Bass Coast Shire Council

Phillip Island Integrated Transport Study

A Community Vision for Transport

transportation planning, design and delivery

13M1818000 26/05/14

GTAconsultants

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Issue: C 26/05/14

Client: Bass Coast Shire Council
Reference: 13M1818000
GTA Consultants Office: VIC

Quality Record

Issue	Date	Description	Prepared By	Checked By	Approved By	Signed
A-Dr	02/09/13	Draft	Alex Blackett	Cameron Martyn	Christian Griffith	Christian Griffith
B-Dr	20/09/13	Draft	Alex Blackett	Christian Griffith	Christian Griffith	Christian Griffith
A	16/12/13	Final	Alex Blackett	Tom Courtice	Christian Griffith	Christian Griffith
B	08/04/14	Final	Alex Blackett	Tom Courtice	Christian Griffith	Christian Griffith
C	26/05/14	Final	Alex Blackett	Tom Courtice	Christian Griffith	

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Executive Summary

Phillip Island (the Island) is one of Victoria's most important tourist attractions and an increasingly popular choice for holiday makers, permanent residents, businesses and the staging of major events.

The success of the Island in attracting visitors and new activity is reflected in the increasing pressure on its transport network, a trend likely to continue long into the future.

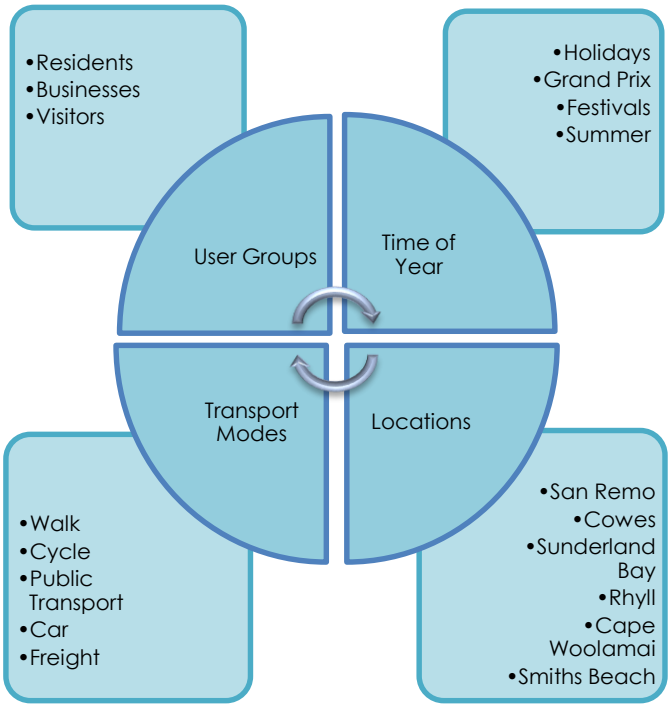
The ability of Council to successfully manage the challenges of peak season demand as well as growth in year round activity is dependent on an integrated and well-planned transport system that meets the needs of all users now and into the future.

The Phillip Island Integrated Transport Strategy (PIITS) has been prepared to guide future investment in the transport network on the Island (inclusive of the transport corridor between Anderson and San Remo) by local and state governments through to 2030. It has been developed through extensive consultation and engagement with those that live, work in and visit the area, and therefore reflects the community's vision for transport on the Island.

A summary of the consultation activity is presented in Section 3 of the report, and included two Community Bulletins, four Stakeholder Focus Groups, three Community Forums and a community survey. Over 70 participants were engaged 'one-on-one' with the project team and approximately 650 survey responses received.

The resulting information was then collated, analysed and arranged into a series of key objectives and principles that were combined with background analysis, transport planning principles and a consideration of the unique characteristics of the Island.

The resulting framework is described in the figure below and aims to deal with existing issues, protect what we value about the Island and create opportunities to improve it in future.



- Recreational cycle network
- Improved PT connections
- Service lanes on Phillip Island Road
- Shared spaces in Cowes & San Remo
- Access to natural features
- Network and Modal integration
- Congestion management
- Community Transport
- Safety improvements

- Alternatives to private car travel
- Safety as a priority
- Protect natural attractors
- Address congestion
- Create commercial opportunities

The resulting community vision for transport on the Island is as follows:

> ***A transport network that supports the ongoing development of Phillip Island into a year round destination in a safe, prosperous and sustainable way, and providing all residents, businesses and visitors the opportunity to access, enjoy and share in Phillip Island's unique attractions.***

In order to shape the transport framework to achieve this vision, five key principles have been developed to guide the implementation of PIITS:

- **Transport Network Improvements**: Create a transport system that provides real alternatives to private vehicle travel. A focus on improvements to the walking, cycling and public transport networks is required, while balancing the ability of private vehicles and freight to more efficiently access the Island and the townships within it.
- **Creating a vibrant and safe pedestrian and cycling network:** Implement pedestrian priority along and across streets in the townships supported by other measures such as a comprehensive cycle network.
- **Better connections and integration across modes:** Overcome the significant barriers to the walking and cycling networks imposed by major roads and associated infrastructure, including improvements to the public transport network.
- **Development of the transport network as an attractor:** Capitalise on the unique natural attributes of the Island through creation of a recreational network that becomes an attractor in its own right.
- **Partnership with Victorian Government**. Develop an integrated transport system by working in close partnership with the Victorian Government, particularly for public transport and arterial road improvements, which they control.

These five key principles guide a range of short, medium and long term initiatives set out in Section 5 that are focussed on meeting the long term community vision for the transport network. They are arranged around transport modes, supported by sound transport planning principles and prioritised having regard to the feedback from the stakeholder and community engagement process.

PIITS was opened for community comment during the period January to March 2014, for a total of six weeks. During the exhibition stage, a total of 40 submissions were received, which have informed this final transport strategy.

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1. Introduction – What Is This Study About?

1.1 Phillip Island

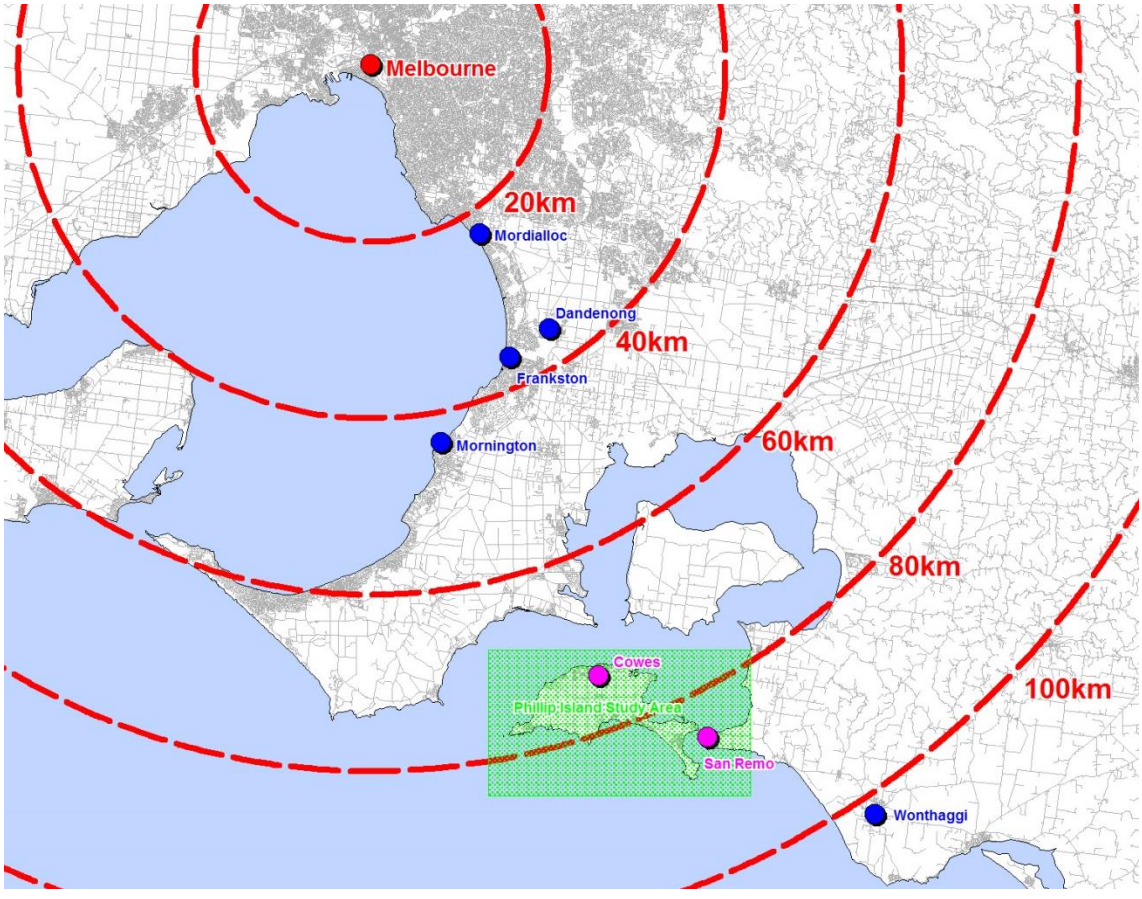
Phillip Island is an increasingly popular choice for permanent residents and holidaymakers alike.

Its location within a day trip distance of metropolitan Melbourne, coupled with it offering a wide range of recreational and holiday activities and marquee motorsport and musical events, results in many challenges for the local transport network.

The ability of Council to effectively address the challenges of peak season demand and ongoing growth and quality of access is reliant on there being an effective, integrated and well-planned transport system that meets the needs of existing and future residents, visitors and business owners.

Figure 1.1 below shows the location of the Phillip Island study area in relation to Melbourne and surrounding centres.

Figure 1.1: Phillip Island Location and Study Area



1.2 Purpose and Scope

The Phillip Island Integrated Transport Strategy (PIITS) has been prepared to guide future investment in the transport network on Phillip Island, and the transport corridor between Anderson and San Remo, by local and state governments through to 2030.

PIITS has been built on extensive consultation and engagement with those that live, work in and visit the area. It aims to identify the unique characteristics of Phillip Island, what the current transport issues are and as a result what the future vision for the transport network should be.

PIITS considers the growth forecasts for Phillip Island, its increasing role as a tourist destination of state significance and seasonal fluctuations with event goers and holiday makers. Further, it considers a range of viable transport options, and focuses on ensuring that the transport system provides genuine choice for each of the different user groups and how to best manage the varying demands experienced throughout the year.

Cars are currently the dominant form of transport for short trips and getting on and off Phillip Island. Given that the Island has a single road access point and is some distance from other regional centres, it is likely that private vehicle travel will remain a convenient and popular form of transport into the foreseeable future. However, a number of characteristics of this car-dominated travel behaviour need to be addressed so that the transport network can better manage and support the needs of the users, as well as providing opportunities for those that don't own a car and/or cannot drive to access a full range of employment, services and recreation.

This outcome is to be achieved through an integrated approach consistent with the community's vision for the Island. A high level framework will guide future decision making and investment in the transport network, as well as identifying specific projects required to implement the vision.

1.3 Study Process and Methodology

The Study has been undertaken over a four month period from May to August 2013 and involved the following stages:

i Understanding the project objectives, purpose and what Council want to achieve.
ii Reviewing the current transport network and Phillip Island context.
iii Compiling this information into a Background Report (issued June 2013).
iv Reviewing latest transport planning guidance and best practice.
v Undertaking a comprehensive Community and Stakeholder Engagement process.
vi Analysis and understanding of all input and feedback received in this engagement process.
vii Creating a transport Vision for Phillip Island.
viii Identifying projects to achieve this Vision.
ix Preparation of the PIITS report.

This is described in further detail below:

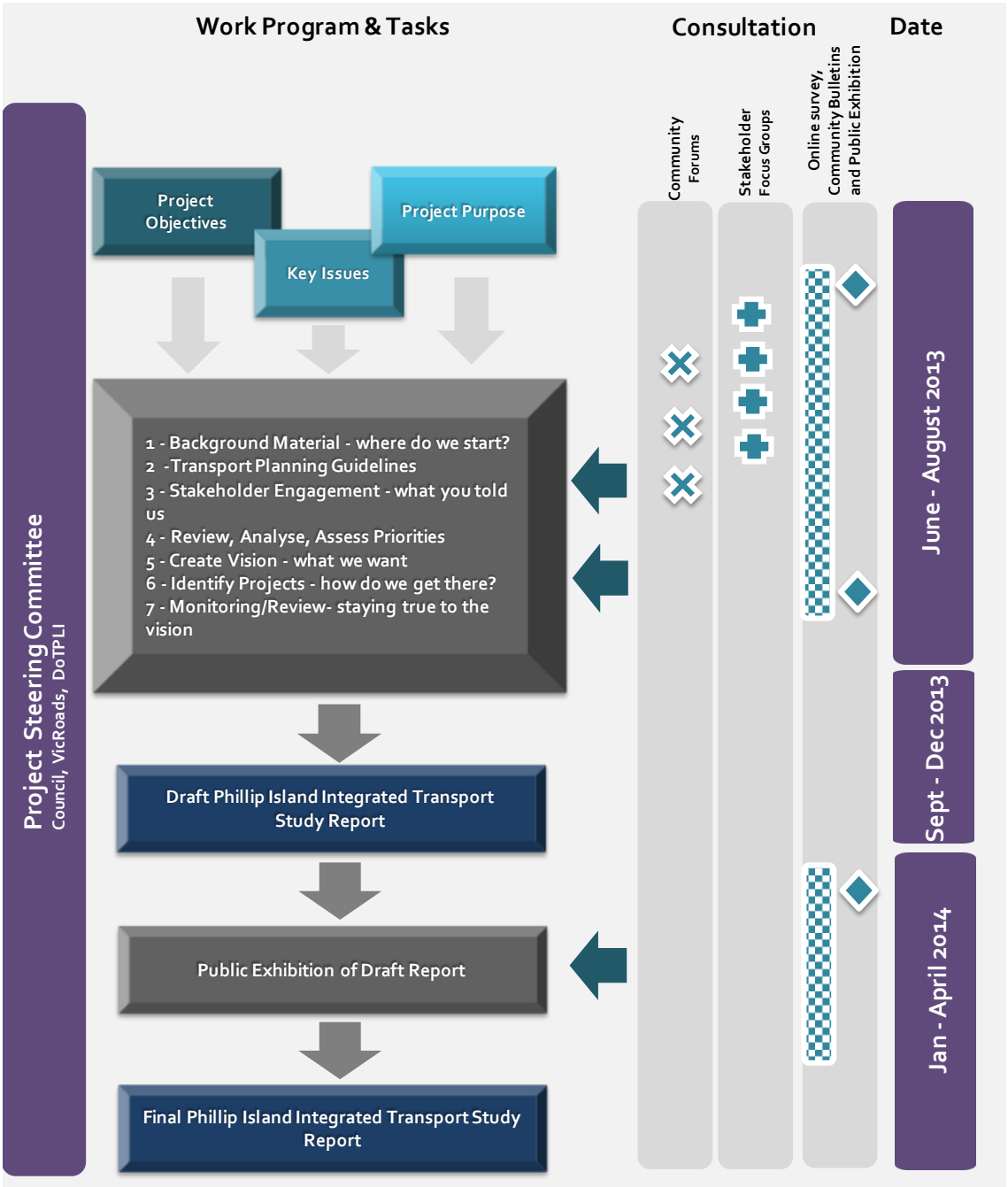
- Background review of policies and studies shaping the Island, as well as background data that informs us of current (and projected where available) population and transport characteristics of the study area.
- Identify broad level transport principles that have been used to shape the vision and achieve an integrated transport system.
- Extensive consultation and engagement with those that live, work in and visit the area to understand the local context, what people value and enjoy within the area, and how the transport system can help to protect and enhance these factors
- Development of a long-term vision for the transport network in the study area that reflects the communities current concerns, future demands and how to capitalise on potential opportunities.

- Development of a high level integrated framework to guide future decision making and investment in the transport network, along with the identification of short and medium term projects required to support the long-term vision and offer advice on next-steps in the process.

In order to ensure the Transport Study is consistent with Government policy and can be supported by State Government partners, the provisions of the Transport Integration Act (2010) have been used as a guide in developing the report, as outlined in Section 2.

This process is summarised in Figure 1.2 below.

Figure 1.2: Project Process



1.4 Phillip Island in Context

A background review of policies and studies shaping the Island, as well as background data on existing and future population and transport characteristics of the study area, have been completed and compiled within a background report.

A copy of the Background Analysis Report is provided in Appendix A, with its key themes and findings presented in Section 2 of this report.

1.5 Local and State Government Roles

PIITS acknowledges that the Victorian Government arguably bears a greater responsibility than Council for the provision of an appropriate level of transport to adequately address the community's needs. This includes a range of legislative and statutory responsibilities such as:

- land use planning, which is articulated through the Victoria Planning Provisions
- the provision of major infrastructure such as arterial roads and public transport services
- allocating land for development through the rezoning process (in partnership with Council)
- other areas of responsibility such as planning for those with disabilities, the aged and other population groups with particular needs.

Notwithstanding this, an integrated approach between all levels of government is necessary to address transport and land use issues and to create a productive, prosperous and liveable Island community in future.

As a result Council will work in partnership with state government to protect the Island as an ongoing and viable tourist, sports and musical event destination of state significance.

The overarching legislation relevant to PIITS is the Transport Integration Act (2010), which sets out the vision, objectives and decision-making principles for Victoria's transport system. The Act is applied to all transport and land use agencies and requires all Victorian government agencies to work together towards the common goal of an integrated and sustainable transport system.

2. Background Information – Where Do We Start?

2.1 Policy Objectives

A number of strong themes have emerged through the background document review, as set out in the Report in Appendix A. These themes are summarised in Table 2.1 and have been used to inform the vision for the future of Phillip Island's transport system.

Table 2.1: Background Review: Summary of Themes as Input to the Transport Vision

Theme	Application to Transport Network Vision
Sustainability	The future network must promote identification and enhancement of sustainable transport practices and mitigation of any adverse effects brought about through the operation of the transport system.
Equity of access to services and opportunity	The transport network must be accessible to and service the needs of a diverse range of users, from young children to the elderly ('8-80' planning), the mobility and sensory impaired, and from all socio-economic groups.
'Triple Bottom Line' considerations	In considering the role and priorities of the transport network, environmental, social and economic considerations must all be given equal significance.
Securing a healthy future for Phillip Island	The transport network must be able to provide for the growth and development potential of Phillip Island while promoting a healthy economy, population and environment.
Providing viable transport choice	All transport modes have a role to play in the future Phillip Island network. The diversity of users, demands and roles the transport system must provide for requires a balanced and user-focussed approach.
Phillip Island in context	Phillip Island does not exist in isolation of the surrounding regional, State and national transport network. Outside factors (i.e. growth of Melbourne day-trip demand) and influences (new technology) will form important considerations for the future network.

While a reference list of all the documents reviewed as part of the study is provided in Section 2 of the Background Analysis Report, the following are considered to be the most important in shaping the future transport network for the study area:

- Transport Integration Act 2010
- Road Management Act 2004
- VicRoads SmartRoads Policy
- Gippsland Integrated Land Use Plan
- Bass Coast Council Plan 2013-2017
- Number of Structure Plans in the area
- Final San Remo Access Strategy 2013
- Bass Coast Bicycle Strategy 2000
- Draft Bicycle Infrastructure Action Plan 2012-2022
- Cowes CBD Parking Study 2012

In addition, it is noted that there have been a number of additional documents that have recently been released that could be expected to have some impact on the future transport network for the study area. Those documents most relevant to this study are the following:

- Gippsland Freight Strategy 2013
- Victoria - The Freight State Plan 2013
- Plan Melbourne 2013

2.2 Integrated Transport Planning via the Act

The Transport Integration Act (the Act) is the primary transport statute for Victoria, and has caused significant change to the way transport and land use authorities make decisions and work together. The Act enshrines a triple bottom line approach to decision making about transport and land use matters.

The Act requires that all transport agencies work together to achieve an integrated and sustainable transport system, and that land use agencies such as the DTPLI[1] take account of transport issues in land use decisions. The Act has been effective to date in changing the focus of organisations that traditionally only considered a single transport mode.

The Act:

- unifies all elements of the transport portfolio to ensure that transport agencies work together towards the common goal of an integrated transport system
- provides a framework for integrated and sustainable transport policy and operations
- recognises that the transport system should be conceived and planned as a single system performing multiple tasks rather than separate transport modes
- integrates land use and transport planning and decision-making by extending the framework to land use agencies whose decisions can significantly impact on transport ("interface bodies")
- re-constitutes transport agencies and aligns their charters to make them consistent with the framework.

The Act forms an overarching legislative framework for transport related state planning policies and has been integrated within the Victorian Planning Provisions (VPP).

2.3 What's Unique about the Island?

The Island is an increasingly popular choice for permanent residents and holidaymakers alike as described in Section 1.

The following summary of factors combines to make the Island and its challenges unique:

- Geography – an Island has limited cross-boundary access, and a single point of road access to the mainland.
- Visitor Numbers – the Island's popularity as a holiday destination, proximity to a large population centre (Melbourne), strong event program and unique attractions (such as the penguin colony and native flora and fauna reserves) see it attract up to 3.7million visitors per annum, with this number expected to increase significantly in future years.

[1] Department of Transport, Planning and Local Infrastructure

- Environmental Considerations – nature reserves and parks, wildlife, coastline and natural beauty, preservation of the high quality natural environment is an important consideration in this study.
- Population Demographics – an aging community with a high number of retirees, significant numbers of property owners living outside the study area and increasing reliance on alternative transport modes.

Table 2.2 outlines the transport considerations and potential responses drawn from the Background Analysis Report. This work provided an input to the community consultation process and also assisted in setting priorities for actions.

Table 2.2: Background Analysis – Key Considerations and Potential Responses as Input to Community Consultation

Category	Consideration	Potential Responses
Population and land use	Based on current growth rates, there is expected to be a significant increase in the number of permanent residents in the area	• Planning for significant increased travel demand and congestion due to increased pressure upon the road network if current mode share and travel behaviour continues • Improved community transport and active transport services, safety imperatives for disadvantages transport network users • How to spread demand, encourage non-essential travel to be deferred • Disseminate information about avoiding peak times • Expectation management in relation to level of transport service
	With the area becoming more accessible from metropolitan Melbourne, it is expected that increased visitor numbers on holiday and attending events will occur	
	The proportion of the permanent population over 60 years old is higher and growing more quickly than the State average.	
	There are currently an estimated 3.7million visitors to Phillip Island per annum	
	Seasonal and peak demands create congestion issues on the network	
Transport Choice	One road bridge links Phillip Island to the mainland at San Remo.	• Consider how the current infrastructure can be best utilised. Focus on moving most people, not cars, across bridge • Consideration of most effective and efficient linkages to Melbourne – via PT system and onto ferry at Stony Point
	There is potential for enhanced use of water transport	
Pedestrian Network	The existing pedestrian network is generally limited to the main streets within the commercial areas of the townships and a number of isolated shared paths.	• Establishing a comprehensive, linked pedestrian network providing both access and recreational (tourism)opportunities • Linking a number of attractors via a circular cycle network • Implementing pedestrian priority wherever possible to encourage increased sustainable transport mode share for short trips • improved safety, access and amenity on the ped network
	There are limited facilities supporting pedestrians crossing roads	
Bicycle Network and Facilities	The existing bicycle network is generally limited to the shared paths along some waterfronts and Phillip Island Road, and an on-road bicycle facility along Thompson Avenue.	

Category	Consideration	Potential Responses
	Limited way finding signage and infrastructure between key trip generators and destinations	• Increase in active travel mode possible through short term quick wins such as public end of trip facilities in key locations • Prioritising active travel modes
	There is a lack of end of trip facilities (parking, showers / lockers) at key destinations and land uses throughout Phillip Island and San Remo.	
Public Transport Network	Currently limited coverage of public transport (bus) services	• Demand for alternative transport modes through aging population, high youth population and lower than average car ownership • Promote rail and ferry link – potential for easing road demand in peak season • A PT bus service circulating the Island and linking into local collectors and integration with pedestrian and cycle networks • Park and Ride stations at strategic locations (Cowes, San Remo)
	The frequency and span of hours of most services is relatively poor.	
	The future potential for increased PT travel to Phillip Island via train-ferry	
Road Network	The road network prioritises private motor vehicles over other users, even within the townships.	• Local area traffic management planning • Maximise use of transport infrastructure investment – potential for local road network to alleviate congestion and maximising efficiency of arterial road network • Travel behaviour – demand management options • User expectation management and information dissemination • Adapting components of event traffic management for peak demand periods • Freight management – time distribution, 24hr road space utilisation • Safety considerations for heavy traffic types and volumes – in particular around coach traffic • Buffer zones between freight and heavy traffic network and areas of high amenity
	Access between the mainland and Phillip Island is only possible by the Phillip Island bridge.	
	Arterial road network becomes congested during peak holiday periods and when major events are on.	
	Traffic is currently funnelled into the main street of Cowes (Thompson Avenue).	
	Up to 90 coaches per day (peak demand) generated by penguin attraction	
	Provide for efficient freight movement and minimise impact on the network	
Car Parking	During peak periods, car parking utilisation is high in proximate areas to the commercial cores of the townships in the area.	• Improved wayfinding and dynamic signage for car parking areas • Identification of parking sites on town fringes linking in with public transport, cycling and walking networks • Investigate the potential to encourage parking on mainland and alternative means of transport onto the Island
	Limited signage of and direction to the off-street car parking areas.	
	Parking capacity on Phillip Island	

2.4 Transport Planning Principles

This section sets out high level principles generally used to guide the development of an Integrated Transport Study. They have been tailored specifically for the Island, as identified in the background review and analysis.

The principles look to support the provision of a transport system that better manages existing services and facilities, and provide a framework that aims to address the current and future issues, offer genuine choices to the range of users, support economic development and leverage off the natural tourist attractors in the area.

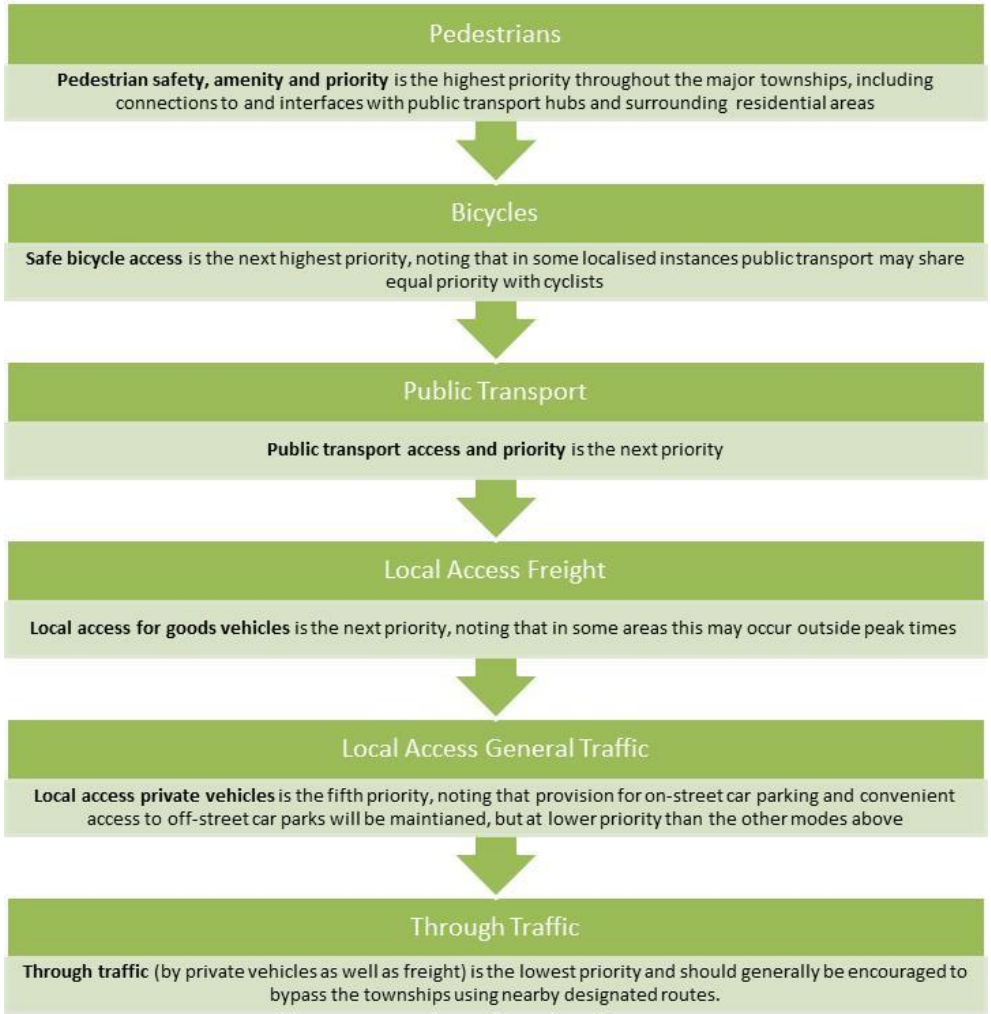
In addition, it considers the main contradicting demands on the transport network and key challenges or risks to the implementation of the PIITS.

2.4.1 Transport Modes

A transport hierarchy is essential to help inform the decision framework for future transport priority and funding, in particular where there are competing demands on the same transport corridor.

The proposed modal hierarchy for the study area is shown in Figure 2.1.

Figure 2.1: Modal Hierarchy



This modal priority is consistent with SmartRoads - a VicRoads policy that sets priorities on the road network. The VicRoads SmartRoads Network Operating Plan is considered further in the background report.

2.4.2 Providing Mode Choice

The focus of the transport network within the study area has historically been on car travel, which has resulted in a reliance on private car use. However, with the peak traffic volume loadings and resulting congestion experienced on the road network, significant investment in additional road capacity is required to maintain the status quo. Moreover, there are a high number of retirees within the study area, resulting in an above average proportion of the population not having access to a private car. This all generates the potential for greater mode choice and alternatives to car based transport to achieve an improved transport outcome for the area.

The preferred transport mode will vary depending on personal circumstance and perceptions on the viability of using a particular mode, especially when there is a difference in travel time, cost, safety and/or physical effort associated with each.

In order to realise a transport system that provides viable and attractive alternatives to private vehicle travel, a number of fundamental changes are required that focus on improvements to the walking, cycling and public transport networks. In particular:

- The adoption of a 'Principal Pedestrian Network' and 'Principal Bicycle Network' for the study area to ensure that these modes are strongly encouraged through a comprehensive network of appropriate standard facilities, including a range of off road and shared paths, and introduction of pedestrian and bicycle priority crossing facilities. At a minimum, these facilities should provide routes accessing both natural and man-made attractors and link to residential suburbs, as well as cater for a range of user types and abilities (i.e. recreational, commuter, sporting and mobility and visually impaired).
- Advocacy for a public transport system that has a higher frequency, longer operating hours including evenings and weekends, and increased coverage within the study area inclusive of connections to regional services (i.e. V-Line bus services and metropolitan train services).

It is acknowledged that private car use will remain the dominant form of transport on the Island for the foreseeable future. As such, it will also be critical to preserve the ability of private vehicles and freight to efficiently access the network through:

- The continued refinement and enhancement of the primary (Phillip Island Road) and secondary (Ventnor Road and Back Beach Road) arterial roads, to ensure that the road network supports the overall 'tourist destination' function of Phillip Island, and allows for growth in vehicle circulation, including provision for freight traffic, between townships and other major attractors (tourist, commercial or otherwise).
- Development of local road networks that provide safe and high amenity access to properties and local services, including public car parking, while preventing the potential for through traffic and high levels of vehicle circulation in search of local services.

It should be noted that any recommendations associated with the arterial road network will be the responsibility of VicRoads. However, Council can advocate for the proposed modifications and use the PIITS to provide an overall approach for the future development of the road network.

2.4.3 Road User Safety

With any transport system there is the potential for conflict between users, as reflected by the 'Safe System' approach to road safety, which is the basis for the Australian National Road Safety Strategy 2011-2020. The 'Safe System' approach accepts that people using the road network will make poor judgements and therefore the whole system needs to be more forgiving of those errors.

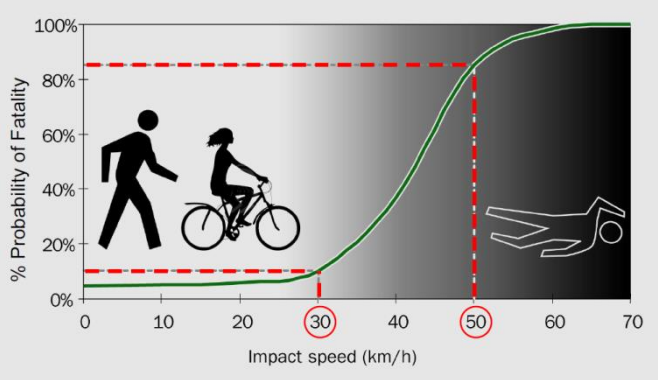
In this regard, and at a first principles level, road safety can be improved by reducing the probability of conflict and reducing the severity when conflict occurs. There are many ways that this can be achieved, but at a broad level, the Austroads Guide to Road Safety Part 7: Road Network Crash Risk Assessment and Management (2006), sets out the following measures to improve road safety in order of preference:

- elimination - remove the hazard
- substitution - use a safer option
- engineering controls - design modifications
- isolation - where the hazard is removed from direct influence administrative controls - including educational initiatives, speed limits, licensing, drink driving laws, or
- personal protective equipment – for example vehicle improvements (air-bags, electronic stability control etc.).

One of the major determinants of road safety is speed, and the setting of speed limits is considered to be a critical aspect to the level of safety of a given road. There can be competing demands in setting a speed limit, such as travel time, but where the potential for conflict between users is highest, such as along main streets in townships, then sometimes the easiest way to increase the level of safety is by reducing the speed to a suitable level to accommodate the most vulnerable users.

As a further explanation of the impact of speed on safety, Figure 2.2 shows the probability of a fatality resulting from a collision between a motor vehicle and a pedestrian or cyclist. Having regard to the 'safety benefit' shown in this figure, lower speed limits should be considered within high pedestrian and cyclist areas where full separation of transport modes cannot be achieved. This is likely to support pedestrian and cyclist amenity as well as safety, which is an important consideration in people's choice to walk or ride.

Figure 2.2: Probability of a Fatal Injury for a Pedestrian or Cyclist Struck by a Motor Vehicle



Source: WHO 2008

2.4.4 Road Hierarchy

The existence of a road hierarchy allows for the relative priorities of each road to be clearly understood. This also makes it easier to identify issues that need to be addressed, and infrastructure works that help refine and enhance them in providing an appropriate service to users. Given the expected increase in demand for car travel on the Island and integration of alternative transport modes, the development of a clear road hierarchy is considered critical.

A typical road hierarchy is summarised below:

- **Arterial road network.** These have the highest priority for freight and general through traffic, and public transport priority along public transport routes. It is also possible to provide high quality pedestrian and bicycle facilities along arterial roads, but given the higher speed environment, fully separated facilities are often required. Care should be taken at intersections, property access and public transport stops to provide an appropriate level of safety, while not unduly impacting through vehicle movements.
- **Major local road network.** On major local roads, local destination traffic and some local area through traffic should be accommodated. Appropriate design and management measures should be put in place to ensure that traffic speeds are kept low and pedestrian and bicycle safety can be achieved, particularly at intersections or other places where pedestrians and cyclists are potentially in conflict with vehicles.
- **Minor local roads.** The minor local road network provides access to many of the land uses within the study area. As such, through traffic should be discouraged from using these roads. Speeds and traffic volumes are generally low enough to provide a high standard of pedestrian and bicycle facilities, if not mixing of these modes.

2.4.5 Congestion Management

The Island experiences a high fluctuation in traffic volumes on the road network, which during peak times results in significant levels of congestion.

These peak congestion periods predominantly occur over a small proportion of the year, such as when major sporting and musical events are held, during school holidays and over long weekends and public holiday periods. The level and frequency of network congestion is discussed in the Background Report.

During a number of the peak congestion periods there are temporary traffic management measures introduced, such as the blue line markings on Phillip Island Road to achieve two eastbound traffic lanes, instead of the typical one lane. These temporary traffic management measures are effective when managed closely, but are not currently used outside of events, for example during peak holiday periods.

The improvements to the road network that will help reduce peak levels of congestion, in particular on the arterial roads in the study area to assist in their role of providing priority to freight and general through traffic, are addressed further in Section 5 of this report.

2.4.6 Conflicting Demands

It is important to identify conflicting demands and understand the implications of prioritising one component over another. The conflicts of particular relevance to this study are discussed below.

Travel Speed vs Safety

The primary purpose of a transport network is to move people and goods efficiently and safely to their destination. However, with increased travel speed and traffic volume, the severity and

probability of crashes tends also to increase. Improved transport infrastructure can be used to reduce the severity and probability, but this typically requires additional space for run-off areas (clear zones), divided carriageways, tree removal, additional lanes, etc and has an associated construction cost.

A balance between appropriate travel speed and level of safety to all road users is required. The speed limit should be dictated by the most vulnerable mode competing within a given transport corridor, rather than how fast a car can travel. There will be sections of the road network where travel speed is the dominant function, such as with arterial roads, but this approach is not considered to be appropriate across the network.

Capacity vs Amenity

Road capacity is generally determined by road space, travel speed and intersection treatments. While an increase in road capacity may address congestion in the short term, it can also have an amenity impact on neighbouring land users. The rationale for a multi-lane, high speed arterial road through the study area is considered to be weak, as it would detract from the aspects of the study area that make it so attractive to live, work in and visit. But, conversely, a grid-locked two-lane road is not desirable either.

To help ensure amenity is not compromised, consideration should first be given to the availability of alternative transport modes before providing additional road capacity. It is possible to achieve transport behaviour change away from a given mode (i.e. car) when an alternative (i.e. public transport) is more attractive, either on a time, cost or convenience basis. Good transport network planning recognises the balance required and potential for improvements to one travel mode to benefit another. An example of this is a well-connected and efficient public transport network easing traffic congestion which ensures those that still must travel by car also benefit.

A strong example of the conflicting demands between capacity and amenity is evident around the issue of the duplication of Phillip Island Bridge. Duplication would only be beneficial if the other sections of Phillip Island Road and the intersections along it were upgraded, so as to not cause significant queuing back from them. The cost of such a project would exhaust a high proportion of the available transport funding over a number of years and address car traffic congestion only.

There are a number of other interim improvements to the road network that could be expected to reduce congestion during the peak periods which would have a much lower amenity impact and provide a broader and more balanced range of benefits across economic, social and environmental considerations.

Access vs Environmental Impact

The Island boasts a large number of unique and high quality natural attractions. Good access to these attractions is required to ensure a high number of visitors and locals can experience them and benefit the Island economy. This access is generally via transport infrastructure, which typically has an adverse impact on some of the natural environment. The benefits of good access to natural attractions need to be balanced with the impact on the natural environment.

2.5 Challenges

The challenges to the implementation of PIITS and potential mitigation measures are outlined in Table 2.3.

Table 2.3: Challenges to Implementation

Change Required	Potential Mitigation Measure
Alignment of transport and land use objectives (transport network supports lifestyle and growth).	Ensure the integration of transport and land use objectives are reflected in policy and plans.
Congestion and high season (non-event) demand management.	Identify likely times of high demand and transport network management measures put in place to address. Both supply and demand side measures considered.
All investment decisions informed by modal hierarchy.	Ensure project development and design on the Island is centrally coordinated at a high level.
Commitment from Council, State Government and private sector for funding stream.	Ensure PIITS is integrated into Transport and Public Realm key deliverables over forward estimates period and funding allocated.
Support from Council, community and State Government.	Undertake ongoing engagement across Council, State Government and community as required.

3. Stakeholder and Community Engagement – What You Told Us

Quotes received from survey respondents have been included throughout this report in text boxes to reflect feedback and provide the reader with some insight into community views and priorities

3.1 Overview

An important objective of PIITS is to articulate the community's vision of current and future transport needs for the Island's transport network. To facilitate this, an engagement strategy was developed to identify when and how the community and other stakeholders would be consulted throughout the project.

A summary of the consultation responses is set out in this section of the report. The resulting vision and the initiatives that flow from it are described in Sections 4 and 5, respectively.

Note that the comments below in Section 3 reflect a range of community views and are reproduced for information only, they should not be considered as the recommendations of PIITS.

3.2 Aims

The main aims of the stakeholder engagement within the PIITS were considered to be:

- Understand what the community values about the Island and its transport network and what stakeholders see as its positive and negative aspects.
- Involve stakeholders in identifying key issues that need to be addressed in the PIITS.
- Engage stakeholders in generating ideas and actions that may influence the PIITS.
- Inform the community about project capacity and scope.
- Generate interest and ownership within the community for the future possibilities on Phillip Island.

3.3 Stakeholders

Understanding the broad range of stakeholder groups is critical to the success of any consultation program. As such, the following stakeholder groups were identified and engaged:

- Authorities and agencies
- Commercial, business and tourism bodies and groups
- Community organisations
- General community.

Furthermore, a Council steering group was formed to guide the development of the PIITS by providing input and feedback throughout the project.

"With significant new housing estates being developed on Phillip Island (particularly around Settlement Road & Ventnor Road Cowes), and with new shopping complexes in Cowes, there has been a significant increase in traffic congestion around the Cowes area and on the main tourist road leading into Cowes."

"Once we holiday on the island we don't want to be driving in a car. Public transport to get us to and from island is most important to us."

3.4 Engagement Activities

A summary of the activities are summarised in 3.1 and explained further thereafter.

Table 3.1: Engagement Activities

Activity	Number	Date(s)	Distribution	Participation
Community Bulletin	2	June 2013	Mail out to all property owners in study area, Council website	All property owners in the area
		August 2013		
Stakeholder Focus Group	4	19 June 2013	Select invites to 60+ identified stakeholders	All BCS Councillors
		19 June 2013		Business Groups
		20 June 2013		Authorities and Agencies
		20 June 2013		Community Groups
Community Forum	3	6 July 2013	Open invite through community bulletin and Council website	Over 50 community participants for drop in sessions
		10 July 2013		
		13 July 2013		
Community Survey	1	June 2013 – Aug 2013	Mail out to all property owners in study area Online Survey through Council site	650+ responses via both hard copy and Survey Monkey website

Project bulletins

There have been three bulletins (in print and online formats), posted to every property owner in the study area, displayed around key activity points and available to download online. These bulletins provided the primary medium for the distribution of project-related information to the broader community on project status and upcoming forums.

"My husband and I would like to do more bike riding. We only ride on bike paths for safety reasons and we have no bike path from Rhyll to connect to existing paths, therefore we tend not to ride as it means putting our bikes in cars to get to an existing path."

Councillor briefing meetings

It is important to engage elected representatives of the community at all steps of the project. The Councillors will ultimately be requested to adopt and endorse the outputs of the PIITS and it is therefore vital that they have an understanding not just of "what" PIITS is proposing but "why".

Focus group meetings

"It is very unsafe for pedestrians - too many cars... going too fast... with too few footpaths."

"Sharing our narrow roads with holiday traffic and cyclists (and some local drivers) is a traffic hazard. Shared bicycle/pedestrian paths would make for safer travelling for everybody."

The focus group meetings comprised of invited 'key stakeholder groups' who represented authorities and agencies, commercial, business and tourism bodies and groups, community organisations and relevant lobby groups.

Community forums

The community forums were open to all community members in an informal 'drop-in' format whereby community members sat down with the project team to share knowledge, views and opinions in 'one-to-one' discussions based around each mode of transport and the issues, opportunities and aspirations for the study area.

Community Survey

A short survey was developed for the project to gain an understanding of what the community considered the main issues are with the current transport network on the Island, and future transport priorities. A copy of the survey is provided in Appendix B.

The survey was mailed out to every property owner on the Island and could be completed online or in hard copy format.

3.5 Findings

A number of key themes emerged through the analysis and assessment of the stakeholder and community input, which are discussed further below. Further information on engagement is included as Appendix B.

> *"The Phillip Island Bridge at San Remo is not adequate for access onto and off the Island. It causes a bottleneck."*

3.5.1 User Groups

A unique component of this study is in the variety of user groups that live, work in and visit the area, as follows:

- Commercial business
- Permanent residents
- Day visitors / tourists
- Multi-day visitors / tourists and holiday home owners

For each of the user groups identified above, their needs and aspirations for the transport network are outlined in Table 3.2.

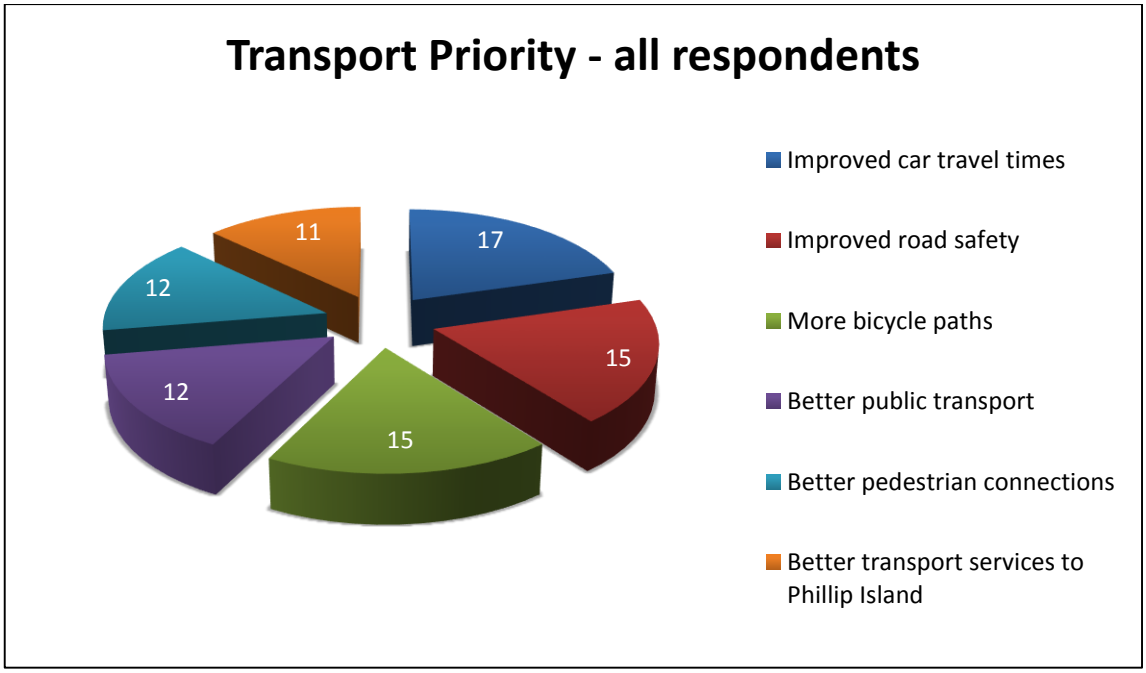
Table 3.2: User Group Needs and Aspirations for the Transport Network

User Group	Needs and Aspirations
Commercial business	• Year round destination, consistent activity and off-season opportunities • Protecting and maintaining attractors • Leveraging highest returns from transport network and investment
Permanent residents	• A range of travel options to move around study area • Road safety improvements to pedestrian and bicycle facilities • Ability to access natural attractors and town services • Minimise adverse impacts of growth in the study area
Day visitors / tourists	• A range of travel options to access study area destinations • Reliable access to attractors • Improved travel times between study area and Melbourne
Multi-day visitors / tourists and holiday home owners	• Reliable access during seasonal peaks • Recreational opportunities and activities for families • Reliable and alternative access to town services during seasonal peaks • Road safety improvements to pedestrian and bicycle facilities

3.5.2 Priorities for Improvement

As part of the community surveys there was a question relating to which of the specified transport improvement ideas are the first, second and third most important. The responses received are included in detail in Appendix B and summarised in Figure 3.1 below, with the number indicating the percentage of respondents who identified each as the highest priority.

Figure 3.1: Phillip Island Transport Priority



The survey also requested respondents identify their postcode. This enabled the responses to be divided up based on whether they lived within the study area or outside.

Figures 3.2 and 3.3 have been prepared to indicate which of the transport improvements are of highest priority to those that permanently live within and outside the study area.

Figure 3.2: Transport Priority for Respondents with Permanent Address in Study Area

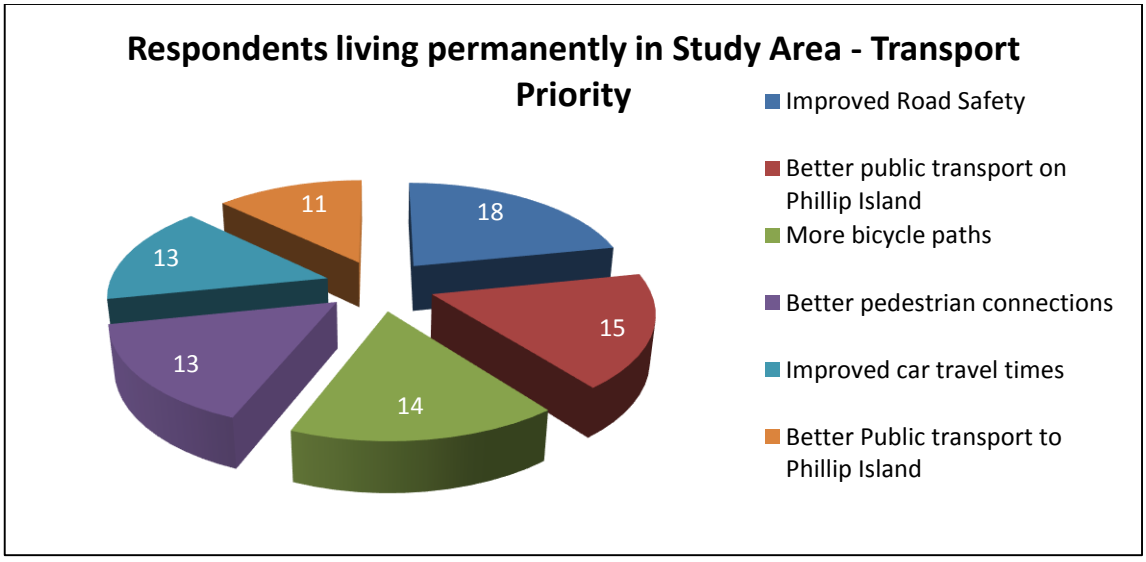
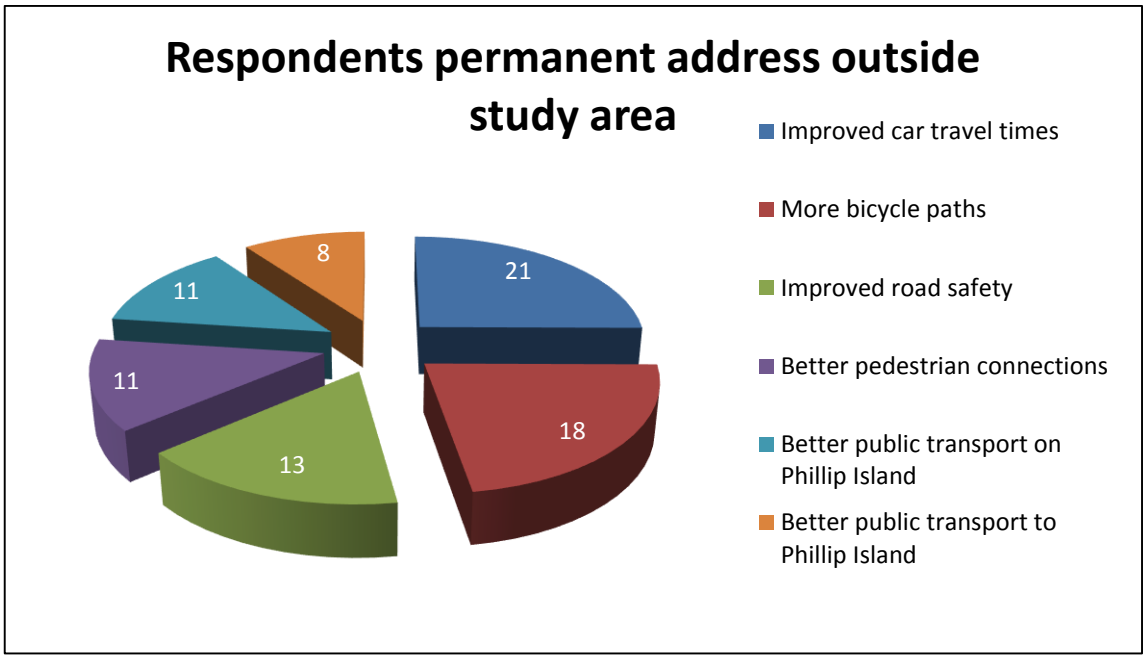


Figure 3.3: Transport priority for Respondents with Permanent Address outside Study Area



The figures above indicate again that 'Improved road safety' and 'more bicycle paths' are priorities for respondents that live both within and outside the study area. 'Improved car travel times' ranked the highest for those that don't live on the Island, and 'Better public transport on Phillip Island' was the third most desired transport improvement for those that live within the study area.

3.5.3 Feedback for Each Mode

As part of the community survey and forums, each mode of transport was queried and many respondents identified current issues, opportunities and potential improvements for them. These responses have been compiled and grouped into common themes under each mode. The common themes are outlined below in order of those that were raised the most often to least often.

"I'm getting older and only have one service to Cowes from my area. Impossible to link with early morning Melbourne buses unless you have a car."

"Philip Island is very dangerous place to walk."

Pedestrian Facilities

i Due to a lack of facilities along many residential roads pedestrians are required to walk on the road and mix with traffic.

ii There are difficulties crossing roads due to a lack of suitable facilities for pedestrians of all ages and abilities.

iii The tourist attractions and recreational paths experience high pedestrian usage. There is considered to be demand for upgraded and additional tourist and recreational pedestrian facilities.

iv There is a lack of pedestrian facilities that support users of wheel chairs and scooters.

v There is considered to be health benefits to the community through the installation of pedestrian facilities, which should be considered when funding transport infrastructure.

"Better pedestrian connections will encourage people to walk/healthier lifestyle choices, especially in Cowes/San Remo - traffic jams - make car free towns!"

"Philip Island is very dangerous place to walk."

Bicycle Facilities

i Bicycle riding has been identified as a healthy, sustainable, relaxing and enjoyable way to get around the Island, which should be considered when funding transport infrastructure.

ii There are safety concerns raised by pedestrians mixing with bicycles and cyclists mixing with cars.

iii Cycling has been expressed as being a good fit with the study area as a tourist and holiday destination, which should be considered when funding transport infrastructure.

iv Could be a viable alternative form of transport to access town services and tourist attractions.

v Except along Phillip Island Road, the current bicycle facilities are generally limited and discontinuous, forcing users onto narrow roads.

"Whilst on the island, we mostly travel by car or walk or go for bike rides. So safe bicycle paths in and connecting scenic areas and the café, library, service precinct of Cowes is important to us. It's also crucial for tourism and the growing permanent population, which will be us in the future."

"Philip Island is a great place to bicycle. Its size and topography are almost ideal. Bicycling is environmentally friendly, healthy and has very low environmental impact. It should be encouraged and made safer especially for kids. It currently is very unsafe on most main roads to bicycle and there are very few if any dedicated bicycle tracks."

Public Transport Facilities and Services

i The existing services are infrequent and do not integrate between local and V-Line services.

ii Bus services should better support tourism and events with routes that align with attractors and services.

iii There are a number of people that indicated that they don't own a car or can't drive and would use a regular bus service if it was provided.

iv Improved public transport facilities and services would reduce car usage and congestion.

v Bus stops need to be DDA compliant, have safe pedestrian connections and be highly visible.

"Public transport is essential in a community which is ageing and does not enjoy a high socio-economic status. It is also vitally important for our youth in particular as well as others wishing to connect with friends and family, the wider community, services and activities."

"As I get older, I am unable to drive and I am reliant on walking and buses."

"As the permanent population ages and with the increasing number of sea-changers and early retirees moving to the Island, public transport services to and within the Island will need to be a priority"

"We will be driving less as we are ageing and we want to shop locally."

"As we age we are more reliant on public transport, as with younger people who also use it."

Road Safety

i Lower speed limits across the study area and based on the road hierarchy.

ii There is a lack of dedicated turning lanes along Phillip Island Road.

iii Carriageway width along Phillip Island Road is not sufficient for the traffic volumes.

iv There is a lack of road maintenance, which results in pot holes, faded line marking and missing signage.

v Phillip Island Road should have a service road to improve vehicle access and safety to Sunderland Bay and Surf Beach.
vi Need better intersection management (i.e. roundabouts) within townships.

"We live on an island where reasonably poor quality roads with fast speeds and tourist traffic rule, we could cycle everywhere if it was safe to do so. Our community has a pattern of settlement ideal for shared paths, a well-developed network of walk-bike-run-roll pathways would have priority funding in an ideal world, connecting neighbourhoods with vitality and beneficial to community health, wellbeing and tourism."

Car Travel

i Carriageway width along Phillip Island Road is not sufficient and needs to be duplicated, including the bridge.
ii There needs to be improved traffic management during seasonal peak periods (i.e. use the blue line-markings during events during long weekends and school holidays).
iii Increase speed limit on Phillip Island Road as delays occur over the 60km/hr section past Surf Beach.
iv Intersections along Phillip Island Road have poor levels of visibility and difficult to get out of during peak traffic periods.
v There is a bottleneck formed at the end of the motorway.
vi Secondary road network needs upgrading as an alternative to Phillip Island Road and for tourists to access attractors.
vii There is a lack of road maintenance, which results in pot holes, faded line marking and missing signage.
viii When a crash occurs on Phillip Island Road the whole road network becomes grid locked.
ix Increased capacity improves safety. When the roads are congested people become impatient and take risks.
x Increased use of the local road network to accommodate peak seasonal traffic demands.

"At peak holiday times the bottlenecks are horrendous and cause frustrating delays that lead to risk tacking behaviours by some road users and are a waste of time for all on the road."

"I use the Phillip Island Tourist road regularly and if it would be upgraded = great."

"Every day me and so many others travel to the direction of Melbourne, it's taking longer!"

"It is ridiculous, the traffic crawls all the way off the island on busy times."

"On weekends you can grow old getting onto the Island. People get impatient and take risks."

"Less traffic congestion is essential. Double lane road or an additional road to avoid congestion. Enforce blue line during busy periods e.g. holidays."

"Philip Island is a car culture - its derogatory nickname is 'Cranbourne by the sea' because of the way people are allowed to drive."

"I know we have the GP bikes and we like to drive fast.... but there is a track for that. The rest of the Island should be about providing a safe and walk/cycle friendly environment."

Ferry Services

> *"A car ferry! For further employment options on the Peninsula."*

It is understood that the introduction of ferry services have been considered previously and experienced significant opposition, mainly due to the amenity impact of having the associated wharf being in the heart of Cowes (essentially an extension of Thompson Avenue). It should also be noted that the previous ferry services included the transport of vehicles, which would require significant infrastructure and land to get the vehicles on and off the ferry.

> *"This has been my pet hate over the years. What a disgrace, it could be a fantastic alternative means of transport to Melbourne."*

With this understanding, the idea of a passenger only ferry to Cowes and/or a vehicle ferry that ports along the northwest side of the island and connects with Back Beach Road was discussed during the community forums.

There was a level of opposition to the above proposal, especially in terms of the impact on the shorelines and potential for any on-going requirements to dredge, but also some consideration that there could be benefits gained from having an alternative way to access the Island, especially for tourists travelling from Great Ocean Road on the west side of Port Phillip and wanting to travel to the east side without going back into Melbourne.

> *"Keep Phillip Island free of unnecessary extra traffic. That might occur if a vehicular ferry was proposed. No Ferry."*

Freight

There are limited volumes of freight accessing the study area. They are typically associated with goods deliveries to commercial developments and waste collection. Generally, any feedback received was that the volumes and impacts of heavy vehicles in the study area are generally acceptable. However, some concerns were raised with localised access issues within existing built-up areas of Cowes and San Remo. It was indicated that there has historically been some informal on-street loading zones that are now not able to operate due to increased parking demands. Also, larger vehicles are now accessing some stores that do not have suitable accessing road widths and crossovers.

Furthermore, and while not specifically considered to be freight, it was indicated that one of the major heavy vehicle volumes observed accessing the area was associated with the tourist buses going to and from the Penguin Parade, 90 buses per day in peak season.

Environmental Impact of Transport Network

> *"For a small rural island no more urbanisation."*

One of the common threads frequently communicated related to the impact of development and the transport network on the natural environment. Concern was raised that with increased levels of development and access there will be significant and irreversible damage to the natural environment. With the natural environment being one, if not the most, valued aspect of the study area, measures to minimising the adverse impacts should always be considered with any development.

Also, the types of development and transport facilities should be consistent with the natural character of the area they are proposed in, and that within the study area there are a number of unique and different environments (i.e. wetlands, bird sanctuary, Penguin parade, reserves, etc).

Further, it was indicated that public access to wildlife and reserves should at least be maintained, if not enhance the natural environment.

The Bridge

"Two lane vehicle access to and from Phillip Island across the San Remo bridge and along the Phillip Island Tourist Road is inadequate during major racing events at the Racetrack on the Island, and during long weekends and Summer holidays."

Weekenders

"I own and regularly use a family holiday home at Cape Woolamai and have become frequently frustrated by traffic congestion at peak times."

Public Transport

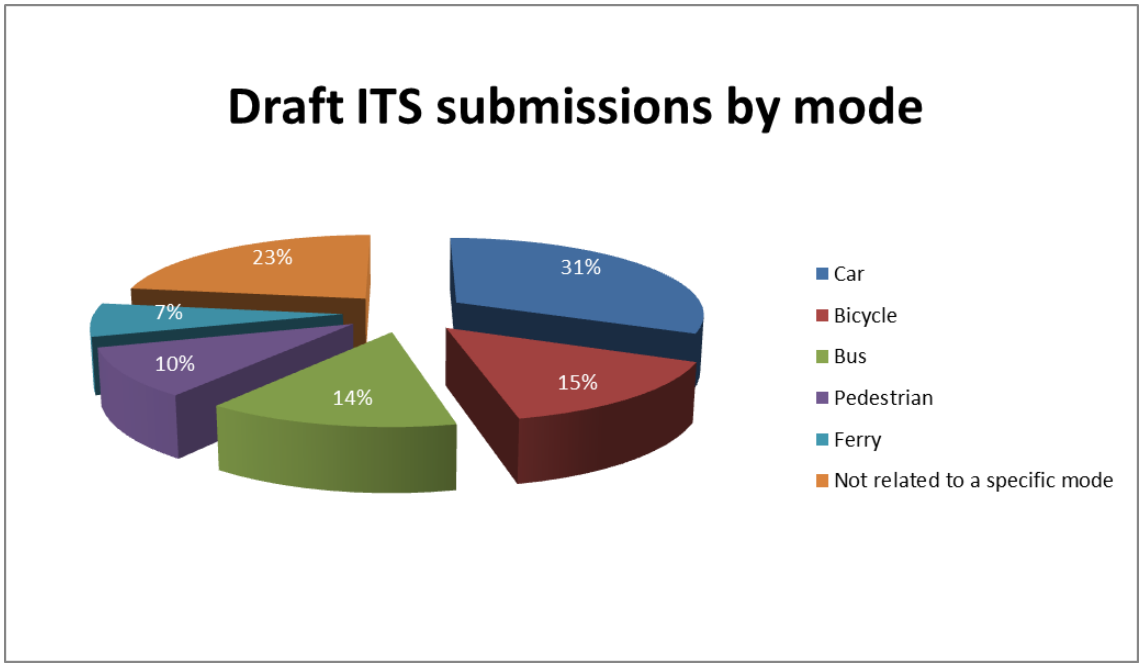
"Better public transport options - because there is no public transport on the island. Teenagers are dependent on parents to get around, and those of us who prefer not to drive everywhere are left with zero options."

3.6 Public Exhibition

The draft Integrated Transport Study was released for public exhibition and feedback over a six week period ending in March 2014. This was communicated to the community and stakeholders through a range of channels including a Community Bulletin, newspaper advertisements and the Council website.

Forty (40) submissions were received in response to the draft Phillip Island Integrated Transport Study. The submissions identified a large number of discrete issues (over 100), which have been broadly categorised by mode in Figure 3.4.

Figure 3.4: Draft ITS Feedback



The main issues raised across all modes of transport included:

- The need to improve road safety (including for vulnerable road users, e.g. children and the elderly).
- Managing travel demand in the busy holiday times of the year.
- The provision of access to and from the island.
- Protecting environmental values in planning for the island's transport, for example ensuring that new transport infrastructure and increasing traffic volumes do not detract from environmental values.

The majority of submissions were generally supportive of the overall study principles and objectives, but there were divergent views on some issues such as road network capacity (e.g. whether there is a need for duplication of the bridge) and the potential need for alternate ways to access the Island (e.g. ferry services).

A significant amount of the feedback identified more detailed projects for implementation. This reflects the strategic nature of the PIITS, which was not intended to resolve the fine details or projects required to implement the vision. In this regard, it is considered appropriate to note the more detailed feedback, and where possible Council will address it through future projects directed towards specific modes, locations and issues.

The feedback also identified that the Study does not set out funding sources for projects and initiatives. It is considered that the overall structure and rationale of the study is well suited to inform future business case preparation and funding applications, which would be prepared to support particular projects and initiatives.

3.7 Community Forum

While the draft Integrated Transport Study was released for public exhibition, a Community Forum was held on Saturday March 1 2014 at the Heritage Centre in Cowes to discuss the proposed vision and key recommendations. The Community Forum was organised and facilitated by local Councillors and attended by approximately 40 community members.

A collective submission was prepared as an output of the Community Forum. It indicated that the Draft PIITS was supported in principle, but that future work should address issues identified at the Community Forum and in other submissions. It indicated that the future transport priorities for Bass Coast Council in respect to Phillip Island should be:

- *"To establish the Community Based Reference Group recommended in the report and to ensure strong community drive for future transport initiatives. The group must have access to current information and research on transport design and practice and be able to consider best practice examples developed elsewhere.*
- *To develop a central transport communications hub that will make public transport more readily available and facilitate a park and ride approach for car and bicycle users on Phillip Island. In particular public transport facilities must be made more available, more accessible and safer to use.*
- *In the short term the roads on Phillip Island must be made safer; this includes immediate attention to maintenance of surfaces and in the longer term attention given to the design of the road network to maximize their utility and safety."*

4. An Integrated Transport Vision for Phillip Island – What We Want

The key objective of PIITS is to distil all community and stakeholder feedback into a vision for the transport network. This section of the strategy takes the information obtained from the community and identifies a simple and coherent statement to form a long-term vision for the transport network in the study area.

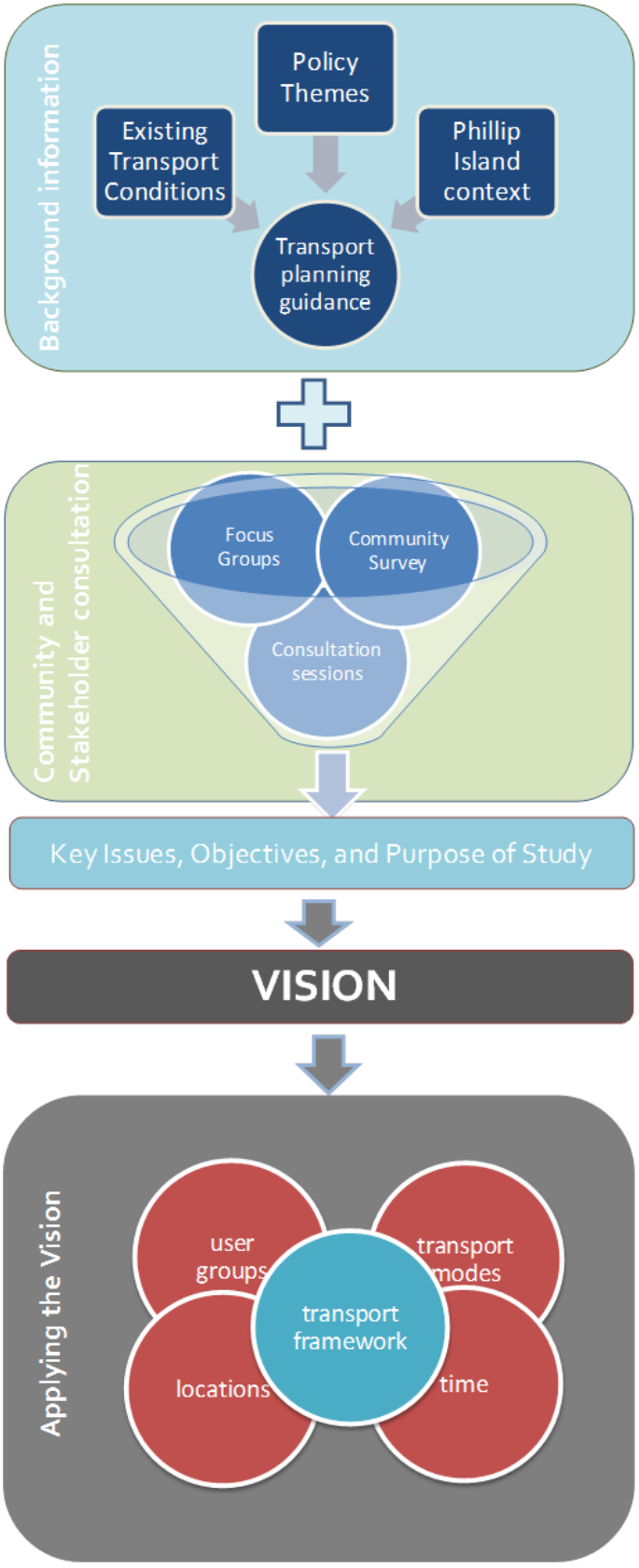
The extensive community feedback highlighted the range of demands placed on the transport network in order to meet the needs of a diverse group of users. As can be expected through a large community survey, a number of transport issues were identified along with priorities for actions across different locations and transport modes. In order to organise the community response into a vision and set priorities, both qualitative (nature of comments and feedback) and quantitative (number of responses on each) data was considered.

As discussed in Section 3, the data and results are included as Appendix B.

This analysis was then combined with research on the existing Island transport conditions, expected demographic change, future demands and principles for developing a strong, well connected network, to arrive at a set of transport objectives – or what we want to achieve.

These objectives then guided the vision for each component of the transport network. The process is outlined in Figure 4.1.

Figure 4.1: Setting a Transport Vision



When setting the vision, it was important to identify requirements for each of the different user groups from a transport perspective. The user groups were specified in Section 3.5.1, and their needs and aspirations for the transport network have been reproduced in Table 4.1, along with proposed broad level objectives.

Table 4.1: User Group Needs, Aspirations and Objectives for the Transport Network

User Group	Needs and Aspirations	Objective
Commercial business	• Year round destination • Protecting / maintaining attractors • Extracting / leveraging highest returns from transport network / investment	• Develop the transport network to be an attractor and support the development of commercial opportunities
Permanent residents	• Alternative options to move around study area • Road safety improvements to pedestrian and bicycle facilities • Ability to access natural attractors and town services • Minimise adverse impacts of growth in the study area	• Develop viable alternatives to private motor car travel within the study area • Provide a safe environment for each mode of transport • Protect the desirable characteristics of the area that make it so attractive
Day visitors / tourists	• Alternative options to access study area • Reliable access to attractors • Improved travel times between study area and Melbourne	• Develop viable alternatives to private motor car travel to access the study area • Get the most out of the network through improved congestion management
Multi-day visitors / tourists and holiday home owners	• Reliable access during seasonal peaks • Recreational opportunities / activities for families • Reliable and alternative access to town services during seasonal peaks • Road safety improvements to pedestrian and bicycle facilities	• Develop viable alternatives to private motor car travel within the study area • Provide a safe environment for each mode of transport • Get the most out of the network through improved congestion management

The transport network objectives are based around a simple approach designed to protect and enhance the characteristics of the Island most valued by all respondent groups, and build on these to enable growth and development into the future.

This approach enabled the project team to arrange the community's aspirations into three broad categories which guide the vision:

i Fix the problems with the current transport network.
ii Protect what we value about the Island.
iii Allow and create opportunities for development.

Identifying user groups and needs then allowed the project team to arrive at shared core objectives.

Core Objectives

- Providing alternative modes of transport to private car use
- Prioritising safety for users of the network
- Protecting the characteristics of the study area that makes it so attractive
- Improving and better utilising the existing facilities to address congestion
- Creating and protecting commercial opportunities

From these shared objectives and community aspirations emerged an overall community vision for the Island's transport network.

Vision

A transport network that supports the ongoing development of Phillip Island into a year round destination in a safe, prosperous and sustainable way, and providing all residents, businesses and visitors the opportunity to access, enjoy and share in Phillip Island's unique attractions.

5. Applying the Vision – How Do We Get There?

5.1 Approach

Successful implementation of PIITS requires both network level improvements as well as place based interventions. This section of the report outlines projects by transport mode, and where appropriate, projects for specific locations. With each mode, overall network objectives are presented to demonstrate long term aims. Short and medium-term projects are then identified to guide Council in achieving these aims.

It should be noted that actions to address one travel mode will often result in improvements to another mode (for example, implementation of a comprehensive off-road cycle network will reduce short car trips and help improve traffic congestion). So while the projects are presented based on travel type, they have been considered with an integrated approach to the transport network.

This section builds on the strategic principles outlined in Section 2 and the vision set in Section 4, which in summary consist of the following five core objectives:

1. Providing alternative modes of transport to private car use
2. Prioritising safety for users of the network
3. Protecting the characteristics of the study area that makes it so attractive
4. Improving and better utilising the existing facilities to address congestion
5. Creating and protecting commercial opportunities

Given the dynamic nature of the transport network and variable growth and levels of development in the study area, ongoing monitoring and evaluation of the effectiveness of initiatives is critical to ensure that best value for money is achieved.

Monitoring and evaluation is addressed further in Section 6.

5.2 Walking

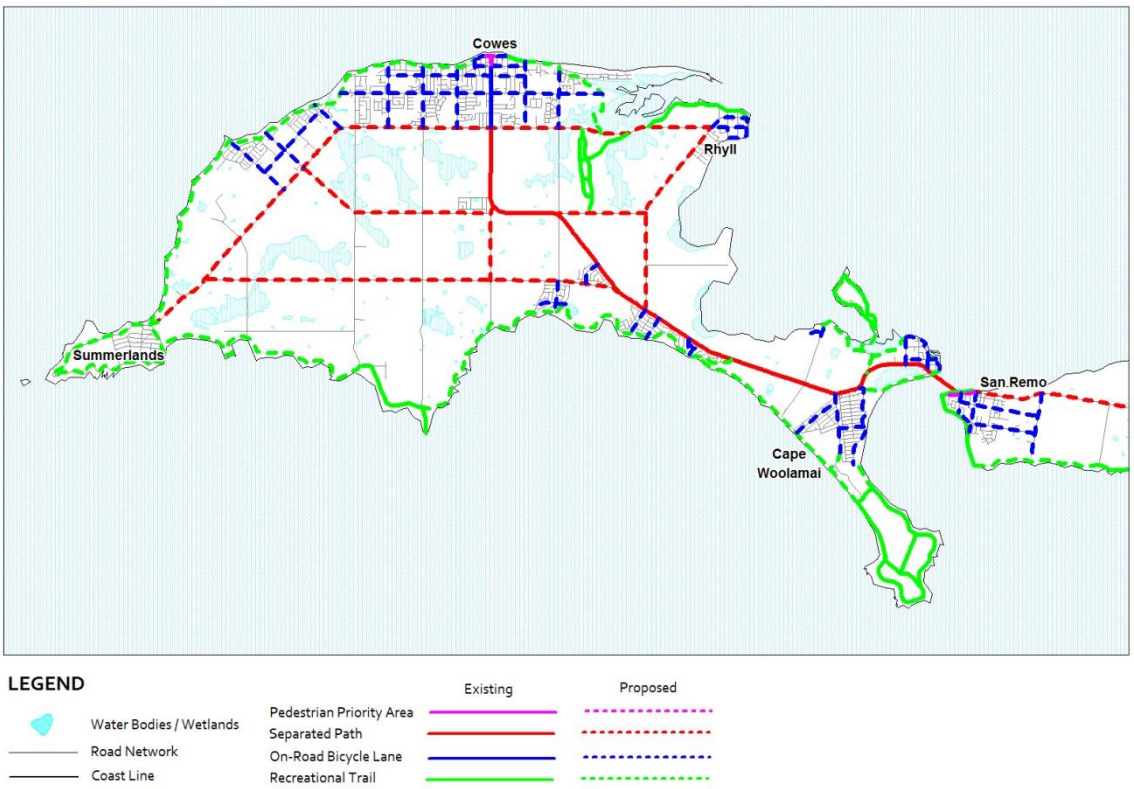
Walking within the study area should:

- provide attractive and safe mode of transport for all ages and abilities
- enable connectivity within each township and to the surrounding residential areas
- be promoted as a recreational activity that makes the most of the Island's natural assets
- be considered as part of every transport project.

A proposed Priority Pedestrian Network (PPN) and Priority Bicycle Network (PBN) are included as Figure 5.1. It reflects the existing and proposed facilities for the study area.

These networks are subject to change and amendments. The most up to date versions of the existing networks can be found on Council's website (www.basscoast.vic.gov.au).

Figure 5.1: Proposed Pedestrian and Cycle Priority Networks



5.2.1 Walking Network Actions

As previously discussed, the implementation of the PPN will provide a significant increase in the attractiveness of walking as an alternative to private car use and a form of recreation. Furthermore, additional information on facility types and how to develop a PPN in the study area is included in Appendix C.

The priority for implementing the PPN should be determined by which projects best achieve the vision for the study area, and benefit the highest number of pedestrians. In the **short-term** Council should focus on the pedestrian areas of highest activity in Cowes and San Remo to create a vibrant public realm and support business success.

The following actions are recommended to implement a PPN in Cowes and San Remo:

i Introduce blanket 40km/h speed limits in the commercial cores of Cowes and San Remo. In future 30km/h should be pursued in these, other townships, school zones and some residential areas in line with international best practice. Research has indicated that widespread implementation of 30km/h in residential precincts has delivered substantial safety and liveability improvements, without unduly affecting travel times.

ii Addressing the barriers to accessing the commercial cores of Cowes and San Remo through improving pedestrian priority along major pedestrian access routes and intersections.

iii Creation of high quality, pedestrian focused public realms in Cowes and San Remo through improved supporting infrastructure, such as shade, seating, public toilets and drinking fountains. Also, formally making the high pedestrian areas shared zones.

iv Building the networks and addressing barriers within a 2km catchment of the commercial cores of the townships and 1km of other major attractors in the townships.

v Completing the network including 'cross corridor' links and links outside the primary catchments, noting that new developments should provide for a high standard of pedestrian facilities as they are built.

It is important that pedestrian facilities for the other townships and recreational attractors are not left behind. As such, over the **medium term** pedestrian facilities for the other townships and recreational attractors should also be undertaken in a similar manner to those in Cowes and San Remo. The above pedestrian improvements are applicable to all townships and recreational attractors.

Table 5.1: Pedestrian Network Actions

Timeframe	Recommended Actions	
Short Term	P1	Introduce shared zones in the following locations: • Thompsons Avenue between Chapel Street and The Esplanade in Cowes • The Esplanade between Warley Avenue and Bass Avenue in Cowes • Marine Parade between Back Beach Road and Woolamai Grove in San Remo
	P2	Decreased speed limits in Cowes and San Remo town centre
	P3	Improved pedestrian access and amenity in town centres
	P4	Develop Pedestrian Priority Network
Medium Term	P5	Extend treatments to secondary urban areas, Rhyll, Cape Woolamai, Surf Beach, Sunderland Bay, Smiths Beach, Ventnor, Newhaven

5.3 Cycling

Cycling within the study area should provide:

- a viable alternative to private car use for short trips
- a major attraction for visitors to the area through a comprehensive, unique recreational network making the most of the natural assets of the Island
- connectivity within each township and to the surrounding residential areas.

Refer to Figure 5.1 above for a map of the proposed Cycle Network.

In the study area bicycle facilities consist of the shared path along Phillip Island Road, on-road bicycle facilities where they can be easily accommodated within existing road carriageways, or off-road shared path/trails through parks and other passive land reserves. This has resulted in a lack of continuity for users and a number of missing links, especially to key trip generators and destinations. The mixing of on-road and off-road bicycle facilities along a given route does not provide sufficient continuity for the different types of cyclists.

More information on the types of users, required types of facilities and their application in the study area is included in Appendix C.

5.3.1 Cycling Network Actions

The local trip generators and destinations on the Island are within a typical bicycle catchment of 5km (i.e. 20min bike) in each urban area, which provides a great opportunity to achieve a significant shift in mode share for short trips within these environments. Given the flat and scenic landscape in the study area, there is the opportunity to provide recreational routes for different user types and abilities.

In order to achieve an increase in cycling, PIITS proposes a Principal Bicycle Network (PBN) consisting of on- and off-road paths linking to and within the townships, as well as recreational trails that access the range of natural and man-made attractors.

The priority for implementing the PBN should be determined by which projects achieve the multiple aspects of the vision for the study area, and which projects benefit the highest number of cyclists.

Table 5.2: Cycling Actions

Timeframe	Recommended Actions	
Short Term	B1	Creation of on and off-road bicycle network within 5km of each township
	B2	Provide supportive end of trip facilities within the townships and at other key attractors
	B3	Plan for and begin implementation of key recreational routes providing access to major attractors and townships
	B4	Develop a comprehensive wayfinding system to support pedestrian and cycle networks
Medium Term	B5	Completion of the PBN through the creation of on and off-road bicycle paths
	B6	Networks between townships, supporting commuter and recreational cycling activities
	B7	New developments should provide suitable on and off-road bicycle facilities consistent with the above guidelines and overall PBN

5.4 Shared Pedestrian and Bicycle Facilities

There will be some overlap between the PBN and PPN, and it is expected that many of the proposed pedestrian priority routes will also cater for more vulnerable bicycle users. A number of these priority routes can be supported through shared pedestrian and bicycle facilities. However, as bicycle volumes increase, the introduction of separated facilities should be considered in line with VicRoads Cycle Notes No. 21: Widths of Off-Road Shared Use Paths (June 2010). Furthermore, it is important that within the high pedestrian areas that shared facilities are avoided all together, unless there are also on-road facilities to separate out the more confident (higher speed) cyclists from pedestrian shared paths.

It is recommended that the following **short term** projects are implemented to support pedestrians and cyclists:

i **Wayfinding**
Wayfinding is an important part of any transport network, regardless of mode. Pedestrians and cyclists have different needs from cars and follow different routes to the typical road network of local, connector to arterial roads. As such, a review and identification of wayfinding signage and infrastructure (i.e. colour code routes, types of facilities, etc) for the off-road shared path facilities and on-road bicycle facilities should be undertaken. At a minimum, they should indicate both distance and travel time for pedestrians and cyclists to major trip generators and destinations, landmarks and other significant locations that help orientate users.

ii **Local Area Traffic Management**
Within local roads the continued reduction of vehicle speeds and through traffic should be undertaken to provide a more supportive environment for pedestrian and cyclists. The volume and speed of traffic should be suitably lowered so that the environment can be considered viable by the majority of potential users. As such, speed reduction and lower through traffic volumes within the local road network should be investigated and achieved through Local Area Traffic Management measures to increase the attractiveness of walking and cycling.

iii **Policy and Behavioural Change Programs**
In order to support the implementation of 'hard' infrastructure, Council should continue to undertake ongoing policy and behavioural change programs. These will ensure that the value gained from the improvements to infrastructure have the most benefit to the community, in terms of increased access, health and other benefits.

5.5 Public Transport

Public Transport within the study area should:

- be a viable alternative to private car use
- be accessible to all residents and provide links to services, attractors and other modes of travel
- integrate with public transport services outside the study area
- be supportive of tourist and recreational activities.

The existing public transport system primarily consists of the local bus network, with regional travel accommodated via V-Line coaches. As such, the analysis and recommendations below relate mainly to improving the operation of the local bus network, including connections to regional services.

A comprehensive review and analysis of all bus routes operating in the study area is beyond the scope of PIITS, and as such the recommendations below relate to the overall design of the network. Further detailed work, such as collaboration with the local bus operator and advocating to relevant agencies such as DTPLI and Public Transport Victoria, is required to support any changes to routes, frequency and coverage. This should also include consideration of route specific issues like local attractors, schools and operational requirements (number of buses required, vehicle kilometres and cost implications).

5.5.1 Existing Public Transport Network

As identified in the Background Report, the existing public transport network is characterised by predominantly low frequency routes, poor span of hours and lack of services in the evenings and on weekends. Due to these issues, the network operates as a collection of isolated routes rather than an overall network that is likely to attract and provide on-going support to users.

5.5.2 Public Transport Network Actions

Based on the above, the following principles should be applied to improve the public transport network in the study area and integrate with those off the Island:

i **Improve the coverage and accessibility of the network**. Increasing the number of routes would allow for a greater number of potential users that could access the facilities. A typical targeted walking distance between residents and bus stops is 400m, which should be aimed for within townships.

ii **Creating a network effect**. Currently, the routes effectively operate in isolation from each other due to low frequencies and uncoordinated timetables. Increasing frequencies will allow for greater coordination between routes, ensuring that more complex journeys are possible and increasing the overall efficiency of the network.

iii **Provide for intermodal transfers**. Many residents don't have access to private transport options for a range of reasons (for example elderly and young people). It is therefore important that bus services cater for intermodal transfers and link up with pedestrian and cycling infrastructure at key points, as well as with the V-Line bus services and other community transport options.

iv **Aligning Routes**. Providing routes that align with development rather than the road network should support the highest number of trips (i.e. between residential areas and major land use attractors).

It should be noted that existing routes in the study area have evolved over time to service specific needs of the community. Therefore changes should involve consultation with the bus operators and affected community members and organisations. However, it is also clear that the network has not kept pace with seasonal demands. It is important that mechanisms are put in place to ensure that the network is responsive to new demands and keeps pace with developments in the study area.

5.5.3 Community Transport

Through the Community Engagement process, there was a high level of feedback from permanent residents within the study area on the difficulties of accessing services (in particular health-related) by any means other than private car travel. The aging demographic of the study area means that the population is increasingly reliant upon public and community transport services for their basic health and wellbeing requirements. Many respondents spoke of needing to travel to Wonthaggi for hospital and related services (such as x-rays) and the limited transport services linking the residents of Phillip Island to the mainland.

It is recommended that in future transport planning, Council and project partners give particular consideration to encouraging the development of community transport services for this, and other sectors of the population with limited access to private motor vehicles.

Community transport services with provision for door-to-door drop off and pick up, wheelchair access and well trained drivers will experience increasing demand as the population continues to age. Such services would usually be operated with smaller vehicles, providing a more flexible timetable than public transport routes. It is recommended that Community Transport would link with public transport (and other modes) at hubs in Cowes, San Remo, Newhaven and other urban areas to provide an integrated service.

5.5.4 Initiatives and Projects

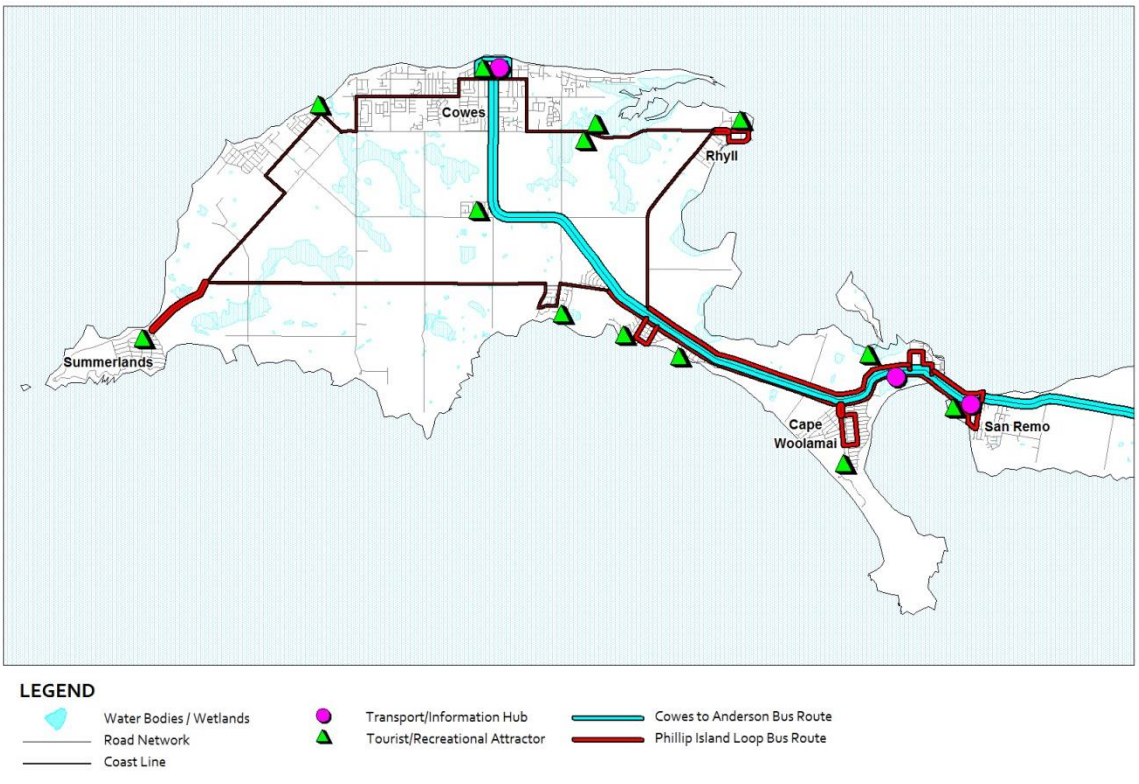
In light of the above principles, the initiatives and projects in Table 5.3 are recommended to improve the public transport network in the study area.

Table 5.3: Public Transport Actions

Timeframe	Recommended Actions	
Short Term	PT1	Improve coverage of the existing network, particularly to include bus stops within 400m of residents in townships
	PT2	Collaborate with the local bus operator and lobby for improved service
Medium Term	PT3	Provide all services on a half hourly or better frequency, with services running from 6am – 9pm on weekdays, 8am – 9pm on Saturdays, and 9am – 9pm on Sundays
	PT4	Develop facilities and routes that enable the highest number of people to use public transport services. Promote development of Cowes-Anderson link and Phillip Island loop services
	PT5	Review the operation of routes to take account of the following: • provide access to land use attractors such as schools, shopping centres, community facilities (i.e. information centre), major employers and tourist destinations • provide access to VLine services and the metropolitan train network • reduce the need for the existing VLine service to travel in and around the study area to enable an increased number of services to and from Melbourne
	PT6	Develop central transport hubs within the main townships of Cowes and San Remo where residents and visitors can obtain tourist, recreational and transport information, book public transport services and hire cars, bikes, etc.
Long Term	PT7	Advocate to the relevant State government departments to provide an alternative form of access to the study area by public transport than the current bus services

The resulting public transport network is illustrated conceptually in Figure 5.2.

Figure 5.2: Future Public Transport Network



5.6 Road Network

The Road Network within the study area should:

- Support the use of alternative transport modes
- Prioritise the safety of users
- Allow for future growth
- Use existing infrastructure efficiently to reduce peak congestion

5.6.1 Existing Road Network

The existing road network consists of a primary arterial road (Phillip Island Road) that extends from Anderson to Cowes, with this being the only road access to and from Phillip Island. The end of the arterial road at Cowes results in the majority of vehicles being funnelled along the main commercial street through the town centre (Thompson Avenue) to Marine Parade. At the majority of the intersections along Phillip Island Road there are short turning lanes, and the speed limit is 80km/h except where it travels through townships and in the vicinity of Surf Beach and Newhaven.

There are also secondary arterial roads (Ventnor Road and Bach Beach Road) that form a loop around the Island. However, the characteristics and treatment of these roads do not distinguish them from other rural service roads. Beyond this there is the local road networks associated with each of the townships.

The existing road network is generally consistent with the proposed road hierarchy set out in Section 2.4.4. However, the operation of each of the roads is not considered to be entirely consistent with the different movement requirements, especially the arterial roads.

5.6.2 Travel Demand Management

Peak congestion periods on the road network should be addressed through a demand management approach (i.e. better utilise the existing network). There are some improvements to the road network that will provide additional capacity, namely at intersections along the arterial roads.

It is recommended that Council, along with the relevant Stakeholders, investigate the potential for identifying non-event traffic congestion peaks and develop a system of categorisation and appropriate demand management plans for each.

A range of potential traffic demand management actions are outlined in Table 5.4 to be implemented over the short term.

Table 5.4: Demand Management Measures

Aim	Action	
Increase utilisation of existing network	DM1	Widening and strengthening the road shoulders along Philip Island Road to enable extended use of the blue line traffic management system into other peak periods
	DM2	Early identification of likely high (non-event) demand, with appropriate traffic management response determined and put in place.
Provide travel time information	DM3	Inform motorists of real time travel information including traffic conditions and travel time to a range of destinations (Cowes, San Remo, Kilcunda, Inverloch) through dynamic signage on the Bass Highway at or before Bass to allow a decision on destination to be made
	DM4	Investigate technologies for providing information to public on travel time and conditions. For example a Smartphone application, text message service or on Council website
	DM5	Provide information on most appropriate route and best time of day to travel Inform those travelling towards the study area of the level of congestion / time delays that can be expected at peak times
	DM6	Provide an events calendar that advises of the high congestion days and periods of the day car travel should be avoided
Provide information on alternative modes	DM7	Providing information on the use of mass transport modes, such as buses, trains and ferries to access the study area and travel between townships.

It is recommended these actions be applied to categories of demand to provide a management guide as per Table 5.5.

Table 5.5: Demand Management Tool

Demand Category	Type	Frequency (p.a.)	Management Measures
1	Event	4-8	As per existing traffic management plan
2	Non-Event Peak	8-12	Blue Line system (where appropriate), real time traffic information, dynamic signage on Bass Highway, smartphone app (incl traffic camera images), travel alerts and travel time information
3	High Season	Dec - Feb	Dynamic signage on Bass Highway showing travel times, travel alerts via smartphone app, appropriate travel information
4	Off Season	Mar - Nov	No additional management measures required

5.6.3 Safety Improvements

Service Lane Provision

A key consideration for this study is addressing road safety throughout Phillip Island and in the vicinity of Surf Beach and Sunderland Bay in particular. A high number of local respondents voiced concerns over access arrangements to and from Phillip Island Road from private properties along the south side of the road. The primary areas of concern were eastbound vehicles making a right turn from Phillip Island Road into properties and also cars that need to reverse out of properties into westbound traffic.

The speed limit in this area has recently been reduced to 60kph to attempt to reduce the level of risk and the severity of any accidents. Whilst resident feedback would indicate this has been a

positive step, a key further recommendation of this study is for Council and project partners to investigate the construction of a service lane or similar facility on the southern side of Phillip Island Road in this location. It is considered the current land uses present an opportunity to widen the carriageway to the northern side of the road and could enable a service lane or similar facility to be provided. This would address a range of issues for not just car traffic but property servicing, cycling and walking as well as amenity improvements for local residents.

It is recommended that Council also consider the potential for a similar situation to develop in growth areas adjacent to the arterial and major roads, for example on the southern boundary of Cowes, and make long term provision in land use planning for service lane or similar access to private properties.

Speed Limits

The setting of speed limits should consider safety of the most vulnerable road user in the first instance, then the road hierarchy and its purpose. Furthermore, it should be intuitive and self-enforcing (i.e. road layout encourages users to travel at the set speed). For the study area it is recommended to have the following speed limits based on the road hierarchy:

- 80km/h speed limit on the arterial road network
- 80km/h speed limit on rural roads
- 60km/h on major and collector roads in urban areas
- 40km/h on residential roads and high pedestrian areas.

While the above is considered to be broadly suitable for the expected future form of the road network (i.e. inclusion of the proposed actions as part of this Strategy), it is understood that there may be sections of the road network that may warrant lower speed limits.

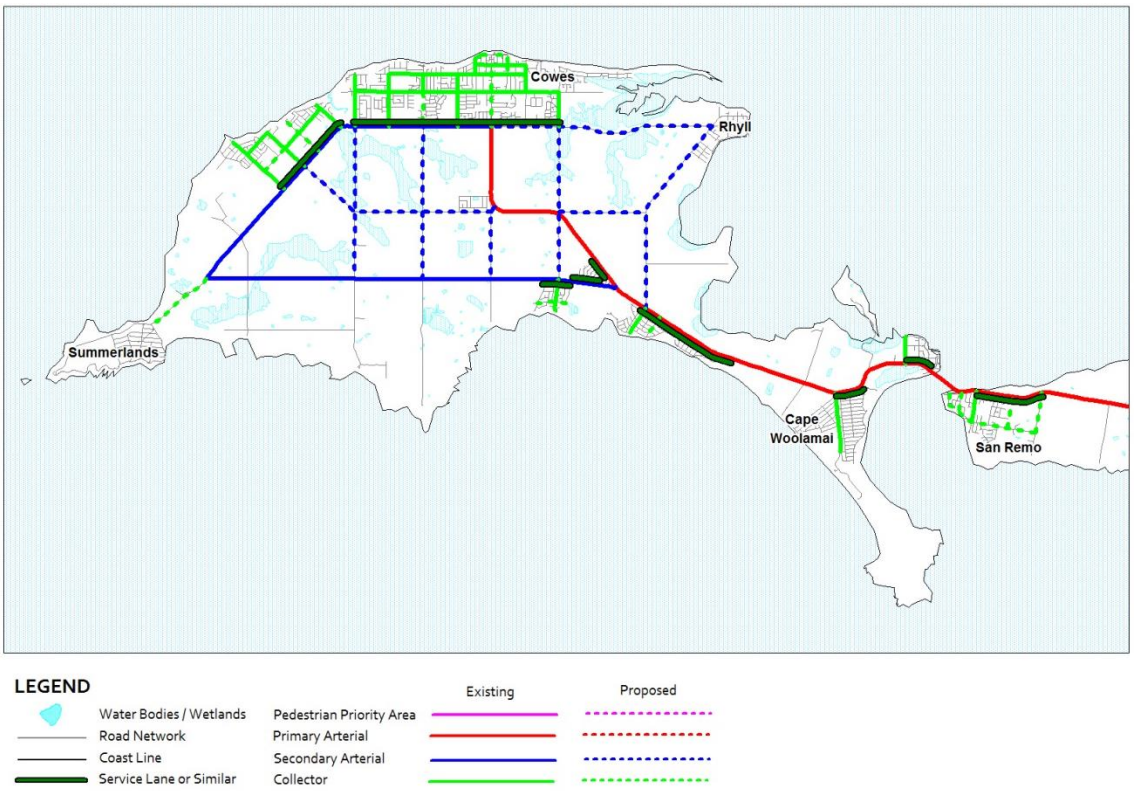
5.6.4 Road Network Actions

Recommended actions to improve the road network are outlined in Table 5.6 and supported by the future road network map in Figure 5.3.

Table 5.6: Road Network Actions

Timeframe	Recommended Actions	
Short Term	RN1	Undertake an options assessment for the section of Phillip Island Road along Sunderland Bay and Surf Beach to investigate potential safety improvements, such as (but not be limited to) duplication, turning lanes, realignment and/or service lanes.
	RN2	Improve the level of safety (sight distances) and increase the length of turning lanes at intersections along arterial roads within townships to minimise impact on through traffic
	RN3	Review the layout and capacity of intersections along the arterial roads to improve through traffic movements
	RN4	Provide facilities to support public transport facilities and connecting them to trip generators and destinations
	RN5	With Thompson Avenue in Cowes and Marine Parade in San Remo proposed to give pedestrian movement priority, improved directional signage and intersection layouts to provide an alternative circulation route accessing the commercial centres and car parking facilities
	RN6	Implement Local Area Traffic Management measures in the local road networks within each township to support alternative transport modes
Medium Term	RN7	Upgrade the secondary arterial roads and provide improved directional signage and intersection layouts to make their use more attractive to access townships, including Cowes, and the major tourist attractions
	RN8	Over the remaining sections of Phillip Island Road that go through townships, construct service roads to reduce the number of access points onto the road to improve safety and through traffic movements
Long Term	RN9	Improve main carriageway layouts along the arterial road network to generally be consistent with and achieve 80km/h speed limits throughout the study area

Figure 5.3: Phillip Island Future Road Network Map



5.7 Car Parking

Car parking policy can play a role in influencing travel behavior, whether through restricting supply (which may cause a shift to other modes), or implementing shorter duration or paid parking (which is likely to increase turnover). In the townships, car parking policy needs to support economic success, and not act as a deterrent to visitors. As such, any attempt to unduly restrict the supply of car parking may simply result in increased escape expenditure away from the townships to other shopping areas and activity centres.

In light of this, it is recommended that Council develop a car parking policy for the study area that:

- Revisits the provision of new car parking capacity within town centre areas. In future, once the walking, cycling and public transport networks are improved, it may be appropriate to consider a more restrictive policy towards car parking (as part of an overall demand management strategy).
- Ongoing monitoring of demands for short stay parking needs to occur, to ensure that any increase in visitation and development in the townships is supported by appropriate short term visitor car parking.
- Long term staff car parking should also be monitored, noting that despite growth in the centre, demand for staff parking may not increase dramatically as the walking, cycling and public transport networks are improved.

5.8 Summary of Actions

Table 5.7 brings together the recommended projects and initiatives across modes.

Table 5.7: Summary of Actions across Modes

Time	Mode	Recommended Actions	
Short Term	Walking	P1	Introduce shared zones in the following locations: • Thompsons Avenue between Chapel Street and The Esplanade in Cowes • The Esplanade between Warley Avenue and Bass Avenue in Cowes • Marine Parade between Back Beach Road and Woolamai Grove in San Remo
		P2	Decreased speed limits in Cowes and San Remo town centre
		P3	Improved pedestrian access and amenity in town centres
		P4	Develop Pedestrian Priority Network
	Cycling	B1	Creation of on and off-road bicycle network within 5km of each township
		B2	Provide supportive end of trip facilities within the townships and at other key attractors
		B3	Plan for and begin implementation of key recreational routes providing access to major attractors and townships
		B4	Develop a comprehensive wayfinding system to support pedestrian and cycle networks
	Walking and Cycling	PB1	Focus on behavioural change programs and promote the benefits of healthy, active lifestyles and links with transport choice
	Public Transport	PT1	Improve coverage of the existing network, particularly to include bus stops within 400m of residents in townships
		PT2	Collaborate with the local bus operator and lobby for improved service
	Travel Demand Management	DM1	Widening and strengthening the road shoulders along Philip Island Road to enable extended use of the blue line traffic management system into other peak periods
		DM2	Early identification of likely high (non-event) demand, with appropriate traffic management response determined and put in place.
		DM3	Inform motorists of real time travel information including traffic conditions and travel time to a range of destinations (Cowes, San Remo, Kilcunda, Inverloch) through dynamic signage on the Bass Highway at or before Bass to allow a decision on destination to be made
		DM4	Investigate technologies for providing information to public on travel time and conditions. For example a Smartphone application, text message service or on Council website
		DM5	Provide information on most appropriate route and best time of day to travel Inform those travelling towards the study area of the level of congestion / time delays that can be expected at peak times
		DM6	Provide an events calendar that advises of the high congestion days and periods of the day car travel should be avoided
		DM7	Provide information on the use of mass transport modes, such as buses, trains and ferries to access the study area and travel between townships.

Time	Mode	Recommended Actions	
	Road Network	RN1	Undertake an options assessment for the section of Phillip Island Road along Sunderland Bay and Surf Beach to investigate potential safety improvements, such as (but not be limited to) duplication, turning lanes, realignment and/or service lanes.
		RN2	Improve the level of safety (sight distances) and increase the length of turning lanes at intersections along arterial roads within townships to minimise impact on through traffic
		RN3	Review the layout and capacity of intersections along the arterial roads to improve through traffic movements
		RN4	Provide facilities to support public transport facilities and connecting them to trip generators / destinations
		RN5	With Thompson Avenue in Cowes and Marine Parade in San Remo proposed to give pedestrian movement priority, improve directional signage and intersection layouts to provide an alternative circulation route accessing the commercial centres and car parking facilities
		RN6	Implement Local Area Traffic Management measures in the local road networks within each township to support alternative transport modes
Medium Term	Walking	P5	Extend treatments to secondary urban areas, Rhyll, Cape Woolamai, Surf Beach, Sunderland Bay, Smiths Beach, Ventnor, Newhaven
	Cycling	B5	Complete the PBN through the creation of on and off-road bicycle
		B6	Provide networks between townships, supporting commuter and recreational cycling activities
		B7	New developments should provide suitable on and off-road bicycle facilities consistent with the above guidelines and overall PBN
	Public Transport	PT3	Provide all services on a half hourly or better frequency, with services running from 6am – 9pm on weekdays, 8am – 9pm on Saturdays, and 9am – 9pm on Sundays
		PT4	Develop facilities and routes that enable the highest number of people to use public transport services. Promote development of Cowes-Anderson link and Phillip Island loop services
		PT5	Review the operation of routes to take account of the following : • provide access to land use attractors such as schools, shopping centres, community facilities (i.e. information centre), major employers and tourist destinations • provide access to VLine services and the metropolitan train network • reduce the need for the existing VLine service to travel in and around the study area to enable an increased number of services to and from Melbourne
		PT6	Develop central transport hubs within the main townships of Cowes and San Remo where residents and visitors can obtain tourist, recreational and transport information, book public transport services and hire cars, bikes, etc.

Time	Mode	Recommended Actions	
	Road Network	RN7	Upgrade the secondary arterial roads and provide improved directional signage and intersection layouts to make their use more attractive to access townships, including Cowes, and the major tourist attractions
		RN8	Over the remaining sections of Phillip Island Road that go through townships, construct service roads to reduce the number of access points onto the road to improve safety and through traffic movements
Long Term	Public Transport	PT8	Advocate to the relevant State government departments to provide an alternative form of access to the study area by public transport than the current bus services
	Road Network	RN9	Improve main carriageway layouts along the arterial road network to generally be consistent with and achieve 80km/h speed limits throughout the study area

6. The Summary – Taking the Vision Forward

PIITS has been prepared as a draft to enable community review and feedback on the process, resulting transport network vision and project initiatives described in Section 5.

The draft report is intended to test assumptions and ensure that the recommendations and outcomes of the study are an accurate representation of the community's needs and aspirations.

The comprehensive Community and Stakeholder Engagement process in described in Section 3 and has informed the vision and the outcomes.

All community and stakeholder input was combined with background information, transport planning principles and knowledge of the unique Island context to help determine transport network objectives.

The transport network objectives are designed to protect and enhance the characteristics of Phillip Island most valued by all respondent groups, and build on these to enable growth and development into the future.

This approach enabled the project team to arrange the community's aspirations into three broad categories which guide the vision:

- Fix the problems with the current transport network
- Protect what we value about Phillip Island
- Allow and create opportunities for development

Core Objectives

- Providing alternative modes of transport to private car use
- Prioritising safety for users of the network
- Protecting the characteristics of the study area that makes it so attractive
- Improving and better utilising the existing facilities to address congestion
- Creating and protecting commercial opportunities

Once core objectives were identified, these were used to guide a proposed transport network vision for Phillip Island.

Vision

A transport network that supports the ongoing development of Phillip Island into a year round destination in a safe, prosperous and sustainable way, and providing all residents, businesses and visitors the opportunity to access, enjoy and share in Phillip Island's unique attractions.

The draft PIITS is now open for community comment. Once all feedback has been received, the report will be finalised for Council adoption.

7. Monitoring and Review – Staying True to the Vision

7.1 Overview

Monitoring the success of PIITS is critical to achieving ongoing funding support from Council and the Victorian Government, and buy-in from the community and other relevant stakeholders.

In this regard, the following measures are proposed to ensure that progress against the vision of PIITS is tracked:

- **PIITS review:** Ongoing review of the Study recommendations is important to ensure that they accurately reflect the latest population and development projections, and adjustments are made as necessary to ensure they remain relevant.
- **Project delivery and coordination:** Ongoing monitoring of the delivery of PIITS projects is required to measure progress against the vision and ensure consistency of purpose across the range of Council planning and policy documents and objectives.
- **Monitoring impact of projects:** Regular monitoring of mode share, travel behaviour and assessment of how and when PIITS objectives will be achieved is required to understand the impact and relevance of PIITS, and make changes or adjustments as necessary.
- **Opportunities for funding:** Ongoing partnership with the Victorian Government is required to identify funding opportunities and maximise the ability to present business cases for investment. At the same time, developments in the Study Area are likely to provide opportunities to deliver projects as negotiated outcomes through the planning process.

In addition to these measures, the following monitoring and review measures should be considered by Council:

- Establish a community based reference group to provide ongoing feedback on the progress of PIITS, and provide input to project prioritisation and delivery.
- Continue to engage with VicRoads and the Department of Transport, Planning and Local Infrastructure, Public Transport Victoria and VicRoads to progress the actions.
- Continue to monitor development approvals and activity in the Study Area, to capitalise on any opportunities that may arise through private sector development.

Appendix A

Background Analysis Report

Phillip Island Transport Study
Background Analysis

transportation planning, design and delivery

13M1818000 26/05/14

GTAconsultants

Phillip Island Transport Study

Background Analysis

Issue: C 26/05/14

Client: Bass Coast Shire Council
Reference: 13M1818000
GTA Consultants Office: VIC

Quality Record

Issue	Date	Description	Prepared By	Checked By	Approved By	Signed
A-Dr	02/07/13	Draft	Rory Rathborne/ Alex Blackett	Cameron Martyn	Christian Griffith	Christian Griffith
B-Dr	23/07/13	Updated Draft	Rory Rathborne/ Alex Blackett	Cameron Martyn	Christian Griffith	Christian Griffith
A	20/09/13	Final	Alex Blackett	Cameron Martyn	Christian Griffith	Christian Griffith
B	16/12/13	Revised Final	Alex Blackett	Tom Courtice	Christian Griffith	Christian Griffith
C	26/05/13	Revised Final	Alex Blackett	Tom Courtice	Christian Griffith	

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1. Introduction

1.1 Preamble

In May 2013, GTA Consultants (GTA) and hansen partnership (Hansen) were engaged by Bass Coast Shire Council to prepare the Phillip Island Transport Study (PITS). The project objective is to develop an integrated transport vision for Phillip Island and San Remo through to 2030.

The PITS will set out a framework for Council and State Government to develop integrated and sustainable transport policies, programs and infrastructure to cater for future development, and the management of events and seasonal variations in population numbers and demographics. The framework will be built on what the community values, how they want the area to look in the future and how the transport system can support their shared vision.

This background analysis examines the existing transport network conditions, issues and opportunities that shape the area, as well as summarising the previous reports and studies already undertaken.

The analysis is not considered to be exhaustive, rather it has been prepared to provide relevant stakeholders with the most current and important information in understanding what has been done and where we should go from here. It forms part of the consultative material aimed at getting all participants to the same level of understanding, so we can focus on identifying a shared transport vision for the area.

1.2 Approach

Traditionally, the approach to planning and developing transport systems has been focused on the implementation of infrastructure and services to cater for expected future repeatable user volumes. However, it is recognised that there is a significant level of variation in user volumes in Phillip Island and San Remo throughout the year. Into the future, the variation in user volumes is expected to further increase with the area becoming an increasingly popular choice for permanent residents and holidaymakers.

This is a result of the area being proximate to the large and growing population base in metropolitan Melbourne, becoming more conveniently accessed through an expanding arterial / freeway road network, and having a wide range of recreational and holiday activities, including marque motorsport and music events.

As such, identification of what level of development and type of management is desired in the future is required, and the transport system developed to support it. If significant increases in development are desired, then increased capacity and efficiency will need to be built into the transport system to continuously manage a higher volume of users. However, if maintaining current levels of amenity are desired, then behavioral change and transport demand management measures will need to be focused on to minimize the impact of the peak events. But as with any mixed use area, aspects of both these outcomes are likely to be desired, so it is the aim of the Transport Study to establish a framework on how best to balance the sometimes competing outcomes desired by the community with the requirements of the transport system.

With this, a major consideration with the PITS will be how to attract and manage visitors during holiday periods and when major events are on to ensure its on-going economic prosperity, but still retain the essential elements of the study area to maintain and enhance livability.

1.3 Council's role in transport planning

Councils in Victoria generally have a role to play in the provision of a range of transport infrastructure and services, such as:

- community transport (i.e. youth and aged transportation services)
- roads, footpaths and cycle networks
- working with transport authorities to improve the overall network.

Council also has an important part to play in its role as Planning Authority, in ensuring that new development is appropriately planned, and that relevant services are accessible by a range of transport modes, such as walking and cycling. Council usually shares this responsibility with state government departments and agencies such as VicRoads, the Department of Transport, Planning and Local Infrastructure (DTPLI) and Public Transport Victoria (PTV)).

An integrated approach between all levels of government is necessary to address transport and land use issues.

1.4 State Government Role

The Victorian Government holds responsibility for the planning, implementation and operation of Victoria's public transport and arterial road networks and is guided by the Transport Integration Act (2010) which sets out a vision, objectives and decision-making principles for Victoria's transport system. This over-arching policy framework is applied to all transport and land use agencies. The Act requires all Victorian transport agencies to work together towards the common goal of an integrated and sustainable transport system.

An effective partnership with State Government is one that promotes an open exchange of information, sharing of resources and buy-in from all parties to a shared vision for the transport network and agreement on the most effective means of planning and delivery. A number of Victorian Government Departments and agencies must be consulted when determining the future shape of the Phillip Island transport network. However, the Department of Transport Planning and Local Infrastructure, Public Transport Victoria and VicRoads are the key delivery partners for the initiatives developed as part of this strategy.

2. Transport Policy

2.1 Preamble

There are a wide range of local, state, national and international policies that relate to the provision of a sustainable and integrated transport system to service a community. These include a number of "mode specific" policies, acts and plans, which deal with aspects of mobility, such as cycling and walking. In addition, there are a number of broader policies, acts and plans which address what kind of community we envisage we want to live in, with transport being a key part of the fabric that makes up the associated environment.

A fundamental requirement of the PITS is to understand the existing policies, acts and plans relevant to the provision of an integrated and sustainable transport system in Philip Island and San Remo, and incorporate into a legible, logical and comprehensive future vision, to inform transport project development and investment decision making. As such, the following policy review is broad based and seeks to provide the necessary context and justification for the overall PITS content.

2.2 Summary of key policy directions

2.2.1 Overview

The review of existing relevant policy clearly illustrates a number of themes that should inform the approach to future transport projects. These themes include:

- All investment decisions should be informed by a road user hierarchy. In Victoria, the SmartRoads Network Operating Plan / Road User Hierarchy tool developed by VicRoads is the appropriate planning tool to determine the road user hierarchy across the road network.
- Promoting sustainable transport (walking, cycling and public transport) is important for a wide range of reasons:
    - Healthy, active communities – there is a strong link between active transport and health.
    - Socially connected, liveable communities – places where people walk, cycle and use public transport are likely to perform better on a range of social indicators.
    - Transport efficiency – increased use of sustainable transport has environmental and economic benefits through reduced greenhouse emissions and reduced space required for vehicle movement and storage.
    - Access for all members of the community – a large number of people in the community do not or cannot drive, and the provision of attractive and viable alternative means of transport is a key factor in whether a community is affected by transport disadvantage.
    - Safety – Increased sustainable and active transport improves safety and perceptions of safety.
    - Tourism and business opportunities associated with good recreational networks (i.e. cycling paths, pedestrian paths, tourist routes)
- Planning for new development must consider providing for and promoting sustainable and active transport modes in accordance with the road user hierarchy.

- Bass Coast Shire Council already has a number of specific policies and strategies to improve walking, cycling and public transport in the area, in order to create healthy, liveable, vibrant and inclusive neighbourhoods.

2.2.2 Social Determinants of Health

VicHealth and more broadly the World Health Organisation (WHO) express the critical relationship between health and wellbeing and the underpinning social determinants that impact them. A social model of health is a framework for thinking about health. Health is both the responsibility of an individual to avoid risks to their wellbeing, and that of communities and governments to ensure people live and work in environments that are supportive to their health. To reach a state of complete physical, mental and social wellbeing, an individual or a group of people must be able to identify and realise aspirations, satisfy needs, and change or cope with the environment they live in. This includes the consideration of risk factors such as social networks, access to employment, transport options and the built environment that can influence people's quality of life outcomes.

The WHO outlines transport as a social determinant of health and its relationship to healthy outcomes in the following summary:

Healthy transport means less driving and more walking and cycling, backed up by better public transport.

- *Roads should give precedence to cycling and walking for short journeys, especially in towns*
- *Public transport should be improved for longer journeys, with regular and frequent connections in rural areas*
- *Changes in land use are also needed, such as converting road space into green spaces, removing car parking spaces, dedicating roads to the use of pedestrians and cyclists, increasing bus and cycle lanes, and stopping the growth of low-density suburbs and out-of-town supermarkets, which increase the use of cars.*

2.2.3 Liveable Streets

In urban centres, there is a strong emerging theme of creating streets for people, rather than roads for cars. This does not necessarily mean banishing cars entirely, but rather it involves reorganising space and designing to create a place for people to interact, rather than space designed only for the efficient movement of vehicles and services.

> *"If you treat people like idiots, they will behave like idiots. Roads have been designed assuming that people are not intelligent or able to think" (Hans Monderman).*

The key influences on this movement are the "Naked Streets" (negotiated space) and "Shared Streets" which were pioneered in the Netherlands by Hans Monderman. The underlying psychology seeks to change behaviour and culture "from priority to equality", and links with the Crime Prevention through Environmental Design (CPTED) design philosophy.

Shared space relies on removing almost all delineation from the road space, and leaving only subtle cues as to the priority of the various modes. A key premise is that increasing uncertainty (creating ambiguity) for motorists increases certainty and safety for pedestrians. Traffic will move slowly enough for pedestrians and drivers to make eye contact, whereas the traditional highly delineated street does not allow for any negotiation over priority.

There are many examples of highly successful shared zones in Victoria, including the Melbourne CBD, Bendigo CBD, and other major centres such as Footscray, Clayton, Dandenong and others. An important feature of these spaces is that they generally have many other positive economic and social benefits apart from the obvious transport benefits created by giving equal priority to pedestrians.

2.2.4 Healthy cities promote safe walking and cycling

There is a common and growing understanding of the causal link between good urban and transport system design that promotes safe walking and cycling, and a healthy community in terms of both physical and mental health.

The Australian Heart Foundation has encapsulated this emerging body of knowledge within the following key documents (among others):

- Healthy by Design – a planner's guide to environments for active living (Heart Foundation 2004). The guide suggests design approaches to encourage active living in the following areas:
  - walking and cycling routes
  - streets
  - local destinations
  - open space
  - public transport
  - seating, signage, lighting, fencing and walls
  - fostering community spirit.

The guide includes a number of case studies from Victoria that illustrate the outcomes in these areas. In particular, it is worth noting that the application of these principles can add significantly to the health benefits of any business case, and open up avenues for different funding opportunities.

In November 2008, the first 'Safe Speed Forum' was held which brought together the Heart Foundation and a number of Victorian municipality members. At the forum, the issue of implementing a safe speed across Melbourne was discussed and resulted in the release of the interest group's first report, Safe speed: Promoting walking and cycling by reducing traffic speed (Heart Foundation 2008).

The promotion of safe, active transport is usually achieved through the implementation of multi-component strategies that include speed reduction. High levels of safe walking and cycling for transport are incompatible with high vehicle speed as, for many trips or parts of trips, pedestrians and cyclists are required to share the road space with motor vehicles. International experience suggests that speed reduction is not the only change needed to increase safe active transport, but it is a key component.

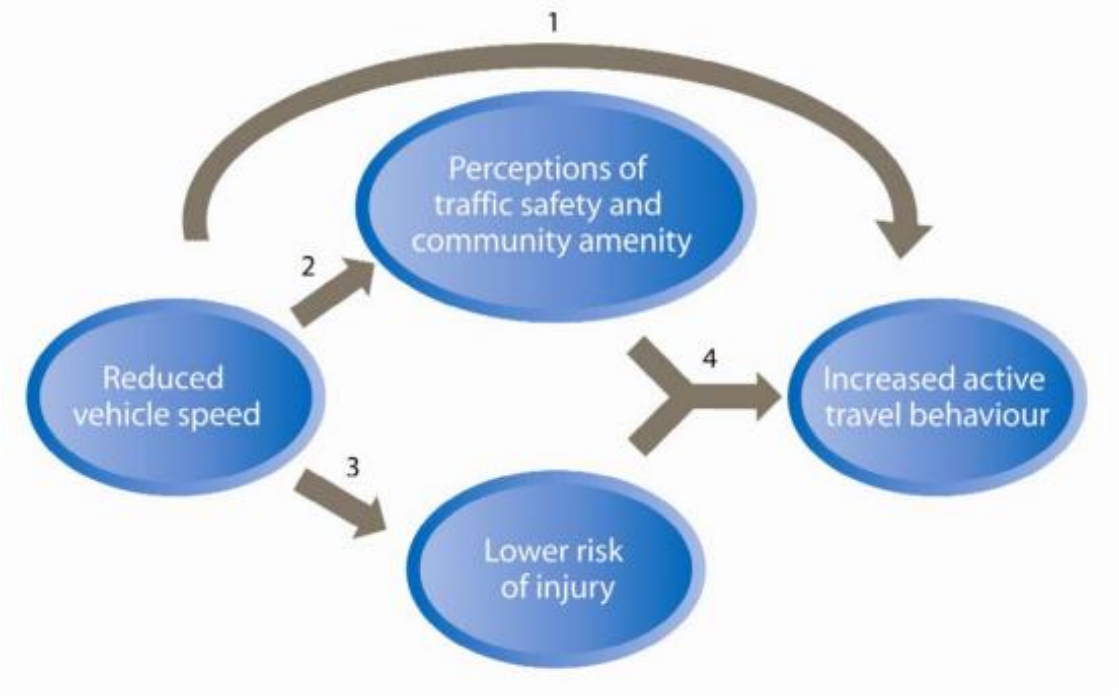
The following key findings of the report are presented below:

- Reducing motor vehicle speeds in areas with high pedestrian movement (existing or desired) is critical to creating a safe and attractive transport network. In particular, it is noted that people are unlikely to survive collisions with vehicles at over 30 kph.
- Low speed limits in neighbourhoods and town centres are becoming increasingly common around the world. Generally, speeds of 20-30 kph are associated with safer streets and higher rates of walking and cycling.

'Safe speed' is often conceptualised in terms of vehicle speeds that minimise the risk of injury, but in the light of the multiple benefits with increased levels of active transport, it may be more appropriate to think of 'safe speed' as that which delivers injury prevention outcomes as well as many additional health and social benefits.

Active, liveable cities and communities provide all people from children through to older adults with the right to move about in public spaces. Active living and community engagement is constrained when people retreat into their homes and cars through fear of traffic. Road safety improvements should not be dependent on people remaining indoors or in cars. The focus needs to be on removing traffic danger from people, not people from the hazardous environment that has been inadvertently created. Reducing traffic speed is an effective way of righting this balance and encouraging people to engage in active transport modes with ease, resulting in significant improvements in the health and wellbeing of the population and the environment.

Figure 2.1: Proposed Relationships between Vehicle Speed and Active Travel Behaviour



2.3 National Policy

2.3.1 Walking, Riding and Access to Public Transport Draft Report for Discussion - October 2012

The draft *Walking, Riding and Access to Public Transport* Report published by the Department of Infrastructure and Transport assesses options for improving the capacity of transport systems by encouraging and supporting walking and riding. This includes objectives relating to increasing the mode share of walking and riding for short trips, and improving access for people walking or riding to public transport stops. This is particularly important for cities that are highly car-dependent and regional cities that have traditionally relied upon the private vehicle as the main mode of transportation.

Barriers and Opportunities to Walking, Riding and Public Transport

Having access to well-connected, continuous and convenient routes is an important factor of any transportation system. There are many underlying factors as to why people are more likely to walk or ride that are not directly related to transport infrastructure. These are considered to be 'soft' infrastructure features that benefit and promote walking, riding and public transport use. These include features such as having continuous and convenient routes of travel, sense of personal safety and lighting, shading, seating and signage.

Influence on the Urban Form and Urban Design

People are more likely to walk and ride in neighbourhoods and cities that contain certain characteristic that are deemed 'friendly' to these modes of travel. A report by the Heart Foundation, *Increasing density in Australia*, assessed whether housing and employment can affect public health. The 'Five Ds' summarised the influence of land use mix over walking, riding and public transport use. It demonstrated that elements such as density of housing and employment underpin other factors that influence walking and riding.

Health

Evaluations of active travel projects have shown that health factors are the most significant benefits of walking and riding. The public health benefits of high quality walking and riding infrastructure also encourages many more people to use these modes of travel. The burden on the Australian healthcare system due to overweight and obesity related illnesses has steadily been increasing over the last 30 years. This increase is significantly correlated with an increase in sedentary lifestyles. In 2008, obesity was estimated to cost $58.2 billion to the economy as a result of illnesses such as cardiovascular disease, diabetes, and various cancers. Mental health and community cohesion is also impacted by access to walking and riding. Pedestrian and cycle-friendly neighbourhoods can facilitate incidental social interaction between community members and foster social capital, sense of safety and passive surveillance. There are complex links between public health, urban planning and transportation systems and the potential health impacts that transport systems and urban infrastructure have on active travel.

2.3.2 National Cycling Strategy 2011-2016

The National Cycling Strategy 2011-2016 sets a target of doubling the number of people who regularly ride bicycles over the strategy's five year term. The strategy agrees to a number of objectives relating to roads and transport, including:

- *promote cycling as a viable and safe mode of transport and an enjoyable recreational activity*
- *create a comprehensive and continuous network of safe and attractive routes to cycle and end-of-trip facilities*
- *consider and address cycling needs in all relevant transport and land use planning activities*
- *enable people to cycle safely*
- *improve monitoring and evaluation of cycling programs and develop a national decision-making process for investment in cycling*
- *support the development of nationally consistent guidance for stakeholders to use and share best practice across jurisdictions.*

2.3.3 National Partnership Agreement on Preventative Health

The national preventative health agenda is aimed at three major lifestyle risk factors for chronic disease: obesity, alcohol and tobacco. The National Partnership Agreement commits to the rising prevalence of lifestyle related chronic diseases by implementing programs and activities that promote healthy behaviours. The agreement establishes targets relating to obesity, including a 15 per cent increase in the proportion of children and adults meeting national guidelines for physical activity by 2018; and for the proportion of children and adults at the healthy weight to return to baseline level by this year. Under the agreement, the Healthy Communities Initiative has been set up to support local governments to deliver community-based physical activity and healthy eating programs, and to develop local policies that support healthy lifestyle behaviours.

2.3.4 National Disability Strategy 2010-2020

The National Disability Strategy 2010-2020 includes an outcome for inclusive and accessible communities: *to ensure that people with disability live in accessible and well-designed communities with opportunity for full inclusion in social, economic, sporting and cultural life*. It includes a policy direction for public, private and community transport systems that are accessible for the whole community. This is articulated by encouraging the continuous accessible path of travel for people with disability needs, and connecting accessible public transport nodes with local services.

The Disability Standards for Accessibly Public Transport (Transport Standards) (DSAPT), which came into effect in 2002, set out minimum accessibility requirements for providers and operations of public transport. This includes a compliance timetable, to ensure that old infrastructure is gradually replaced with accessible services and facilities. The goal is to ensure that, over time, people with disability can enjoy the same public transport services as other members of the community.

In Victoria, compliance with regulations is poor in rural and regional areas, where there are very few accessible bus stops or accessible vehicles. This uneven distribution of accessible transport is particularly problematic, as rural Victoria has a higher proportion of older citizens who are more likely to require accessibility features on public transport. A number of recommendations have been made in Victoria to enhance accessible public transport, including:

- that the standards increase the number of reserved seats to be identified on vehicles to reflect the increased numbers of people with disabilities using public transport
- that the Standards include provisions to monitor use of infrastructure and vehicle improvements, not only capacity for accessibility
- that the permanent exemption for school buses be removed.

2.4 State Acts

2.4.1 Transport Integration Act 2010

The Transport Integration Act is the primary transport statute for Victoria, and has caused significant change to the way transport and land use authorities make decisions and work together. The Act enshrines a triple bottom line approach to decision making about transport and land use.

The Act requires that all transport agencies work together to achieve an integrated and sustainable transport system, and that land use agencies such as the Department of Transport, Planning and Local Infrastructure (DTPLI) take account of transport issues in land use decisions.

The Act has been effective to date in changing the focus of organisations that traditionally only considered a single transport mode.

The Act:

- unifies all elements of the transport portfolio to ensure that transport agencies work together towards the common goal of an integrated transport system
- provides a framework for integrated and sustainable transport policy and operations
- recognises that the transport system should be conceived and planned as a single system performing multiple tasks rather than separate transport modes
- integrates land use and transport planning and decision-making by extending the framework to land use agencies whose decisions can significantly impact on transport ("interface bodies")
- re-constitutes transport agencies and aligns their charters to make them consistent with the framework.

The Transport Integration Act forms an overarching legislative framework for transport related state planning policies and has been integrated within the Victorian Planning Provisions (VPP).

2.4.2 Road Management Act 2004

The Road Management Act 2004 is the main legislation by which roads are administered and managed. It has broad implications for the community, individuals and authorities alike. The Act provides a statutory framework by which the state and local road network is coordinated, managed and used for a variety of purposes, including the use of the road reserves for legitimate purposes, such as the provision of utility services and public transport.

The Act also sets out the rights and duties of road users, and defines the roles and functions of road authorities (such as VicRoads and Bass Coast Shire Council) in the development of specific regulations and codes of practice (amongst other things).

2.4.3 Planning and Environment Act 1987

The Planning and Environment Act 1987 is the fundamental legislation which provides a framework for planning the use, development and protection of land in Victoria. The Department of Sustainability and Environment outlines that the main functions of the Act are to:

- *"set the broad objectives for planning in Victoria*
- *set the main rules and principles for how the Victorian planning system works*
- *set up the key planning procedures and statutory instruments in the Victorian planning system*
- *define the roles and responsibilities of the Minister, councils, government departments, the community and other stakeholders in the planning system."*

While the Act does not provide a detailed scope of planning and how it should be done or the rules that apply, it is the overarching document to the Victoria Planning Provisions, planning schemes, regulations and Ministerial Directions that do.

2.4.4 Public Health and Wellbeing Act 2008

The Public Health and Wellbeing Act 2008 replaces the previous 1958 Health Act. It covers a wide range of matters and has implications for many including:

- authorised officers within local councils and the Department of Human Services
- pest control operators

- cooling tower operators
- the governance and management of a range of consultative councils established under the Act
- the management of infectious diseases, micro-organisms and medical conditions by medical and health practitioners, the Victorian Chief Health Officer and affected individuals
- the development of public health policy through providing for municipal public health and wellbeing plans, a State public health and wellbeing plan and in some circumstances, health impact assessments.

A number of Bass Coast's policy documents including its Municipal Health and Wellbeing Plan (2005-2008) have been prepared with regard to the provisions of the Act.

2.5 State Policy and Plans

2.5.1 Victoria Planning Provisions (VPP)

As per the legislative framework of the Transport Integration Act, various statutory planning requirements are incorporated within the VPP. The relevant clauses are outlined as follows:

- Clause 18.01 – Integrated Transport:
  This clause requires the preparation of an Integrated Transport Plan (ITP) for all new "major" developments. It is typical that this ITP be lodged to the Responsible Authority concurrently with the planning permit application.
- Clause 52.34 – Bicycle Facilities:
  This clause aims to encourage cycling as a mode of transport through provision of convenient parking and end of trip facilities.
- Clause 52.36 – Integrated Public Transport Planning:
  This clause seeks to ensure that development supports public transport usage. Under this Clause, Public Transport Victoria (PTV) acts as a referral authority for all major developments. PTV considers that such proposals should be consistent with the Department of Transport's *"Public Transport Guidelines for Land Use and Development"* and the objectives and standards in Clause 56.03-1 of the VPP.

2.5.2 VicRoads SmartRoads Policy

SmartRoads is a VicRoads policy which sets 'modal' priorities on the road network and underpins many of the strategies for public and transport prioritisation. The policy is described as follows:

"SmartRoads is an approach that manages competing interests for limited road space by giving priority use of the road to different transport modes at particular times of the day. All road users will continue to have access to all roads. However, certain routes will be managed to work better for cars while others will be managed for public transport, cyclists and pedestrians."[1]

The VicRoads SmartRoads Network Operating Plan for the area has been reproduced in Figure 2.2.

[1] Source: www.vicroads.gov.au.

Figure 2.2: Phillip Island VicRoads SmartRoads Network Operating Plan

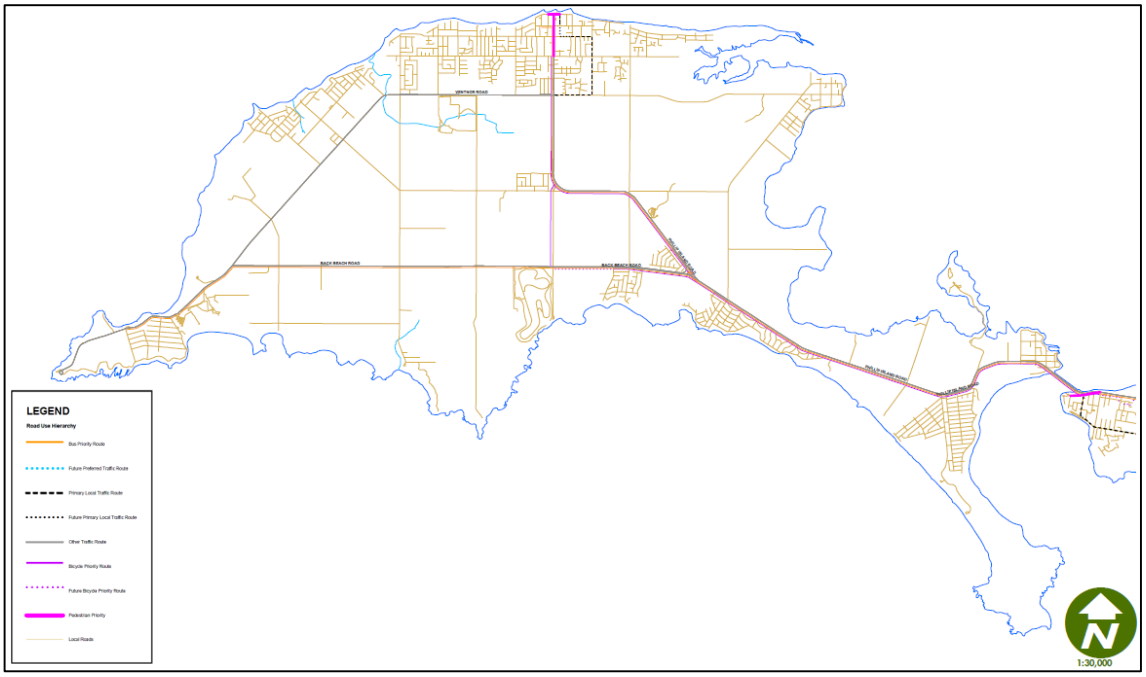


Figure 2.2 illustrates that Phillip Island Road and Back Beach Road are nominated bus priority routes, Phillip Island Road is a priority bicycle route, there are sections of Phillip Island Road within Cowes and San Remo that are priority pedestrian routes, and there are primary local traffic routes within Cowes and San Remo. Based on VicRoads' website, road use priority routes (for buses and trams) have been identified to ensure:

"Trams and buses are given priority on key public transport routes that link activity centres during morning and afternoon peak periods."

2.5.3 Victorian Cycling Strategy and Action Plan

The Victorian cycling strategy, *Cycling into the Future 2013-2023* and associated *Victorian Cycling Action Plan 2013 & 2014*, aims to grow and support cycling within Victoria by encouraging more people to ride and to increase the safety for those that already ride. This strategy takes a holistic view to cycling; through a coordinated and strategic approach that considers the needs of all bike riders, and develops policies, programs and actions to address these needs. Barriers to cycling are more than just infrastructure-related; they include knowledge, attitude and processes that may inhibit growth and supportive measures in the uptake of cycling as a transport mode. The strategy identifies six directions to create a bike-friendly Victoria. These include:

- *Build evidence*
- *Enhance governance and streamline processes*
- *Reduce safety risks*
- *Encourage cycling*
- *Grow the cycling economy*
- *Plan networks and prioritise investment*

The strategy identifies a significant opportunity to increase cycling for short trips in regional areas. Cycling in regional areas has not grown as quickly as metropolitan areas; however there are opportunities to support bicycle growth in these areas. This includes the opportunity for children to ride to school and for cyclists to regularly use regional trails. It is also noted that regional areas

often have a more diverse range of cycling infrastructure that can be networked. Planning for cycling networks in regional urban centres is crucial for growing and supporting cycling across Victoria.

Cycling will play an increasingly important role in meeting transport needs and supporting vibrant, healthy urban communities in regional Victoria. This is reflected in the development of Regional Growth Plans such as the Hume Regional Plan. These growth plans will provide broad direction for land use, development and transport infrastructure, and will support the role of cycling in Victoria. Actions associated with the strategy provide opportunities for cycling networks in regional centres and towns to flow from precinct-based to beyond local government boundaries, providing for a continuous cycling infrastructure network across regional Victoria.

2.5.4 Principal Pedestrian Network

The Principal Pedestrian Network (PPN) was developed to improve the planning for pedestrian access across Victorian activity centres. Developed by Department of Transport, the tool is designed to help local councils improve pedestrian planning as a part of the VicRoads SmartRoads initiative. It aims to aid councils in mapping areas of expected high demand, and provides guidance on conducting audit or gap analysis to build the necessary infrastructure to deliver a PPN. A Principal Pedestrian Network has not been developed for the Bass Coast Shire.

2.5.5 Pedestrian Access Strategy 2010

The *Pedestrian Access Strategy* sets out the Victorian Government's vision for a more pedestrian-friendly transport system for Victorians. The aim of the strategy is to encourage more Victorians to walk, especially for short trips. The strategy establishes broad policy principles and the first steps to guide the Victorian Government's investment in walking over the next 10 years – including infrastructure, planning and design, safety and behaviour change programs.

Getting more people walking has the potential to help ease congestion caused by vehicles, reduce greenhouse emissions, improve the health of the community and promote social connections. Despite the many benefits of walking, both physical and attitudinal barriers stop people walking more. The *Pedestrian Access Strategy* explores the major barriers to walking to help understand how best to overcome them. The strategy also takes account of trends and patterns in how, where and why Victorians walk. This picture of walking in Victoria puts the focus on support for walking where it is most needed.

Five strategic directions and related actions for walking are:

i Encourage people to walk by changing attitudes and behaviour.

- Integrated provision for walking in Victorian Government transport projects, including principle development for incorporating walking in major transport projects.
- Targeted behaviour change programs to encourage walking and develop travel planning guidance for workplaces, schools, communities, tertiary institutions and community precincts.

ii Collaborate to improve provision for walking.

- Improving Victorian Government coordination and consultation mechanisms for planning walking infrastructure with local government, including at the regional level.

iii Create pedestrian-friendly built environments, streets and public spaces.

- Greater alignment of local planning policies with the Victorian planning framework to enhance focus on walking, and a requirement to provide appropriate and well-designed walking infrastructure.
- Develop active transport guidelines for land use planning.

iv Increase the safety of walking.

- Continue review of pedestrian crash data and identify counter measures to improve infrastructure safety and road user behaviour.
- Provide for regular and sufficient pedestrian crossings on arterial and collector roads.

v Continue integrated walking with public transport.

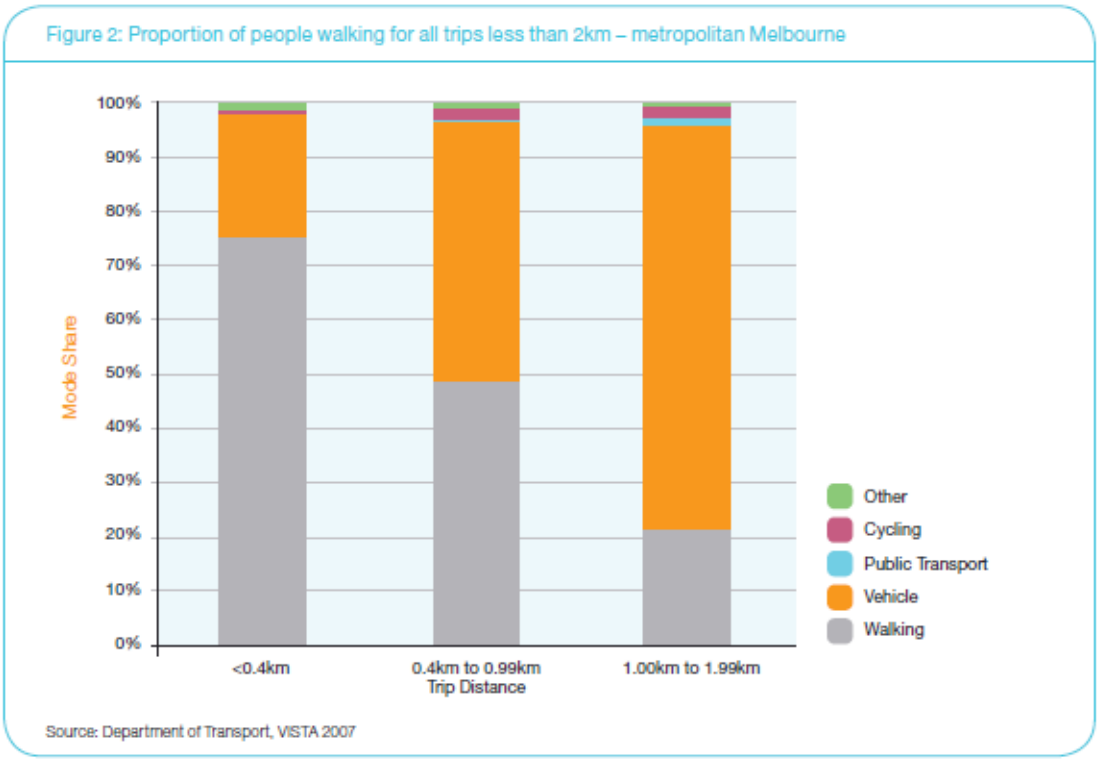
- Provide safe and convenient walking access to public transport stops and interchanges.

Walking in Regional Towns and Centres

People in Melbourne's inner suburbs have more walk only trips than those in the outer suburbs and regional centres. The main factor is most likely the difference in community design, with outer suburbs and regional centres being lower density developments with greater distances between home and other destinations.

As shown in Figure 2.3, 75 per cent of all trips less than 400m in Melbourne are walked. In Victoria's regional centres, walking accounts for 64 per cent of these trips. But as trip lengths increase the proportion of people walking decreases – and vehicle travel becomes the dominant transport choice even among trips as short as 400m-2km. There is an opportunity to increase the proportion of short trips undertaken by walking on Phillip Island.

Figure 2.3: Proportion of People Walking for All Trips less than 2km – Metro Melbourne Region



2.5.6 Victorian Coastal Strategy 2008

The third iteration of the Victorian Coastal Strategy aims to provide a long term vision for the management of the coast of Victoria, including policies and actions to guide decisions over the short to medium term. Specifically, the strategy looks to respond to the following key issues facing the coast:

- *Climate change which will result in impacts on the coast, including rising sea levels*
- *Rapid population growth in coastal areas*
- *The health of our unique and valued marine environment*

With specific regard to transport and land use, the strategy identified the following policy directions:

- *Ensure coastal settlements and growth are appropriately planned and managed by:*
    - *directing residential, other urban development and infrastructure within defined settlement boundaries of existing settlements that are capable of accommodating growth*
    - *encouraging urban renewal and redevelopment opportunities within existing settlements to reduce the demand for urban sprawl.*
- *Maintain existing non-urban breaks between all coastal settlements to support community identity, sense of place and limit urban sprawl.*
- *Avoid linear development along the coastal edge and major transport routes and within rural landscapes to preserve areas between settlements for non-urban use*

Sustainable transport and access

- Sensitivity of recreation nodes and activity nodes (for example, Cowes) during peak periods, resulting in conflicts between development pressures for tourist attractors and facilities, and impacts on the coast.
- There is a need for better pedestrian and cycling infrastructure to and from activity nodes to encourage other forms of travel.

2.5.7 Bass Highway Duplication

The duplication of the Bass Highway between Lang Lang and Anderson is in the final stage of construction[2]. This stage will include a new link connecting the Bass Highway and Phillip Island Road.

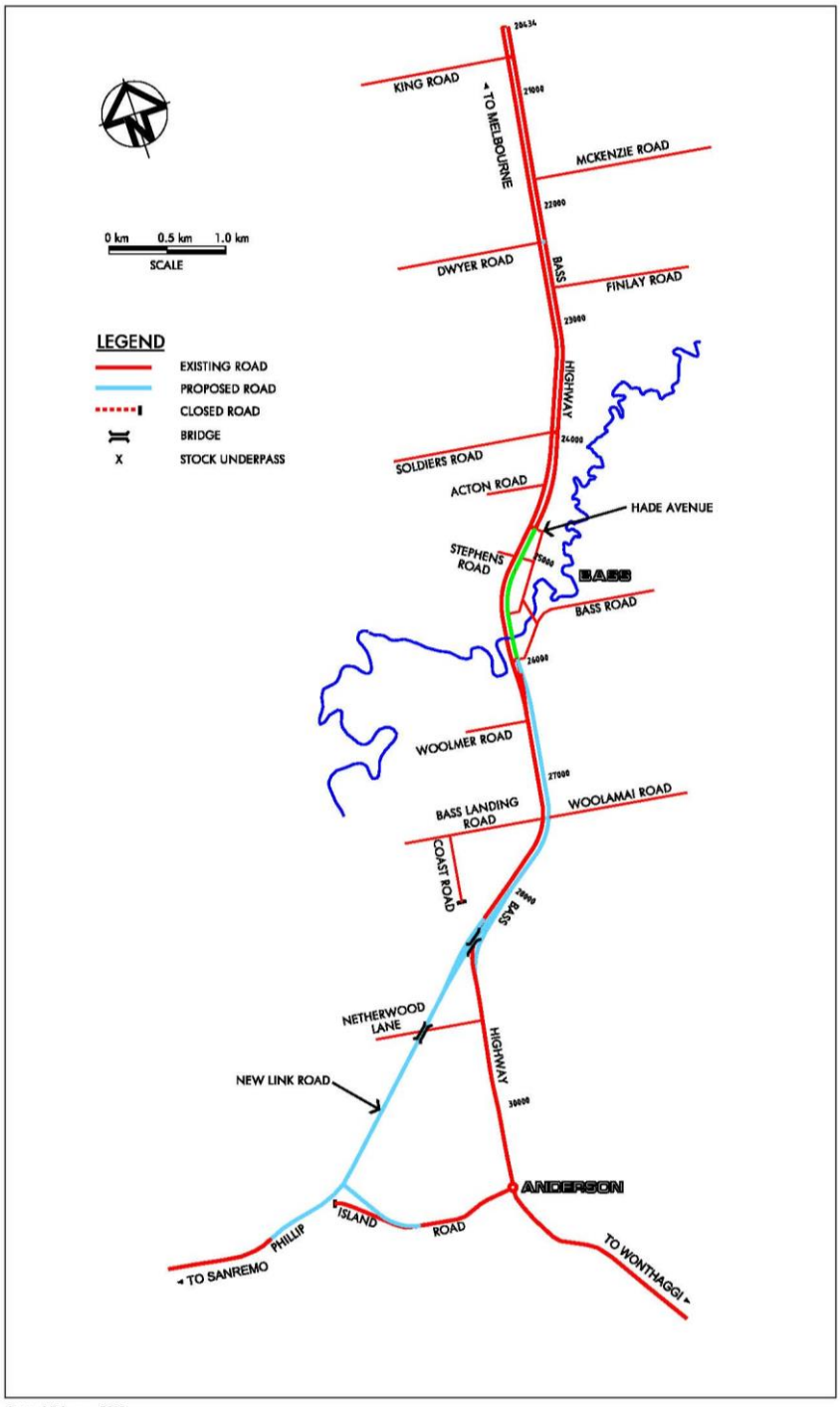
An overall plan of the works is presented below in Figure 2.4, which is expected to provide the following benefits as outlined by VicRoads:

- *Reduced travel times to Phillip Island which hosts some of Victoria's most popular tourist and sporting attractions*
- *The ability to handle increased traffic volumes on Bass Highway*
- *Safer driving conditions for motorists*
- *An improved traffic flow between Phillip Island and Melbourne by eliminating use of the roundabout at Anderson*
- *bypassing a winding section of Phillip Island Road and providing two added lanes along Bass Highway - this will help improve road safety in this area*

[2] http://www.vicroads.vic.gov.au/Home/RoadProjects/RegionalVictoriaRoadProjects/BassHighwayDuplicationLangLangToAnderson.htm

- *the overpass will provide smoother, safer movements at the connection of the Bass Highway and the new link road, for Phillip Island and Wonthaggi-bound traffic*
- *assisting traffic to exit Phillip Island after major events such as the MotoGP through additional road network capacity*
- *safer access to the highway from side roads*
- *more efficient freight movement*

Figure 2.4: Bass Highway Duplication – Lang Lang to Anderson



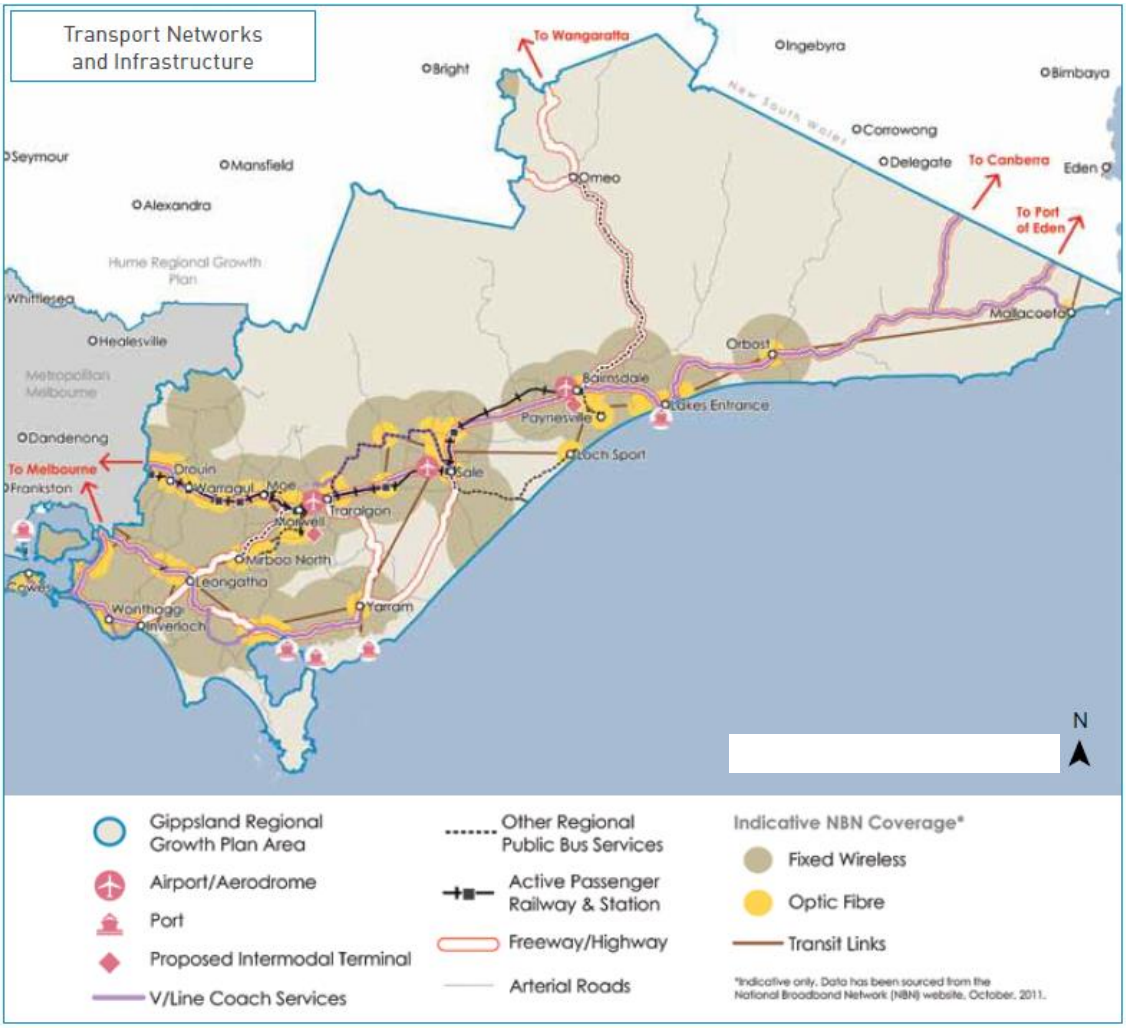
2.5.8 Gippsland Integrated Land Use Plan

The Gippsland Integrated Land Use Plan is a broad level planning document that is currently being prepared to identify opportunities for encouraging and accommodating future growth and managing the change that will occur over the next 30 years within the municipalities of Bass Coast, South Gippsland, Baw Baw, Latrobe, Wellington and East Gippsland. As part of the plan, it sets out the following vision:

"Gippsland is an innovative, thriving, sustainable and connected region where planning is inspired by our people, landscape, resources, heritage and diversity."

Further, it indicates what is considered to be the transport priorities to support Gippsland's population and economic growth, which is represented in Figure 2.5.

Figure 2.5: Transport Priorities in Gippsland



2.6 Local Policy and Plans

2.6.1 Bass Coast Council Plan 2013-2017

The Bass Coast Council Plan is a four-year strategic document which outlines broad level strategies for delivering the prioritised outcomes identified by Council over the short term.

The plan outlines the following strategies which are relevant from a transport and land use planning perspective:

- *Plan for our increasing population, future infrastructure and service demands*
- *Provide clear direction for future land use and development*
- *Share the responsibility in creating safer roads, places and spaces*
- *Improve the access networks and pathways for commuters in and around the Bass Coast*

2.6.2 Municipal Public Health Plan for Bass Coast

The Council Plan 2009-2013 was adopted in June 2009 to provide a strategic basis for the Council to implement actions to achieve the community Vision. Under Section 263 of the Public Health and Wellbeing Act 2008 Councils are able to integrate the Municipal Public Health and Wellbeing Plan into their Council Plan.

Bass Coast Shire Council adopted the recommendation to do this as a formal demonstration of its commitment to improving the health and wellbeing of the community. The existing Council Plan was amended to reflect and strengthen the focus of health and wellbeing across all departments of Council.

Some key considerations in relation to public health in the Bass Coast region include:

- Bass Coast is ranked 24th most disadvantaged LGA on the SEIFA index, with 37% of households receiving a weekly income of less than $500.
- Disadvantaged towns are characterised by limited transport options (e.g. forced car ownership), health and educational services and employment opportunities.
- On average, the Gippsland area has a higher prevalence of cardiovascular disease and obesity in comparison to Victoria. This is linked to a lack of physical activity and reliance on private motor vehicles for transport.
- There is a need to better facilitate balanced and integrated support services necessary for the health, safety and wellbeing of the community.

The social determinants of health, including transport are acknowledged in the Plan, through recognising that healthy transport means less driving and more walking and cycling, backed up by better public transport. Cycling, walking and the use of public transport promote health in four ways. They provide exercise, reduce fatal accidents, increase social contact and reduce air pollution.

2.6.3 Bass Coast Strategic Coastal Planning Framework 2011

The Bass Coast Strategic Coastal Planning Framework aims to provide Council and the Bass Coast community with a basis and agenda for development of coastal areas into the future.

The report has no specific relevance to Phillip Island, as it was excluded from the study area.

Notwithstanding the above, in terms of population growth projections and transport use considerations within the Bass Coast Shire, the following was identified:

Growth and population

- Sustained coastal population growth and development (5,000 new permanent and holiday dwellings to 2026) within Bass Coast will require Council to address issues of access and mobility to major attractors and services.
- A large number of retirees live on Phillip Island and this is expected to grow.

Transport mode choice

- There is a need for more emphasis on sustainable transport modes that reduce impacts on the sensitive local environments.
- Public transport services and infrastructure need to be improved to better serve and connect with activity nodes.
- There is a need to invest in formal bicycle and pedestrian linkages from residential clusters to town centres.
- There is a need to provide for consistent pedestrian and cyclist priority with regards to road and intersection design in new estate developments.

2.6.4 Cowes, Silverleaves, Ventnor & Wimbledon Heights Structure Plan 2010

The Cowes, Silverleaves, Ventnor & Wimbledon Heights Structure Plan aims to establish an agreed vision for the future structure of the area, and to establish a framework of principles and strategies to guide future land use and development decisions to reach the desired outcome.

In order to achieve this aim, the Structure Plan identified the following transport related matters:

Access, movement and car parking

- Parking supply within the Cowes activity centre meets demand for the majority of the year except during periods of peak seasonal demand.
- The "parking problem" is a consequence of relying upon a series of small car parks located behind the main retail spine which are difficult to find and poorly integrated.
- Vehicle congestion during peak seasons and major events arising from access to and car parking in Thompson Avenue and along the Esplanade is a threat to the functioning, amenity and safe use of the centre.
- The existing Phillip Island road network tends to funnel vehicular traffic towards Cowes and then on to the Esplanade. This often results in traffic congestion on Thompson Avenue and the Esplanade, particularly during the peak summer period.
- Outside of the Cowes Activity Centre, pedestrian and cycle connectivity is poor as a result of limited footpath provision.
- State and Local Government are committed to determine the feasibility of creating a viable car ferry service, linking Cowes to the mainland.
- There is a need to provide for all modes of transport, including public transport.

2.6.5 San Remo, Newhaven & Cape Woolamai Structure Plan 2010

The San Remo, Newhaven & Cape Woolamai Structure Plan provides a strategic framework for the preferred future direction of the three towns, identifying issues and safeguarding the coastal towns' intrinsic value.

In order to achieve the identified aims, it identified the following transport related matters:

Access and movement

- Parking and circulation issues exist within San Remo. Marine Parade is dominated by the road and parking.
- In Newhaven traffic management measures may be required at the Phillip Island Road entrance into the town with an increase in boating facilities.
- Cape Woolamai has benefited from local area traffic management measures; however travel is required to Newhaven and San Remo for most services.
- It is observed that people drive between the three communities, as well as Wonthaggi and Cowes for shopping, recreation and work.
- There is a need for better east-west pedestrian connections and movement in San Remo (old San Remo to new San Remo).
- Concerns raised by residents of the three towns regarding access on to Phillip Island Road, particularly during peak periods. May require upgrade of key intersections on Phillip Island Road, including:
    - Back Beach Road, San Remo
    - Bergin Grove, San Remo
    - Forrest Avenue, Newhaven
    - Woolamai Beach Road, Cape Woolamai.
- The San Remo town centre requires a focus on pedestrian and cycling activity, with improved circulation of vehicles and coaches around town.
- Potential to restructure San Remo town centre to create new access routes.
- There is a need to establish a safe bicycle-pedestrian path network around the towns connecting the foreshore, commercial centres, public open space areas and existing regional recreational trails.

2.6.6 Final San Remo Access Strategy 2013

The San Remo Access Strategy provides an assessment of the existing access conditions, and provides recommendations by which San Remo may meet its future transport vision.

In order to achieve this aim, it identified the following transport related matters

- Growth and population
    - There is a planned growth to the east of existing residential areas within San Remo. However, there are limited connections between "New" and "Old" San Remo for all modes of transport.
    - There is a lack of transport options for the growing senior demographic.
- Safety
    - Some intersections and sections of roads are in an unsatisfactory condition for their role in the network, or future role within the transport network.
- Connectivity
    - When there is a high level of congestion on Phillip Island Road, it cannot act as a vehicle connection between "Old" and "New" San Remo.
    - Under these conditions, Shetland Heights Road (partially unsealed), is the only east-west link for local trips and emergency vehicles.

    - No clear circulation path or facilitated U-turn is provided within the western section of Marine Parade.
- Sustainable Transport
    - Poor perception of bus network and limited bus stop infrastructure.
    - San Remo has a limited and incomplete pedestrian footpath network, which includes no crossing facilities.
    - No dedicated cycle paths and very limited end-user facilities.
- Managing the network
    - The Marine Parade commercial and activity area is a car-dominated environment.
    - Limited separation of active transport modes from and within the road network, particularly at intersections.
    - Limited differentiation between local and collector roads throughout the township.
- Tourism
    - San Remo is directly affected by special event traffic using Phillip Island Road.
- Heavy vehicle movements
    - There are a large number of heavy vehicles currently using Marine Parade. These vehicles have no designated parking facilities.

2.6.7 Bass Coast Bicycle Strategy 2000

The Bass Coast Bicycle Strategy was undertaken to develop actions for achieving a 'safe, cost effective and widely used' bicycle network, and in addition providing a detailed works program for undertaking the recommended actions.

The strategy identified the following issues:

Identified issues:

- Planning, Design and Coordination
    - A lack of provision for safe cycling.
    - The need to consider safe walking and cycling in all Council strategies and plans and local town structure plans.
    - There is a lack of bicycle-friendly design at most intersections, including roundabouts.
    - A significant lack of maintenance on bike paths around Phillip Island.
    - Trails and bike routes are not specifically identified in current maintenance service agreements.
- On Road Network
    - No existing on-road bicycle network on Phillip Island.
    - A number of accidents involving cyclists and vehicles on Phillip Island.
    - Phillip Island hosts up to 12-15 events annually which creates considerable amounts of traffic and congestion.
    - Bass Highway and Phillip Island Road use blue lines to split the single lane and shoulders into two lanes during peak traffic periods, impeding on the safety of cyclists.
    - There is a general need to implement signalised crossings at points around Phillip Island to uphold pedestrian, wheelchair users and cyclists' safety during peak busy periods. This includes: Phillip Island Road and Rhyll-Newhaven Road.

    - The need for more bike and bus stations along Phillip Island Tourist Road, including the need to provide for school children's use.
- Off Road Network
    - Phillip Island has a number of off-road bicycle trails however they are not connected directly.

2.6.8 Draft Bicycle Infrastructure Action Plan 2012-2022

The Bicycle Infrastructure Action Plan (draft) builds on the Bass Coast Bicycle 2000 Strategy, to identify and provide a plan for the delivery of a network of on-road and off-road cycling facilities linking major trip generators and key community destinations.

In order to provide a comprehensive bicycle network, the Plan identifies the following issues to be overcome:

- There is an overarching need to connect cyclists to major destinations and attractors. At present bicycle infrastructure is inconsistent with regards to maintenance, sight lines, signage, end trip facilities and integration with public transport.
- The trail network and "commuter" network are currently fragmented and not directly connected (gaps).
- Busy intersections and speed limits along roads is a factor in the rate of cycling accidents.
- There is a perception (typically with parents of school children) that riding is unsafe and slow compared to car travel.

In terms of Phillip Island, the Action Plan indicates the intent to provide various additional lengths of on-road bicycle routes totalling 42km, and additional off-road network including improvement of the Phillip Island Trail and links to the Phillip Island Nature Parks Network.

More specifically, Figure 2.6 indicates the existing and proposed bicycle network within Phillip Island and San Remo (with an extract of Cowes in Figure 2.7) identified by the Action Plan.

Figure 2.6: Phillip Island and San Remo Bicycle Infrastructure Action Plan

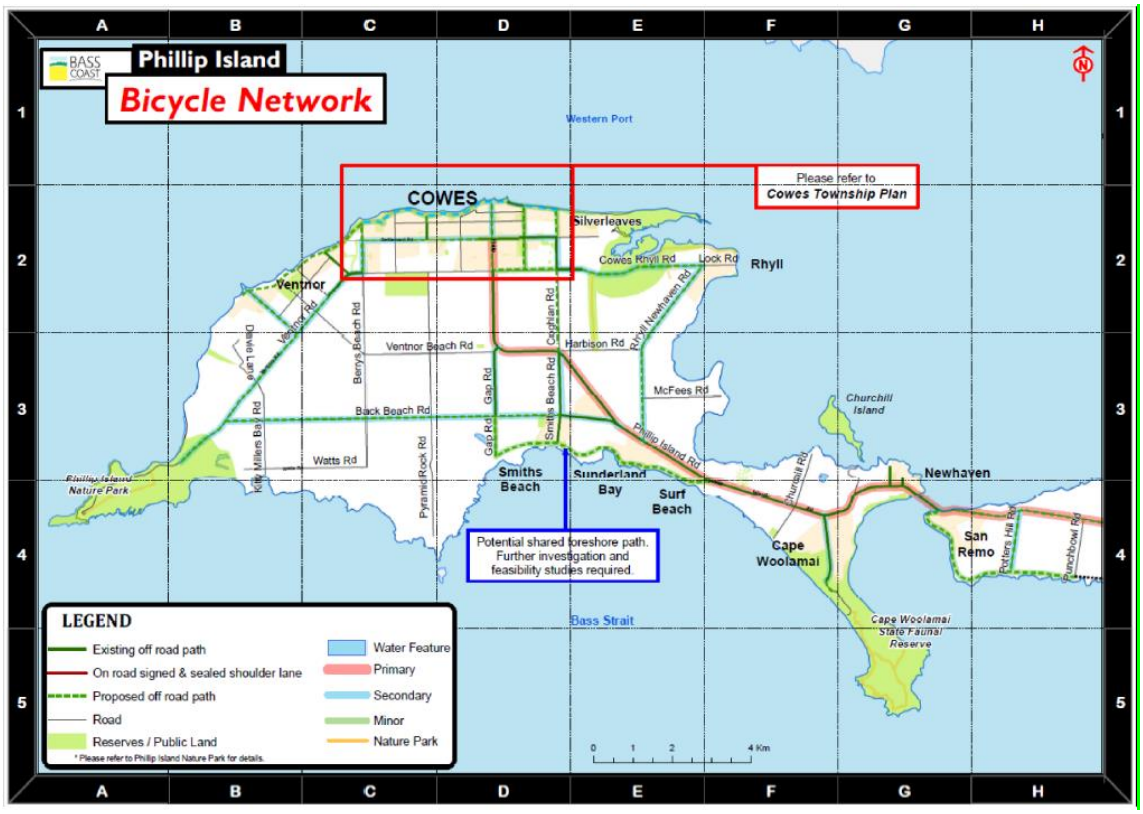
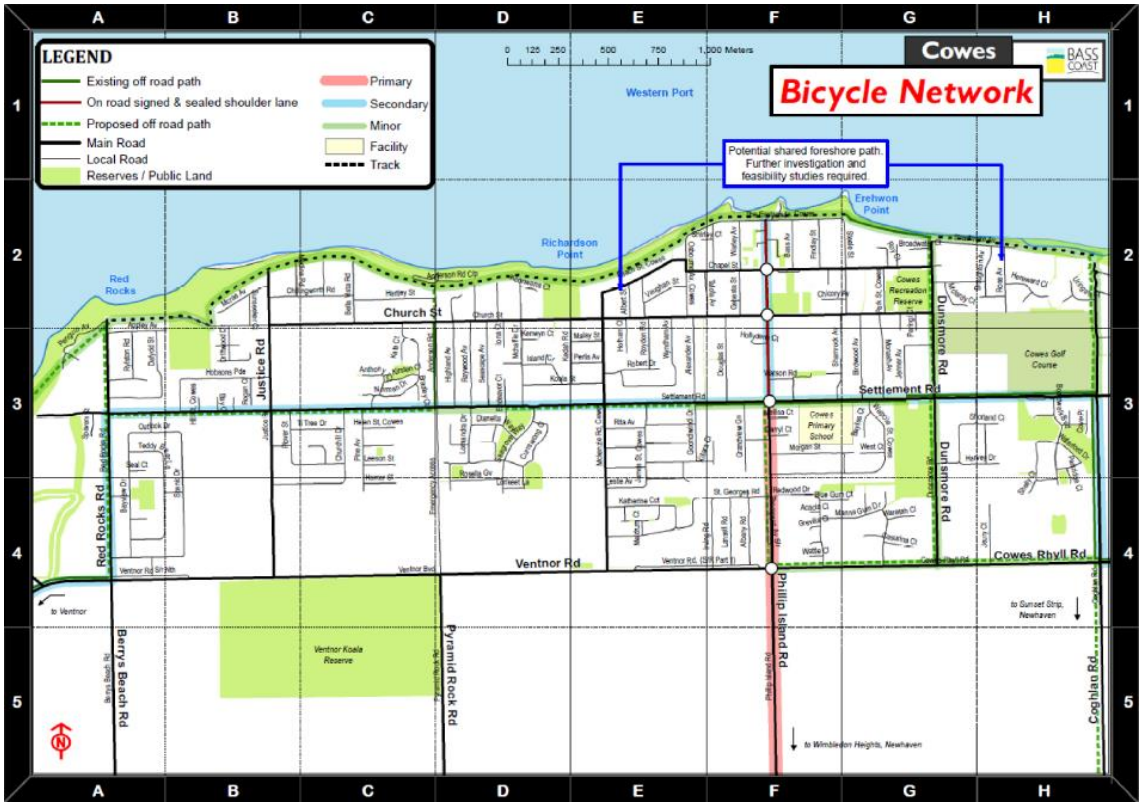


Figure 2.7: Cowes Bicycle Infrastructure Action Plan



2.6.9 Cowes CBD Parking Study 2012

The Cowes CBD Parking Study sets out the car parking inventory within the core commercial area of Cowes, specifically the area in the vicinity of Settlement Road, Church Street, Chapel Street and the Esplanade. It has compiled car parking demand results for the CBD area on three of the Australia Day Long Weekend Friday's and Saturday's in January 2008, 2010 and 2012.

The purpose of the study was to use the repat surveys of the CBD to identify any trends and set a peak activity baseline to compare future peak car parking management interventions for the area.

Based on the study the following key findings were identified

- While the parking occupancy surveys indicate that there were a significant number of vacant spaces, most of these are located on the periphery and are not conveniently located to serve many areas.
- There was significant demand for parking at the Foreshore Area, Woolworths car park and along Thompson Avenue.
- Bass Avenue car park was one of the few centrally located areas with a reasonably high vacancy rate.

2.7 Summary Reference List

For ease of reference with the above background document review, the following summary reference list is provided:

- Healthy by Design – a planner's guide to environments for active living (Heart Foundation 2004).
- Walking, Riding and Access to Public Transport Draft Report for Discussion - October 2012
- National Cycling Strategy 2011-2016
- National Partnership Agreement on Preventative Health
- National Disability Strategy 2010-2020
- Transport Integration Act 2010
- Road Management Act 2004
- Planning and Environment Act 1987
- Public Health and Wellbeing Act 2008
- Victoria Planning Provisions (VPP)
- VicRoads SmartRoads Policy
- Victorian Cycling Strategy and Action Plan
- Principal Pedestrian Network
- Pedestrian Access Strategy 2010
- Victorian Coastal Strategy 2008
- Bass Highway Duplication
- Gippsland Integrated Land Use Plan
- Bass Coast Council Plan 2013-2017
- Municipal Public Health Plan for Bass Coast
- Bass Coast Strategic Coastal Planning Framework 2011
- Cowes, Silverleaves, Ventnor & Wimbledon Heights Structure Plan 2010
- San Remo, Newhaven & Cape Woolamai Structure Plan 2010
- Final San Remo Access Strategy 2013
- Bass Coast Bicycle Strategy 2000
- Draft Bicycle Infrastructure Action Plan 2012-2022
- Cowes CBD Parking Study 2012

3. Demographics

3.1 Overview

Phillip Island and San Remo are located on the southern border of Victoria, between the Mornington Peninsula and the Bass Coast mainland. The total area of Island (Statistical Area) is approximately 100 square kilometres.

The current permanent resident population of the Island is estimated at 9,406 persons (based on the 2011 ABS Census data for the Phillip Island Statistical Local Area). It is noted that the area, and Bass Coast in general, experiences large influxes of people during peak holiday periods and when events are held, which can see the Bass Coast population at three times the permanent resident population(Source: Bass Coast Shire Council website).

3.2 Population Demographics

3.2.1 Population growth

Phillip Island's resident population has increased at an average annual growth rate of 3.12% between 2006 and 2011 Census years (Source: Bass Coast Council Community Profile), which is notably higher than the population growth of 1.96% for mainland Bass Coast. It is also noted that the bulk of the growth on Phillip Island has occurred between 2009 and 2011, with an average annual growth rate of 7.8% (as advised by Bass Coast Council).

Based on present growth rates, the Phillip Island resident population would be expected to increase to almost 17,000 persons by the year 2030. This significant growth amounts to approximately 3,400 additional households. The infrastructure required to service this growth will vary depending on the location and density of development.

What is not apparent is the likely increase in visitor numbers during holidays and major events, especially given the increased accessibility of the area through improved arterial roads and freeways, and increased public transport services.

3.2.2 Age and Employment

Age Structure

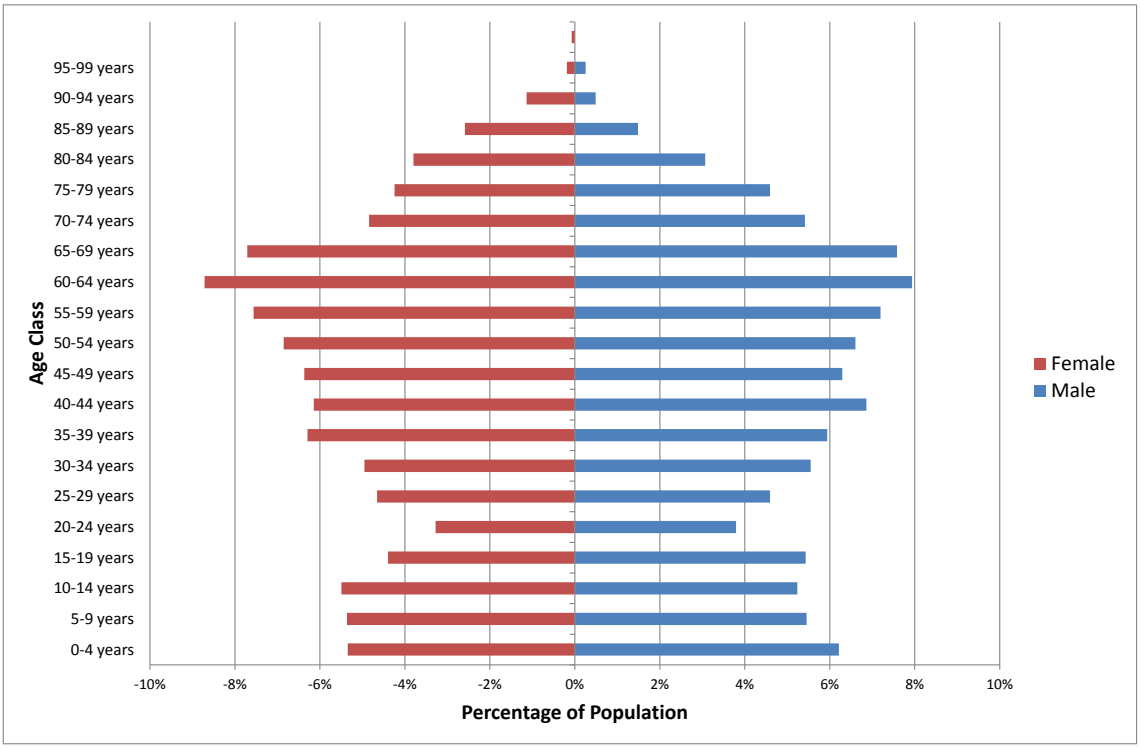
Population age structure data has been sourced from the 2011 ABS Census data for the Island postal codes of 3922, 3923 and 3925.

The age profile of the residents indicates that:

- 21% of residents are under 20 years of age.
- 24% of residents are 65 years of age or older.

This full age structure data is represented in Figure 3.1.

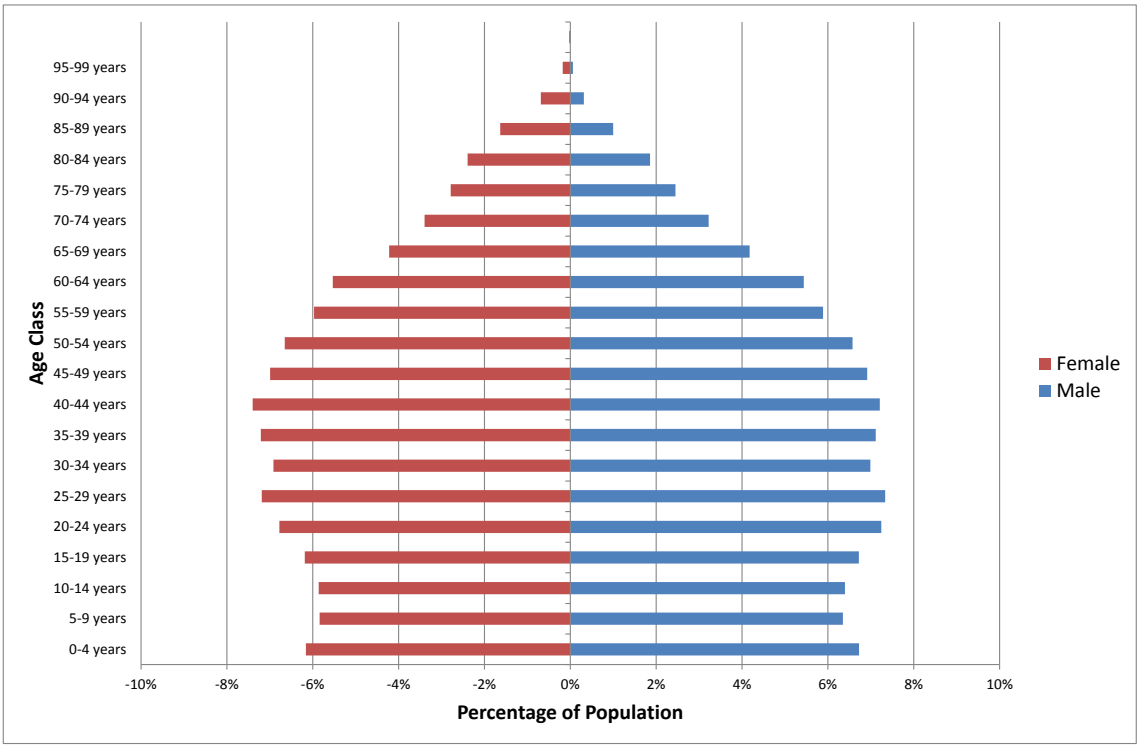
Figure 3.1: Phillip Island Population Pyramid



Source: ABS 2011 Census Data

By way of comparison, the same data set has been extracted for the whole of Victoria, and is depicted in Figure 3.2.

Figure 3.2: Victorian Population Pyramid



Source: ABS 2011 Census Data

Against the overall Victorian age profile data, the following differences have been identified:

- A smaller proportion of youth and young adults.
- A larger proportion of 60-69 year old persons and retirement aged residents.

The age profile for the Island outlined above is reflective of the employment and labour force participation, with 44% of residents stated as not being in the labour force[3] (ABS Census 2011), which is 9% higher than the average for the whole of for Victoria (35%). This correlates with the fact that a high proportion of residents are 60 years and older, and are likely to be retired.

3.3 Travel behaviour

3.3.1 Journey to Work

Figure 3.3 displays the Journey to Work by Place of Residence between 2006 and 2011 for the 3922, 3923 and 3925 post codes that make up the Island.

Figure 3.3: Journey to Work Mode Choice by Place of Residence – 3922, 3923, 3925 Post Codes

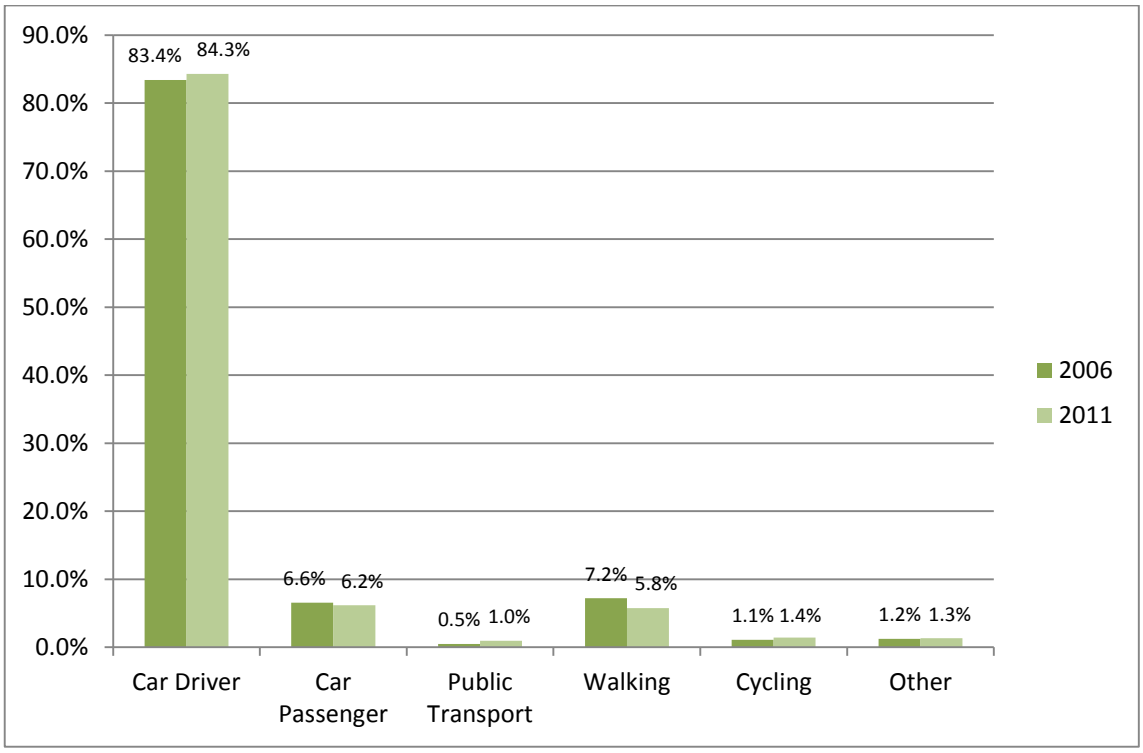


Figure 3.3 indicates that car use has been the dominant mode of transport for trips to work, with motor vehicle transport making up approximately 91% of work journeys made by residents in 2011.

Comparison of the two data sets indicates that there has been a minor increase in private car and public transport modes, with a small decrease in walking trips to work, between 2006 and 2011.

This is potentially due to new housing being located farther away from employment opportunities, making walking a less feasible mode of travel. In terms of the public transport use increase, this has been in the order of a 100% increase between 2006 and 2011, but the total usage of 1% indicates that it is not currently a significant form of transport to and from work in the area.

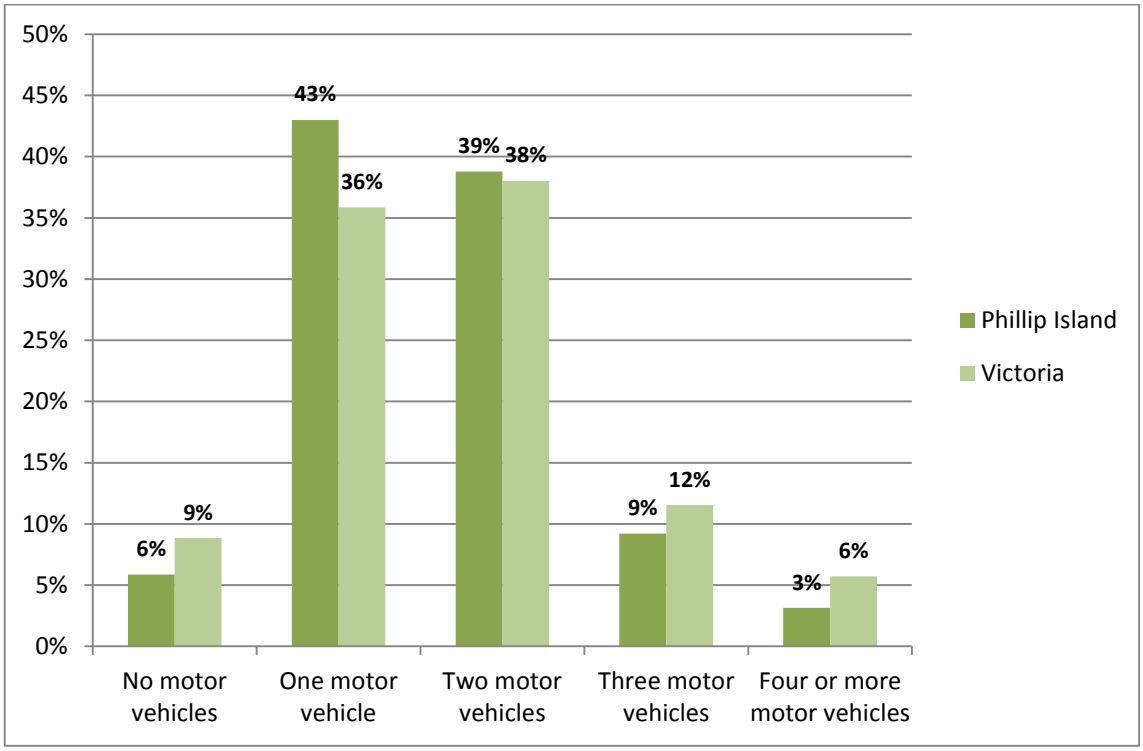
[3] Calculated from data set which excludes 'Not Applicable' (i.e. those under 15 years of age) and 'Not Stated' responses.

3.3.2 Car Ownership

The levels of car ownership for the Island post codes (3922, 3923 and 3925) and Victoria, based on 2011 ABS Census data is shown in Figure 3.4. Of particular note is that:

- 5.9% of households in the Island do not own a motor vehicle, which is slightly less than for the whole of Victoria (8.9%).
- 43% of households in the Island have one vehicle compared to 36% for Victoria.
- 39% of households in the Island have two vehicles compared with 38% of households in Victoria.

Figure 3.4: Car Ownership (ABS 2011)



The above indicates that the majority of households own at least one car, and approximately half of all households own two or more vehicles. This is typical for regional centres with limited public transport and longer distances to travel. However, it is worth noting that approximately 50% of all households own one or less cars, which potentially indicates there is a latent demand for alternatives to private vehicle travel.

3.4 Origin Destination Data

An analysis of travel patterns for residents and workers within the Bass Coast Shire was undertaken using 2011 ABS Census data. Although data specific to Phillip Island is not available, the following trends can be identified:

Phillip Island Residents

- 76.6% of work trips made by the Island residents were to a workplace located within the Bass Coast Shire.

- The remainder of work trips made by the Island residents were to other municipalities, including Melbourne (1.3%), South Gippsland (1.3%), Cardinia (1.2%), Casey (1.1%) and Greater Dandenong (1.1%).

Bass Coast Working Population

Whilst no data has been obtained for the study area, data is available at a broader level through the ABS for workers data within the Bass Coast Shire, which demonstrates the following:

- Of all work trips to the Bass Coast Shire, 29.1% originated from residents of the Island.
- 10% of all work trips to the Bass Coast Shire originated from Cowes.
- The majority of trips for work in the Bass Coast Shire originated within its suburbs.

4. Events Calendar

Phillip Island hosts a variety of annual and one-off events throughout the year, which generate significant increases in traffic and car parking demand in the area and in some instances triggers the need for specific traffic management measures, including diversions, alterations to road layouts and police control.

A summary of such events are presented in this section of the report.

4.1 Major Events

4.1.1 Phillip Island Grand Prix Circuit

Many major events are held at the Phillip Island Grand Prix Circuit, which is located approximately 2km west of Smiths Beach and is accessible via Back Beach Road, Gap Road, and Visitor Centre Drive.

Specific event traffic management plans are implemented for the major events at the Grand Prix Circuit. These arrangements include traffic to and from the circuit from Cowes generally being directed via Ventnor Road and Berry's Beach Road. Back Beach Road is operated as one-way only to the circuit from Smiths Beach on the Sunday of major weekend events and one-way from the circuit to Phillip Island Road during events. The Blue Line initiative creates an extra lane on the road shoulder for traffic exiting the circuit after major events.

A summary of the major events at the Grand Prix Circuit are outlined below.

Australian Motorcycle Grand Prix

The Australian Motorcycle Grand Prix is held annually during mid-October at the Phillip Island Grand Prix Circuit, and typically runs over the weekend from Friday to Sunday. The Motorcycle Grand Prix is estimated to attract approximately 110,000 visitors to Phillip Island over the three day event.

Superbike World Championship

Round One of the Superbike World Championships is held annually at the Phillip Island Grand Prix Circuit, and typically runs over the weekend from Friday to Sunday. The Superbike World Championship is scheduled for late November in 2013 and is estimated to attract 65,000 visitors to Phillip Island over the three day event.

Phillip Island 360 - V8 Supercars

The Phillip Island 360 is held annually during mid-November at the Phillip Island Grand Prix Circuit, and typically runs over the weekend from Friday to Sunday. The V8 Supercars event is estimated to attract 55,000 visitors to Phillip Island.

4.1.2 Other Major Events

Beyond the Phillip Island Grand Prix Circuit there are a number of other major events that currently implement specific temporary traffic management measures. These are outlined as follows.

San Remo Channel Challenge

The San Remo Channel Challenge is a swimming and running event typically held on a Saturday during January or February each year across the channel and Phillip Island bridge between San Remo and Newhaven. The running leg of the event is held on the Phillip Island Bridge, necessitating the closure of one lane. During this time, a single traffic lane is available which is reversible through traffic control to provide two-way flow.

Pyramid Rock Festival

The Pyramid Rock Festival is a three-day music festival that occurs from 29 December to 1 January each year at Pyramid Rock. Traffic management is only provided to manage exiting traffic on New Year's Day and accessing Phillip Island Road from Back Beach Road.

4.2 Other Events

There are a number of other events that occur on Phillip Island that do not currently necessitate the use of temporary traffic management measures. A selection of the more notable events not utilising temporary traffic management measures are provided as follows:

- The Island Classic motorcycle event at the GP circuit on the Australia Day weekend.
- The Classic Cars Event at the circuit on the Labour Day weekend (noting the main day of racing is on Sunday which does not coincide with the peak weekend exodus on the Monday of the long weekend).
- On Churchill Island during the Farmer's markets, MSO Concert, Serenade at Sunset Opera, Easter Festival and Trevor Music Festival, which generally do not have any external traffic operations but may have some temporary traffic management measures at the entrance to Churchill Island off Phillip Island Road to assist the traffic leaving after the bigger events.
- Peak holiday periods, such as between Boxing Day and New Year, the last day of long weekends and Easter and all weekends during summer school holiday weekends.
- The Tough Mudder adventure race which will be held over the weekend of 14th/15th September 2013 and attracts upwards of 20,000 participants.

	BASS COAST TOURISM INDUSTRY				
	visitors per annum	overnight visitors per annum	daytrip visitors per annum	Total Economic Impact of	local jobs supported by tourism
2011	3.7 million	2.1 million	1.6 million	$1 billion	3,228
2009	3.0 million	1.9 million	1.1 million	$0.8 billion	2,554

5. Existing Transport System

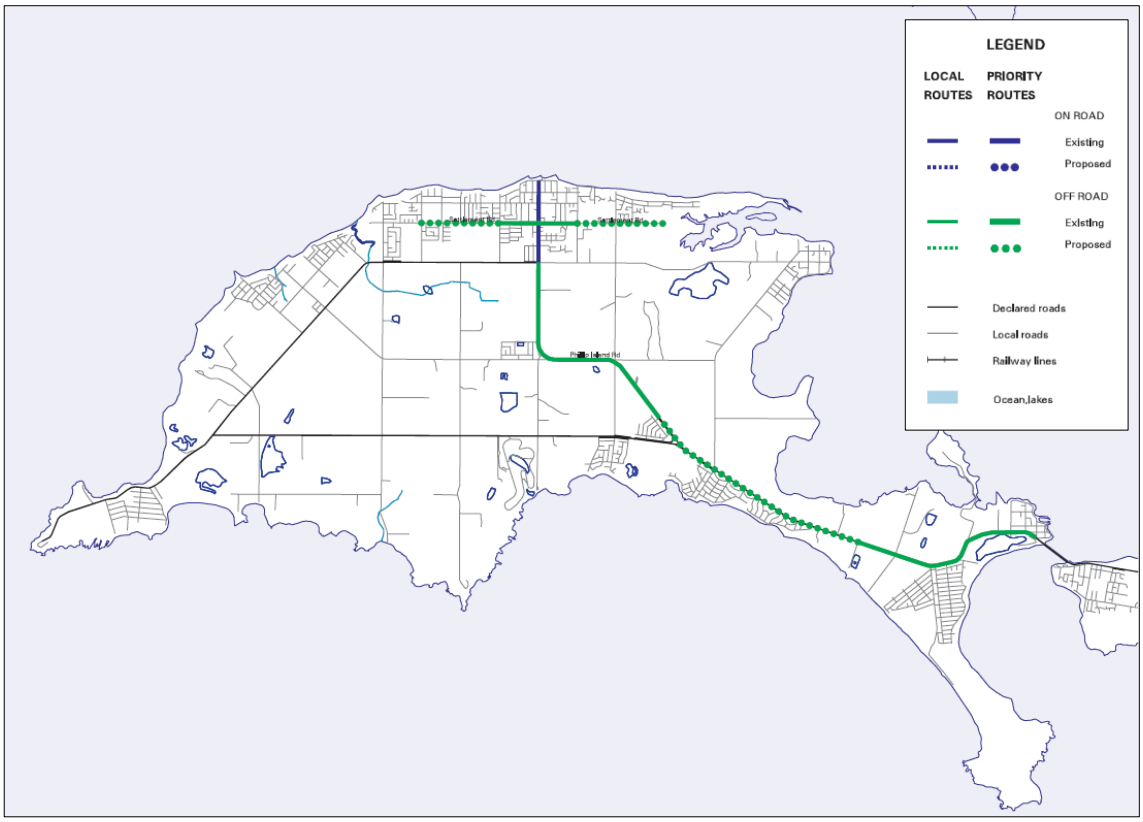
5.1 Bicycle and Pedestrian Facilities

There are currently limited bicycle and pedestrian facilities provided in the area, except for:

- footpaths on the sides of main roads within the commercial areas of the townships
- off-road shared paths along the Cowes and San Remo waterfronts, along Phillip Island Road between Cowes and Newhaven, along Woolamai Beach Road between Phillip Island Road and the residential areas to the south, and along Boys Home Road to the north of Phillip Island Road and Gap Road between Back Beach Road and Ventnor Beach Road
- on-road bicycle lanes along Thompson Avenue.

It is noted that a Municipal Bicycle Network (MBN) map has been prepared for Phillip Island, which is presented in Figure 5.1.

Figure 5.1: Phillip Island Municipal Bicycle Network, 2005 (MBN)



Source: VicRoads

MBNs are networks of local cycling routes in regional Victoria. They have developed between VicRoads and the associated Council. The local council is the custodian of the MBN and has the primary responsibility for managing its development.

While the majority of the MBNs being developed over five years ago, with no subsequent updates, and there being the more recent SmartRoads approach adopted by VicRoads, they have worked with local Councils to identify a set of Priority Bicycle Routes (PBRs). These routes are

a subset of the relevant MBNs and are expected to provide the main linkages for bicycle travel within and between main trip generators / destinations.

For Phillip Island the PBRs are identified in the VicRoads SmartRoads Network Operating Plan for Phillip Island reproduced in Figure 2.2 of this report.

5.2 Public Transport Network

The currently available public transport facilities servicing the area generally connect the major townships in the area infrequently.

The following public transport facilities outlined below in Table 5.1are available within and connecting the study area.

Table 5.1: Public Transport Routes

Service	Route Name	Significant Destinations On Route	Frequency (Bus Services in each direction)
V/Line Regional Bus	Cowes and Inverloch - Melbourne via Dandenong	Cowes, Inverloch, Melbourne CBD, Dandenong, Dandenong Rail Station, Sunderland Bay, Surf Beach, Cape Woolamai, Newhaven, San Remo, Anderson	4 weekday/ 2 weekend day
Local Buses	Cowes-Anderson-Wonthaggi	Cowes, Anderson, Wonthaggi, Dalyston, Kilcunda, San Remo, Newhaven, Woolamai, Smiths Beach, Ventnor	5 weekday/ 4 weekend day
	Cowes - Frankston via Anderson	Cowes, Newhaven, San Remo, Anderson, Grantville, Tooradin, Pearcedale, Baxter, Frankston Rail Station	1 per weekday
	Cowes - Fountain Gate via Anderson'	Cowes, San Remo, Anderson, Grantville, Koo Wee Rup (Bus Interchange), Narre Warren	1 per weekday
Ferry	Stony Point - Cowes	Stony Point, Cowes	2–3 weekday/ 3 weekend day
	Cowes to Tankerton	Cowes, Tankerton	2–3 weekday/ 3 weekend day
Bass Coast Shire Council Buses	Home and Community Care (HACC) activity group only	Determined by Cowes Planned Activity Group	Monday, Tuesday

Access is provided to the Stony Point Train Station (which connects with the Frankston Line) via the Ferry service between Stony Point and Cowes.

There are also school bus services within and connecting the study area to the local schools. The associated routes typically change as the residence of the students change, but generally follow a loop along the main roads around the island, with students expected to meet as they travel round.

5.3 Road Network

Phillip Island Road

Phillip Island Road functions as a primary arterial road and is controlled by VicRoads. It is a two-way road generally providing connectivity in an east-west direction from Cowes, across Phillip Island, and to mainland Bass Coast, crossing the Phillip Island Bridge and intersecting with the Bass Highway in Anderson. It is generally configured with a two-lane undivided rural type cross section. Kerbside parking is generally not catered for; however a wide shoulder is available on some sections.

Phillip Island Road carries in the order of 10,000 vehicles per day during typical non-school holiday periods, and almost 14,000 vehicles per day in peak holiday seasons. Over the past available five year period that traffic volumes have been recorded for (2007 to 2011), there has been a compound annual growth rate of 4.7% along Phillip Island Road.

Phillip Island Road traffic volume fluctuations are discussed further in Section 5.4.

Back Beach Road

Back Beach Road functions as a secondary arterial road and is controlled by VicRoads. It is a two-way road aligned in an east-west direction, and connects Summerlands to Phillip Island Road. It is generally configured with a two-lane undivided rural type cross section.

Ventnor Road

Ventnor Road functions as a secondary arterial road and is controlled by VicRoads. It is a two-way road aligned in a northeast-southwest direction, and connects Cowes, Ventnor and Summerlands. It is generally configured with a two-lane undivided rural type cross section.

Other Roads

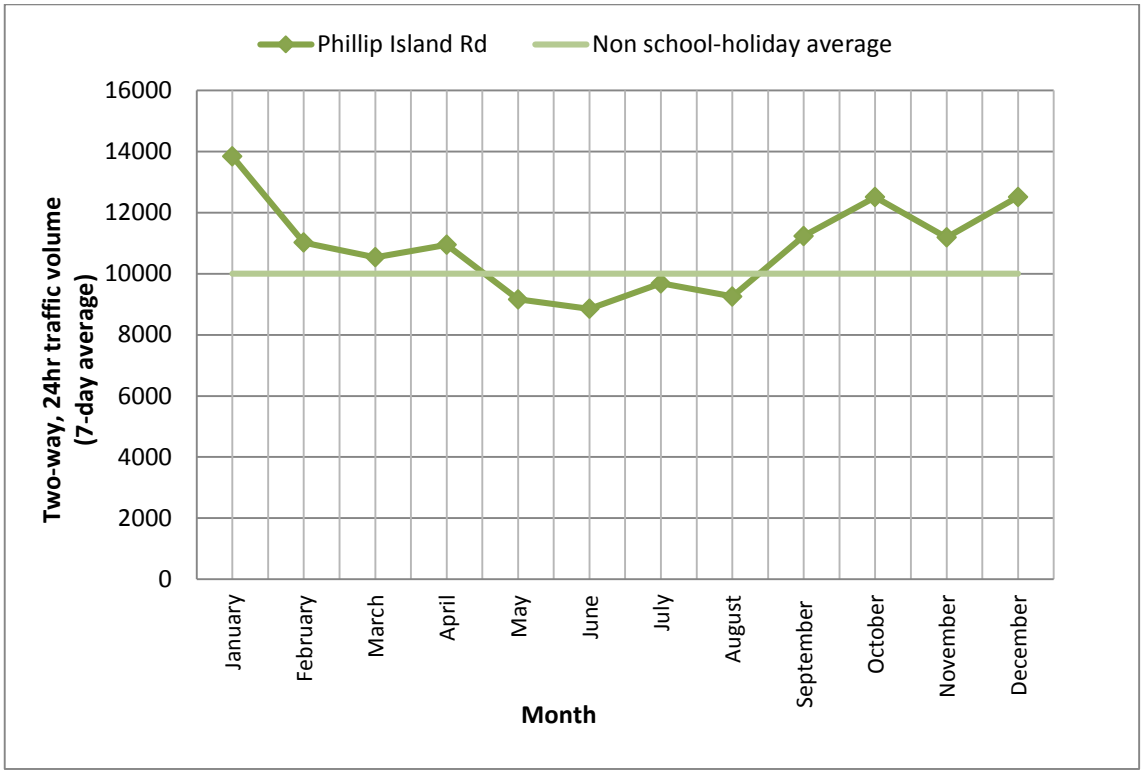
The remainder of roads within the study area are major and local roads which are controlled by Council. The major roads include the following:

- Woolamai Beach Road
- Boys Home Road
- Sunderland Bay Road
- Rhyll Newhaven Road
- Smiths Beach Road
- Coghlan Road
- Cowes-Rhyll Road
- Ventnor Beach Road
- Dunsmore Road
- Chapel Street
- Coghlan Road
- Smiths Beach Road
- The Esplanade
- McKenzie Road
- Anderson Road
- Justice Road
- Red Rocks Road
- Anchorage Road
- Grossard Point Road
- Lyall Street
- Settlement Road
- Church Street
- Gap Road

5.4 Traffic Volume Fluctuations

Due to its nature as a holiday and tourism destination, the area experiences relatively high fluctuations in traffic volumes over the year. Figure 5.2 presents the yearly traffic volume profile based on monthly traffic count data on Phillip Island Road, west of the Bass Highway.

Figure 5.2: Yearly Traffic Volume Profile



Source: VicRoads Rural Strategic Monitoring Program

Note: January, April, July and September data is for school holidays periods
December data has been derived through linear interpolation of November and January data

Figure 5.2 shows that the traffic volumes on Phillip Island Road are up to 40% higher during peak holiday periods (i.e. January). Outside of the January holiday period, Phillip Island Road traffic volumes continue to fluctuate by as much 20%, with another localised peak in October, most likely due to the Australian Motorcycle Grand Prix.

By way of comparison, reference is made to the VicRoads Traffic Monitor Report (2010-2011), which presents, amongst other things, the variation of traffic volumes by week for a sample of arterial roads and freeways across metropolitan Melbourne. It indicates a significant drop in traffic volumes during the January holiday period. But outside of this, the Melbourne road network generally fluctuates within a 15% range.

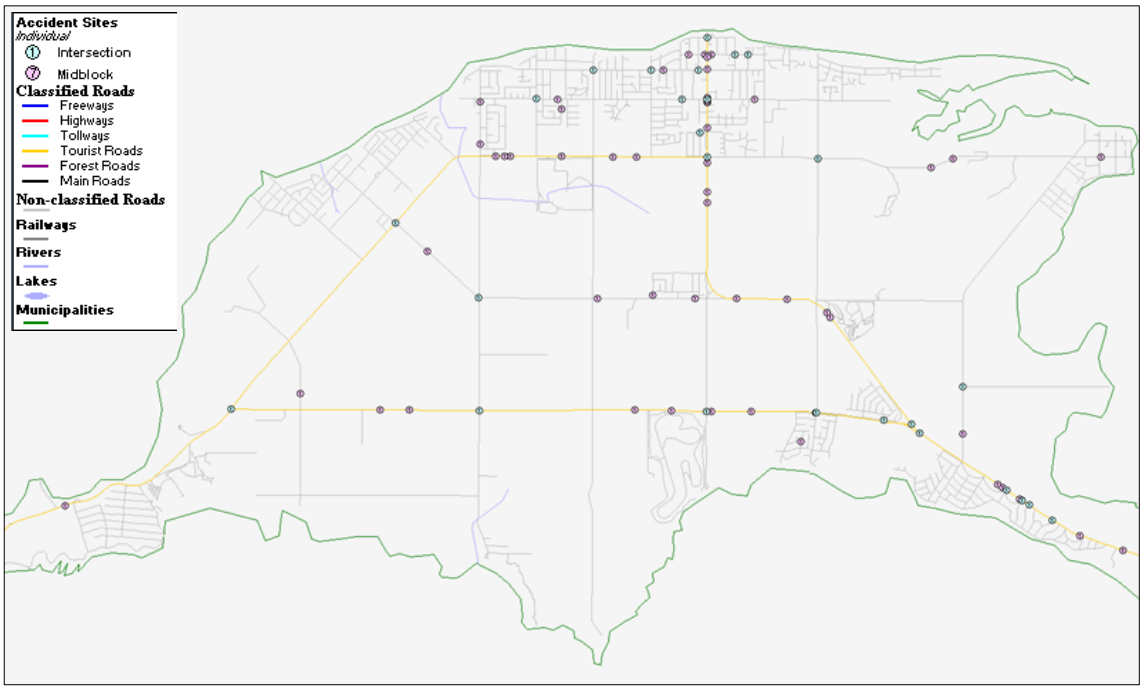
5.5 Crash Statistics

A review of the reported casualty crash history for the roads and intersections within the study area has been sourced from VicRoads CrashStats database. This database records all crashes causing injury that have occurred in Victoria since 1987(as recorded by Victorian Police) and categorises these crashes as follows:

- Fatal injury: at least one person was killed in the crash or died within 30 days as a result of the crash.
- Serious injury: at least one person was sent to hospital as a result of the crash.
- Other injury: at least one person required medical treatment as a result of the crash.

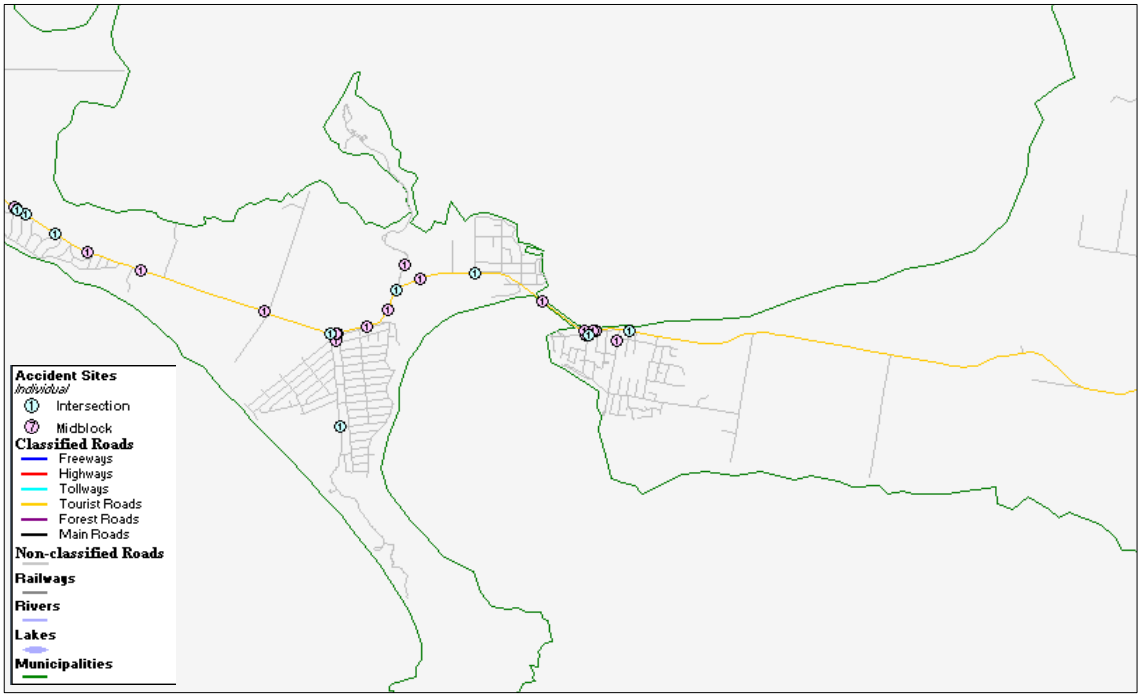
A summary of the crashes in the study area for the last available five year period (1 July 2007 to 30 June 2012) is represented graphically in Figure 5.3 and Figure 5.4.

Figure 5.3: Cowes, Surf Beach, Smiths Beach, Sunderland, Rhyll, and Ventnor Crash History



Source: VicRoads Crashstats Database

Figure 5.4: San Remo, Cape Woolamai and Newhaven Crash History



Source: VicRoads Crashstats Database

A review of the casualty crash maps indicates that the majority of crashes occurred on main roads (i.e. predominately Phillip Island Road, Back Beach Road, Ventnor Beach Road and Ventnor Road). The map also indicates clusters of crashes on Phillip Island Road within proximity of the developed areas of Surf Beach and Cape Woolamai.

Other key trends identified following a review of the data are summarised as follows:

- three fatalities have occurred along Phillip Island Road in the five year period, two of which involved head on collisions and one involving a motorcycle
- 31 casualty crashes have been reported along Phillip Island Road at mid-block locations, with an additional 17 at intersections of Phillip Island and side roads
- 12% of all casualty crashes involved motorcycles
- two intersections were identified as having three casualty crashes in the last five years, notably the intersections of Ventnor Road/Back Beach Road, and Phillip Island Road/Woolamai Road.

Further details of the Crash history are provided below for each transport mode.

Motor Vehicle Casualty Crashes

A summary of all reported casualty crashes involving motor vehicles within the nominated five year period (July 2007 to 30 June 2012) is provided in Appendix A. They indicate the following casualty crashes have been recorded:

- three fatal, 35 serious and 60 other injury crashes
- all three fatal crashes occurred at mid-block (two along Phillip Island between Bass Highway and Forest Avenue), as well as 20 serious and 39 other injuries at mid-block locations
- 15 serious and 21 other injuries at intersection locations
- 36 crashes were associated with run-off the road on a straight type crashes
- 18 crashes were associated with rear-end type crashes.

Further to the above, a more recent six months of crash history for Phillip Island Road has been provided by VicRoads (up to 31 December 2012). Three casualty crashes have occurred in this six month period, including one fatality on Phillip Island Road to the northeast of Cleveland Road.

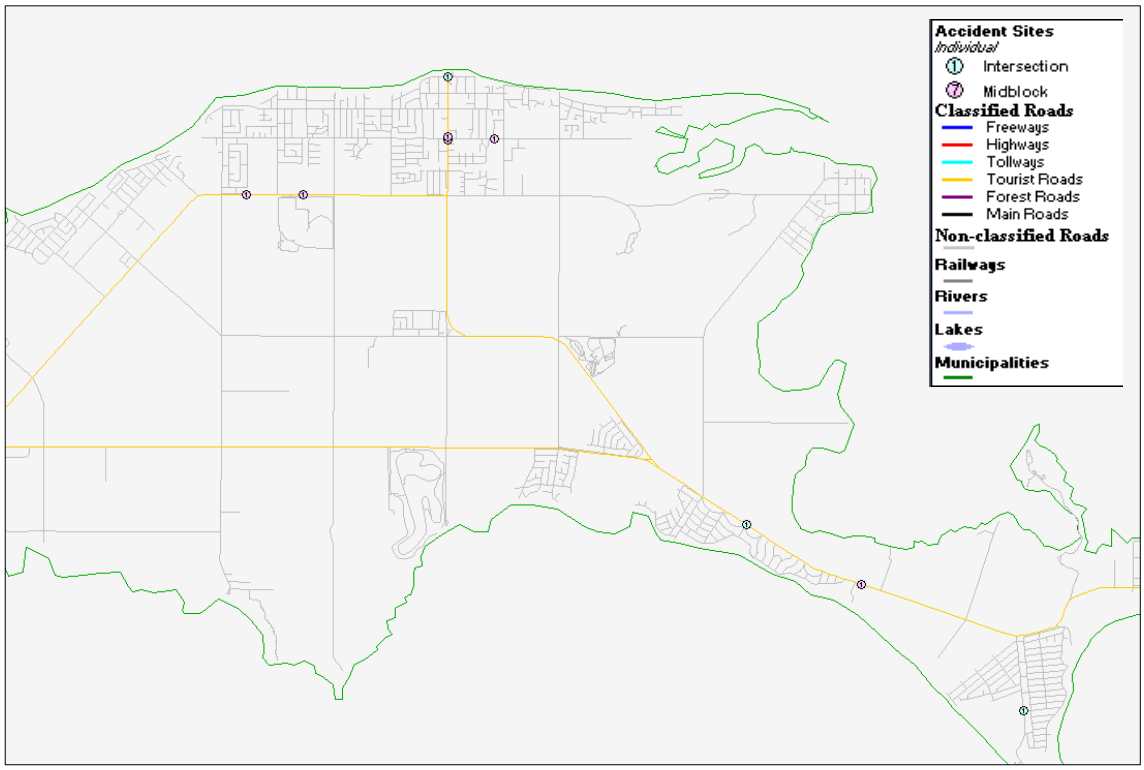
Bicycle Casualty Crashes

A summary of all reported casualty crashes involving cyclists within the nominated five year period (July 2007 to 30 June 2012) is provided in Appendix A. They indicate the following casualty crashes have been recorded:

- one fatal, three serious and five other injury crashes
- seven out of nine bicycle crashes involved a cyclists and motor vehicle
- two similar crashes (including one fatality) involved a cyclist being rear ended along Ventnor Road in poor lighting conditions
- the two crashes along Thompsons Avenue involved a motor vehicle emerging from a driveway and striking a cyclist in the vicinity of Settlement Road.

The location of all cyclist related casualty crashes is shown below in Figure 5.5.

Figure 5.5: Cyclist Casualty Crash Map



Source: VicRoads

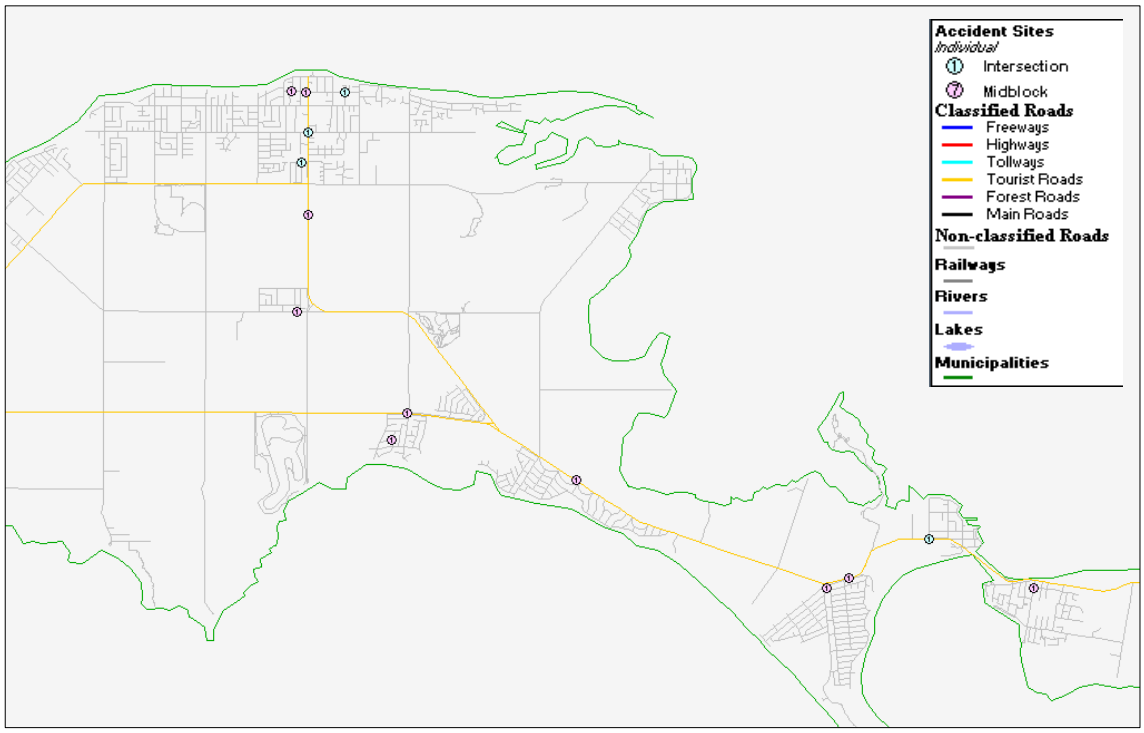
Pedestrian Casualty Crash History

A summary of all reported casualty crashes involving pedestrians within the nominated five year period (July 2007 to 30 June 2012) is provided in Appendix A. They indicate that the following casualty crashes have been recorded:

- Six serious and eight other injury crashes.
- Three of the crashes involved pedestrians that were on the media of footpath.
- Three of the crashes involved pedestrians that were walking in same direction as the traffic.

The location of all casualty crashes involving pedestrians is shown below in Figure 5.6

Figure 5.6: Pedestrian Casualty Accident Map



Source: VicRoads

6. Strategic Themes and Vision

A number of strong themes and objectives have emerged through the document review undertaken as part of the background analysis. Some of the common threads in these themes can be used to inform the vision for the future of Phillip Island's transport system.

A summary of the prevalent themes, and how they may inform the vision for a future transport network for Phillip Island, are included in Table 6.1 below.

Table 6.1: Themes and Transport Vision

Theme	Application to Transport Network Vision
Sustainability	The future network must promote identification and enhancement of sustainable transport practices and mitigation of any adverse effects brought about through the operation of the transport system.
Equity of access to services and opportunity	The transport network must be accessible to and service the needs of a diverse range of users, from young children to the elderly ('8-80' planning), the mobility and sensory impaired, and from all socio-economic circumstances.
'Triple Bottom Line' considerations	In considering the role and priorities of the transport network, environmental, social and economic considerations must all be given equal significance.
Securing a healthy future for Phillip Island	The transport network must be able to provide for the growth and development potential of Phillip Island while promoting a healthy economy, population and environment.
Providing viable transport choice	All transport modes have a role to play in the future Phillip Island network. The diversity of users, demands and roles the transport system must provide for requires a balanced and user-focussed approach.
Phillip Island in context	Phillip Island does not exist in isolation of the surrounding regional, State and national transport network. Outside factors (i.e. growth of Melbourne day-trip demand) and influences (new technology) will form important considerations for the future network.

7. Considerations for Transport Study

7.1 Summary

Based on the data and analysis in sections 2-5 of the report, Table 7.1 identifies the considerations that will guide the outcomes of the Phillip Island Transport Study.

Table 7.1: Considerations and Response

Category	Consideration	Potential Responses
Population and land use	Based on current growth rates, there is expected to be a significant increase in the number of permanent residents in the area.	• Planning for significant increased travel demand and congestion due to increased pressure upon the road network if current mode share and travel behaviour continues. • Improved community transport and active transport services, safety imperatives for disadvantages transport network users. • How to spread demand; encourage non-essential travel to be deferred. • Disseminate information about avoiding peak times. • Expectation management in relation to level of transport service.
	With the area becoming more accessible from metropolitan Melbourne, it is expected that increased visitor numbers on holiday and attending events will occur.	
	The proportion of the permanent population over 60 years old is higher and growing more quickly than the State average.	
	There are currently an estimated 3.7million visitors to Phillip Island per annum.	
	Seasonal and peak demands create congestion issues on the network.	
Transport Choice	One road bridge links Phillip Island to the mainland at San Remo.	• Consider how the current infrastructure can be best utilised. Focus on moving most people, not cars, across bridge. • Consideration of most effective and efficient linkages to Melbourne – via PT system and onto ferry at Stony Point.
	There is potential for enhanced use of water transport.	
Pedestrian Network	The existing pedestrian network is generally limited to the main streets within the commercial areas of the townships and a number of isolated shared paths.	• Establishing a comprehensive, linked pedestrian network providing both access and recreational (tourism) opportunities. • Linking a number of attractors via a circular cycle network. • Implementing pedestrian priority wherever possible to encourage increased sustainable transport mode share for short trips. • Improved safety, access and amenity on the ped network. • Increase in active travel mode possible through short term quick wins such as public end of trip facilities in key locations. • Prioritising active travel modes.
	There are limited facilities supporting pedestrians crossing roads.	
Bicycle Network and Facilities	The existing bicycle network is generally limited to the shared paths along some waterfronts and Phillip Island Road, and an on-road bicycle facility along Thompson Avenue.	
	Limited way finding signage and infrastructure between key trip generators and destinations.	
	There is a lack of end of trip facilities (parking, showers / lockers) at key destinations and land uses throughout Phillip Island and San Remo.	
Public Transport Network	Currently limited coverage of public transport (bus) services.	• Demand for alternative transport modes through aging population, high youth population and lower than average car ownership. • Promote rail and ferry link – potential for easing road demand in peak season. • A PT bus service circulating the Island and linking into local collectors and integration with pedestrian and cycle networks. • Park and Ride stations at strategic locations (Cowes, San Remo).
	The frequency and span of hours of most services is relatively poor.	
	The future potential for increased PT travel to Phillip Island via train-ferry.	
Road Network	The road network prioritises private motor vehicles over other users, even within the townships.	• Local area traffic management planning. • Maximise use of transport infrastructure investment – potential for local road network to alleviate congestion and maximising efficiency of arterial road network. • Travel behaviour – demand management options. • User expectation management and information dissemination.
	Access between the mainland and Phillip Island is only possible by the Phillip Island bridge.	
	Arterial road network becomes congested during peak holiday periods and when major events are on.	

Category	Consideration	Potential Responses
	Traffic is currently funnelled into the main street of Cowes (Thompson Avenue).	• Adapting components of event traffic management for peak demand periods. • Freight management – time distribution, 24hr road space utilisation. • Safety considerations for heavy traffic types and volumes – in particular around coach traffic. • Buffer zones between freight and heavy traffic network and areas of high amenity.
	Up to 90 coaches per day (peak demand) generated by penguin attraction.	
	Provide for efficient freight movement and minimise impact on the network.	
Car Parking	During peak periods, car parking utilisation is high in proximate areas to the commercial cores of the townships in the area.	• Improved wayfinding and dynamic signage for car parking areas. • Identification of parking sites on town fringes linking in with public transport, cycling and walking networks. • Investigate the potential to encourage parking on mainland and alternative means of transport onto the Island.
	Limited signage of and direction to the off-street car parking areas.	
	Parking capacity on Phillip Island.	

Appendix A

Crash Statistics by Transport Mode Type

Table A.1: Motor Vehicle Casualty Accident History (1 July 2007 – 30 June 2012) by Location

Location	Accident No.		
	Fatality	Serious Injury	Other Injury
Mid-Block			
Phillip Island Rd, between Ventnor Rd and Ventnor Beach Rd	-	-	DCA 130
Phillip Island Rd, between Ventnor Beach Rd and Back Beach Rd	-	-	**4 x** (DCAs 120, 130, 173, 171)
Phillip Island Rd, between Back Beach Rd and Churchill Rd	DCA 132	**3 x** (DCA's 120, 132, 170)	DCA 140
Phillip Island Rd, between Churchill Rd and Forrest Ave	-	**2 x** (DCA's 120, 171)	**2 x** (DCA 130)
Phillip Island Rd, between Forrest Ave and Bass Hwy	**2 x DCA** (120, **120)**	**3 x DCA** (171, 120, 120)	**7 x DCA (183, 174,** 174, 130, 130, 191, 171)
Unnamed Rd, North of Phillip Island Rd	-	-	DCA 166
Back Beach Rd	-	2 x (DCA's 173, **174)**	5 x (DCA's 130, 173, 171,**174**, **174)**
Ventnor Rd	-	3 x (DCA's **167**, 171, 171	**2 x (DCA's 174**, 154)
Ventnor Beach Rd	-	1 x (DCA **167)**	1 x (DCA **170)**
Red Rocks Rd	-	1 x (DCA 171)	1 x (DCA 136)
Thompson Ave	-	1 x (DCA 171)	3 x (DCA's **130**, 140, 130)
Bass Hwy	-	1 x (DCA 120)	3 x (DCA's 170, 171, 182)
Cowes Rhyll Rd	-	1 x (DCA 173)	1 x (DCA 183)
Other Roads (Roads with 1 accident only)	-	2 x (DCA's 166 171)	7 x (DCA's 179, 160, **136,** 169, 173, 169, 171)
At Intersections			
Ventnor Rd/Back Beach Rd	-	1 x (DCA 121)	2 x (DCA's 121,130)
Berrys Beach Rd/Ventnor Beach Rd	-	1 x (DCA 130)	-
Bass Hwy / Phillip Island Rd	-	3 x (DCA's 173, 110, **174)**	1 x (DCA's **130)**
Phillip Island Rd/Woolamai Rd	-	1 x (DCA 121)	2 x (DCA's 113, 113)
Back Beach Rd/Smiths Rd	-	2 x (DCA's 110, **110**)	
Other intersections (Sites with 1 accident only)	-	7 x (DCA's **152, 130, 152, 174** 173 110 **174**	16 x (DCA's **174,** 113, **113,** 121, **132,** 130, 136, 171, **174,** 113, 113, 110, **130, 123, 173,** 116)

Bold = Incidents involving motorcycles
DCA = Definitions for Classifying Accidents (refer to http://crashstat1.roads.vic.gov.au/crashstats/appendices.pdf)

Table A.2: Motor Vehicle Casualty Accident History (1 July 2007 – 30 June 2012) by Accident Type

TOTAL CASUALTY ACCIDENTS by Type			
Cross Traffic (DCA 110)	-	4	1
Right Turn Near (DCA 113)	-	-	6
Head on– not overtaking (DCA 120)	2	5	1
Right turn against (121)	-	2	2
Rear End (DCA 130-132)	1	3	14
Head on – overtaking (DCA 150-159)	-	2	1
Off path on straight (DCA 170-179)	-	16	20
Off path on curve (DCA 180-189)	-	-	3
Other DCA Codes	-	2 x DCA 167, 1 x DCA 166	3 x DCA 136, 2 x DCA 169, 2 x DCA 140, 1 x DCA 191, 1 x DCA 166, 1 x DCA 160, 1 x DCA 123, 1 x DCA 116
TOTAL	**3 Fatalities**	**35 Serious Injuries**	**60 Other Injuries**

DCA = Definitions for Classifying Accidents (refer to http://crashstat1.roads.vic.gov.au/crashstats/appendices.pdf)

Table A.3: Bicycle Casualty Accident History (1 July 2007 – 30 June 2012)

Location	Accident No.		
	Fatality	Serious Injury	Other Injury
Mid-Block			
Phillip Island Rd	-	-	DCA 147
Thompson Ave	-	-	2x DCA 147
Settlement Rd	-	-	DCA 133
Ventnor Rd	DCA 130	DCA 130	-
At Intersection			
Phillip Island Rd/Glen St	-	DCA 148	-
Maroubra Dr/Woolamai Beach Rd	-	-	DCA 174
Phillip Island Rd/The Esplanade	-	DCA 170	-
TOTAL	**1**	**3**	**5**

DCA = Definitions for Classifying Accidents (refer to http://crashstat1.roads.vic.gov.au/crashstats/appendices.pdf)

Table A.4: Pedestrian Casualty Accident History (1 July 2007 – 30 June 2012)

Location	Accident No.		
	Fatality	Serious Injury	Other Injury
Mid-Block			
Back Beach Rd	-	DCA 109	DCA 104
Florida Avenue	-	DCA 106	-
Phillip Island Rd	-	DCA 104, DCA 109	DCA 104
Ventnor Beach Rd	-	-	DCA 104
Chapel St	-	-	DCA 100, DCA 106
Vista Place	-	-	DCA 108

At Intersection			
Albany Rd/Fields Crt	-	-	DCA106
Phillip Island Rd/Settlement Rd	-	DCA 109	-
Chapel St/Park St	-	DCA 100	**-**
Phillip Island Rd/Boys Home Rd	-	-	DCA 100
TOTAL	**0**	**6**	**8**

DCA = Definitions for Classifying Accidents (refer to http://crashstat1.roads.vic.gov.au/crashstats/appendices.pdf)

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Appendix B

Community Feedback Information and Analysis

Community Engagement – Number of Responses by Age Category

Age Group	Community Responses	
	Number of Responses	% of Total Responses
17 or younger	1	0%
18 - 29	4	1%
30 - 39	32	6%
40 - 49	80	14%
50 - 59	149	26%
60 - 69	191	33%
70 or older	117	20%
TOTAL [1]	**574**	**100%**

[1] There were respondents that did not provide an answer for this question

Primary Transport Network Improvements (Most Important to the Respondent)

Transport Improvement	Overall Response		Resides within Study Area		Resides outside Study Area	
	No. of Responses	%	No. of Responses	%	No. of Responses	%
Improved car travel times	109	21%	33	12%	76	30%
Improved road safety	77	15%	52	20%	25	10%
More bicycle paths	78	15%	34	13%	44	17%
Better public transport services on Phillip Island	71	14%	42	16%	29	11%
Better pedestrian connections (i.e. more footpaths)	62	12%	35	13%	27	11%
Other	42	8%	28	11%	14	6%
Better public transport services to Phillip Island	42	8%	23	9%	19	7%
Improved pedestrian safety	23	4%	13	5%	10	4%
Improved passenger ferry services between Cowes and Hastings	16	3%	6	2%	10	4%
TOTAL [1]	**520**	**100%**	**266**	**100%**	**254**	**100%**

[1] There were respondents that did not provide an answer for this question

Secondary Transport Network Improvements (Second-most Important to the Respondent)

Transport Improvement	Overall Response		Resides within Study Area		Resides outside Study Area	
	No. of Responses	%	No. of Responses	%	No. of Responses	%
More bicycle paths	81	16%	34	13%	47	19%
Improved road safety	80	16%	35	14%	45	18%
Better public transport services on Phillip Island	72	15%	38	15%	34	14%
Better pedestrian connections (i.e. more footpaths)	65	13%	38	15%	27	11%
Improved car travel times	58	12%	31	12%	27	11%
Better public transport services to Phillip Island	50	10%	28	11%	22	9%
Improved passenger ferry services between Cowes and Hastings	36	7%	17	7%	19	8%
Other	29	6%	18	7%	11	5%
Improved pedestrian safety	25	5%	13	5%	12	5%
TOTAL [1]	**496**	**100%**	**252**	**100%**	**244**	**100%**

[1] There were respondents that did not provide an answer for this question

Tertiary Transport Network Improvements (Third-most Important to the Respondent)

Transport Improvement	Overall Response		Resides within Study Area		Resides outside Study Area	
	No. of Responses	%	No. of Responses	%	No. of Responses	%
More bicycle paths	68	16%	27	12%	41	19%
Better public transport services to Phillip Island	61	14%	27	12%	34	16%
Improved road safety	63	14%	35	16%	28	13%
Other	51	12%	35	16%	16	7%
Better public transport services on Phillip Island	49	11%	30	14%	19	9%
Improved pedestrian safety	43	10%	22	10%	21	10%
Improved car travel times	40	9%	23	11%	17	8%
Better pedestrian connections (i.e. more footpaths)	31	7%	8	4%	23	11%
Improved passenger ferry services between Cowes and Hastings	30	7%	11	5%	19	9%
TOTAL [1]	**436**	**100%**	**218**	**100%**	**218**	**100%**

[1] There were respondents that did not provide an answer for this question

Appendix C

Transport Planning Considerations

Walking

A high quality, connected, safe and convenient pedestrian network is fundamental to the success of the PIITS. Walking has a wide range of social, environmental, health and economic benefits for individuals and society. Increasing walking will improve people's sense of community, support economic development, activate the townships, improve health and wellbeing, reduce car usage and associated emissions, and decrease congestion and car parking requirements.

In order to retain existing business and attract new business, the townships needs to provide an active, safe, connected and convenient experience for pedestrians, regardless of how they arrive, as walking forms part of all trips.

The development of a high quality pedestrian environment within the townships will also create better access and enjoyment for pedestrians using footpath-bound vehicles such as wheelchairs, prams and scooters.

Pedestrian priority treatments in townships need to have a strong urban design focus, as traditional 'traffic engineering' approaches to pedestrian networks may have some shortcomings, such as the segregation of pedestrians from traffic. While this may be appropriate in some locations, the concept of having pedestrians as the highest priority mode means that pedestrians should be able to cross streets freely and move around without undue barriers being imposed by other transport modes. This is particularly the case in the key townships of Cowes and San Remo in the study area, as they have the highest pedestrian volumes. This is already been reflected as part of the VicRoads SmartRoads operating plan for Phillip Island, which has sections of Phillip Island Road through these townships as having pedestrian priority.

Connecting to the townships, there should be pedestrian facilities that enable local residents of all ages and abilities to access them and other local services, or at least connecting public transport services. The design and operating speed along local roads is considered to have a direct impact on the level of amenity to pedestrians and whether they perceive the environment to be safe and attractive.

Also, recreational pedestrian facilities providing access to natural attractors help increase the perception of walking, as well as providing economic opportunities to local businesses that service the needs of the many different user groups (i.e. hikers, sight-seers and families).

In order to achieve an increase in walking in the study area, the PIITS recommends the development of a Principal Pedestrian Network (PPN), consisting of high quality paths linking to and within the townships, as well as recreational pedestrian facilities that are consistent with the natural environment.

PPN Development

The following principles should be applied to the design and implementation of the PPN.

Pedestrian Level of Service. The level of service relates to the physical aspects of pedestrian facilities, such as the width, directness, smoothness, as well as the type of crossing facilities. Typical footpath widths of 1.2m to 2.0m do not support high pedestrian volumes. At best they can accommodate two-way single file flow. Any groups or stationary people would result in low levels of service on such path widths. As such, where high pedestrian volumes are desired, 2.5 -3.0m wide and greater pedestrian paths should be used with suitable clearances to moving and parked cars, bus stops, active frontages, etc.

At intersections, the main impact of a pedestrian's level of service is the length of time they have to wait. With the current types of crossing facilities available to pedestrians, the marked zebra crossing tends to provide the highest level of service with essentially no waiting time, where

signalised or pedestrian refuge supported crossing facilities are dependent on the intersecting traffic volumes and platooning. In the study area, many key intersections and roads do not provide any priority for pedestrians wishing to cross. While fit and healthy adults may be able to overcome this barrier, the lack of crossings in many key locations presents a major barrier to movement for less mobile or independent members of the community.

Pedestrian safety. Further to the above, safety at crossing points is a key issue in the attractiveness of the pedestrian network, particularly for elderly, young or less mobile users. Addressing pedestrian safety at road crossings and intersections by providing pedestrian priority crossing points is expected to provide a significant safety improvement. However, within high pedestrian areas it is recommended that lower speed limits be set.

Pedestrian amenity. In order for walking to be an attractive means of transport, it is important that the PPN has a high standard of amenity. Apart from the provision of a generous path width of at least 2.5m (preferably 3.0m or more) and pedestrian priority road crossings, lower speed limits, amenity refers to the provision of supporting infrastructure such as shade, seating, public toilets, and drinking fountains. In addition, urban design considerations, such as active frontages, level of separation from major traffic flows and a fine-grained urban form, contribute to a positive experience of walking.

Pedestrian connectivity. High pedestrian connectivity refers to the provision of continuous facilities along the most direct route between two attractors. The PPN should provide a network of direct connections between residential areas, town centres and local attractors.

Fine grained detail matters. In order to create attractive pedestrian routes and environments, attention to detail is critical. Many aspects of road design unintentionally prioritise vehicles over pedestrians, yet they are so commonplace that few question them. Examples of this include deviation in a pedestrian path at an intersection, to allow vehicles to clear the intersection before the pedestrian crossing, or large radius corners designed to allow for higher vehicle speeds, which in turn makes the pedestrian crossing distance further, and reduces safety due to higher vehicle speeds. There are numerous other examples of poorly placed street furniture, incomplete paths, lack of pram crossings and other issues of detail that greatly impact on the overall attractiveness of the network, particularly for less mobile users or users with special needs.

‘Naked Streets’ or ‘Shared Space’ Philosophy

The use of ‘naked streets’ or ‘shared spaces’ in high pedestrian areas is becoming more common due to their amenity and economic benefits. As an example of such a pedestrian environment, reference is made to Hargreaves Street in Bendigo, which is considered to provide a benchmark for pedestrian priority treatments within non-metropolitan areas of Victoria. The Bendigo shared zone was implemented in 2009 in response to a number of issues that are also present in the study area. In particular, Bendigo responded to the following relevant issues:

- the presence of significant through traffic
- street space allocation that prioritised motor vehicles
- formalised street and pedestrian crossing designs
- high traffic speeds
- negative impacts of drive-through shopping
- cluttered streetscape design (source: Department of Transport 2012).

Bendigo Town Centre Shared Zone

Source: transport.vic.gov.au

The Bendigo example has been highly successful in addressing these issues. In particular:

- Average vehicle speeds (85th percentile) have reduced from 40.5 km/h to 27.5 km/h, which while not at the target speed of 20km/h or less, has significantly reduced the likelihood of serious injury or fatality (refer to Section 2.4.3).
- 90 degree parking has been used to slow vehicle speeds and reduce road width.
- Threshold treatments designate the entry to the area with bluestone rumble pavement.
- A clear, visible space has been provided at the intersection which allows users time to identify each other and negotiate right of way.
- The treatment has provided central Bendigo with a strong sense of identity, contributing to the overall economic revitalisation of the centre.

Cycling

Bicycle use is increasing throughout Australia, as it provides a low impact fitness option, which in urban areas achieves a relatively similar travel time when compared to private motor vehicles, and has a low upfront and on-going cost. Encouraging more people to ride more often in the study area will have wide ranging benefits to health and the environment, as well as less tangible benefits such as increased interaction and social capital, and activation of the public realm.

Types of Users

Cycling user types are understood along two continuums, the first being associated with the major trip types. This is presented within Table 2.3 of Cycling Aspects of Austroads Design (2011), which has been reproduced below.

Categories of Cyclists and their Characteristics

Category	Rider Characteristics	Riding Environment
Primary school children	Cognitive skills not developed, little knowledge of road rules, require supervision.	Off-road path, footpath (where permitted) or very low volume residential street.
Secondary school children	Skill varies, developing confidence.	Generally use on-road facilities or off-road paths where available.
Recreational	Experience, age, skills vary greatly.	Desire off-road paths and quiet local streets, avoid heavily trafficked routes, more experienced will prefer to use road system for long journeys.
Commuter	Vary in age, skill and fitness, some highly skilled and able to handle a variety of traffic conditions.	Some prefer paths or low-stress roads, willing to take longer to get to destinations, others want quick trips regardless of traffic conditions, primarily require space to ride smooth riding surface, speed maintenance.
Utility	Ride for specific purposes (shopping), short length trips, routes unpredictable.	Not on highly trafficked roads, needs to include comprehensive, low-stress routes, appropriate end of trip facilities.
Touring	Long distance journeys, may be heavily equipped, some travelling in groups.	Often route is similar to that of other tourists.
Sporting	Often in groups, two abreast occupying left lane, needs similar to commuters.	Travel long distances in training on arterials, may include challenging terrain in outer urban or rural areas, generally do not use off-road routes because of high speed and conflict with other users.

There are seven major rider types, along with their general riding characteristics and preferred riding environment. This gives a basic understanding of what facility types are required to support each of these user groups.

However, even within each of these user groups, there is a wide range of skills and confidence levels that have a major influence on whether individuals choose to cycle or use alternative forms of transport, even if they would prefer to cycle. A key consideration in these groupings is that a large proportion of the population (nearly two-thirds reference) have the potential to consider cycling as a viable transport mode. This would not be for all trips, but cycling could become a regular mode of transport if the barriers associated with their mode choice decisions are overcome.

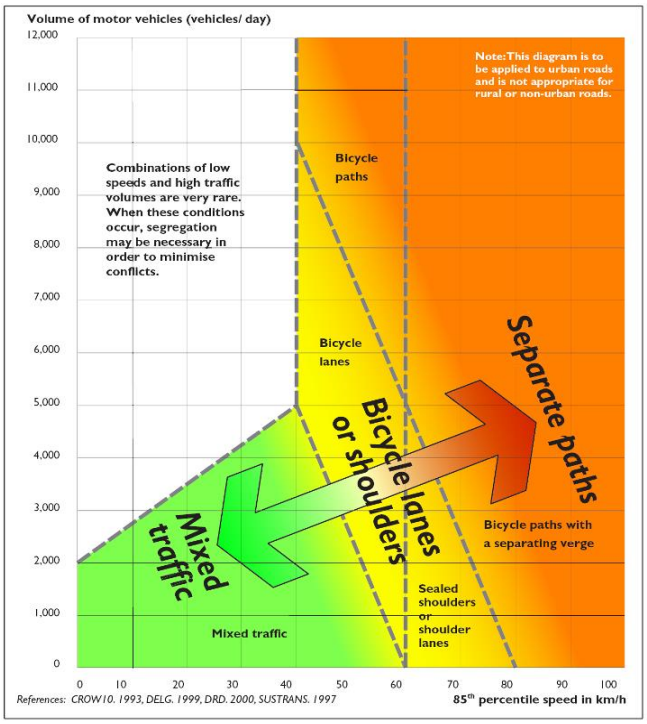
On or Off-Road facilities

The type of cycling facility that can be implemented may be based on a range of factors such as the available corridor width, intersection operations, traffic volumes and speeds, continuity of an overall route, transport network hierarchy (i.e. SmartRoads) and bicycle user-ability characteristics.

While these factors may be relevant, they can lead to facilities being designed through the 'path of least resistance', and may result in sub-standard facilities that do not encourage any new cyclists, or at best redirect existing users to them.

Safety is consistently identified as the key requirement to encourage new cyclists, and one of the major ways that cyclists perceive safety is through the level of separation provided to motorised traffic. The required level of separation varies between each of the four user categories outlined has been simply expressed in the Cycling Aspects of Austroads Design (2011).

Minimum Levels of Separation



Source: Cycling Aspects of Austroads Guides, p13

Austroads recommends a minimum level of separation between cyclists and motor vehicles on urban roads based on the volume and speed of traffic. At low traffic speeds and volumes, a shared road environment is considered appropriate, and at higher traffic speeds and volumes, separated bicycle paths are considered appropriate.

These minimum separation guidelines are considered appropriate for the development of a bicycle network within an urban environment to support the 'borderline "fair weather" cyclist' and 'active adult' cyclists, which makes up the majority of current and the potential users (approx. two-thirds of a community). It is further noted that DoT and Bicycle Network recommend that the 'Bicycle lane or shoulders' area should be shifted to align with 45km/h and 70km/h to further support the 'borderline "fair weather" cyclist'.

End-of-Trip Facilities

End of trip facilities include:

- Bicycle parking
- Showers and change rooms
- Lockers (for clothes and equipment)
- Bicycle sales, renting and repair shops.

Bicycle parking at key trip attractors and transport nodes is an essential requirement of an integrated transport system. It helps to indicate that cycling is a legitimate and desired form of transport and recreation. Without parking facilities at locations people travel to and from, they either don't cycle or secure their bikes informally along footpaths and in back-rooms where they leave them open to theft, vandalism and in the way of others. Key aspects of high quality bicycle parking include:

- Security: to minimise the risk of theft. Best practice involves either attended bicycle parking or a lockable shelter with internal bicycle racks for secondary locking.
- Visibility: located in an area with a high volume of passing foot traffic, to deter theft.
- Shelter: to protect against rain.
- Convenient: positioned as close as possible to the trip attractor or transport node, or within a prominent area.
- Signage: to clearly identify the direction of bicycle parking facilities from areas where the parking facility is not visible.

Bicycle parking needs to cater for both the regular and infrequent users. Whilst there may be a small degree of cross over, regular users will generally prefer high security bicycle enclosures and infrequent users will generally have their needs met by casual bicycle parking arrangements. Short term users (parking for less than 4 hours) will usually be satisfied by casual parking as well.

In terms of the other end of trip bicycle facilities, these can have just as significant an impact on encouraging and helping to support and grow bicycle use. They should be considered at every location that bicycle parking is provided, but will be dependent on the types of users, with long-term commuters requiring showers, change rooms and lockers, when short term users may only need lockers. Moreover, with both types of users, they can be further attracted through bicycle stores, be it sales, renting or repair of bikes, and bicycle friendly cafes and other commercial stores that target clientele that arrive in an informal manner. While end-of-trip commercial opportunities are likely to be realised as bicycle volumes increase, they can be fast-tracked through the supportive initiatives by Council.

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