles through the intersection. Over time tyre patterns and gravel can reinforce the impression that the turning traffic has priority that it does not legally have. Accidents can occur if some motorists assume one movement has right of way while other motorists assume that a conflicting movement has right-of-way. In these cases signing, lane marking or road-works are necessary to clearly identify which vehicles have right-of-way.

In several of the towns along the Esk Main Road and Tasman Highway there can be conflict between pedestrians crossing the road, local traffic using side streets and through traffic. This potential for conflict is increased in centres where there is also heavy parking and turning traffic, such as in St Helens. When improving traffic movements in these areas, the needs of all road users must be considered, such as the potential difficulty for pedestrians to cross roads if roundabouts are installed. Clear delineation of the different activities and clear priorities are essential to reduce the chances of accidents.

2.3 Introduce lower speed limits in high conflict/ accident areas

Urban or built up areas – Tasman Highway

In urban areas the design of the roads and the adjacent land uses will impact on the speeds that motorists adopt. Good design can reduce speeds while wide straight roads can encourage excessive speeds, even if the area is built up and has pedestrian activity. In St Helens the traffic management works undertaken in recent years have encouraged slower speeds, while maintaining low speeds is a challenge in Scamander where the Tasman Highway is straight and wide as it passes through the settlement.

The road environment through Scamander requires infrastructure provisions to support my proposed speed verdicts

Rural speed limits

On rural roads a combination of the alignment, the shoulder condition, the road surface, the road width and signing will determine the safe travel speed. DIER recommends a rural speed limit of 90 kph on sealed roads and 80kph on gravel roads (DIER, *Our Safety, Our Future*). In some high standard sections of road higher speed limits of 100-110kph are appropriate. (Parts of the Tasman Highway south of Falmouth). Break O'Day has many roads with speed limits that are higher than the targets set in the State strategy.

3. Positive Visitor Experience

Objective: Visitors to the region and to local centres have a positive experience

Overview

Residents, businesses and visitors all rely on reliable travel information when making decisions on when and where to travel. This information is important for everyday travel within the region but is most important at times of natural disasters, such as landslips and flooding. Because the region is so dependent on the main roads for access, knowledge of when roads are open is as important as knowledge about when they are closed.

For visitors to the region high quality information makes navigating new areas easier and so makes the travel experience in Break O'Day more enjoyable. The provision of high quality information can also lead to visitors staying longer as they discover new attractions and this will have a positive effect on the economy.

The role of public and community transport in is expected to become increasingly important for both residents and visitors to the region. Access to public transport information is an important element of providing a user friendly transport system.

Rural arterial roads maintained by DIER connect each of the town centres. These roads also provide connectivity with the adjacent land uses and within township "main streets". These "main streets" provide access for long distance traffic, while also providing for parking and pedestrian activities to the shop frontages in the main streets. This is nowhere more apparent than within the main streets of St Helens, Fingal and St Mary's.

To continue to maintain the "sense of place" within the townships that communities have enjoyed for decades, in the face of growing traffic volumes, may require:

- The separation of some conflicting movements;
- The application of innovative responses to pedestrian demand;
- Management of "through" traffic during busy periods;
- Parking management; and
- Street scaping.

Key visitor experience issues

- Lack of timely information on road conditions, particularly information on when roads are cut by land slip or floods;
- Lack of directional information for visitors to the region to help them find local attractions; and
- Low quality environments for people using the main shopping and service centres.

Visitor experience aims

- Increasing the attractiveness of town centres;
- Ensuring that the quality of roads and public transport services meet visitor needs;
- A wide and known range of activities is accessible to visitors; and

- Information provided to visitors is of high quality and is accessible.

Place making

In any development the designer of streets should begin by asking "what will happen on this street?" The street should then be designed to suite the activities that are likely to be carried out on them. Specifically, the streets within the St. Helens CBD 'pedestrian-box' are predominantly lined with shops; therefore traffic management should enable and indeed promote pedestrian access to these shops by crossing the roads safely.

A recent Australian example of how a 'Pedestrian-box' style concept was implemented is in Bendigo, Victoria. A plan to address the imbalance between vehicular and pedestrian environments was applied through the reduction of road speed and reducing vehicle access to certain areas of the town- core, whilst also improving the pedestrian environment to encourage walking and cycling.

3.1 Provide timely advice and accurate on road conditions

The combination of unstable ground prone to land-slip, rugged terrain and unpredictable heavy rainfall makes Break O'Day particularly vulnerable to flooding and land-slip. After heavy rain travellers are reliant on reliable travel information when planning.

Real time information systems can provide information on everything from weather conditions, fuel availability road closures to the arrival time of public transport improving certainty for tourists and the community. This has been successfully applied in other Australian locations and would be of great benefit to the municipality.

The location of road closure warning signs is critical to ensure that motorists do not commit to a route that is blocked. Sign placement needs to be at appropriate locations that prevent back tracking. In the case of Break O'Day this means that signs need to be located outside of the Council area. Information must be accurate so that:

- (a) motorists do not use roads that are blocked; and
- (b) motorists are quickly advised when roads are opened.

The latter is particularly important for tourism as visitors will not come to Break O'Day if they think roads are blocked.

In rural areas emergency service vehicles serve a wide area and unexpected road blockages due to bridge and road works can lead to unexpected diversions and lost time when attending incidents. Reliable information on road blockages would allow emergency services to plan their routes so as to minimise these delays.

3.2 Improve Information for travellers

Tourism is an important part of the economy of Break O'Day.

Many visitors to the region are self-driven and they rely on high quality information to learn about and navigate to the region's many attractions.

Some major tourist attractions, such as the Bay of Fires, are spread over a wide area, while in a number of settlements signage on local attractions is limited. An integrated tourist information strategy would better inform visitors of the attractions in the region increasing the range of experiences visitors gain knowledge of and is expected to grow the potential for visitors to stay longer within Break O'Day.

3.3 Improve the amenity of the town centres

The key philosophy to be applied to main streets and centres includes:

- Provision of safe pedestrian and cyclist crossing points aligned with desire lines;
- Develop key intersection treatments such as roundabouts to slow traffic and remove conflict points that lead to serious accidents;
- Develop a city-wide footpath program to ensure that people (including the elderly) can reach important functions within a township;
- Reduce the road width and use kerbs and landscaping to slow traffic down as well as formalise pedestrian crossing locations; and
- Formalise parking to improve the efficiency of traffic flow and to meet the Australian Standards.

Interstate and overseas initiatives can provide some fresh ideas and include:

- A 'pedestrian box' or area to create a protected walking environment that supports access to public transport and links to car parks.

The 'pedestrian-box' concept makes movement by foot or bike around settlements as easy and convenient as using the car. This does not mean excluding the car: what is needed is an appropriate balance between traffic and other uses to create an accessible, attractive, lively, safe and interesting place. The rationale for creating this pedestrianised environment includes:

- To provide an attractive atmosphere to work and recreate;
- Architecture and transport provisions combine to form an attractive environment and a 'sense of place';
- Streets are lined with trees and lighting to enhance the pleasant atmosphere;
- Attractive paved, well equipped open space (with appropriately located street furniture) which offer continuous and accessible walkways; and
- Street frontages that are dominated by specialty shops, cafes, meeting places, public art and open space.

By establishing grid-like north/south and east/west linkages (paths) within the 'pedestrian-box', connections can become easy to follow and accessibility to origin/destinations points will be enhanced.

Parking can also enliven the street. On the street, a certain amount of parking has a beneficial calming effect, but the layout should be designed to accommodate it safely. Parking can be incorporated within a widened carriageway that also allows room for street trees and gives pedestrians greater freedom of movement.

Figure 38 summarises proposed actions and improvements for St Helens and Figure 39 for St Marys and Fingal.

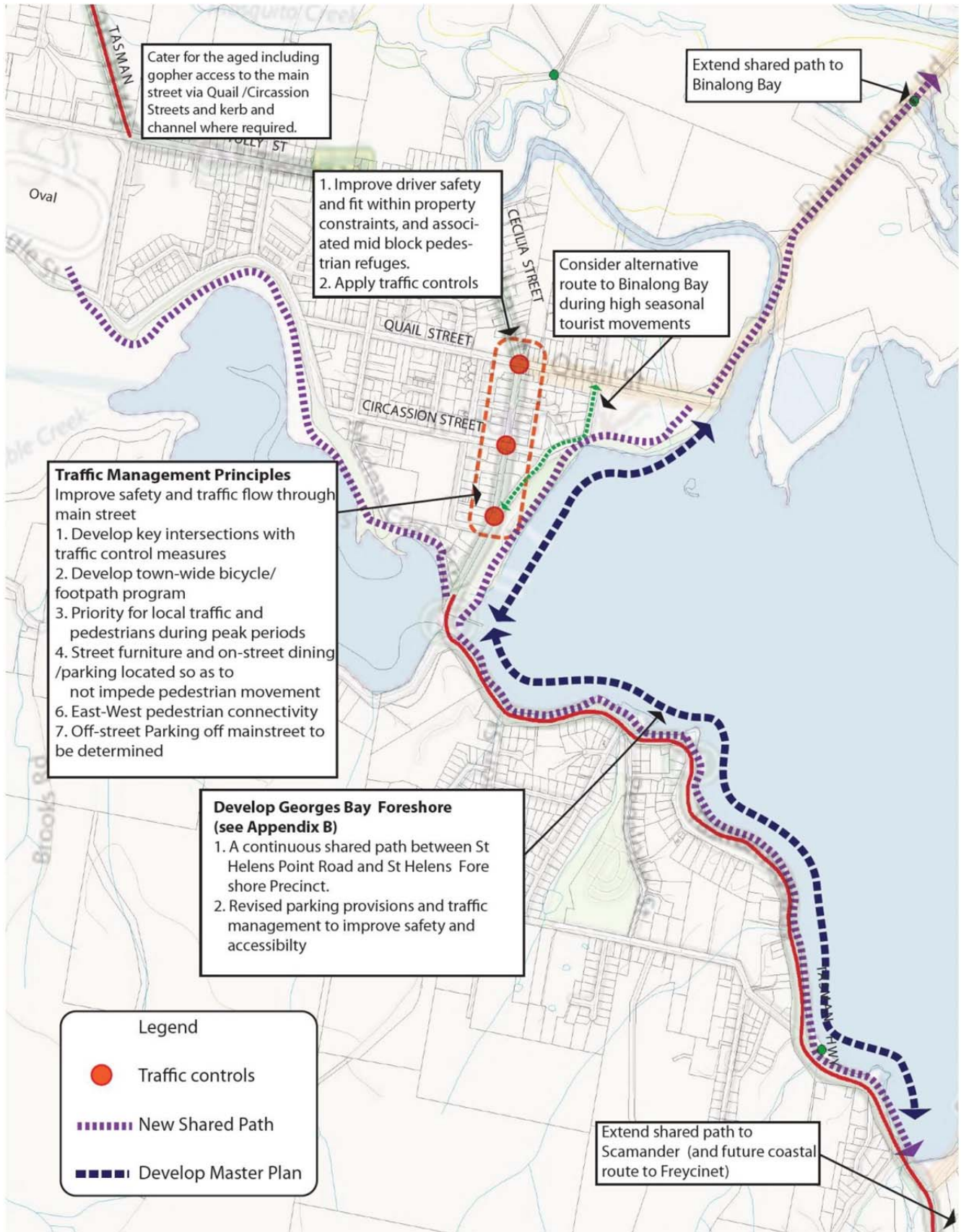


Figure 38: St Helens Transport Actions and Improvements

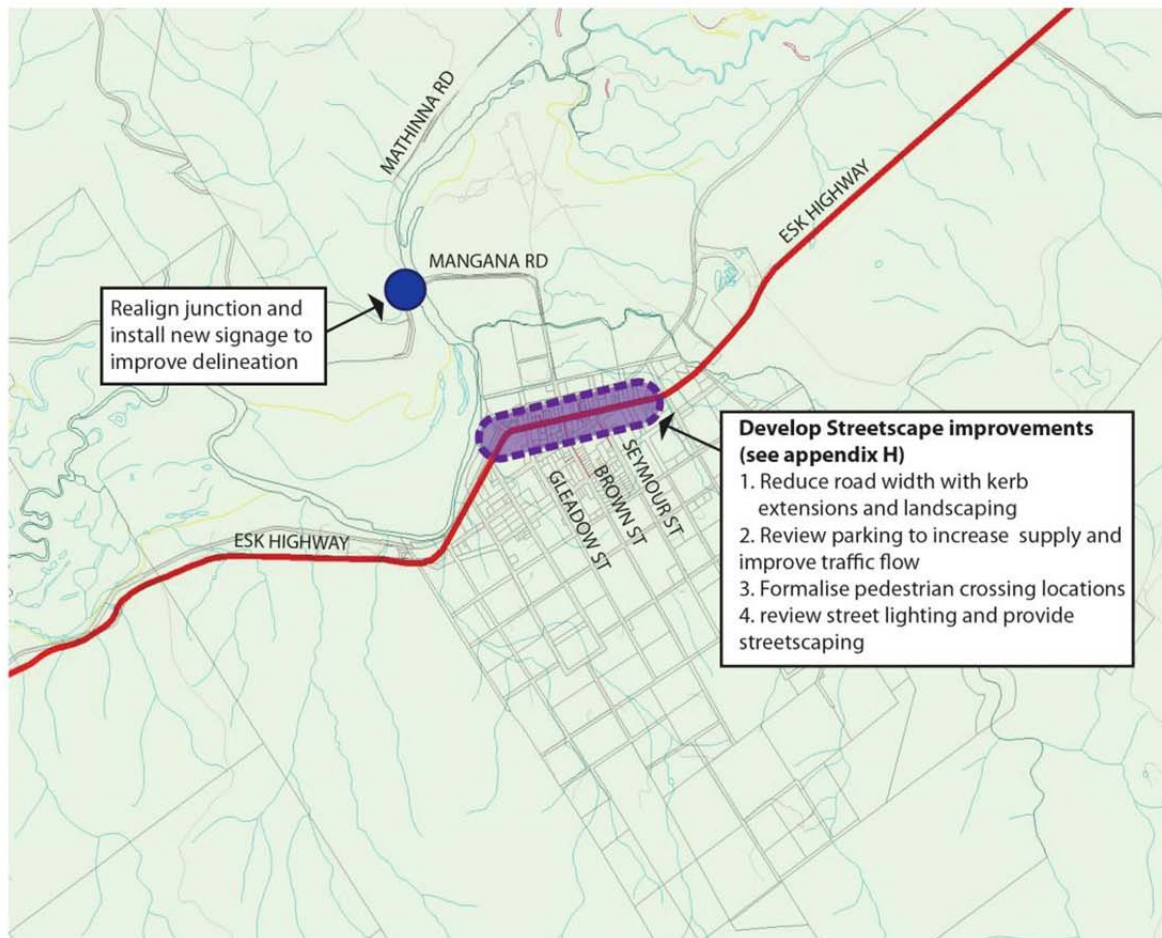
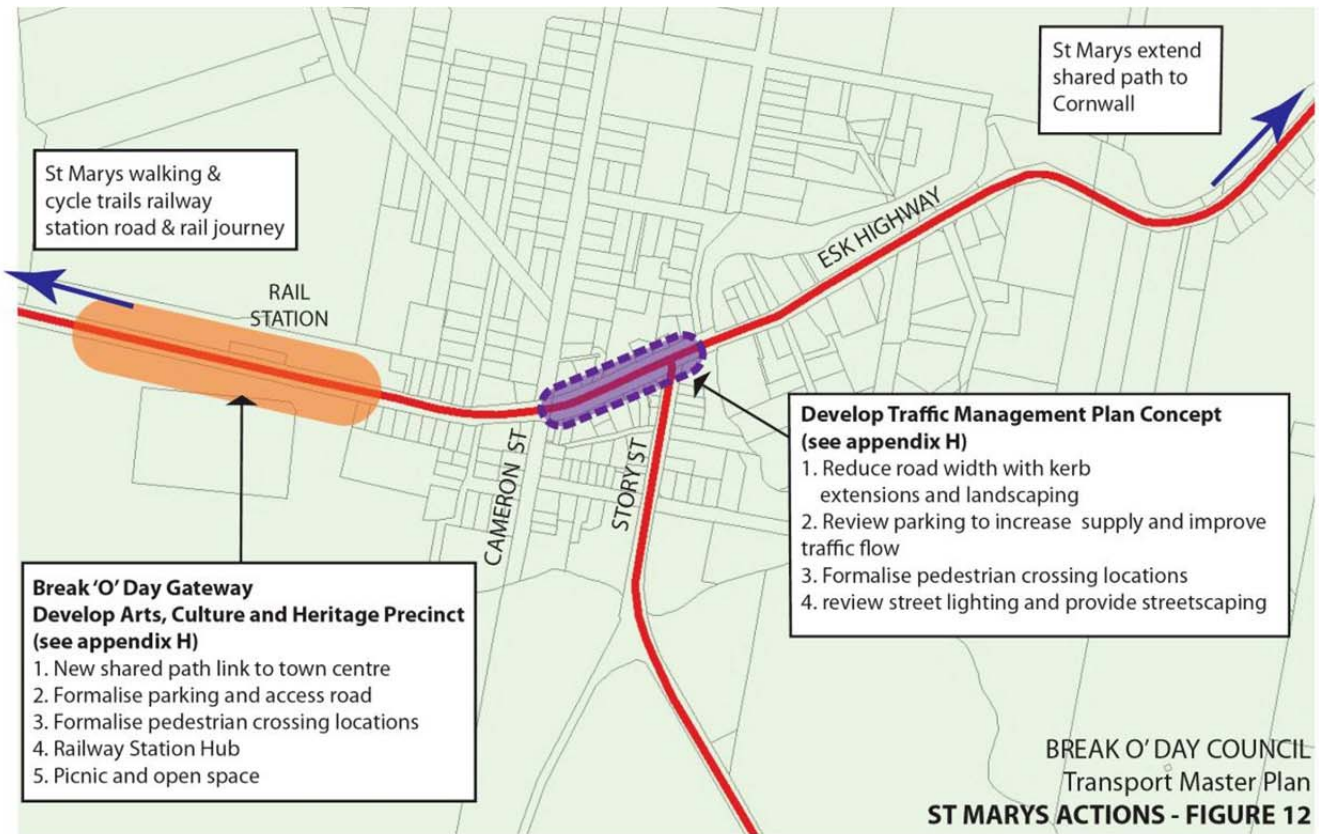


Figure 39: St Marys and Fingal Town Improvements

4. Connectivity and Stronger Communities

Objective: Transport positively contributes to community well-being and health outcomes

The health and well-being of communities is influenced by the quality of the transport services available. Good transport services affordably link people with the important activities that they want to do (work, socialising, accessing medical services etc.). Good walking and cycling infrastructure can increase the level of physical exercise in the community and assist positive health outcomes.

Infrastructure is an important aspect of encouraging people to consider walking and cycling as a viable transport option. It also plays an important role in connecting people to the places they need to access such as shops, residential areas and other services. Council is aware of the need to invest in the appropriate infrastructure for walking and cycling.

Key issues are as follows:

- Lack of contiguous networks linking centres;
- Lack of connectivity and permeability within centres;
- Lack of formalised road crossings;
- Lack of recreational and tourist circuits;
- Lack of DDA (Disability Discrimination Act) compliant routes and kerb ramps; and
- Conflict between different modes around St Helens.

Public transport

The role of public transport is expected to become increasingly important within Council. Increasing and improving public transport accessibility and availability responds to the transport needs of disadvantaged people, connects residents within and between locations outside of Council.

Public transport can also reduce the resident's reliance on petrol, reducing emissions that contribute to climate change. From the perspective of passengers, access is about knowing what services are available, being able to afford trips and being able to easily get from their home to the services or opportunities they need. The mode of transport people use is only an issue when a journey is inconvenient because it is awkward or difficult to use more than another mode of travel.

Key well-being issues

- Limited public transport services;
- Lack of coordination/knowledge of community transport options; and
- Physical constraints, lack of networks and lack of facilities limits walking and cycling.

Community profile and needs

The Council's age demographic must be taken into consideration when planning for new services. Residents being under legal driving age (school children) or having limited income for private travel expenses (schoolchildren, unemployed residents, retirees etc.) have the highest demand for public transport services.

This may be due to a number of factors including being under legal driving age or having limited income for private travel expenses. This again highlights the increasing importance of public transport to address the accessibility needs of the transport disadvantaged, particularly where there are gaps in public transport services, walking and cycling infrastructure connected to public transport facilities which will improve destination connectivity and increase access to public transport services.

Walking and cycling

Infrastructure is an important aspect of encouraging people to consider walking and cycling as a viable transport option. It also plays an important role in connecting people to the places they need to access such as shops, residential areas and other services.

Recreation trails play an important role in encouraging participation in walking and cycling.

Transport and lifestyle decisions are combining to produce health related problems, such as obesity. The impact of transport and urban planning decisions on health and wellbeing, identified during consultation, has been identified by the health profession and a number of studies.

Walking and cycling also have associated economic benefits as it can lower transport costs and traffic congestion. It has been calculated that the cost of buying and maintaining a bicycle is around one per cent of buying and maintaining a car.

Well-being aims are as follows:

- Encouraging and supporting active transport options;
- Ensuring that the quality of public transport services meet community needs; and
- Making walking and cycling trips more convenient, pleasant and safe.

Setting pedestrian priorities in Break O'Day

Pedestrian facilities are an important service provided by Council to ensure safety, linkages, access and a pleasant environment for pedestrians. Council has been developing an asset management plan that will include the management of the existing footpath network, extension to future parts of the network as well as determination of costs.

A range of criteria (with a percentage weighting) are applied to determine priorities for developing a construction program within the Council area.

- Significantly enhances public safety (30%);
- Provides linkage with other paths to create a network (20%);
- Provides access to widely used public facilities (20%);
- Close proximity to pedestrian generating facilities (20%); and
- High visual impact – Town image (10%).

Pedestrian and Vehicle Conflicts in Towns

During busy holiday periods the centre of St Helens becomes heavily congested and there are several locations where there are vehicle/pedestrian conflicts, for example at Quail Street/Cecilia Street and at Circassian Street/Cecilia Street intersections. No serious or fatal accidents have been recorded over this period. Intersections with a casualty rate (minor) include:

- Esk Main Road, Irish Town Road, Main Street;
- Intersection of Esk Main Road, Tasman Highway;
- Intersection of Medea Street, Quail Street;
- Mathinna Plains Road, Unnamed Road, Weise Road; and
- Intersection of Cecilia Street, Circassian Street.

It should be noted that while intersection accidents are relatively low, there were 20 accidents recorded at locations between intersections including one fatality. Most of these related to property damage or minor accidents.

Fingal, St Helens and Scamander have wide main streets resulting in a long distance for pedestrians to cross. Heavy vehicle routes run through these main streets where there is significant pedestrian activity.

Road crossing locations are often not formalised and kerb ramps are not provided in many instances. Kerb ramps and paths are not always (DDA) compliant.

Footpaths are not continuous and terminate abruptly to grass verges which are uncomfortable in wet conditions and difficult for people in a wheelchair or with a pram. Pedestrians instead often choose to walk on the roadway, which can be hazardous, particularly where sight distance is limited.

4.1 Integrate community transport services

Community transport is an important part of the public transport system for less independently mobile residents and those who do not have access to bus services. Council has supported the purchase of a number of community buses and in the more isolated communities they provide the only form of public transport.

Community transport is a community resource and so it is important that this resource is used to its maximum extent and that potential users know what services are available and are able to access these services. Council can take the lead in maximising the benefits of the investments that Council and communities have made in community transport by bringing all providers together to ensure that services are well integrated and best meet community needs.

Working with Tourism Tasmania, the taxi industry, bus operators and the local business groups may be able to create a viable bus / taxi service, that could better link to key destinations (also provide information on links to other public transport services).

4.2 Increase the role of cycling and walking in Break O'Day

The Break O'Day Council area has a number of disjointed walking and cycling paths. At the present time they do not provide a

coherent and connected network that facilitates the safe movement of people around and between the major centres. There are also limited opportunities for residents and visitors to use walking and cycling networks to move between centres or to visit major attractions. Tourists are becoming increasingly interested in nature-based tourism. Therefore, providing well-connected high standard active transport network provides an opportunity to attract more tourists.

The Tasmania Walking and Cycling for Active Transport Strategy has eight priority areas to support its vision and overarching objectives. These include:

- Establish supportive land use systems that encourage walking and cycling;
- Improve infrastructure and facilities to support walking and cycling;
- Improve safety for pedestrians and cyclists;
- Improve policy and planning that ensures that walking and cycling needs are considered;
- Improve understanding walking and cycling needs and pattern; and
- Establish walking and cycling culture.
- Identify a hierarchy of routes;
- Identify locations for, and type of, end-of- trip facilities; and
- Develop a consistent signage strategy.

Routes will be prioritised by:

- Key destinations;
- Route connectivity;
- High frequency public transport routes;
- Areas with high population densities and/or cycling demand; and
- Cost effectiveness.

Through the adoption of these steps Council will be able to develop a comprehensive strategy for the support of walking and cycling within the region. This strategy can then form the basis of Council budget allocations and funding bids from other organisations to deliver the actions.

Specific actions will be determined and explored in the development of the comprehensive strategy for the walking and cycling, however opportunities that have been revealed and may require further consideration include:

- Link major townships with pedestrian and bicycle networks with priority given to, St Helens foreshore network between St Helens and St Helens Road/Tasman Highway, St Helens to Binalong Bay, St Helens to Scamander and Tasman Highway/St Helens Point Road to Stieglitz;
- Develop a network of recreational routes and circuits with priority given to George's Bay foreshore network between St Helens Point Road and St Helens, St Helens Point to Binalong Bay, St Helens to Scamander. Extend shared path to Scamander, a coastal route to Freycinet, a coastal route Binalong Bay to The Gardens, a route from The Gardens to Bay of Fires/Ansons Bay;

- Local business operators and residents have identified an opportunity for a proposed walking track along the coast from Scamander to Falmouth. This option can be explored in the context of being an opportunity to enhancing regional tourism; and
- Implement footpath extension program especially to new developments to link the town centre (with adherence to disability compliant paths for the elderly).

ACTION PLAN AND PRIORITIES

Prioritisation Considerations

For prioritising the strategies both the urgency of the issue and cost / implementation difficulty of each strategy has been considered. Figure 40 below shows the trade-off between urgency and cost/ difficulty for prioritising the recommended actions for implementation.

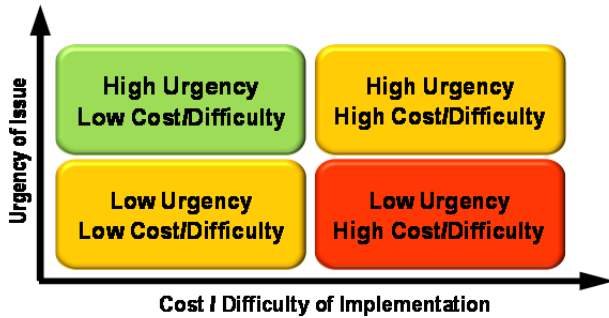


Figure 40: Trade-off between Urgency and Cost

Strategies falling to the green area of the matrix are the highest priority and those in the red area only would have the lowest priority.

The **cost structure** used for evaluating strategy items is as follows:

- **Low** – low cost is \$0-\$50,000;
- **Medium** – medium cost is \$50,000-\$500,000; and
- **High** – high cost is greater than \$500,000.

The **benefit structure** used in the Action Plan is as follows:

- **Low** – long timeframe for benefit to accrue;

- **Medium** – significant benefit and/or medium timeframe for benefit to accrue. Benefit expected to at least match cost incurred; and
- **High** – very substantial benefit and/or immediate benefit accruing. Benefit is expected to be significantly above cost incurred.

The **timeframe structure** used in Action Plan is as follows:

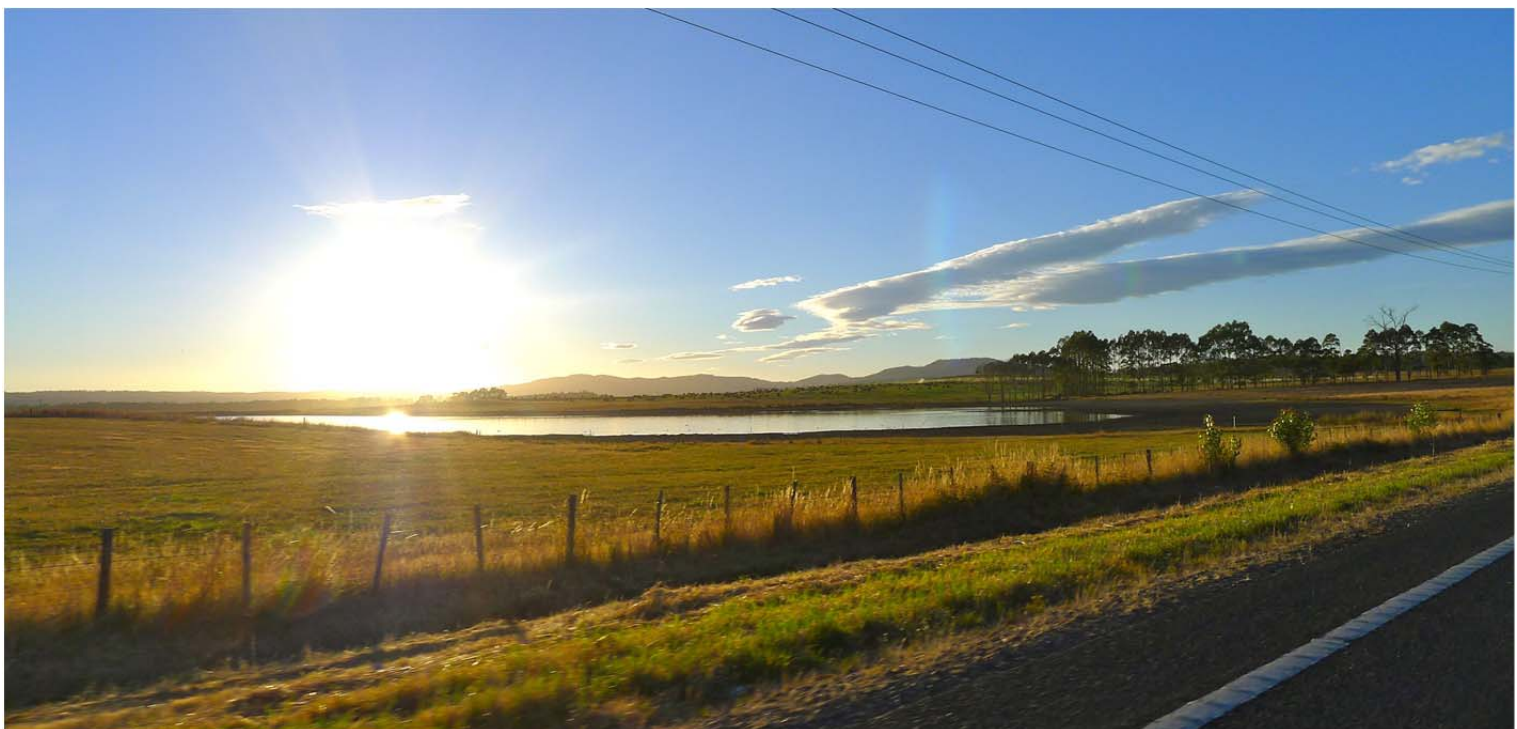
- Short - 0-3 years;
- Medium - 3-10 years; and
- Long-term - +10 years

Immediate Recommended Actions for Implementation

Based on urgency of need and consequence of impact, the **highest priority short term transport issues** recommended to be addressed in the LGA are as follows:

- St. Helens Foreshore Cycleway;
- Intersection improvements to southern approach to St. Helens;
- On-street parking management and pedestrian access improvements in key centres;
- Footpath improvements in key centres;
- Develop a reliable Esk Main Road (Staged); and
- Safety review of Binalong Bay Access Road.

In the following section the Recommended Action Plan has been provided considering the cost, benefit and urgency of each strategy item identified in the report.



The Action Plan

The Action Plan is intended to assist the Council, the State Government and the community in setting priorities for tackling the transport challenges facing Break O'Day LGA, based on the four key strategies and associated strategy elements presented in this report. A number of the actions include further investigation and these investigations would benefit from including community involvement programs.

Table 2: Action Plan

Action Item No.	Action Description	Cost	Benefit	Recommended Timeframe - Short /Medium/ Long-term
		Low /Medium /High		
1	TRAVEL RELIABILITY SUPPORTING ECONOMIC DEVELOPMENT			
1.1	<i>Improve the reliability of St Mary's Pass and provide viable alternative routes during closures of the Pass (including upgrades to Weldborough and Elephant Pass).</i>			
1.1.1	Investigate with DIER the effectiveness of 'turn outs'/passing lanes at critical locations where sight distance, fatigue and width is an issue. Implement the program.	Low	Medium	Short
1.1.2	Work with relevant agencies to maintain the 'S' Road as a viable alternative emergency route of an appropriate standard. Work with the State Government to ensure that key forest roads are maintained at an appropriate standard to support the Traffic Management Plan (TMP) if the level of harvesting is reduced. Investigate cost effective ways of improving the strength of the pavement so that heavy vehicles can use the road if the Passes are closed.	Low	Medium	Short
1.1.3	Continue developing the Upper Scamander section of the 'S' Road through an implemented road improvement program (staged) so that trucks are able to use the route during wet weather. Advocate other agencies/DIER to continue maintenance of the 'S' Road in lieu of St Mary's Pass work (see also Strategy 1.12).	Medium	Medium	Medium
1.2	<i>Improve the reliability of Weldborough Pass.</i>			
1.2.1	DIER to review its management of Weldborough Pass, and update its maintenance regime if required.	Low	Low	Short
1.2.2	Work with DIER to maintain Lottah Road and Frome Road/Terry's Hill Road as emergency alternative routes if Weldborough Pass is closed (including Pyengana Hill) - review Emergency Management Processes of Council to work with other Councils/Other Departments.	Low	Medium	Short
1.3	<i>Provide improved reliable access to Ansons Bay.</i>			
1.3.1	Address flood-prone locations: - Replace timber bridges that are vulnerable to flooding at a number of locations on Ansons Bay Road (west of 'The Gardens'); and - Upgrade the causeway at the Ansons river crossing near Anson's Bay for 1% AEP river flood event, plus climate change.	Medium	Medium	Medium
1.3.2	Improve the quality of the surface of Ansons Bay Road and maintain its condition throughout the year: Stage 1: Stabilise the road gravel to improve conditions for motorists and reduce maintenance needs. Stage 2: Seal critical parts of the road. - Give priority to sections that pose high safety risks or have high recurrent maintenance costs; and - Develop a sealing program to progressively implement the upgrades.	Medium	Medium	Long-term
1.3.3	Consider upgrading the road to Anson's Bay to a higher level of service: Option 1: Alternative Route be established. Stage 1: Consider the benefits and costs of linking the current sealed section of road between Binalong Bay and The Gardens to the northern section of Anson's Road via the development of the existing 'Fire Road (11.5 km) to a sealed road status. Stage 2: Seal the northern section of Anson's Bay Road from the junction of the "Fire Road" to Ansons Bay. Option 2: Seal Ansons Bay Road.	High	Medium	Long-term
1.3.4	Parks and Wildlife to provide emergency helicopter landing facilities at Ansons Bay. Investigate Boronia Street on the foreshore as the location.	Medium	Low	Medium

Action Item No.	Action Description	Cost	Benefit	Recommended Timeframe - Short /Medium/ Long-term
		Low /Medium /High		
1.4	<i>Provide a more reliable road to Stieglitz.</i>			
1.4.1	Identify and protect a new road option (within the Break O'Day Planning Scheme) that bypasses land-slip areas and sensitive environments (between Tasman Highway and St Helens Road east of the airport).	Low	High	Medium
1.4.2	Build the new access road to Stieglitz. Construction of this route provides an opportunity to extend the foreshore bicycle path from St Helens into Stieglitz along the existing access road.	High	High	Medium
1.5	<i>Maximise resource sharing and inter-organisational coordination.</i>			
1.5.1	Continue to work with adjacent councils to identify opportunities for resource sharing and subcontracting of road services in remote areas of Break O'Day.	Medium	High	Short
1.5.2	Work with DIER, Police and Forestry Tasmania to update procedures when roads are flooded or blocked.	Low	High	Short
1.6	<i>Develop a network strategy for east to west intra-regional and short distance inter-regional movements.</i>			
1.6.1	Undertake a detailed assessment of a series of network alternatives under different road closure scenarios. Develop implementation plans between Council, DIER, Police and Forestry Tasmania for managing road closures.	Low	Medium	Medium
1.6.2	Publish detailed management plans for key emergency services, local and car rental agencies.	Low	High	Short
1.6.3	Continue bridge replacement priority program with adjacent councils for key routes with a strategy to replace critical infrastructure first.	High	High	Long-term
1.7	<i>Upgrade St Helens Airport to unlock economic opportunities for business and industry.</i>			
1.7.1	Develop an Airport Master Plan (current Feasibility Study) and Economic Business Case (include the alternative Stieglitz Route options) to pave and extend the runway, new facilities including possible upgrade of the terminal.	Low	Low	Medium
1.8	<i>Improved access to Binalong Bay to address impacts from flooding.</i>			
1.8.1	Upgrade Binalong Bay Causeway: Short term: Bridge flood protections (\$150,000); Medium Term: Raised culverts and embankments (\$13,726,000); and Long Term: Two bridge replacements (\$2,800,000).	Medium/ High	Medium	Short to Long-term
1.8.2	Upgrade Reids Road Short term improvements: to cater for two-way traffic and increase the trafficable width to 6.0m (min) with ongoing grading and maintenance; Medium term improvements: Widen the road to 8.0m carriageway (6.0m trafficable lanes with 1m shoulders) and improved horizontal alignment; and Long term improvements: provide new bridges to cater for future flood proofing and improve road with a sealed trafficable surface, to the equivalent of a Collector rural road with 6.2m sealed surface (BODC Asset Management Plan – Part B - Those roads whose main function is to form a key avenue of communication for movements between roads and medium density rural communities).	High	Low	Short to Long-term
1.9	<i>Develop a reliable Esk Main Road.</i>			
1.9.1	Undertake the key projects highlighted in the 1998 DIER report that have not been undertaken and that have a Benefits Cost Ratio (BCR) higher than 2 (i.e. Midland Highway/Esk Main Road Junction, Widen Road and Seal Shoulders – Conara to Avoca, Widen Road and Seal Shoulders –Avoca to Fingal, Widen Road and Seal Shoulders – Fingal to St Marys). This scope of works to include but not limited to: pavement and shoulder width upgrades, slow vehicle turnout facilities, road widening and shoulder sealing and intersection improvements.	High	High	Long-term
1.9.2	In conjunction with DIER undertake a comprehensive review of the signs and line-marking along the road. It has been noted that there is inadequate signage and line-marking provided at a number of locations along the route. The Safety Audit conducted by DIER should adequately address the issue of advisory speed signs and barrier line-marking around bends and over crests in the road.	Medium	Medium	Medium

Action Item No.	Action Description	Cost	Benefit	Recommended Timeframe - Short /Medium/ Long-term
		Low /Medium /High		
1.9.3	Horizontal and vertical alignment improvements: There are also a number of other locations along the Esk Main Road where the road alignment is substandard and requires improvements to the horizontal alignment or improved signage at critical bends and/or overtaking lanes to ensure the road has sufficient capacity and provides a safe route for the anticipated future traffic along the road.	Medium	Medium	Medium
1.10	<i>Develop the 'S' Road so that it is fit-for-purpose.</i>			
1.10.1	Liaise with Forestry Tasmania to discuss intentions for maintenance and future use of the road, highlighting the intention to upgrade the route.	Low	High	Medium
1.10.2	Undertake a detailed Community and Traffic Impact Assessment to determine the potential usage of the route if upgraded, as well as the impact/benefit on the surrounding communities, especially St Mary's and Scamander.	Low	Medium	Short to Medium
1.10.3	Make the necessary provisions in the Break O'Day Council Development Scheme to ensure the development of the road is possible in the future.	High	High	Medium
1.10.4	Undertake a 'S' Road Strategy Study, with detailed costings, to determine accurate costs to upgrade the route to at least Collector Road (Rural) as per the Break O'Day Council Road Hierarchy with a 6.2m wide sealed pavement.	Low	Medium	Medium
1.10.5	Detailed investigations of intersections, especially with specific focus on the Top Marshes Road and Esk Main Road at St Marys and Upper Scamander Road and Tasman Highway intersection at Scamander.	Medium	Medium	Medium
1.11	<i>Achieve unimpeded access to George's Bay through Pelican Point, Dora Point and the Barway.</i>			
1.11.1	Develop an ongoing maintenance program for George's Bay (Pelican Point) and the Bar Way to ensure access at all times.	Low	Medium	Short
1.13	<i>Secure funding to implement required works of 10 Year Bridge Renewal Program.</i>			
1.13.1	Implement the 10 year Bridge Renewal Program with funding from Council, State and Commonwealth funds.	High	High	Long-term
2	ROAD SAFETY			
2.1	<i>Improve the safety of key roads: narrow widths and sub-standard shoulders on main roads, especially sections where caravan and truck conflicts are the highest.</i>			
2.1.1	Continue the DIER road widening program (shoulder gravelling and sealing) based on accident exposure. Implement an ongoing shoulder gravelling and sealing program on main roads, with priority given to Esk Main Road.	High	High	Medium
2.1.2	Undertake a detailed Safety Audit of all DIER and key local roads (width and shoulder deficiencies, signing, reflectors, maintenance, grass cutting) and link into Strategic Asset Management Plan programs and funding streams.	Medium	Medium	Short to Medium
2.1.3	Increase overtaking opportunities on DIER roads by realigning selected curves and improving sight distances. When undertaking this work, incorporate pavement widening and shoulder sealing to the appropriate standard.	Medium	Medium	Medium
2.1.4	Investigate the effectiveness of 'pull out' areas, if possible incorporate with sight-seeing locations and review the safety of access and egress to sight- seeing areas.	Low	High	Short
2.1.5	Identify works that are required to bring other links in the freight network up to a large truck standard including minor road widening, bridge and culvert widening and pavement strengthening.	Low	Medium	Medium
2.2	<i>Improve the safety at rural and urban intersections.</i>			
2.2.1	Clarify alignment and upgrade signing/marketing of rural 'T' intersections, with priority for sites with a high accident record or on tourist routes. Give priority to: - Mathinna Rd/Mangana Rd, Fingal; and - Ansons Bay Road/Acacia Road, Ansons Bay.	Medium	Medium	Medium
2.2.2	Clarify alignment of urban intersections with medians, roundabouts and line marking, with priority for sites with a high accident record or on tourist routes. Give priority to: - Scamander sections of the Tasman Highway; - Tasman Highway through St Helens; and - Fingal and St Mary's main street intersections with Esk Main Road.	High	Medium	Medium
2.3	<i>Introduce lower speed limits in high conflict/accident areas.</i>			

Action Item No.	Action Description	Cost	Benefit	Recommended Timeframe - Short /Medium/ Long-term
		Low /Medium /High		
2.3.1	Review and update speed limits on sealed and unsealed roads.	Low	Medium	Medium
2.3.2	Consider implementing lower speed limits during peak pedestrian periods in shared spaces in the urban areas as per the Government's Road Safety Strategy <i>Our Safety, Our Future</i> . Develop a variable/temporary speed sign (VMS) for busy tourist periods for main streets / town CBD's (St Helens, Scamander to Beaumaris, St Helens, and Fingal). VSL technology provides a lower speed limit during peak periods and/or poor weather conditions (DIER, Our Safety, Our Future).	Low	Medium	Medium
2.3.3	Investigate flexible barriers in the middle or side of road where widths allow (e.g. through Scamander) to separate oncoming traffic. Implement on sections of the road network with the highest crash concentrations per kilometre. Apply tactile (audible) centre-line marking on roads that are not suitable for installation of mid-barriers.	Medium	Medium	Medium
3	POSITIVE VISITOR EXPERIENCE			
3.1	<i>Provide timely advice and accurate on road conditions.</i>			
3.1.1	Provide accurate and timely road closure information to motorists entering the region. <ul style="list-style-type: none"> - Provide road condition message signs at Midland Highway/Esk Main Road and at Scottsdale; - Implement line marking and signing at key locations; - Update Police, DIER and Council emergency procedures for when main roads are blocked; and - Develop electronic bill boards at Midland Highway and Scottsdale that is linked to key policy/emergency services remotely to allow up to date information to be displayed. 	Low	High	Short
3.1.2	Maintain up-to-date information on road conditions for emergency services. Ensure that information on temporary road closures or bridge load limits affecting emergency vehicles are communicated to emergency services. Consider installing boom gates for key locations (St Mary's Pass).	Low	High	Short
3.2	<i>Improve the amenity of the town centres.</i>			
3.2.1	Develop St Marys Station as a regional tourist hub.	Low	High	Medium
3.2.2	Upgrade tourist signs and maps at the entry of all significant towns and major tourist areas.	Low	High	Short
3.2.3	Prepare a communication strategy: iPhone apps, maps, ensure ongoing media releases of new works.	Medium	High	Short to Medium
3.2.4	Work with the private bus operators and community transport providers to provide comprehensive transport information.	Low	High	Short
3.3	<i>Improve the amenity of the town centres.</i>			
3.3.1	Implement the main street plan for St Marys	High	High	Long-term
3.3.2	Implement the main street plan for Fingal	High	High	Long-term
3.3.3	Develop formalised pedestrian crossings and roundabouts. Develop pedestrian linkages for St Helens between the foreshore and Cecilia Street based on pedestrian desire lines. Apply the principles of pedestrianisation as per above.	High	High	Long-term
4	CONNECTIVITY AND STRONGER COMMUNITIES			
4.1	<i>Integrate community transport services.</i>			
4.1.1	Review the provision of, eligibility for and delivery of current community transport services and identify ways to better coordinate delivery and distribution of customer information.	Low	High	Short
4.1.2	Investigate with local schools the opportunities and barriers to using spare capacity on school buses for residents from outlying areas to access centres.	Low	Medium	Short
4.2	<i>Increase the role of cycling and walking in Break O'Day.</i>			
4.2.1	Prepare a Strategic Walking and Cycling Network Plan within townships, between townships and to points of interest. Plan to consider: <ul style="list-style-type: none"> - Within townships: footpath program, major road crossings, minimising vehicle/pedestrian/cyclist conflicts and missing network links to improve connectivity; - Linking major townships with pedestrian and bicycle networks; and - Develop a network of recreational routes and circuits. 	Medium	High	Medium
4.2.2	Staged implementation of the Walking and Cycling Network Plan.	High	High	Medium

Key Projects

The Key Projects of the Transport Master Plan that will underpin a future for 'unlocking regional opportunities' are as follows refer to Figure 42):

1. St Mary's Pass, Weldborough Pass and Elephant Pass;
2. The sealing and extension of the Airport, including new link*;
3. Binalong Bay Access Road;
4. All weather Esk main Road;
5. Developing the 'S' Road;
6. The Barway; and
7. Fully funded bridge and road program;
8. Supporting the growth of town centres;
9. Improving connectivity between centres; and
10. Review and implement sustainable road and bridge maintenance procedures and best practices.

Without these priorities in place the whole economy and social system is envisaged to go into a slow 'decline' as previously stated.

Figure 41: An Example of How Esk Main Road Will Look after the Upgrade Works

Source: DIER



Given the relative isolation of the Break O'Day region and its reliance on tourism, mining, forestry and agriculture industries, the economic development of the region is seemingly even more dependent on transport efficiencies. These industries are heavily 'transport reliant'; therefore for the economic development of the region the transport networks must support and maintain these industries. Infrastructure projects (such as the sealing and extension of airport services or upgrading of township passes) provide for short term employment opportunities in the Break O'Day region, but more importantly will deliver improved transport networks to and throughout the region. In turn the industries that rely on efficient transport can help the economic development of Break O'Day.

Several possible infrastructure improvements have been identified within the Break O'Day region which will improve transport efficiency, reliability and/or capacity, which could have significant benefits to the economic development of the region and its associated industries. Each of these projects is listed below with reference to its potential economic benefit.

These Key Priorities are also representative of the broader objectives of the Transport Master Plan.

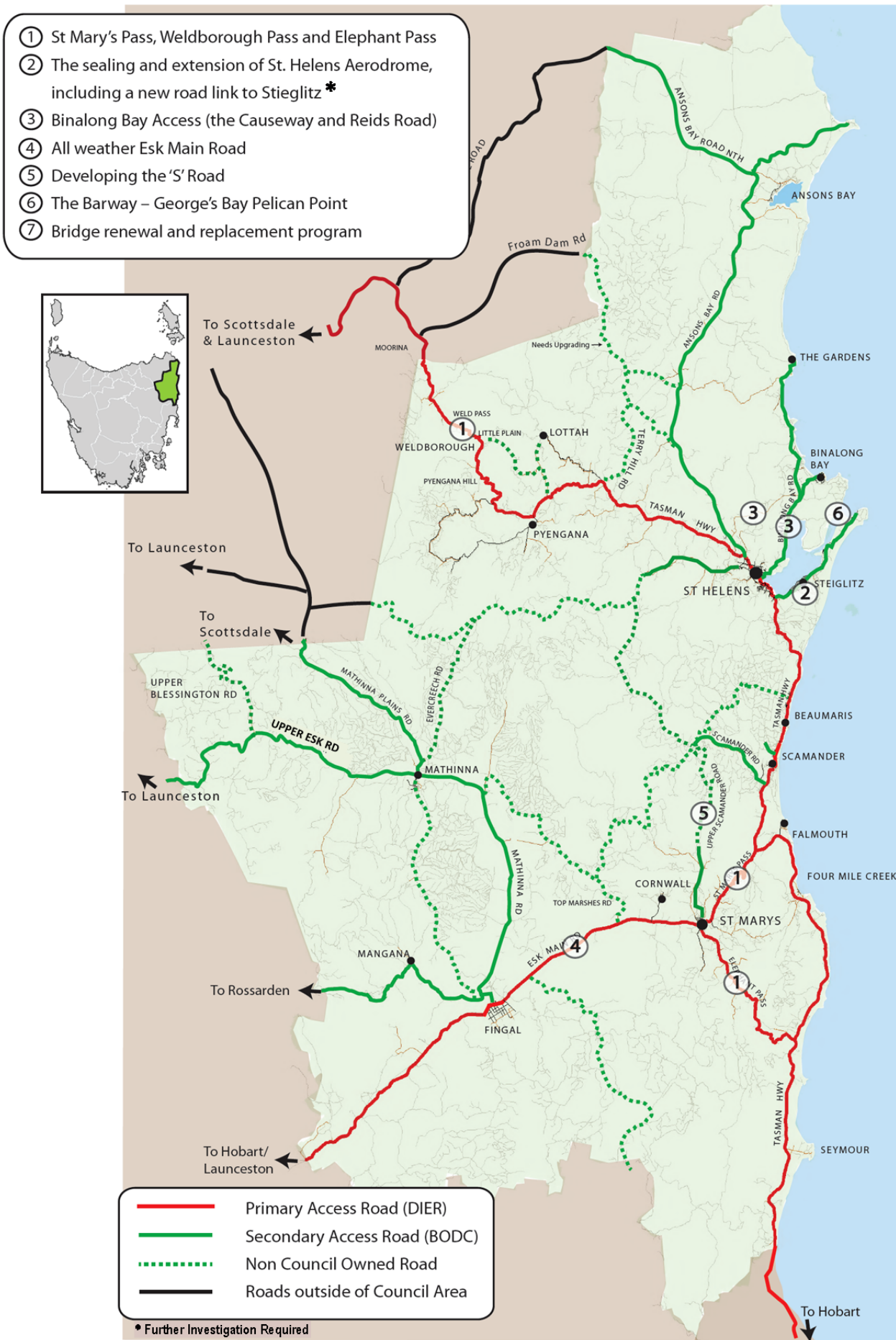


Figure 42: Break O'Day Council Key Projects

St Mary's Pass, Weldborough Pass and Elephant Pass

St Marys Pass, Elephant Pass and Weldborough Pass are major access roads for the region and they have all experienced land slips and display signs of ongoing instability. When these roads are closed, the region experiences severe disruption to school and other community access, in commerce, tourism and potential safety. Alternate routes, if available, require traffic to use forestry roads of variable standard.

Economic development is driven by industry investment, and industries in the Break O'Day region depend heavily on reliable transport. Businesses and industry often make decisions based on risk minimisation. One of the risks in the region is that access to markets or supportive industries outside the region can be unreachable when one or more of the passes are closed or obstructed. Improving the reliability of the passes and making them impervious to land slips, flooding or rock falls increases industry confidence in their investment decisions. Efficiency in movement is also a factor and there may be some travel time savings outside of pass closure times generated by upgrading the passes, especially St Mary's and Weldborough Pass.

Tourism is a key industry in the Break O'Day Region, and part of the appeal of the region is its relative isolation and natural beauty. Improving the standard and reliability of the road will not impact on the region's appeal as an 'isolated' location, but rather remove the uncertainty of access to and throughout the region which may act as a deterrent to some visitors, especially those travelling on schedule. By improving access reliability via the passes, the region is more likely to attract tourists and address the concerns of those, who may not visit due to access uncertainty.



Figure 43: Upgrades to Major Accesses are Required

In turn, this aims to achieving economic growth in the tourism industry through improving the reliability of the passes, without compromising the environment or quality of life.

The Sealing and Extension of the Airport, Including New Link*

The St Helens Airport has one unsealed runway, and is an important transport link for the region. The predominant uses of the airport is for Royal Flying Doctors Service, transporting fresh seafood to the east coast of the Australian mainland, also training flights and operating scenic flights.

Sealing and extending the airport creates the opportunity for more frequent and a greater number of flight types. Despite St Helens runway technically being capable of accommodating 40-50 seater aircraft (such as the STR 42-400 or the Bombardier Dash 8) the pavement type and strength is unlikely to be able to accommodate such aircraft on anything other than on an infrequent basis. It is likely that larger aircraft types will damage the runway surface as well as the aircrafts paintwork/propellers.

The airport is commonly used to transport goods to market, such as seafood. Sealing and lengthening of the airport has the potential benefit to support current industries which may rely on movement of 'just in time' products to market (such as oysters and fresh seafood). There may also be unrecognised industry opportunities (i.e. latent export demand) which could be realised by more frequent and reliable movements through the airport.

As well as this, the tourism industry may also see benefits from sealing and extending the airport through encouraging high-end tourists who are able to afford to 'fly-in/fly-out' for short term stays. Although the airport does not have the capacity, or the demand, to accommodate significant commercial operators (even after sealing and extending), improved facilities and infrastructure could see an increase in those that have the means to fly in small chartered flights or private planes. As an example this could benefit the game fishing industry as flying in would be seen as possible prospect for those who are attracted to the region for game and sports fishing.

An additional benefit of the extension and sealing of the airport is that it has the potential to improve the region's emergency access capabilities, specifically for the townships of Binalong Bay, Scamander, Steiglitz and St Helens which account for a significant portion of the region's population. During emergency events time saved can be crucial in ensuring a good outcome. Although this may be seen as a social or health benefit (rather than an economic development) the health and welfare of populations are often linked to economic prosperity. Royal Flying Doctors Service flights also account for a significant percentage of landings in St Helens.

** Options for upgrading the existing airside infrastructure/facilities at St Helens Airport were investigated in Break O'Day Airstrip Feasibility Study by Michael Connell & Aurecon in September 2013. The study found that in the longer term there may be future potential for seafood industry freight and this should be taken into account in any infrastructure development of the airport. However, further investigation is required.*

Binalong Bay Access Road

Binalong Bay, including the surrounding areas of Grants Lagoon and Humbug Point Nature Recreation Area, is one of the regions popular holiday locations and provides both locals and visitors with access to sheltered beaches, lagoons, holiday accommodation, nature walks and scenic locations. Binalong Bay has high quality tourism resources, facilities and attractions and is the primary or key secondary location for many visitors to the region. It is also considered the gateway to the famed Bay of Fires region.

The main access route to Binalong Bay from St Helens is via Binalong Bay Road, which in part consists of a causeway and traverses across low lying Georges River floodplain. The causeway is subject to flooding and tidal surges which can isolate Binalong Bay from the rest of the Region. The alternative route to/from the town (via Mount Pearson State Reserve, Reids Road) is low volume, unsealed, and indirect. The significant coastal tourist destination has been cut-off on a number of occasions in the last few years due to flooding events, overtopping the causeway which in some instances also overtopped the bridge on the alternative access route of Reids Road.

In the short term it is important to address flooding and tidal events, however in the medium to long term it is also important to account for sea-level rise which may have significant impacts on access to Binalong Bay. Climate changes projected to the end of the century modelled under a high greenhouse gas emissions scenario include increased rainfall intensity, increased run-off and sea level rise – all of which increase inundation events and access-vulnerability of the Binalong Bay area, its community and visitors.

Given the significance of the location in attracting tourists to the region it is important that access to the Bay is not compromised by intermittent flooding. Access disruptions have the potential to impact on visitation numbers which has commensurate impacts on the supportive tourism services and operators in Binalong Bay and St Helens.

Strong evidence from the Transport Master Plan consultation process also suggests that some of the regions emergency responders (i.e. medical, fire and law enforcement) live in and around Binalong Bay area and have been cut off from the region in times of flooding and tidal surges. This has the potential to cause issues during emergency events not only for the people within Binalong Bay, but also the whole Break O'Day region.



Figure 44: Binalong Bay Access Way

Improving Reliability of Esk Main Road

The Esk Main Road is the main access route to the region and its townships, including Avoca, Fingal, Four Mile Creek, St Marys, Falmouth, Scamander, Beaumaris, Stieglitz, St Helens and Binalong Bay. Esk Main Road in is also the most direct connection to Launceston for much of the region.

Flooding causes the closure of the road intermittently, with the main locations being west of Ormley and the section from Killymoon Bridge to St Marys. To solve the flooding problems the road level needs to be raised and extra culverts constructed in localised areas. Raising the road will act to retain the water flowing off the range. From the available data it is apparent that there are three areas where the culvert sizes are too small, these being Bridge 4973, the Mill Stream at Mt Nicholas Road and Bridge 4983.

The Esk Main Road provides an important functional role for traffic access in the area and services the industries of mining (predominantly coal), agriculture, tourism, and fishing as well as general freight and passenger services.

The importance of the Esk Main Road and its role within the State road network has been clearly established. The main features of the route are:

- it is the principal link between the East Coast (Tasman Highway) and the Central North and Midlands (Midland Highway);
- it carries a significant amount of freight and general cargo to support the major industries in the area;
- it plays an important role in tourism, for both intra-state and interstate visitors to the East Coast;
- it offers clear advantages in terms of access to the East Coast compared to other routes, such as the Lake Leake Highway and the Tasman Highway through Scottsdale

In order to support the industries and townships either on or accessed by the Esk Main Road, it is important that an acceptable level of service is provided, consistent with its role and function as the primary access route to the region. The road alignment (both horizontal and vertical) is of a high standard to Avoca, but becomes more constrained and inconsistent thereafter. The road is also subject to flooding between Fingal and St Marys which constrains access to the wider region. Not having a consistent high-standard road impacts on the movement of people and freight, which in turn impacts market accessibility and trading of goods/services.

Developing the 'S' Road

The 'S' Road (Top Marshes Road, German Town Road, Scamander Rd and Upper Scamander Road) is a 26km unsealed section of route that connects from Scamander into the Esk Highway (at St Marys), and bypasses St Mary's and St Marys Pass. The route has been identified as an alternative route for access to the coastal townships of Scamander, Beaumaris, St Helens and Binalong Bay. The route consists of sections of Council owned roads (Upper Scamander Road, German Town Road and Top Marshes Road) with a significant section of the route being a Forestry Tasmania road ('S' Road). Despite this section being initially developed as a forestry route, it has become an important community access route for many road users.

Although the route is less direct than St Marys Pass and is narrow and unsealed, the importance of the route is highlighted at times when St Marys Pass is impassable. The 'S' Road is an integral link during emergency situations and has been illustrated as an integral link in times of fire danger.

The State Road Network managed by DIER, local roads managed by Council and forestry roads maintained by, or on behalf of, Forestry Tasmania, all need to be managed to a standard appropriate to their expected use. Although the Forestry Tasmania roads were initially cut to provide access to product growing areas and for transport of timber goods, many of these roads have become important access roads for regions and communities. Uncertainty and decline in the forestry industry in the region has also led to many routes being left unmaintained and dilapidated. Although the 'S' Road is still currently passable, over time the quality of the road would decline without input and maintenance from Forestry.

Well-researched and carefully developed planning schemes that take full account of the projected needs and directions of the transport sector will provide for an improved investment climate and consequent economic outcomes.

The Barway

Ocean access to St Helens and the three Boat Ramps within Georges Bay (town foreshore, O'Connors Bay and Stieglitz) is required to pass through the Barway, Pelican Point and Dora Point. Access across 'the Barway' at times is restricted by silting and the build-up of sand, therefore impacting on commercial and tourism industries. Recreational fishers are also potentially impacted albeit to a lesser extent due to having smaller more navigable boats.

Much of Tasmania's ocean-fishing and tourism fishing industries are based on the East Coast, with St Helens having a porting facility, supporting industry (such as processing) and vessel repair activities. The commercial and tourism fishing industries operating from St Helens are subject to the conditions of the Barway, and can suffer economic losses due to restricted access conditions. The delay of trips impacts on commercial fishing as it results in lost catchment opportunities, however the cancellation of charter trips has a potential wider impact with less opportunity for recovery (i.e. tourists are often on a restricted timeframe, and may not be able to reschedule trips). As well as direct economic losses to fishing related industries, there may also be a loss of profits to indirectly associated businesses within the region (accommodation, food and

beverage outlets) due to cancelled trips. By ensuring reliable access across the Barway, the potential for economic losses is reduced.

Fully Funded Bridge and Road Program (Asset Renewal and Upgrade Program)

One of the key transport infrastructure assets are the regions bridges. The bridges provide access between areas where there are geographical impediments (such as rivers or ravines). Bridges are located throughout the Council area and enable people, goods and services to travel across the region, access townships, services and employment.

Many of the bridges in Break O'Day have approached or are approaching the later years of their life and require either replacement, or servicing and maintenance. If bridges fail not only is there an immediate safety risk, but communities, industries and individuals will be severed from the region which has obvious associated social and economic issues.

A bridge management system inventory conducted in 2012 inspected all of the bridges and culverts in the region to determine the works which may be required, and the status of the bridge assets. This region-wide inspection identified 7 DIER bridges that require replacement under the North East Freight Roads Program at an approximate cost of \$4.2 million. These bridges have been funded and will be implemented in the 2012/2013 financial year.

The review also culminated in renewal timings and options for the rest of the regions bridges over the next 10 years based on asset condition and life. Required works vary across bridges, however general works include; replacing timber, culverts and concrete, upgrading decking, applying new abutments and increasing spans.

Supporting the Growth of Town Centres

The *Break O'Day Economic Development Strategy* has a primary objective of growing the region (through a larger population and stronger tourism sector) to generate sustainable jobs (in key sectors including services). This growth needs to be supported through improvements in town centres and economic and community infrastructure.

Attractive town centres are important in terms of attracting residents, businesses and visitors. Quality of place covers a range of elements including: environment - coastal and hinterland; town centres - design/layout and facilities; precincts - urban and village (St Helens, St Marys); bays /beaches (St Helens and coastal villages) - activation of areas.

- Plan the development of town centres;
- Encourage investment in key locations; and
- Promotion of Break O'Day as place to live.

The key priorities are maintaining and diversifying agribusiness (including value added processing); maintaining fishing activity, developing the port and further developing aquaculture; developing light industry linked to regional markets; redeveloping the tourism market; and maintaining the regional role of St Helens (retail, business services, government funded services -health, education).

The key economic priorities for the region are:

- increasing the population;
- strengthening businesses in the region to generate sustainable jobs;
- increasing tourist visitors to the region; and
- maintaining St Helens' role as a regional service centre.

The strategy also recognises the importance of place and the need for a broader regional approach.

St Helens has a strategic role as a District Town and as regional service centre. This role has been identified in the *Regional Land Use Strategy of Northern Tasmania*; and in the *Vision East 2030 - The East Coast Land Use Framework*. It is important to continue to develop St Helens strategic role as a District Town and as regional service centre. St. Helens' appeal could be improved by developing waterfront area/boardwalk; improving access to marina and port area and providing bike track access.

The town centres growth can be achieved by:

- Improving the planning of town centres (design/layout and facilities) can have a positive impact on retail activity and on the retail mix;
- Creating an attractive retail precinct with other services available (e.g. cafes, other services) can encourage visits and stopovers (by residents, holiday visitors and regional visitors);
- The mix of retail and pricing is important if local operators are to continue to attract local resident spending and to capture residents from the broader region; and
- Town centre improvements are important for the retail sector in St Helens and St Marys.

Improved infrastructure is important for economic and community development. It comprises both public and private infrastructure. Investment is required in economic and community infrastructure including:

- Precincts - improve town centres (e.g. St Helens and St Marys);
- Develop tourism infrastructure in major centres and in coastal villages/bays;
- Improve marine infrastructure (e.g. waterfront at St Helens-develop facilities in precinct/ maintain as commercial port;
- Develop bike trails and walking tracks to link areas and for active use of national park areas;
- Airport - maintain the facility for potential future long term uses; and
- Regional links - upgrade of roads linking the north east region to improve tourist access.

Improving Connectivity between Centres

Connectivity and level of accessibility to and within the region is vital for the region to regenerate and integrate into the northern region economy. Having a regional focus will not only unlock opportunity within the region it will also lead to necessary social and economic stability. Break O'Day has an extensive road network connected to other roads within the region that link District and Town Centres. Reliable road network is crucial for servicing

local residents and supporting forestry operations, agricultural exports and providing access to tourist destinations.

Connectivity is critical for the Break O'Day Council given that its District Centre and St. Helens Port is located the furthest away from Launceston and highly dependent on mountain passes providing access to all types of vehicles (passenger and freight). Large freight trucks are currently unable to use these passes under certain load and dimensional constraints. Road freight is nevertheless expected to grow substantially across the region over the next two decades with a greater use of high productivity vehicles. Critically important road infrastructure includes:

- St Mary's Pass, Weldborough Pass and Elephant Pass to be open 365 days a year, 24 hours a day;
- Binalong Bay Access Road as a key connection to important parts of the region to be improved to avoid sea inundation;
- An 'all weather' Esk Main Road as the main connection into the region to be developed; and
- Developing the 'S' Road as an alternative route to pass closures.

In order to improve liveability of Break O'Day it is necessary to improve the connection between the major centres (St Helens, St Marys Scamander and Fingal) within the municipality as follows:

- Develop opportunities to enhance community connections between townships;
- Develop and implement appropriate transportation options such as a community bus; and
- Improve local connectivity between residential areas and activity centres for both vehicles and pedestrians;

Review and implement sustainable road and bridge maintenance procedures and best practices

It is vital to identify the key infrastructure maintenance requirements in order to maintain connectivity of the network. Current road and bridge maintenance procedures require a critical review to assure sustainable and best possible practices are put in place and used for implementation.

Priority should be given to sections and objects that pose high safety risks or have high recurrent maintenance costs.

Some roads run through several council areas and maintenance regimes can currently vary on the one road/bridge depending on who is responsible for each section. A common set of maintenance procedures and best practices is recommended to optimise cost and use the scarce resources in the best possible way.

Funding

Asset Management Challenges

Over the past 130 years Council has developed transport assets ranging from roads and bridges to culverts, kerb and channels, footpaths and street lighting. The replacement cost of these assets is approximately \$94 million (*Break O'Day Asset Management Plan*) September, 2012. Many of these transport assets are becoming increasingly more expensive to maintain as they age. Break O'Day is at a critical point in its development having to now increase the funding of the ongoing maintenance and operation of these assets.

To operate and maintain the system costs Council approximately \$1.36m per annum just to preserve the same service quality as the community and business have become used to. To renew and upgrade these assets to a higher level of service including sealing and widening roads will cost an additional \$2.57m per annum. Over the next 10 years it will therefore cost an overall \$3.8m per annum on average. Council's present level of funding at approximately \$3.0m per annum is insufficient to provide services at current levels. This has significant implications on the community and local economy implying that the re-sealing of roads and the re-sheeting unsealed roads cannot occur at the desired frequency. Unless funding from governments or new sources of revenue can be found there will inevitably be road closures, load limits placed on bridges and a prioritising of works required. In other words the community will have to decide between its assets.

Council has two options:

a) Increase funding now to meet these needs on an annual basis for the next 20 years (\$3.8m p.a.). Without this funding assets will begin to deteriorate over time.

b) Maintain the current funding levels at \$3.0m p.a. but by delaying some required works expect that in about 11-12 years' time. Council will require three years of considerable funding to protect its assets from even more significant deterioration (in other words it will need to find an additional \$7.4m from somewhere to be spent over three years between 2023 and 2025).

Strategic Infrastructure

Investments in new infrastructure and updating critical infrastructure is needed to unlock the potential for further economic growth and access to new outside markets. At the same time, growth in the services industries (linked to tourism) and investment in northern Tasmania's traditional manufacturing and primary industry sectors will need to underpin any economic development strategy for the future.

Council needs to build economic and regionally important 'strategic infrastructure' (road, rail, sea and air) to maintain and develop its local economy (tourism, agriculture, fishing etc.).

This includes:

- developing its passes to be more reliable or even an all-weather status if feasible;
- protecting key links from sea level rises;

- developing its airport and supporting roads; and
- preventing its channels from silting up and preventing key links from flooding through raising roads (as mentioned previously).

The cost of each of these strategic items will be over and above the funding it needs just to maintain the system.

The total cost of strategically important infrastructure is estimated to be:

- New Airport and Stieglitz Road Link \$2.3-2.9m;
- Passes (St Marys, Weldborough and Elephants pass) - \$18m (indicative);
- Binalong Bay: Reids Road Option \$13.3m, Binalong Bay Causeway \$16.6m;
- Key Bridges - \$6.6m
- The 'S' Road - \$14.5m (indicative)
- Esk Main Road (\$31m indicative)

REFERENCES

- Tasmania Together 2020*, Department of Health and Human Services, 2001
- Tasmania Together 2020 Revised*, Tasmania Together Progress Board, 2011
- Tasmanian Infrastructure Strategy*, Tasmanian Government, 2012
- Tasmanian Economic Development Plan*, Tasmanian Government, 2011
- Tasmanian Road Safety Strategy 2007 – 2016*, Department of Infrastructure, Energy and Resources, 2006
- Tasmanian Freight Survey 2008-2009 Data Summary*, Department of Infrastructure, Energy and Resources, 2007
- Northern Integrated Transport Plan*, Department of Infrastructure, Energy and Resources, 2013
- NTD Regional Transport Funding Policies*, Department of Infrastructure, Energy and Resources
- Break O'Day Council Strategic Plan 2011-2015*, Break O'Day Council, 2011
- Break O'Day LGA Economic Development Strategy*, Michael Connell & Associates, 2013
- Break O'Day Council Municipal Management Plan, May 2013*
- Project Status and Existing Issues Paper- Stage 2, May 2013*
- Airstrip Feasibility Study, Michael Connell & Aurecon, September 2013*
- Tourism Tasmania Strategic Plan 2010-2013, Tourism Tasmania, 201*

