Great South Coast

REGIONAL TRANSPORT STRATEGY

2014

GLENELG SHIRE

WARRNAMBOOL CITY COUNCIL

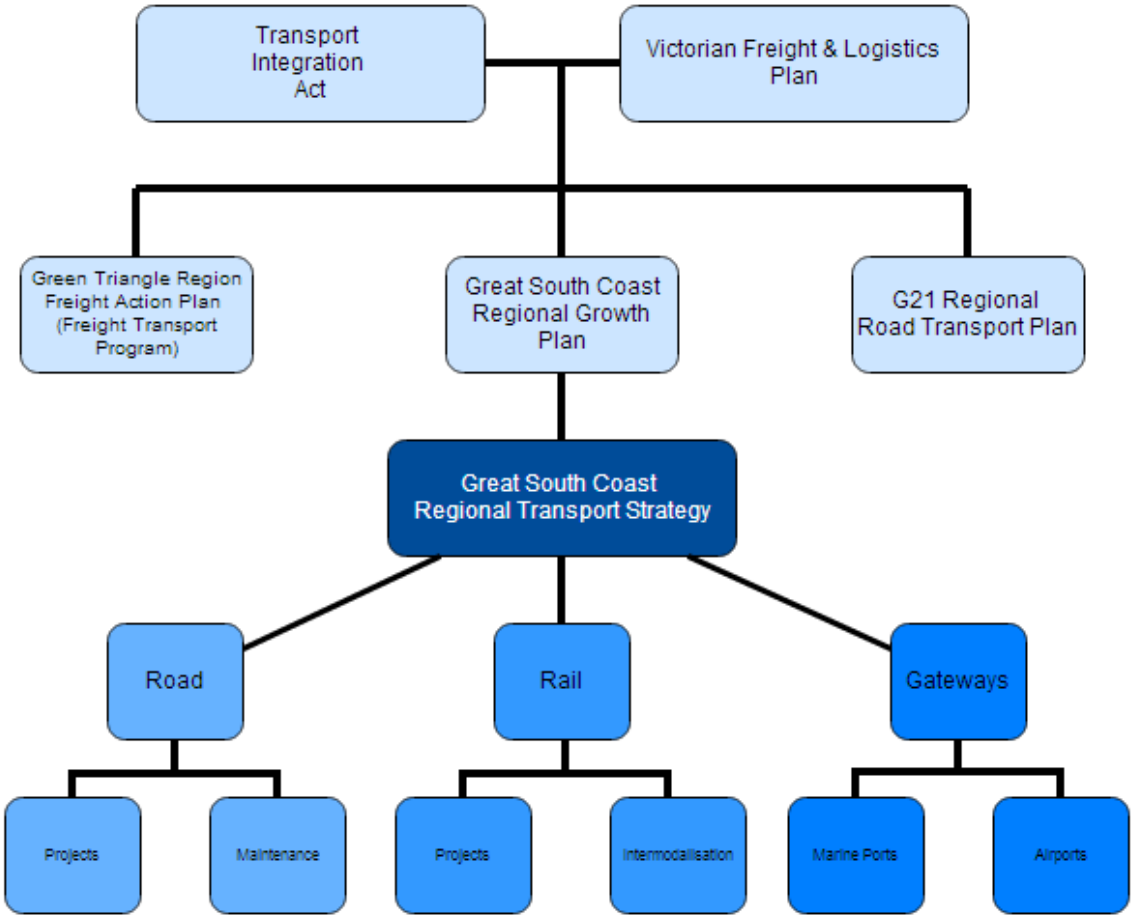
MOYNE SHIRE

Southern Grampians SHIRE COUNCIL

CORANGAMITE SHIRE

Colac Otway SHIRE

Regional Hierarchy



1. EXECUTIVE SUMMARY AND INTRODUCTION

1.1 EXECUTIVE SUMMARY

The Great South Coast (GSC) Region is facing, and will continue to face, significant challenges into the future with respect to the ability of its transport network to cater for an ever growing freight task, to enable the local economy to grow and continue to provide a high level of service and connectedness between regional centres and their surrounding settlements.

Despite these challenges the GSC region is strategically positioned to leverage off its strong rail, road and port connections; north to the Grampians and Wimmera Southern Mallee, east to Geelong and Melbourne, west to South Australia and south connecting the deepwater Port of Portland.

The regional city of Warrnambool serves as the major regional city for the GSC. Portland and Hamilton and Colac are important regional centres with district towns such as Port Fairy and Camperdown also providing important service functions for the community.

Approximately 96% of freight within the Barwon South West region (GSC and G21 making up the Barwon South West) is moved on the road network[1] with forestry, raw milk, fertilizer, mineral sands and cement accounting for the majority of the freight task representing approximately 10 million tonnes per annum out of a total of 14.2 million tonnes per annum.[2]

In terms of net tonne kilometres, 25.9% of Victorias total regional freight task is moved on the Barwon South West transport network.[3]

This strategy aims to identify the pressures and demand growth patterns on the road and rail transport network, the resultant bottlenecks and the strategically significant corridors to cater for growth.

Each member council has already established its own hierarchies of their strategic freight road assets on local roads to assist in prioritising the allocation of road maintenance funding. This study aims to translate these individual approaches into a regional approach that identifies needs on an aggregated level to assist in the allocation of additional roads funding from State and Commonwealth program sources.

[1] Source: Department of Transport, Planning and Local Infrastructure
[2] Source: Department of Transport, Planning and Local Infrastructure
[3] Source: Department of Transport, Planning and Local Infrastructure

1.2 INTRODUCTION

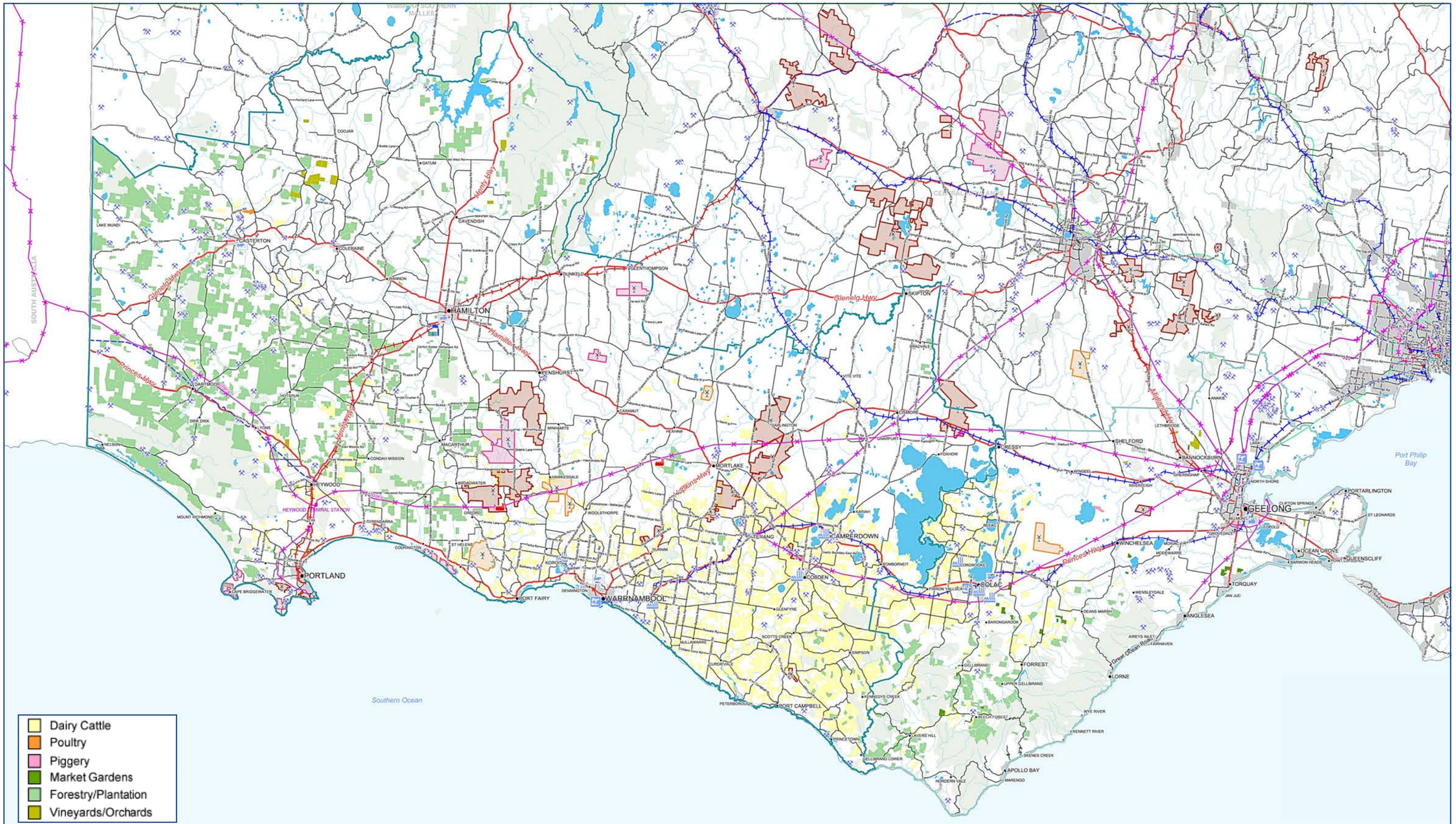
This strategy has been partnered by the Corangamite Shire Council, Colac-Otway Shire, Warrnambool City and Moyne Shire. The shires of Glenelg and Southern Grampians, part of the six- member GSC Group of Councils, have had observer status in relation to the development of this strategy. The strategy area is bounded by these councils.

The Steering Committee for the project was comprised of senior management of the four shire councils above, and also included representatives from State Government departments including the Department of Transport, Planning and Local Infrastructure, VicRoads and Regional Development Victoria.

The purpose of this transport strategy is to identify the key transport network demands, current and future freight tasks, and to develop strategies to ensure provision of sustainable infrastructure in the region, by:

- Identifying supply chain improvements to maximise regional productivity and increase safety for residents and visitors.
- Ensuring the regional freight network strengthens the competitive advantage of the South West.
- Considering the issues of enhanced liveability and expectations of tourism in transport planning.
- Improving transport connectivity to support growing population centres, retain and grow a skilled workforce and enhance education and other opportunities.

Figure 1.3.1 Primary Land Use Characteristics of the Barwon South West Region including existing and proposed wind farm sites



2. STRATEGIC CONTEXT

This strategy is aligned with the principles of the Transport Integration Act. It also acknowledges and is aligned with state and local government strategic planning including the Victorian Freight and Logistics Plan and the Great South Coast Regional Growth Plan which are both currently in draft form.

2.1 TRANSPORT INTEGRATION ACT (2010)

The Transport Integration Act (2010) sets out a vision, objectives and principles for transport in Victoria. It makes clear that the transport system needs to be integrated and sustainable, in economic terms, in environmental terms and in social terms. It requires all Victorian transport agencies, including the Director of Public Transport, VicRoads, VicTrack, V/Line and the Linking Melbourne Authority, to work together towards the common goal of an integrated and sustainable transport system. Along with specific objectives, the strategy also takes into consideration the objectives from the Transport Integration Act, including:

- Social and economic inclusion
- Economic prosperity
- Environmental sustainability
- Integration of transport and land use
- Efficiency, coordination and reliability
- Safety and health and wellbeing

The objectives used for assessing priorities in this strategy are aligned with those of the Transport Integration Act.

2.2 VICTORIAN FREIGHT AND LOGISTICS PLAN

The Victorian Freight and Logistics Plan, also referred to as 'Victoria – The Freight State' was released in August 2013. The VFLP will examine long term freight in Victoria, and forecast future freight scenarios to inform decision making for projects and funding, and will be the overarching document to give a general strategic direction for regional freight and transport tasks and projects. While offering a strong Melbourne focus, there is consideration into the freight issues in regional Victoria.

Regional Victoria accommodates various economies which play an important role in Victoria's competitiveness. This includes agricultural, food processing and extractive industry sectors. These sectors are underpinned by the State's transport network.

The Victorian Freight and Logistics Plan will identify initiatives to improve the efficiency of the freight network to support these industries. It will also identify ways to increase freight efficiency and productivity across metropolitan Melbourne and regional areas in Victoria, including improvements to interstate and international connections.

The objectives used in this strategy which align with the VFLP are:

- Plan and deliver capacity and key freight gateways in a timely manner

- Improve the efficiency and productivity of key freight network links
- Ensure future options are secured for key freight network developments
- Progressively decentralize freight activities from central Melbourne to selected outer industrial areas
- Protect and enhance access to markets for regional Victoria

2.3 GREEN TRIANGLE REGION FREIGHT ACTION PLAN (FREIGHT TRANSPORT PROGRAM)

The Green Triangle Region Freight Action Plan was released in April 2009 to secure trade and employment opportunities in the Green Triangle region.

The plan is endorsed by the Victorian and South Australian governments, local governments and major industry and transport organisations operating within the Green Triangle region and together with G21 Regional Road Transport Plan are the key book-end transport strategic plans.

There is an estimated $8.7 billion worth of private investment set to commence within the Green Triangle region over the next five years in the mining, timber, energy, agriculture and dairy industries. It is critical that the right infrastructure exists for communities to benefit from this export driven growth and the job opportunities that it creates. Many of the new investments will be in emerging sectors including low emissions thermal power, wave energy and natural gas, helping to strengthen the region's economy in a carbon constrained future.

The Green Triangle Region Freight Action Plan outlines the significant export and employment opportunities in the region over the next decade and beyond and the need for infrastructure upgrades to the value of $340 million to accommodate the growing freight task.

Since the release of the Green Triangle Region Freight Action Plan in April 2009, a number of the recommendations have been acted on, including:

- $10 million from the Victorian and Commonwealth Governments for bridge works and upgrades on the Henty Highway and Princes Highway to facilitate a trial of High Productivity Freight Vehicles.
- $5.8 million from the South Australian Government for shoulder sealing, intersection upgrades, and overtaking lanes on the Princes Highway and Riddoch Highway.
- Committing Victorian Government funding to upgrade arterial roads in the region.
- Committing more than $4 million Victorian Government funding towards local road upgrades in the region.
- Securing $5.7 million Commonwealth funding to partner with the Victorian Government in building an $11.4 million trailer exchange in Nhill.
- $3.97 million Victorian Government funding for a rail loading facility at Hopetoun, together with a rail siding and unloading facility at the Iluka Mineral Separation Plant in Hamilton, to support transporting mineral sands by rail.
- Providing $1.35 million Victorian Government funding for upgrades to Portland airport and $2.3 million for upgrades to Hamilton airport.
- $15 million (ARTC funding) to upgrade the Portland-Maroona rail line.
- Aligning cross-border transport regulatory anomalies with South Australia.

- Securing the inclusion of Green Triangle projects on Infrastructure Australia's Priority Projects Pipeline.
- Victorian Government providing $100,000 for a Timber Harvest Coordinator and $200,000 for new jetties at the Portland boat ramp.
- Establishment of an Indigenous Training Program in the Green Triangle Region to support workforce planning and training in the freight and logistics industry.
- Publication of common (Victoria/South Australia) Timber Transport Load Management Guidelines.
- Development and implementation of a PBS standard application flowchart and collaborative assessment process.
- Commencement of operations at a new $32 million woodchip mill owned and operated by South West Fibre in Myamyn.
- Engagement by Port of Portland of Gunns Ltd to construct a $40 million second woodchip storage facility at the port, tripling its current capacity.
- A $7 million upgrade to increase the capacity of the existing hardwood storage facility at the Port of Portland.

2.4 GREAT SOUTH COAST REGIONAL STRATEGIC PLAN

The Great South Coast Regional Strategic Plan represents the overarching strategic framework for the region. The plan addresses the challenges and opportunities that the region will face in the areas of economic development, connectivity, environment, health and wellbeing, land use and liveability.

The strategic plan provides a framework at a regional level to prioritise actions to achieve an agreed vision for the future of the region; to secure Local, State and Federal Government resources and funding and further, to encourage co-operation between all levels of Government, industry and community groups.

The Great South Coast Regional Transport Strategy falls under the connectivity section of this greater plan; Strategy Two: Improve our connections. The first strategic transport goal cited in the strategic plan recognises the objective of the regional transport plan to upgrade road and rail infrastructure to maximise regional productivity and increase safety for residents and visitors.

Sections shaded in blue in Table 2.4.1 highlight other key areas of alignment.

Table 2.4.1 Strategic Transport Goals

Strategic transport goals	The main issues	Things to do
Upgrade road and rail infrastructure to maximise regional productivity and increase safety for residents and visitors.	Capacity of the transport system to manage projected bulk freight volumes.	Implement the Green Triangle Freight Action Plan to facilitate growth of major industries.
		Determine the projected freight volumes of bulk product associated with the timber, mining, dairy and meat/livestock industries.
Ensure that the regional freight network: • minimises the region's carbon footprint • strengthens the region's competitive advantage • enhances the region's liveability, and • acknowledges the region's tourism values.		Undertake cost benefit analysis (including social and environmental externalities) to determine the most appropriate road/rail investment balance.
	Potential for significant increases in road freight volumes to impact on liveability and tourism values.	Increase the frequency of the Warrnambool to Melbourne train service.
		Explore potential for the reintroduction of the Portland – Hamilton – Ararat passenger rail service.
		Upgrade Princes Highway West and Local road networks across the region.
	Princes Highway from Colac to Mount Gambier.	Identify climate change risks to the Local and commercial ports at Portland.
		Develop and implement investment plans for ports and airports.
	Climate change risks at Local ports.	Assess the impacts of carbon pricing on road, rail air and sea freight network investment.

2.5 GREAT SOUTH COAST REGIONAL GROWTH PLAN

The Great South Coast Regional Growth Plan is currently being developed to provide broad direction for land use and development across the region. It will also provide detailed planning frameworks for key regional centres. The GSCRGP reflects the region's strengths, including its high quality agricultural production supported by a network of connections throughout Victoria.

The future growth of the Great South Coast will be heavily dependent on the key freight and transport corridors, which run north and south (in the western part of the region) to the port, and west to east across the central and southern part of the region. The efficiency, frequency of services and quality of the existing network will impact on growth.[4]

2.6 G21 REGIONAL ROAD TRANSPORT PLAN

The G21 Regional Road Transport Plan is a guide for the development of strategic regional transport infrastructure particularly for the local road network. It is used to support the growth of established and emerging industries, respond to structural changes, and strengthen regional economic opportunities.

The plan documents the key demands placed on transport network and the associated impacts on the infrastructure. It also sets out objectives and strategies to ensure provision of an efficient, safe and integrated transport system that is sensitive to the environment and crucial to the economic prosperity of the region.

[4] Source: Regional Growth Plans: A Vision for Victoria

The G21 Regional Road Transport Plan recognises that efficient and effective transport routes between the two regions underpin the regional industries, and are critical to ongoing economic viability. The report states that it is increasingly important to plan together, so that transport is integrated with land use, that each mode of transport is connected seamlessly with the other, and that all systems flow smoothly across jurisdictional boundaries, including the principal freight routes such as the Princes Highway, Hamilton Highway and the Glenelg Highway.

2.7 PORT OF PORTLAND LAND USE STUDY (PLUS)

The Port of Portland serves the needs of the Green Triangle Region and beyond, a region that crosses State boundaries and is host to a variety of types of industry and agriculture. This study sought to address the ports growth in trade from an estimated $1.5 billion per annum in 2009 to an expected $2.5 billion per annum over the next five to ten years. Most growth was to come from forestry products, including the first-time harvesting of blue gum plantations, as well as mineral sands.

The Port of Portland is one of four major commercial ports in Victoria. It is a deep-water bulk port serving Western Victoria with linkages of strategic importance into the Great South Coast region. The port is a key gateway for a complete supply chain and relies upon a significant regional network of roads, railways, and storage and handling facilities.

In addition to the recently completed Cliff Street overpass, which improves road safety, port access from the Henty Highway and the separation of local and freight traffic, the PLUS suggests that upgrades and maintenance to major arterial road routes will be required including those providing access to the Port, and increased utilisation of the rail network into the Port. This includes the upgrade and greater use of the existing rail network from Melbourne (via Maroona) and the re-instatement of the Heywood - Mount Gambier rail line (a disused standard gauge line).

The PLUS identifies the potential impacts of increased trade on both regional and local road and rail networks and demonstrates that further planning and liaison with key stakeholders will be required to address these transport issues. The predicted increase in traffic movements (around Portland) must be accommodated through infrastructure upgrades (both road and rail).

2.8 CENTRAL HIGHLANDS REGIONAL STRATEGIC PLAN

The Central Highlands Regional Strategic Plan sets out a series of integrated strategic directions and actions that are designed to implement the vision of the region, by building on capacities and strengths. The natural heritage of the region (ie. goldfields) and the proximity to Melbourne are major opportunities that can be built upon. Upgraded rail and road services have positioned the region to link to the investment in Melbourne.

The Central Highlands Regional Strategic Plan provides a starting point for the Regional Growth Plan. The Regional Growth Plan will test and further develop the directions identified in the Regional Strategic Plan.

2.9 WIMMERA SOUTHERN MALLEE REGIONAL GROWTH PLAN

The Wimmera Southern Mallee draft regional growth plan provides a regional approach to land use planning in the Wimmera Southern Mallee. It covers the municipalities of Hindmarsh, Horsham, Northern Grampians,

West Wimmera and Yarriambiack and identifies opportunities for encouraging and accommodating growth and managing change over the next 30 years.

The draft Wimmera Southern Mallee Regional Growth Plan identifies:

- where future development will be supported, assessed at a regional scale
- environmental, economic, community and cultural resources of regional significance that should be preserved, maintained or developed
- key regional priorities for future infrastructure planning and investment to support growth.

This draft Plan has been prepared for public consultation. A final Plan, including an implementation plan, will be produced in 2014.

2.10 WIMMERA REGIONAL TRANSPORT PLAN

Completed in 2005, the Wimmera Regional Transport Plan provides a framework for maintaining, developing and improving freight routes throughout the region to support safe and efficient movement of freight to producers, markets and ports.

The goals of the plan are to develop a transport plan regarding anticipated growth in the region, identify constraints that impact safe movement of freight, identify issues relating to passenger movement, identify project priorities, and identify funding opportunities.

2.11 PLAN FOR FREIGHT TRANSPORT FOR THE SOUTH EAST / LIMESTONE COAST REGION OF SOUTH AUSTRALIA

The Plan for Freight Transport for the South East / Limestone Coast Region of South Australia has been produced to guide the future development of the transport network in the South East of South Australia, and is aimed at enhancing freight efficiency to the export ports and meeting the future needs of industry and the community of the region.

The major focus of the plan is to assess the future transport needs of industry, including timber, wine, horticulture, tourism and dairy. The plan includes assessment of current and future freight flows, and the benefits and costs of various potential interventions.

2.12 VICTORIAN LOCAL PORTS AND MARINE – FRAMEWORK FOR ACTION

Victoria's local ports and marine network provides critical infrastructure at 14 metropolitan and regional locations along the coast. The network underpins a range of commercial activities, including fishing, aquaculture, and off-shore oil and gas exploration.

This framework provides a timely review of the local ports portfolio and outlines steps to streamline management, establish a sustainable funding model, and optimise private sector investment within Victoria's local ports and marine network.

2.13 VICTORIA'S ROAD SAFETY STRATEGY 2013-2022

Victoria's Road Safety Strategy 2013-2022 was developed by the road safety partners of VicRoads, the Transport Accident Commission, Victoria Police and the Department of Justice.

The strategy sets a target to reduce fatalities and serious injuries by more than 30 per cent. Successfully realising this target will see Victoria's annual road toll fall to below 200, and will require everyone on our roads to take individual responsibility for improving safety by making safe travel choices.

Under Victoria's existing Safe System philosophy, effectively improving road safety requires a multi faceted approach that targets the safety of the road environment, the vehicles in which people travel, and the behaviour of everyone on the road.

It provides all types of road users - drivers, motorcyclists, cyclists, pedestrians, heavy vehicle drivers - with information, including the latest research and event and campaign updates, and practical advice on how we can all work to help stop the senseless loss of lives on Victoria's roads.

3. EXISTING INDUSTRIES

The Great South Coast region is one of the most productive agricultural and manufacturing regions in the country. It is home to the largest dairy producing region in Australia, and supports the full range of primary pursuits from broad-acre cropping, sheep and beef cattle raising, forestry and fishing. Agricultural output is worth over $2 billion per year, and a large proportion of regional produce is exported via the local port of Portland, as well as Geelong and Melbourne, and inter-state.

The shires of Corangamite and Moyne are the heartland of the Western Victorian dairy industry, ranking in the top 3 dairy production Local Government areas nationally. Colac-Otway and Glenelg Shires are primary forestry production areas, producing timber and woodchips for major local and export markets respectively.

Wheat and other winter crops are grown in the Southern Grampians Shire, in increasing volumes as climatic change makes the higher rainfall areas more reliable than traditional cropping areas further inland.

Sheep are raised throughout the western districts for both wool and meat production. The Midfield Meats abattoir in Warrnambool is the primary meat processor. Wool and meat produce is transported to Melbourne for domestic consumption and export containers from Melbourne.

Mineral sands deposits throughout Southern Grampians Shire and neighbouring regions have become commercially viable for extraction in recent years, leading to demand for export capacity via Portland and Geelong. While most current production and immediate growth will be sourced from mines in the Mallee and Wimmera regions, the transport corridors required for export pass through the Great South Coast region and have implications for freight demand.

The region acts as a food bowl for the Victorian population centres to the east, and also contributes produce to other centres interstate. It is highly reliant on transport networks for efficient delivery to domestic and export markets at the lowest possible cost to consumers.

Primary production also drives the manufacturing basis of the region. About a quarter of regional manufacturing output, totalling $4 billion is derived from the dairy industry alone. Four major processors in the centre of the region aggregate local milk production, along with another six small-to-medium processors, producing fresh milk for Local markets and a range of milk and cheese products for the export market.

Other major contributors to manufacturing value are the Alcoa aluminium smelter at Portland and timber milling and chipping operations in the Green Triangle, and the South West Fibre owned pulp mill in Myamyn. In Portland, the joint venture smelter managed by Alcoa is capable of producing approximately 358,000 tonnes of aluminium a year.

Primary production in the region is increasing in line with growing domestic and export demand for quality Australian products. The climatic benefits of the region (higher rainfall and moderate temperatures) amount to lower drought risks for agricultural producers in contrast with inland regions, and this suggests that the relative importance of the region to the State and nation will increase with time.

The dairy industry is planning for a 50% increase in production volumes to 3 billion litres per year by 2020 to meet projected demand (Down the Track – Dairy 2020 report from Westvic Dairy).

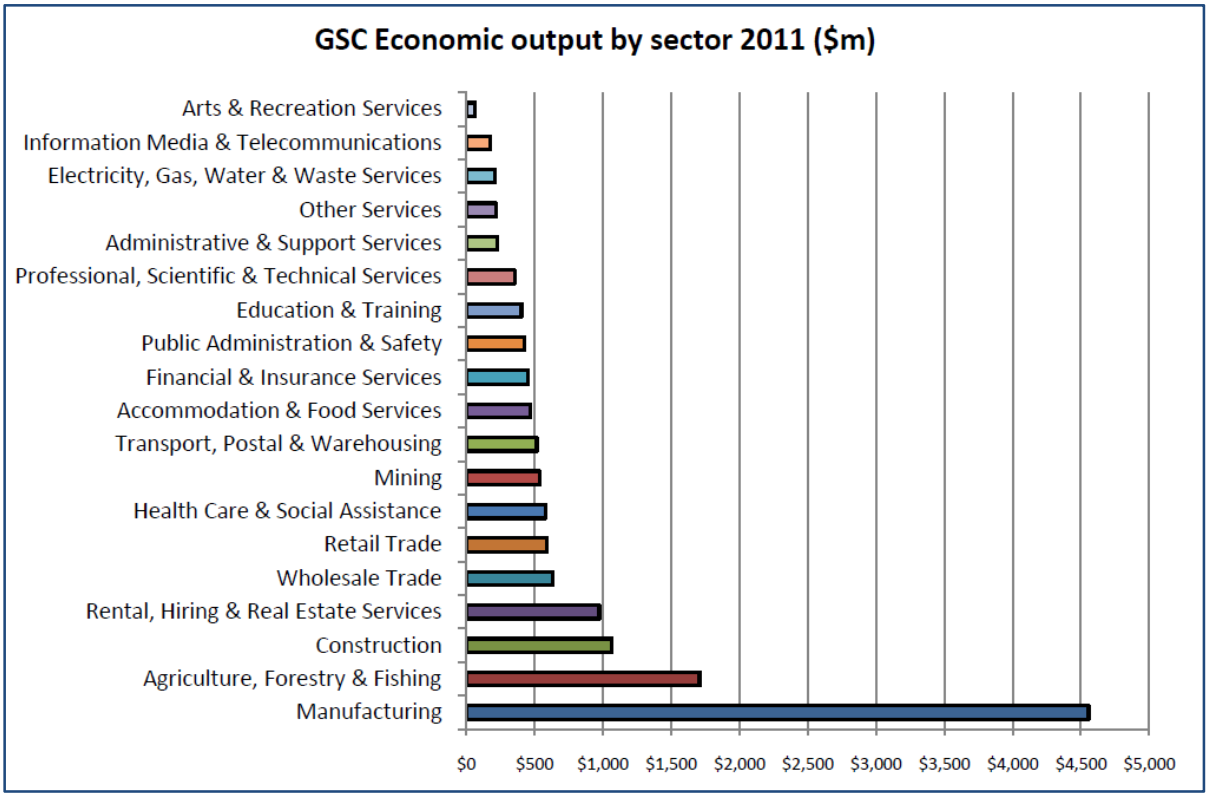
The region is at the heart of rapid development of the alternative energy sector which is slated to provide 20% of Australian electricity supply by 2020. Wind power will provide about one fifth of this target, and the

region is the home of a large proportion of new Australian projects. When completed, these projects will deliver considerable energy and environmental benefits to the entire nation. Substantial costs are absorbed by local communities during the construction phase, relating largely to intensive road use costs and strains on local resources such as road-base and concrete. Growth in industries, along with arterials roads featuring sections of aging and fragile road pavement, has seen a dramatic reduction in the level of service, along with a increase in maintenance services required.

In contrast with other regions whose wealth derives from mining and heavy industrial activity, the Great South Coast region manufacturing sector is characterised by reliance on a dispersed freight task from wide production areas. Consequently, there is a particular reliance on a hierarchical network of feeder roads linking production areas (farms and forests) to processers and ports.

The Great South Coast has a diverse economic and employment base, which provides the stability and resilience that underpins the growth rates therein. The following graph[5] drawn from the Great South Coast Major Projects Cumulative Impacts Study April 2011 illustrates this diversity.

Figure 3.1 GSE Economic Output By Sector (2011).



Export industries such as woodchip, grain and mineral sands, are major earners for the region, but supply to growing domestic markets (e.g. dairy production) is the key to regional growth. Victoria's population is now 5.6 million, and is growing at the rate of 1.7% per year, with the majority of that growth in Melbourne (ABS 2011). This growing population depends on increasing volumes of local food production, and, as an example, the Western Districts dairy industry output is increasing steadily as a result. Increasing milk production requires additional farming capacity, transport and processing, and this growth also leads to secondary employment and economic benefits throughout the region.

[5] Source: Great South Coast Major Projects Cumulative Impacts Study (2011)

The coastal scenery of the region is spectacular and constitutes the most popular natural tourist attraction in Victoria, along with the Grampians and the Otway National Park. The steady growth in tourism presents special challenges for the road network, notably the Great Ocean Road which is narrow and winding along its length. It caters for Local and through traffic, coach traffic and self-driving tourists including many international drivers. Coastal roads are linked to the Princes Highway via link roads passing through forested areas that pose safety challenges for all passenger and freight road users. A high proportion of tourist visits are day-trips from Melbourne rather than long stays.

Recent proposals to attract longer tourist visits through facilitating accommodation developments could lead to improved regional benefits from tourist spending, but will also increase traffic on the Great Ocean Road and the need for careful management to promote safety and amenity.

Overall, the region is one of the most vital and diverse regional economies in Australia. The importance of continued strategic investment in freight links is vital to the ongoing competitiveness of regional produce, community amenity and the economic performance of the State.

3.1 DAIRY

Dairy Overview

The Western Victoria dairying region incorporates the Great South Coast region and extends from Geelong in the east to Horsham in the north-west and down to the near-coast areas around Portland and the South Australian border.

Around 1,700 farms in the region produced 2.152 billion litres of milk during 2011-2012, representing an increase of 2.9% on the prior year and approaching one-quarter of total Australian milk production. This result confirmed the Western district as the most productive dairying region in Australia. [6]

Table 3.1.1 Western Victoria historical production levels 2007-12

Year	Milk Production (Billion Litres)	Annual change (%)
2007-08	2,048	-0.9%
2008-09	2,111	+3.1%
2009-10	2,070	-2.0%
2010-11	2,091	+1.1%
2011-12	2,152	+2.9%

Dairy Product Flow

South Western Victoria is a well-established dairying area that has experienced good growth in milk production in recent years. The table above shows a greater than 5% increase in milk production over the previous 5 years.

The industry regionally employs more than 7,400 people in both farming and processing which represents about 15% of the regional workforce.

Milk accounts for approximately 50% of the value of all agricultural commodities produced in the region.

There is significant manufacturing infrastructure located in the region, including more than 10 dairy factories featuring milk processing, dairy product manufacturing and milk collection plants. The major companies operating in the region include:

- Murray Goulburn Co-operative (Koroit)
- Fonterra Milk Australia (Cobden, Cororooke and Dennington)
- Warrnambool Cheese and Butter (Allansford)
- Lion Nathan National Foods (Simpson and Timboon)
- Aussie Farmers (Camperdown)

[6] Source: Department of Primary Industries – Victorian Dairy Export Performance Report 2011-2012

The main input for processors in the region is raw milk sourced from some 1,700 farms including milk drawn from the Mount Gambier region in South Australia. The three largest players, WCBF, Murray-Goulburn and Fonterra process in excess of 2 billion litres of milk per annum.

Figure 3.1.1 (Page 16) illustrates the geographic area covered by dairy production and the key destinations and freight movements associated with the transport of raw milk product.

Victoria supplies around 86% of Australia's dairy product exports, worth around $1.96 billion in 2010-11. As a result, returns to farmers are strongly connected to world dairy commodity and exchange markets. Continued international competitiveness and efficiencies are critical to the sustainability of the industry.

Road Usage

The South Western Victorian dairy industry is a significant user of the rural and regional road networks between Mt Gambier and Colac. The main production areas are in the high rainfall areas in the southern parts of the region, closely aligned with the major processing plants in the Colac-Warrnambool area.

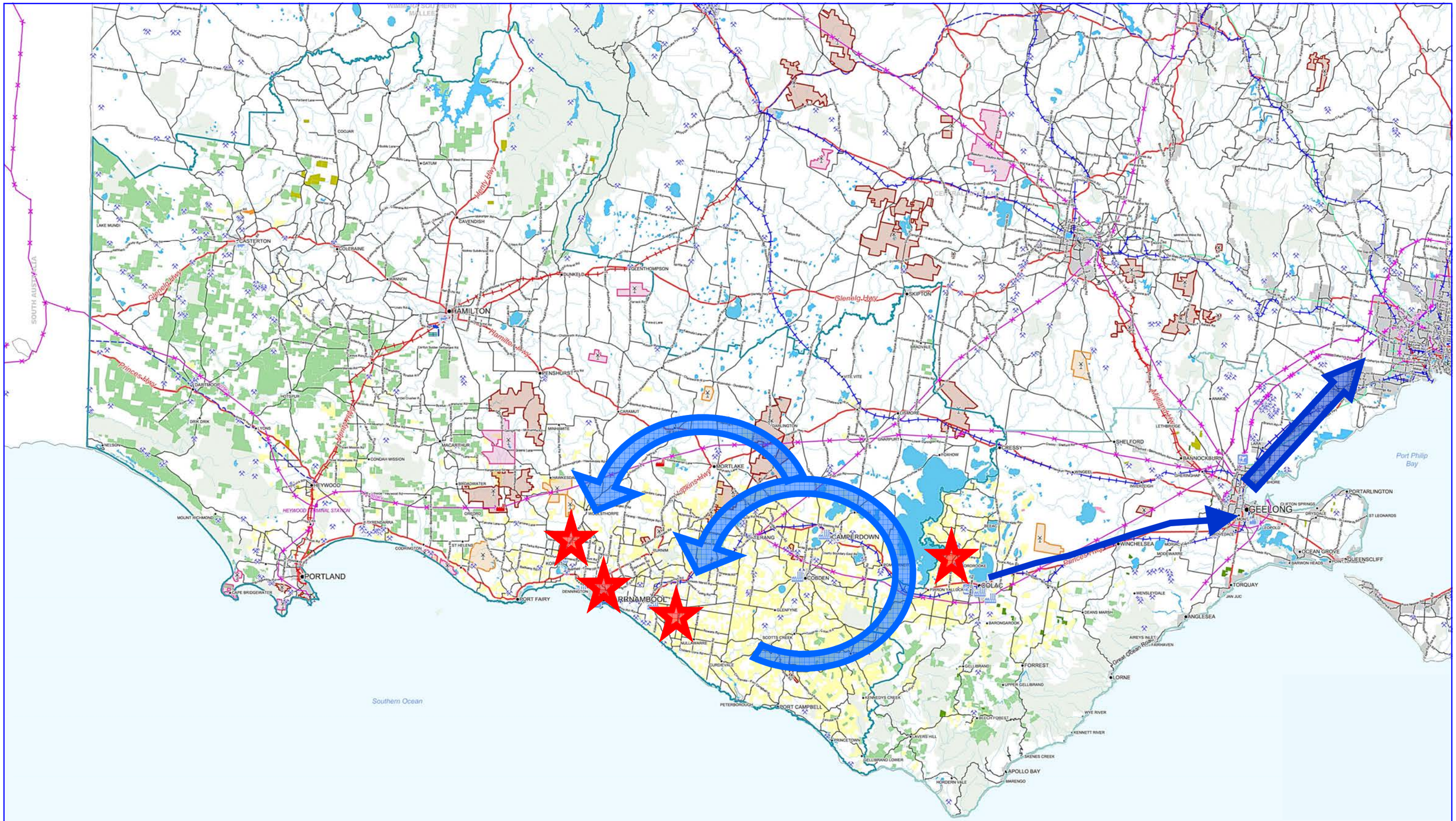
Dairy freight is characterised primarily by regular usage of a broad network of local and arterial roads by milk tankers, delivering daily from most locations to one of the major milk processing plants in the region. Tanker truck movements are therefore steady and dispersed. Road standards are a major issue for road safety and efficiency across the network.

Processed dairy products are carted more intensively on major highways towards Melbourne and other urban centres for domestic and export consumption. Some of the export volume is suitable for rail transportation via the intermodal terminal at Warrnambool.

Table 3.1.2 Dairy freight road usage classification

Product	Origin	Destination	Distance	Volume (tonnes)
Milk	1,700 farms	Camperdown, Cobden, Colac, Cororooke, Dennington, Koroit, Simpson, Timboon, Warrnambool	5-100km	2.15mtpa
Butter, Butter Oil, Cheese, Cream, Powders (milk, whey, formula)	Cobden, Colac, Cororooke, Dennington, Koroit, Simpson, Timboon, Warrnambool	Melbourne for export and domestic distribution.	160-280km	Estimated 500ktpa
Fresh milk	Warrnambool, Camperdown	Domestic consumption across South Western Victoria covering the area from Hamilton to the coast as well as Ballarat, Geelong, Melbourne and Sydney.		20ktpa

Figure 3.1.1 Raw Milk Movements in the Great South Coast



Dairy Cattle	**Key Destinations** ★
Poultry	**Principal Freight Routes** →
Piggery	**Import / Export** →
Market Gardens	**Inter-Region Movements** ↻
Forestry/Plantation	
Vineyards/Orchards	

3.2 FORESTRY

There are approximately 330,000 hectares of softwood and hardwood forest plantations in the Green Triangle. Plantations in the western and eastern ends of the region generate timber truck movements of three main categories (logs, woodchips and timber products). Logs are hauled from forest plantations to chip mills and saw mills. Woodchips are produced largely for export for paper production, and timber products are hauled to metropolitan markets in Melbourne and surrounding cities.

Figure 3.2.1 (Page 19) illustrates the geographic area covered by timber production and the key destinations and freight movements associated with the transport of timber product.

Exports of timber products from the two major regional ports serving the region are outlined below.

Table 3.2.1 Timber product exports (tonnes) – average 2008-2011 [7]

Product	Portland (Tonnes)	Geelong (Tonnes)
Woodchips	1,155,500	1,098,500
Logs	145,000	50,500
Other Timber Products		20,000
Total	1,300,500	1,169,000

The other main forested area in the region is in the northern part of the Otway Ranges, where 30,000 hectares are under plantation.

Two woodchip milling operations in the Green Triangle are the main nodes of log and woodchip haulage freight within the region. One plant is operated at Myamyn, 45 km north of Portland, by South-West Fibre Pty Ltd. This plant accepts 0.5 million tonnes of logs annually from the Green Triangle region. Its resulting woodchip product is trucked continuously to stockpiles at the Port of Portland for export.

The other woodchip operation is managed via mobile chippers in forest plantations and aggregated via stockpiles at the port. This means that the origin of woodchip freight haulage tasks moves from point to point as different plantations in the region are harvested.

Woodchip export volumes through Port of Portland have been predicted to increase for the last few years, but international demand has not matched supply and Portland export volumes have remained fairly constant at about 1.4 million tonnes per annum in total.

[7] Source: Ports Australia

Table 3.2.2 Timber Road Freight Flows

Product	Origin	Destination	Distance (km)	Volume (tonnes)
Logs	Green Triangle	Chip mill, Myamyn	20-100	500,000
	Green Triangle	Port of Portland	60-150	145,000
	Green Triangle	Chip mill, Geelong	240	50,000
	Green Triangle	Sawmills, Colac	250	30,000
	Otway Ranges	Sawmills, Colac	40-80	50,000
	Ballarat-Cressy area	Sawmills, Colac	40-100	150,000
	Otway Ranges	Chip mill, Geelong	120	50,000
Woodchips	Myamyn	Port of Portland	45	500,000
	Green Triangle	Port of Portland	60-150	600,000
Timber	Colac	Geelong/Melbourne	150	300,000

Logs from this area are also hauled direct to the port, and significant volumes are moved across the region to the main sawmilling operations in Colac (estimated 30,000 tonnes) and to the woodchip operation at the Port of Geelong (estimated 100,000 tonnes). These cross-regional movements are significant freight tasks and have important impacts on the road network. The Hamilton Highway is suited to some of the Geelong freight, but some freight utilises dispersed routes into Geelong and Colac from Myamyn and other parts of the Green triangle.

Some local roads, such as the Condah-Hotspur Upper Road, are utilised due to the lack of well-defined east-west routes across the region.

In the eastern (Colac-Otway) forestry areas timber freight activity is centred on the sawmilling operations at Colac. Timber is harvested by several companies at plantations over a wide area in the Otway Range, and northern areas toward Cressy and Ballarat. Logs are delivered into Colac mills along a network of C class roads, many of which are narrow and traverse hilly and winding terrain.

From Colac, finished timber products are hauled to destinations in Geelong and Melbourne via the Princes highway.

Figure 3.2.1 Timber Movements in the Great South Coast

- Dairy Cattle
- Poultry
- Piggery
- Market Gardens
- Forestry/Plantation
- Vineyards/Orchards

Key Destinations ★

Principal Freight Routes →

Import / Export →

Inter-Region Movements ↻

3.3 MINERAL SANDS

Northern Victoria is host to part of the Murray Basin series of mineral sands deposits which are laid down in a large area stretching from near Hamilton beyond Mildura into New South Wales. The main products are zircon, rutile and ilmenite, and are used in a variety of industrial purposes such as pigments and ceramics. Material is mined in the northern Murray basin region of Victoria and in Ceduna, South Australia. It is then transported to the Hamilton Separation Plant by train as Heavy Mineral Concentrate (HMC) then by road via Henty Highway to the Port of Portland for export

In the last few years extraction of these deposits, has accelerated markedly, and there are several developments in operation and in various stages of planning. Iluka Resources operates a series of mines which concentrate mineral products on site before transfer to a major separation plant south of Hamilton. From this plant, finished product is trucked to Portland for bulk export, from where a small proportion is transferred to rail for transfer to Melbourne in containers. HMC is transported via rail from Hopetoun to Hamilton Separation Plant, and zircon, rutile and ilmenite are also moved via rail to the Port of Portland. Tailings are moved via road to the Douglas mine where they are used as fill for the old mine.

Iluka mines are scattered throughout the region, and mined sequentially. They tend to have a short life of 2-4 years. Concentrates are hauled by road from each mine, either direct to Hamilton, or to a railhead at Hopetoun, which has recently been developed with the assistance of the State Government. Trains from this location deliver product to Hamilton. Iluka also plans to import raw materials from South Australia as feedstock for its separation plant over the next few years.

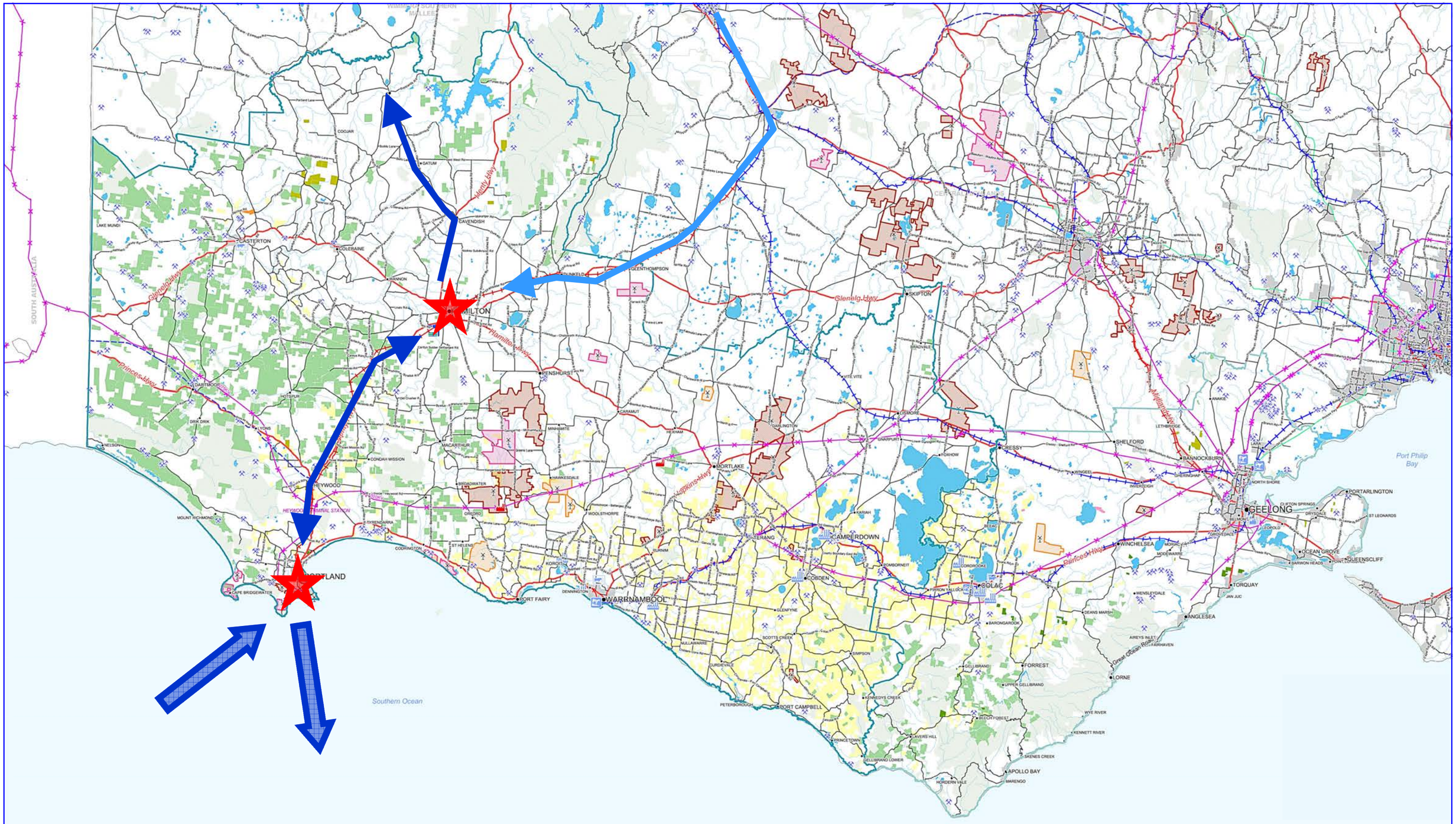
Road freight activity will vary from year to year as Iluka switches operations between mine sites, and as new developments occur in the region.

Table 3.3.1 Mineral sands road freight tasks 2012

Product	Origin	Destination	Distance	Volume (tonnes)
Mineral sands concentrate	Wimmera, Mallee area mines	Hamilton	200-300km	Up to 700,000
Separated minerals	Hamilton	Portland	80km	530,000
Ilmenite	Portland	Hamilton	80km	200,000

Heavy minerals sands traffic is concentrated onto defined road routes. Figure 3.3.1 (Page 21) illustrates the geographic area covered by mineral sands production and the key destinations and freight movements associated with the transport of mineral sands.

Figure 3.3.1 Mineral Sand Movements in the Great South Coast



3.4 GRAIN

The Victorian grain belt is largely to the north of the region, but there are increasing amounts of grain now being grown in the Southern Grampians in particular, following the long drought that ended in 2009.

These higher rainfall areas can produce more reliable crops than in the traditional cropping areas of the Wimmera and Mallee. Some land in the region can be switched between livestock grazing and cropping from year to year according to global prices and climatic conditions.

Most grain grown in the western areas is exported via Portland or Geelong, and rail is the traditional mode of transport from silo to port. Grain grown in the Southern Grampians and neighbouring areas, however, is typically hauled to Portland by road due to the shorter distances and lack of rail loading facilities and silos in this area.

Rail services from the northern areas have also diminished since the drought years, and become less cost-effective and reliable. Since the deregulation of the grains logistics sector and rail systems over the last 15 years, the rail-freight of grain is less extensive and commercially viable. Grain silos do not cater well for modern long train loading needs, and the deregulation of grain marketing has led to an increase in trucking as competing traders assemble cargoes from small stocks held at many silos in the grain growing region.

The rail unloading facilities in Portland are also slow and sub-standard by comparison with other grain ports. Trains must be broken up into two halves and shunted separately along the unloading siding, adding several hours and labour costs to the operation. Services into Geelong and Melbourne grain terminals are more cost effective for grain exporters, and consequently Portland is only heavily used for grain exports in the heaviest growing years. Portland is thus becoming more oriented towards the receiveal of grain by truck than by train in most poor and average years.

Consequently a larger volume of export grain is now moved by road via the Henty Highway and other north–south routes into Portland.

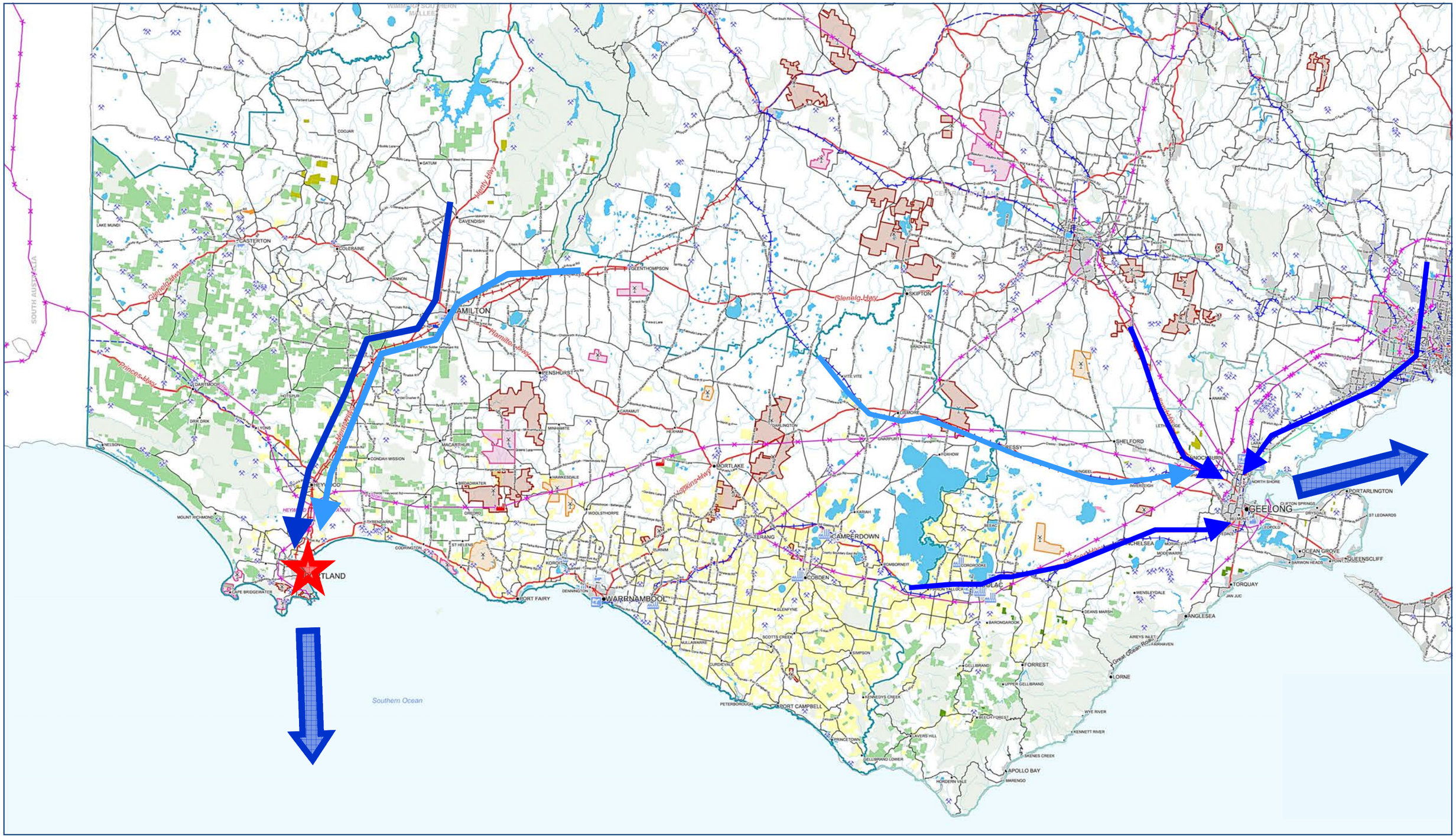
Figure 3.4.1 (Page 23) illustrates the geographic area covered by grain production and the key destinations and freight movements associated with the transport of grain.

Road freight volumes depend on the scale of each season, but can reach 500,000 tonnes in the heaviest harvests. Grain trucks at busy times, e.g. at harvest time, now queue in a designated truck marshalling area on the Henty Highway ring road on the western edge of the Portland township, rather than at the port itself where there is little room to accommodate lines of trucks.

Table 3.4.1 Average road freight export grain volumes into Portland

Product	Origin	Destination	Distance	Volume (tonnes)
Wheat, barley, canola	Western District farms	Portland	100-200km	100,000
	Wimmera farms	Portland	200-300km	200,000
Rail freight	Wimmera silos	Portland	350km	300,000

Figure 3.4.1 Grain Movement in the Great South Coast



- Dairy Cattle
- Poultry
- Piggery
- Market Gardens
- Forestry/Plantation
- Vineyards/Orchards

Key Destinations

Principal Freight Routes—Road

Principal Freight Routes— Rail

3.5 LIVESTOCK

Cattle and sheep are transported regularly between farms, saleyards, abattoirs and export locations throughout the entire region. Saleyards are located in Hamilton, Warrnambool, Camperdown and Colac.

The region incorporates the heaviest densities of sheep meat and wool production properties in the State. Since the decline of wool production from 1990, most activity on these properties has been in the production of prime lambs, predominantly for slaughter in local abattoirs, with the largest of these at Warrnambool. Regional lamb products are destined for the Australian domestic market, as well as export via the Port of Melbourne.

A small percentage of the flock is exported annually through Portland.

Wool production in Victoria amounts to 78,000 tonnes in total (2011), of which about 35% is from properties in the south-western districts. Wool is transported from farm to processors at Hamilton, Geelong and Melbourne, before transfer to Australian textile mills and export via the Port of Melbourne.

Cattle in the region are mostly dairy breeds, and the major transport task is the haulage of dairy breeding cattle from farms and saleyards to Portland for export to Asia. This trade has been significant in recent years.

The Hamilton Regional Livestock Exchange (HRLE) is located on the Portland road on the southern side of Hamilton city. The total site area is approximately 11 hectares. In addition, a further 13.6 hectares north west of the saleyards, across Portland Road is currently utilised for irrigation of effluent and contaminated storm water. An adjacent 14 hectares is also council owned and is currently utilised for agistment purposes and potentially for irrigation.

The Hamilton structure plan 2010 has some very positive recommendations for the future of the HRLE precinct. This includes the provision of the proposed truck bypass along South Boundary Road, which will help alleviate the spillage of manure in areas of tight turning circles and stop-start driving. The stop-start motion is not conducive to the welfare status of the livestock. Also included is the projection of truck stop facilities, which would be welcome from the view point of driver safety and statutory requirements for rest periods support, and the rural activity zoning in close proximity. The grouping of commerce is likely to be utilised by saleyards patrons, thereby encouraging attendance and patronage at the saleyards.

However, the adjacent grazing land needs to be protected for the use of the saleyards. It should also be noted that the ability to lease the grazing rights of the sewerage farm (Wannon Water) is also an integral beneficial component, as the ability to assist purchases at the saleyards underpins the sheep processors demand at Hamilton. The structure plan should endeavour to protect the existence of this facility.

It is possible that saleyards in the region will be rationalised in the future, with some or all of the existing sites amalgamated. The final locations of regional saleyards will have significant impact on the livestock transport flows.

3.6 FERTILISER

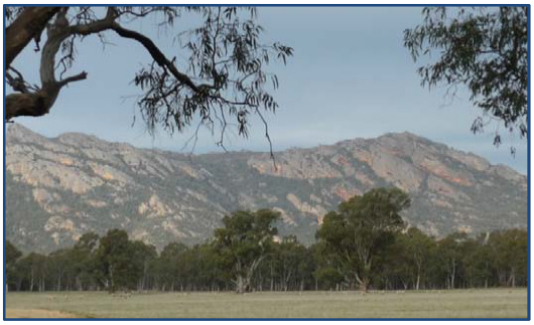
Farmers often transport grain to Geelong and Portland and backload of fertiliser in semi-trailer tippers. There is currently no use of rail in Victoria for the transport of fertiliser.

Key destinations for fertiliser include Berrybank, Hamilton, Portland, Wimmera and Geelong.

3.7 TOURISM

The Great Ocean Road provides access to a large area of outstanding natural beauty for large numbers of tourists. The region is the most popular tourist destination in regional Victoria and visitor numbers are expected to grow at about 1.4% per year – from 7.2 million visits in 2010 to 9.6 million in 2030. [8]

The majority of trips are generated by domestic (Australian) visitors, including a large number of short-stay visitors from the Melbourne area. Visitors travel largely by car and coach, typically travelling most of the length of the Great Ocean Rd between Torquay and Port Campbell, then returning to Melbourne via a number of routes linking the road to the Princes Highway.



One potential to increase the yield from day-trip visitors is to extend their stay in the Region and link into hinterland attractions along the Great Southern Touring Route. This will increase the potential for conflict between car traffic and heavy vehicles on some roads.

The proposed Grampians Way Ring Road is a tourist route around the Grampians National Park that will promote increased visitation in the region, provide alternative travel routes and options, and is expected to be considered as a tourism product in its own right.

The Budj Bim National Heritage Landscape at Lake Condah is home to the remains of one of Australia's largest aquaculture systems. Dating back thousands of years, the area shows evidence of a large, settled Aboriginal farming community. The Budj Bim masterplan details the need for road upgrades, including Ettrick-Tyrendarra Road, linking the Budj Bim tourist destination with the regional townships of Heywood, Port Fairy and Hamilton.

[8] Source: VicRoads

4. EMERGING INDUSTRIES

4.1 WIND FARMS

In 2009, the Australian Government amended the existing Renewable Energy Target (RET) scheme to deliver on their commitment to 20 percent of Australia's electricity supply coming from renewable sources by 2020.

To achieve this target, it is expected that wind energy will contribute a significant portion of the RET target.

Currently, within the South Western Region it is estimated that the new energy industry will create an estimated $12 billion of investment to the area. This equates to around 1,000,000 additional truck movements, or around 30 million tonnes of materials, and the transportation of 26,000 over dimensional loads.

Figure 4.1.1 (Page 28) illustrates the geographic area covered by wind farm production and the key destinations and freight movements associated with the transport of wind farm components, including towers and blades, and crushed rock for internal roads.

Victoria in 2011 had 12 windfarms either operating or under construction, of which 6 are in the South Western region. These 6 sites incorporate over 200 turbines, or 25% of national capacity.

Victoria currently has around 400 megawatts of wind energy capacity in operation (2012); there are a further 3,600 megawatts of capacity in various stages of planning and construction. About half of this capacity is being developed in the SW region, both along the coast and in an arc through the northern part of the region between Macarthur and Ballarat and Geelong. Victoria is set to become the greatest generator of wind power, and the South Western region will be home to the majority of the State's new projects.

Windfarm developments generate heavy freight movements over sustained periods, related to the movement of turbine components on to the site, as well as the construction of roadway networks within each farm. Turbine equipment is typically manufactured overseas, and arrives in the region via the Port of Portland.

Larger developments, such as at Macarthur, may require up to 100km of onsite roadways. These result in large volumes of crushed rock from quarries transported to the development site. Recent analysis by VicRoads estimates that each turbine generates 600 trucking movements (carrying crushed rock, concrete and other materials) during the construction phase. Depending on the location of the sources of this material, these freight movements can constitute a significant share of total freight usage of the State and Local road networks.

The Macarthur wind farm project, comprising of 140 turbines, required 90 km of internal access roads to be built. During the peak construction period, the average daily distance travelled by trucks from the various quarries to the project site was around 60,000 kilometres,

which equates to travelling around the world one and half times, per day. Certain arterial roads in the area experienced increased heavy vehicle volumes from 20-30 vehicles per day to up to 400-500 vehicles per day.

If the current wind farm sites being constructed utilize off-site quarrying, roads in the surrounding area will experience exponential growth of heavy vehicle traffic.

There are currently:

- approximately 300 turbines in operation
- an additional 675 approved wind farm turbines to be built
- at least 493 of turbines will be constructed within the next two years

The demand for freight movements, associated with the alternative energy sector will be heavy over the next 5-10 years. This pressure could be alleviated if on-site quarrying was easily permitted, which can remove up to 90% of all wind farm related freight. On-site quarrying is permissible, but currently results in VCAT hearings, incurring further time delays and additional costs.

These construction freight volumes over the next 10 years are categorised in the table below.

Table 4.1.1 Estimated annual freight volumes for wind energy projects in SW region 2010-2020

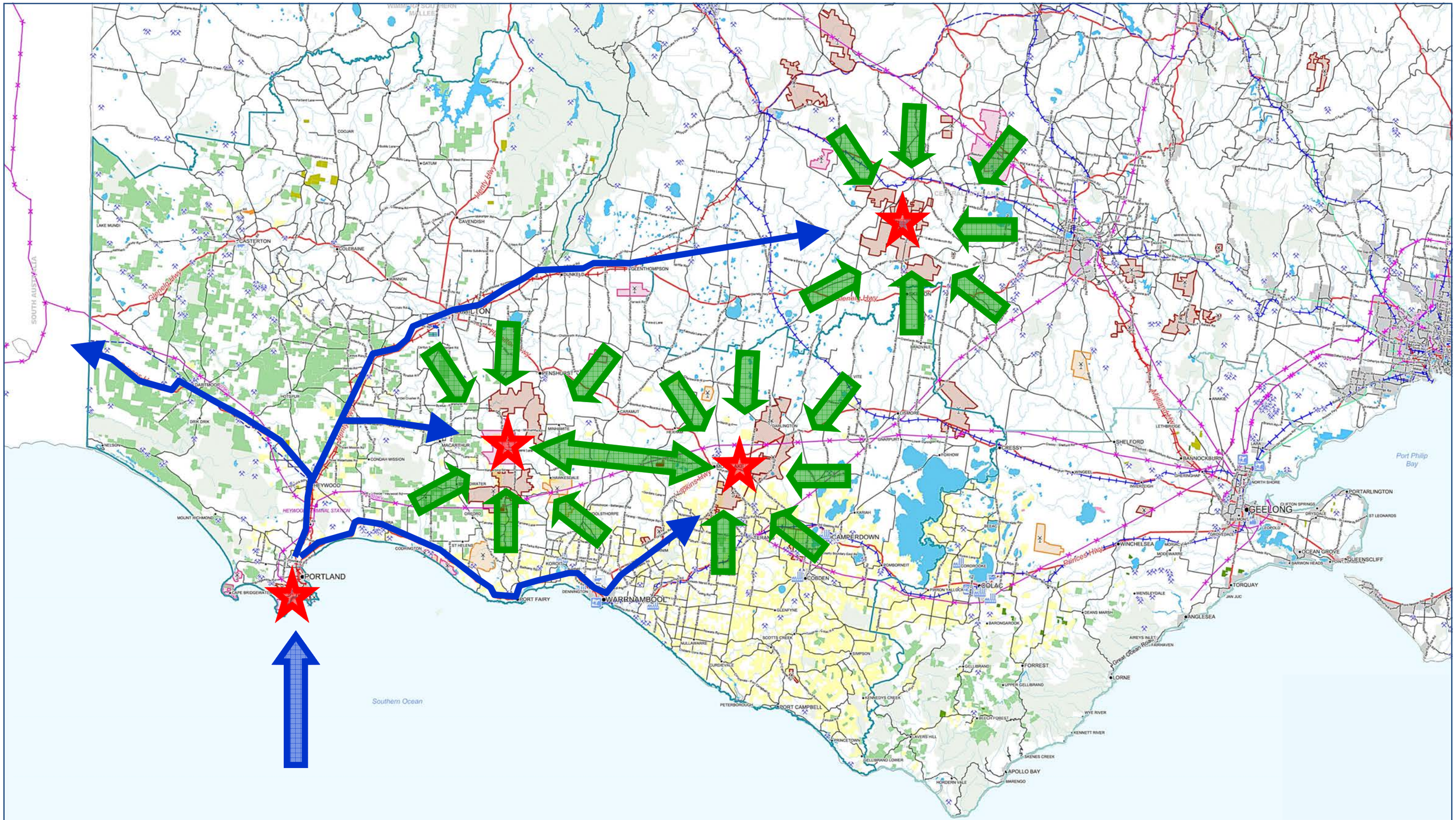
Product	Origin	Destination	Distance	Volume (tonnes)
Wind turbine components	Portland	Macarthur, Cape Bridgewater, Glenthompson, Mortlake	20-200km	TBC
Road-base	Regional quarries	Macarthur, Cape Bridgewater, Glenthompson, Mortlake	20-100km	TBC
Concrete	Regional quarries	Macarthur, Cape Bridgewater, Glenthompson, Mortlake	20-100km	TBC
Total				**1,500,000**

4.2 GAS FIRED POWER STATIONS AND OTHER MAJOR PROJECTS

Gas from the Otway Basin is used to generate power at a new power station in Mortlake, and two other facilities are in planning stages elsewhere in Moyne Shire.

Freight demands for these projects are high intensity and have a significant impact on the road network during construction. However, these impacts are generally short term in nature, and lasting only one to two years.

Figure 4.1.1 Alternative Energy Movements in the Great South Coast



- Dairy Cattle
- Poultry
- Piggery
- Market Gardens
- Forestry/Plantation
- Vineyards/Orchards

Key Destinations

Principal Freight Routes

Import / Export

Quarry Movements

5. KEY TRANSPORT INFRASTRUCTURE IN THE GREAT SOUTH COAST

The Great South Coast region has a large network of road and rail infrastructure, enabling access to services and facilities, as well as connections to the port of Portland, and inter-regional and inter-state connections.

The principal freight routes and primary arterial network consists of the following:

- Princes Highway West, running east-west, connecting Geelong and Mount Gambier via Colac, Warrnambool, Port Fairy and Portland
- Hamilton Highway, running east-west, connecting Geelong and Hamilton via Mortlake and Penshurst
- Glenelg Highway, running east-west, connecting Ballarat and Mount Gambier via Skipton, Hamilton and Casterton
- Henty Highway, running north-south, connecting Portland and Horsham via Hamilton
- Hopkins Highway, running north-south, connecting Mortlake and Warrnambool

The Princes Highway West and Henty Highway are both part of the Principal Freight Network. Sections of both of these highways have been earmarked as being suitable for high productivity freight vehicles (HPFV's).

The region hosts two separate railway corridors. The Maroona-Portland standard gauge branch of the Australian Rail Track Corporation interstate corridor runs from Melbourne to Adelaide. The broad gauge Warrnambool-Geelong-Melbourne branch provides passenger services and intermodal freight.

5.1 ROADS

The Great South Coast provides strong linkages to Melbourne (via G21), South Australia, and other regional areas such as Central Highlands, G21 and Wimmera Southern Mallee.

Table 5.1.1 shows the breakdown of traffic on both arterial and local roads in the Great South Coast region. It also shows the amount of commercial vehicles by each industry, as well as their predicted two-year increases.

Table 5.1.1

Road/Shire	*Daily Commercial Vehicle Volumes*	*Annual Average Daily Traffic*	*Dairy (current)*	*2 year increase*	*Energy (current)*	*2 year increase*	*Timber (current)*	*2 year increase*	*Grain (currnet)*	*2 year increase*	*Livestock (current)*	*2 year increase*	*Other*
Glenelg													
Portland – Nelson Rd	**210**	920	15	22			150	165	20	26	20	24	**10**
Casterton Penola Rd	**80**	400	8	10			60	80	8	12	4	6	**8**
Myamyn – Macarthur Rd	**24**	124	3	5			16	20	2	3	2	3	**2**
Portland Casterton Rd	**60**	400	6	10			35	40	2	3	2	3	**4**
Casterton Edenhope Rd	**40**	300	6	10			20	24	5	7	3	5	**4**
Ettrick – Heywood Rd	**200**	600	15	22			150	165	5	7	3	5	**4**

Road/Shire	Daily Commercial Vehicle Volumes	Annual Average Daily Traffic	Dairy (current)	2 year increase	Energy (current)	2 year increase	Timber (current)	2 year increase	Grain (currnet)	2 year increase	Livestock (current)	2 year increase	Other
Dartmoor – Hamilton Rd	**40**	300	4	6			20	24	5	7	3	5	**4**
Woolsthorpe Heywood Rd	**30**	200	15	18	0	800	10	35	2	4	2	5	**1**
PHW	**550**	3000	330	375	0	700	140	160	16	20	19	22	**45**
Hopkins	**200**	2000	105	130	0	20	10	20	15	19	16	19	**54**
Hamilton	**150**	1500	40	47	0	300	28	38	38	45	30	36	**14**
Henty	**130**	1100	25	31	0	120	80	140	30	50	20	22	
Glenelg	**225**	1500	22	25	0	120	140	200	30	50	20	22	
Moyne													
Hamilton - Port Fairy Road	**64**	570	40	45	0	400	3	6	8	8	8	8	**5**
Woolsthorpe – Heywood Road (eastern section)	**44**	400	22	25	0	400	10	40	2	8	6	7	**4**
Penshurst – Warrnambool Rd	**81**	900	40	45	0	500	20	60	8	8	8	9	**5**
Penshurst - Dunkeld Road	**50**	250	25	30	0	200	10	40	10	12	2	3	**3**
Mortlake - Ararat Road	**72**	600	35	40	0	300	10	18	15	20	8	10	**4**
Mortlake – Terang Road	**110**	580	80	90	0	300	10	20	8	8	5	6	**7**
McKinnons Bridge	**30**	300	20	25	0	100	5	7	2	3	2	3	**1**
Warrnambool – Caramut Road (south of Woolsthorpe)	**99**	1100	50	55	0	200	10	20	25	40	6	7	**8**
Southern Grampians													
Penshurst – Warrnambool Rd	**81**	900	60	68	0	400	10	35	4	6	4	9	**3**
Penshurst Hamilton Rd	**24**	200	10	12	0	600	6	12	1	2	5	6	**2**
Dunkeld Cavendish Rd	**15**	200	2	3			3	6	6	8	4	6	**2**
Grampians Rd	**35**	350	3	5			6	12	12	16	8	12	**4**
Penshurst Dunkeld Rd	**50**	250											
Natimuk Hamilton Rd	**30**	250	3	6			4	5	5	7	3	7	**3**
Coleraine – Edenhope Rd	**40**	300	8	12			6	8	7	10	5	8	**5**
Hamilton	**150**	1500	40	47	0	300	28	38	38	45	30	36	**14**
Henty	**130**	1100	25	31	0	120	80	140	30	50	20	22	
Glenelg	**225**	1500	22	25	0	120	140	200	30	50	20	22	
Corangamite													
Timboon – Colac	**135**	750	88	95	0	0	20	40	2	4	16	21	
Colac Ballarat	**110**	1000	42	46	0	400	30	50	6	10	12	16	
Lismore Camperdown	**40**	400	20	26	0	200	6	8	6	8	6	7	
Foxhow Rd	**35**	450	10	12	0	400	15	1	2	3	4	6	
Lismore Skipton	**40**	300	10	12	0	200	3	5	12	18	6	7	
PHW	**850**	8700	180	190	0	600	180	220	8	12	40	42	
Hamilton	**150**	1200	10	12	0	400	15	18	60	70	40	42	
Glenelg	**320**	**5000**	**80**	**92**	**0**	**200**	**103**	**130**	**60**	**70**	**40**	**42**	

5.2 RAIL

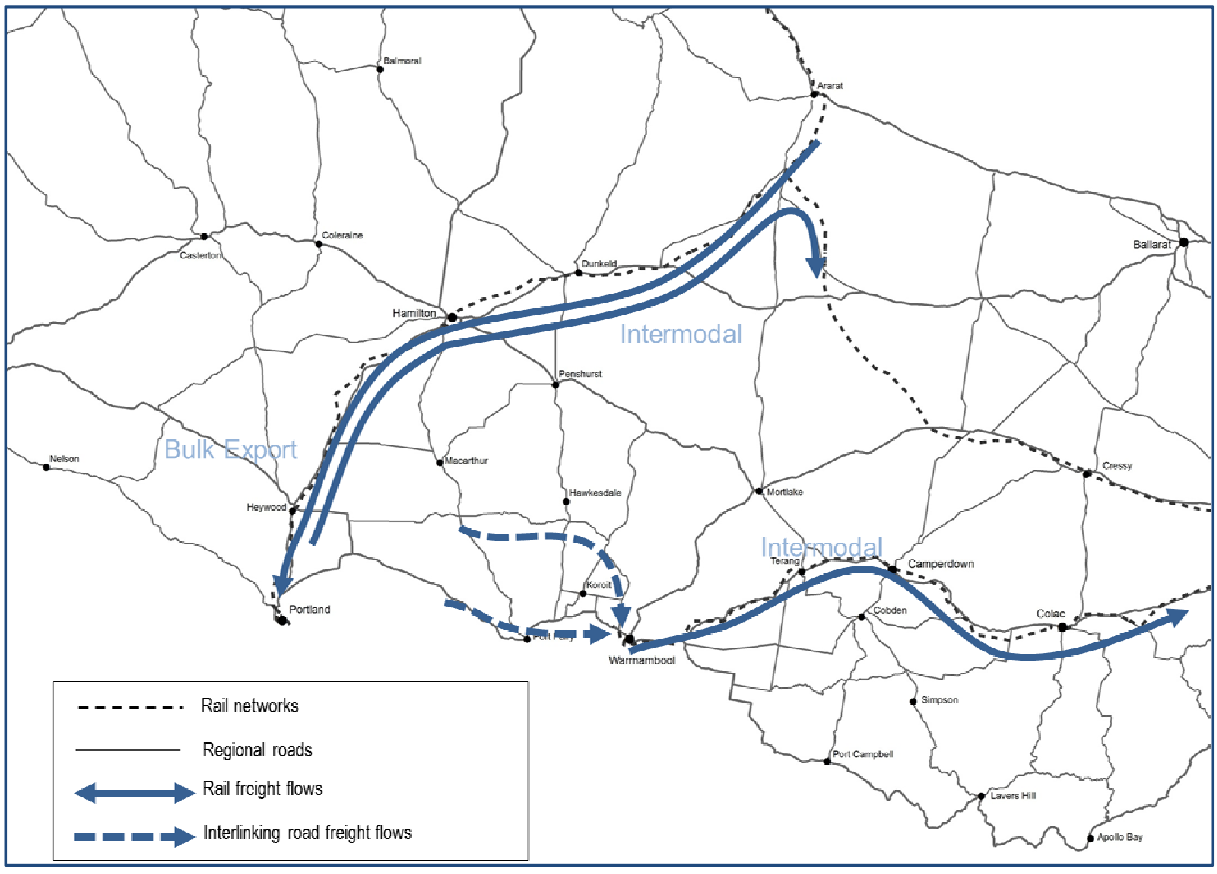
The region is served by two separate railway corridors, which pass through most of the major centres in the region.

The broad gauge West Coast rail line carries both freight and passenger services connecting to Melbourne, while the Portland line is linked to the national standard gauge freight network. Both these corridors provide useful services, but both are under-utilised relative to their overall capacity. Both offer the potential to take pressure off road networks and the cities and towns they pass through.

The Maroona-Portland rail branch runs between Melbourne and Adelaide, and connects to the other State capitals. The branch is essentially a grain export line linking cropping areas in the north-west of the State with the Port of Portland. It also carries some mineral sands concentrates from the Mallee into the Iluka Resources separation plant south of Hamilton. This corridor is standard gauge and offers some potential for local and long distance bulk import/export product as well as containerised haulage into domestic and export markets via capital cities and their ports. The rail corridor is maintained to fit for purpose standards by its owner Australian Rail Track Corporation (ARTC) and supports train speeds of up to 80km/hour and axle loads of 19 tonnes.

The Warrnambool-Geelong-Melbourne line, which provides a passenger service for the main centres east from Warrnambool and intermodal freight service. It is a single line track, with limited passing opportunities. At present it caters for three return passenger train trips and one return freight service into the Port of Melbourne. The line is owned by VicTrack and services managed by V/Line.

Figure 5.2.1



The west coast passenger line is a single track broad gauge railway which carries passenger services between Southern Cross (Melbourne) and Warrnambool, via Geelong, Colac, Camperdown and Terang. Connecting coaches cater for Portland and Hamilton passengers. A station also serves the Deakin University precinct to the east of Warrnambool. Passenger Services (Bus) to Hamilton also come via Ararat and Ballarat. A feasibility study for passenger rail from Portland via Hamilton to Ararat is also proposed.

All passenger services are provided by V/Line.

Passenger services are experiencing growth (2% per year) and annual train patronage rose to 478,000 in 2011. The passenger service schedule provides adequate frequency and convenience for travel between the south-western centres and Melbourne. Currently three services are operated daily in each direction, with an additional afternoon service from Geelong operated by road coach (as is one of the three Sunday services).

However, service improvement on the line is constrained by the lack of passing opportunities on the single track section between Geelong and Warrnambool. The services are provided using diesel locomotives hauling legacy rolling stock, which is generally over 30 years old. This is in contrast to the self-propelled Velocity railcars now in use on corridors that were upgraded as part of the Regional Fast Rail project track upgrades in 2006.

The regional tourism industry currently does not actively market rail travel to international or domestic travellers, due largely to the poor quality of rolling stock.

Freight services are comprised of a single general freight service from the WestVic Intermodal Terminal, in the western Warrnambool industrial area. This service currently consists of a 20 wagon train, with capacity for 40 TEU containers, and operates 5 days per week direct to the Port of Melbourne. The service primarily caters for Local exporters of dairy and meat products, and moves 10,000 TEU each year (at least 150,000 tonnes of product). This equates to about 90 million gross tonne-kilometres per year kept off regional highways (primarily the Princes Highway) and away from the towns it serves.

The rail service provides an alternative route to port for regional exporters, and potentially for suppliers into domestic markets in Melbourne. Effective competition between modes is of benefit to Local producers and the regional economy in general.

At present the Warrnambool rail corridor is not being used to its full utility. It could comfortably handle a second daily freight service, and extra volume can be handled at the Warrnambool Intermodal Terminal.

Some improvements to rail and terminal infrastructure have recently been committed by State Government, in partnership with the terminal operator.

A $1.7m improved truck access arrangement at the terminal was funded by Commonwealth, State, Local Government and the terminal operator in 2012. A new $10m crossing loop measuring 1.2km is also being built at Warncoort, between Colac and Birregurra, to improve the capacity of the line for both freight and passenger services, by allowing trains to pass one another. The State Government also underwrites freight services with an ongoing financial support package.

To capitalise on these improvements, the operator is targeting export freight tasks from producers and manufacturers to the north and west of Warrnambool. Terminal efficiency and viability, however, depends on a viable rail operator and cost-effective, reliable terminal arrangements at the Port of Melbourne.

The Port of Melbourne has several terminal locations catering for regional export train services. These include sidings adjacent to both the Patrick and DP World container terminals at Swanson Dock, and several other terminals in the Port and the neighbouring Dynon rail precinct. All of these terminals, however, are hampered by the need for double handling via transfer of container from train to the wharf by a short road transport move. This service is provided either by the relevant stevedoring company or third party logistics company associated with each terminal location. The cost of this move, along with similar costs at the originating Warrnambool end of the journey, makes the economics of the rail service marginal.

The Swanson-Dynon area terminals are busy with daily trains arriving from up to 8 Victorian regional centres, and terminal congestion has impacts on the ability of the rail services to meet their schedules – which leads to cancellations and delays that affect freight customers. This inhibits the confidence of the terminal operator to invest in the future of the service.

The current terminal operator is a major provider of truck transport services in regional Victoria, and can operate road services direct to the port if/when the rail service is unreliable.

The Portland line provides limited services at present, supporting the grain and mineral sands sectors.

Portland is a traditional grain port for Western Victorian wheat and barley, and volumes have grown in recent years since the end of the drought. Minerals sands is an emerging rail-suitable traffic, and the line is now being used for the haulage of mineral concentrates from northern Victoria to Hamilton via loading at Hopetoun, in the Mallee region. The State Government shared the cost of loading and unloading sidings with the freight user, Iluka Resources in 2011.

The line has the potential to capture additional volumes of export and domestic freight and reduce the impact of trucking on regional roads. The key to this potential is the upgrade of train loading and unloading arrangements at the Port of Portland and other locations on the standard gauge network. The mineral sands and forestry industries would both be able to use the rail corridor to generate cost savings on the delivery of materials to and from Portland. These improvements would also help make the haulage of cross-regional freight on rail more viable. Timber, mineral sands and aluminium smelter products would be attracted to the rail corridor.

The addition of extra freight volume on the Portland-Melbourne line would improve the returns available to rail provider ARTC and strengthen the long term viability of the Portland-Maroona section.

5.3 GATEWAYS

5.3.1 Marine Ports

Local ports form part of Victoria's transport network. They facilitate the movement of people and goods across the land / water interface with the Victorian local ports and marine network. They provide facilities at strategic locations to enable commercial and economic activity, facilitating economic development in coastal locations.

The local ports and marine network also underpins tourism and recreation along the coast, and provides key nodes for travel destinations. They also contribute to local amenity and place-making, enhancing the liveability of Victoria, and enable landside activities such as promenading and fishing.

In addition to the provision of access to Victoria's marine environment, they currently deliver secondary functions in the provision of berths, moorings and marinas.

In 1995, the Government moved to privatise the commercial ports and the local ports program was established. At that time, there was no consideration of the strategic purpose of the local ports network, rather, local managers were appointed across three broad geographic areas: Gippsland, Port Phillip / Westernport Bay, and the South West Coast.

Facilities within the network contribute broadly to the State's tourism and recreation objectives, and enhance liveability and amenity at key coastal locations. These contributions, although of value to the Victorian community are not specifically local port functions.

The Department of Transport, Planning and Local Infrastructure has undertaken cost benefit modelling which shows that for the south west coast local ports, when non-transport landside benefits are analysed, the benefits provided across the south west coast local ports accrue to recreational users as well as commercial users of the facilities. The benefit ranges from 49% at Port Campbell to 100% at Lorne.

These non-transport policy objectives are best described as community service obligations and require on-going financial support as they are not able to generate revenue.

Local port managers also deliver services to ensure a range of essential safety and environmental management statutory and regulatory provisions are delivered.

In summary, the strategic purpose of local ports and marine services is to:

- Provide vital transport and supply chain services through access to Victoria's marine waters for the operation of commercial fishing and aquaculture, passenger charters, off-shore oil and gas exploration and recreational boating
- Delivery essential safety and environmental management services in accordance with statutory and regulatory provisions.

- Contribute to place-making and community access to marine environment, improved amenity and liveability, including physical health and well-being, and facilitate employment and economic development
- Support social inclusion through the provision of accessible recreational waterfront activities such as promenading and recreational fishing

The Port of Portland is a privately owned port, now jointly owned by two infrastructure funds, following a sale transaction earlier this year (2012). It competes for export and import business with neighbouring privately run ports in Adelaide and Geelong. Mineral sands volumes originating in north-western Victoria are subject to robust competition between export supply chains associated with each of these ports. It would be in the interests of regional Victoria, however, for Portland to become the port of choice for minerals sands exports, as this would facilitate the efficient use of rail and port infrastructure, including any investments requiring the support of the State and Federal Governments, such as further rail loading/unloading infrastructure.

The Port of Portland is currently reviewing its options for improvement to rail access. An area adjacent to the Port known as Canal Court accommodates the original freight sidings and is the most logical location for a terminal capable of handling mineral sands and containerised products, including aluminium products currently delivered by road to Melbourne for export and Local use.

Table 5.3.1 Trade Statistics Port of Portland 2006-2011 ('000 tonnes)

Commodity	FY 2006	FY 2007	FY 2008	FY 2009	FY2010	FY2011
Forestry	1,350	1,295	1,407	1,180	1,307	1,692
Alumina etc	1,081	1,140	1,085	1,088	948	940
Mineral sands		23	201	133	228	433
Fertiliser	427	306	452	294	340	386
Grain	482	179	10	0	26	449
Livestock	61	58	70	57	77	80
Other	111	22	28	140	53	2
Total	3,513	3,024	3,253	2,891	2,979	3,982

The local Port of Portland Bay is home to commercial fishing trawlers, cray boats, yachts, charter boats and recreational vessels. Its facilities include the Trawler Wharf, a 70 berth marina, old marina jetty, swing mooring area and a boat ramp. Glenelg Shire Council are the local port managers.

Approximately 40 per cent of Victoria's wild commercial catch is landed in the local port. It is also the hub for recreational Southern Bluefin Tuna fishing, with the industry worth an estimated $7-9m per annum to the local community.

The Port of Port Fairy is a working port used by commercial fishing and recreational boaters. Situated on the Moyne River, the port has 52 alongside berths. Some of the commercial operations using the port of Port Fairy include abalone, southern rock lobster, shark, and squid fishing. The port also includes two slipways, refuelling facilities and operates a dredge at the entrance of the river.

The Port of Warrnambool is home to the second largest allocation and quota for southern rock lobster in Victoria. The port provides direct access to Bass Strait for commercial and recreational fishing, mooring for 12 vessels, and loading and unloading facilities from the upgraded lower landing.

The Port of Port Campbell has key assets of a jetty and jib crane, location within the Port Campbell Cove. Port Campbell jetty is the only means of access for a small number of commercial and recreational vehicles at Port Campbell.

The Port of Apollo Bay is home to vibrant local fishing industry, which generates an annual catch value of an estimated $6.5M. The operations of the harbour are reliant on a dredge which is required for maintaining vessel access through the entrance. The existing facilities within the harbour have been progressively replaced over the last 30 years, including replacement of 30 berths and 30 moorings, and a large 70 tonne slipway.

5.3.2 Air Ports

The Great South Coast region contains three local airports, based in Warrnambool, Portland and Hamilton, with an additional airport located in Horsham. Sharp Airlines currently run an operations base out of Hamilton Airport, with a maintenance base at Portland airport. The major use of these airports is for local and scenic flights, with limited freight. The expansion of dairy freight to China may result in freight movements from these locations, but is not planned for at this time.

The Hamilton Airport Master Plan provides a long term (20 year) planning framework for the sustainable use of the airport site, providing direction for its growth and expansion of regular passenger transport.

Avalon Airport is the second busiest of the four airports serving Melbourne (in passenger traffic) and is located 15 km north-east of Geelong and 50 km to the south-west of Melbourne.

The airport is designed to cater for jet aircraft and comprises a single runway. Avalon is used by Jetstar Airways and Sharp Airlines for scheduled domestic passenger services and as a heavy maintenance facility by Jetstar's parent company, Qantas. It is also the site of the Australian International Airshow. Previously, air traffic control was only provided at Avalon on request, but in 2008 it was announced that regular air traffic control facilities would be provided.

As part of the 2010 Victorian state election campaign, the Liberal National Coalition committed to build a railway line to the airport if they formed the government. To be built as a branch from the Geelong line and with an estimated total cost of $250 million, the commitment was for $50 million to cover planning, land acquisition and preliminary works for the single track line. The additional $200 million will come from the state government and from the airport, with the Commonwealth government to be asked to contribute a third of the cost. The airport management welcomed the announcement, which will also include an aviation fuel pipeline to the airport from the Shell Geelong refinery. [9]

[9] Source: Avalon Airport Australia

6. TRANSPORT NETWORK GOALS, OBJECTIVES AND PRINCIPLES

The following goals, objectives and principles were chosen as they reflect the future of the Great South Coast, as well as linking back to the regional growth plan, the Victorian Freight and Logistics Plan, and the Transport Integration Act.

As 96% of freight is transported via road in the Great South Coast, therefore rail and gateways are disregarded in this section.

6.1 GOALS

To maximise the contribution of the transportation sector to Victoria's productivity and liveability

6.2 OBJECTIVES

- Social Impact - improved community vitality and liveability, improved road safety
- Economic Impact - generate employment, facilitates economic growth, reinforces competitive advantage, grows economic diversity, alignment with funding
- Environmental Impact - enables improved land use and environmental sustainability
- Infrastructure Importance - increases infrastructure efficiency and use, improved accessible transport
- Regional Impact - impact on region
- Link to Nodes - level of commitment, linkage to key nodes
- Level of Commitment - political support
- Level of Preparation - planning readiness

6.3 PRINCIPLES

- Plan for and deliver projects in growth areas
- Improve the efficiency and productivity of key industries
- Maintain a resilient and reliable road network
- Remove bottle necks in supply chain
- Progressive enhancement of key transport links
- All projects must be based on evidence and needs
- Maintain safety for all users of the transport network
- Enhance the productive potential and liveability of the Great South Coast
- Reduce costs to industries

6.4 ROAD HEIRARCHY LOGIC REVIEW

This is a review of some methods utilised in other development plans in Victoria (& Australia) to score and prioritise infrastructure projects. The methods are applied to the regional transport strategy in respect of its key principles, diversity of projects and their current status within the Great South Coast. The aim is to compare and harmonise the different approaches in order to achieve a representative and applicable criteria to assess the Great South Coast roads and projects for inclusion in the Regional Transport Strategy.

The Regional Development Australia (Gippsland) method assesses and prioritises regional projects in three dimensions via an aggregated weighting system: Impact, Regional and Implementation; the Impact criterion is based on the collective outcomes associated with the established priorities of the growth plan. Applied to the GSCRTS, established priorities translate to the Growth Plan principles. They are listed below against the collective outcomes, which in turn reflect in the associated Impact Criteria (1-8).

Proposed RGP assessment criterion	Description
Social impact	Contribution to education, health and wellbeing, community development and equity
Economic impact	Contribution to employment and development of innovative/diverse/knowledge-based economic sectors
Environmental impact	Contribution to the protection, restoration and enhancement of the environment
Infrastructure importance	Critical nature of infrastructure and ability to build on existing infrastructure
Link to GSC Freight Nodes	Status of road is linked to such nodes
Level of support / funds committed	Level to which project has received tacit support from government/other and/or funding is committed
Level of planning	Level to which project has been planned, designed or undergone business case assessment
Economic viability	Viability of project as assessed through business case/socio-economic assessment

Each criterion is scored from 0 to 10, with 10 representing a very high impact. The impact criteria are assigned a relative weighting reflecting their relative importance in respect of achieving the desired regional outcomes.

Strategic Impact Criteria	*Weight*	Proposed GSCRTS criteria	*Weight*
Generates employment	10	Economic impact	40
Facilitates economic growth	20		
Reinforces competitive advantage	5		
Grows economic diversity	5		
Enables improved land use & env. sustain	25	Environmental impact	25
Improved community vitality & liveability, improved safety	20	Social impact	20
Increases infrastructure efficiency & use	10	Infrastructure importance	15
Improved accessible transport	5		
Regional Impact Criteria	*Weight*		
Breadth of impact	80	*Regional impact**	*100*
Impact on Regional Reputation	20		
Implementation Criteria	*Weight*		
Level of committed funding	30	Link to GSC Freight Nodes	40
Political support	20	Level of support/funds committed	40
Planning readiness	20	Level of planning	20
Alignment with funding program(s)	20	Economic viability	0

6.5 ROAD HEIRARCHY LOGIC MATRIX

Roads of Strategic Importance	*Strategic Impact Criteria*				*Regional Impact Criteria*	*Implementation Criteria*			Rating
	Social Impact x20	Economic Impact x40	Environmental Impact x25	Infrastructure Importance x15	Regional Impact x100	Link to GSC Freight Nodes x40	Level of Commitment x40	Level of Preparation / Scoping x20	
Princes Highway West	120	400	125	150	1000	400	400	100	**2695**
Henty Highway	80	360	100	150	1000	360	240	80	**2370**
Glenelg Highway	80	280	100	150	900	360	400	80	**2350**
Hamilton Highway	100	360	100	150	900	360	200	80	**2250**
Hopkins Highway	80	320	100	150	900	360	200	80	**2190**
Great Ocean Road	120	360	150	105	900	120	320	100	**2175**
Henty Highway – Port of Portland	100	360	50	120	700	400	320	120	**2170**
Foxhow Road	80	320	50	135	700	120	400	80	**1885**
Condah-Hotspur Road	40	320	50	150	800	120	240	100	**1820**
Woolsthorpe-Heywood Road	100	320	50	135	700	120	280	80	**1785**
Portland-Nelson Road	40	360	50	135	700	120	200	80	**1685**
Colac-Ballarat Road	60	200	50	150	800	120	200	80	**1660**
Cobden – Stoneyford Road	60	360	50	120	600	120	200	80	**1590**
Hamilton-Dartmoor Road	40	280	50	120	700	120	200	80	**1590**
Mortlake-Terang Road	40	280	50	120	700	120	200	80	**1590**
Timboon-Colac Road	40	280	50	120	700	120	200	80	**1590**
Warrnambool-Cobden Road	60	240	50	120	700	120	200	80	**1570**
Ettrick-Tyrendarra Road	80	320	50	105	600	120	200	80	**1555**
Colac-Lavers Hill Road	40	240	75	105	600	120	200	80	**1460**
Camperdown – Cobden Road	40	240	50	120	600	120	200	80	**1450**
Cobden-Port Campbell Road	40	240	50	120	600	120	200	80	**1450**
Coleraine-Edenhope Road	40	240	50	105	600	120	200	80	**1435**
Hamilton-Port Fairy Road	40	240	50	105	600	120	200	80	**1435**
Warrnambool-Caramut Road (W'Bool)	100	280	50	60	500	120	200	80	**1390**
Bridge Road	100	280	50	135	400	120	200	80	**1365**
Penshurst-Warrnambool Road	60	240	50	105	500	120	200	80	**1355**
Myamyn-Macarthur Road	40	240	50	105	500	120	200	80	**1335**
Penshurst-Macarthur Road	40	240	50	105	500	120	200	80	**1335**
Portland-Casterton Road	40	240	50	105	500	120	200	80	**1335**
Spencers Road	40	200	50	90	400	120	200	80	**1180**
Warrnambool-Caramut Road (Caramut)	20	140	50	60	500	80	200	80	**1130**

7. ROAD NETWORK CONDITION AND MAINTENANCE

The economy of the region relies heavily upon the transport network. 96% of all freight is carried on the road network[10], therefore it is imperative that it is funded and maintained to enhance international competiveness of industry and safety of road users. Growth in the region is based on economic growth, which needs to be supported by a resilient and efficient transport network which provides an adequate level of services to its users.

Ensuring efficient freight access for current commodities, such as agricultural produce, timber products and minerals sands, as well as future commodities, such as renewable energy components, is a critical factor in maintaining the Great South Coast's economic position.

The Department of Transport, Planning and Local Infrastructure projections for 2020 indicate that the Great South Coast will haul one third of the states regional road corridor tonnages, this will be largest proportion of any region in the state. Freight and Logistics will play a major part in supporting these industries, and securing the economic prosperity of the region and of the State of Victoria.

The arterial road network in the GSC region faces most significant challenges in Victoria, in response to distressed pavement, cracked pavement, and rutting depth. These measures of road condition have an impact on efficiency of freight transport.

The Victorian Government recognises that greater maintenance is required to address the condition of Victoria's roads and on 1 May 2013, announced a $170 million road maintenance package. This package is in addition to VicRoads' base funding for road maintenance and builds on the $45 million committed in October last year to 'Repair and Restore' Victorian roads.

The $170 million initiative provides $90 million over 3 years to renew deteriorated roads by strengthening the pavements, and $80 million over 2 years for resurfacing works to make roads more resilient to wet weather. This multi- year package is a big improvement on the previous system that allocated funds on an annual basis. Making this significant commitment over the course of three years will lead to better decisions about the timing and type of maintenance to be carried out and will also help us achieve better value for money from our maintenance contracts.

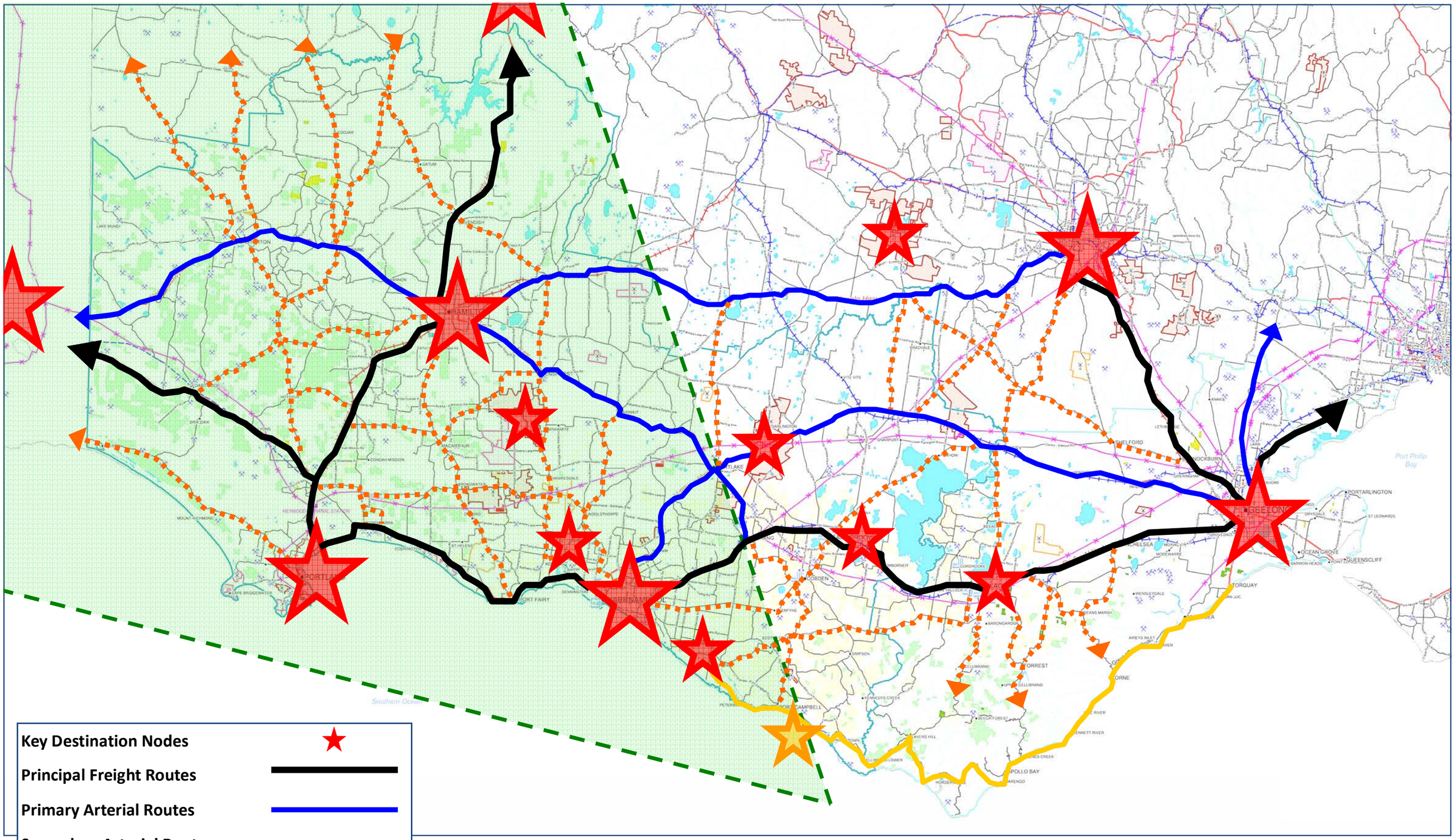
[10] Source: Department of Transport, Planning and Local Infrastructure

8. PRINCIPAL STRATEGIC ROUTES

The key destinations in the region have been graphically represented on the Figure 8.1 (Page 44), along with the principal freight routes, primary and secondary arterials, and local roads. The purpose of this map is to highlight the importance of the principal and primary routes to the region, while assisting in assessing the routes required for key industry freight.

	Key Destination Nodes – The key population and employment centres for the region, with key links to freight destinations. Focus should be placed on major development to designated growth areas, while supporting business districts. As these key destination nodes attract new high order services, facilities and industries, growth will produce economic and social benefits for the region.
	Principal Freight Routes - Designed to provide intra-regional freight movements. Should be arterial roads of high standard, ideally should avoid main street environments of townships where possible. May need to accommodate B-doubles, over-dimension loads and potentially HPFV's. Freight movement should be given priority.
	Primary Arterial Routes – Designed to supplement the principal freight routes, should be arterial roads of high standard.
	Secondary Arterial Routes - Designed to delivery traffic from local collector roads to primary arterials and principal freight routes.
	Local Roads – Primarily used to gain access to properties.

Figure 8.1 Key Freight Nodes and Principal Strategic Routes



8.1 SHIRE PRIORITIES AND PROJECTS

The following is a snapshot of key freight route priorities and projects to be developed for each shire included in the Great South Coast region.

The key freight routes show all the nominated roads that pass through the shire, along with their strategic rating that can be found in the road hierarchy logic matrix.

The objectives to be developed have been chosen by each shire, in conjunction with DOT and VicRoads, as well as objectives that have been identified in documents such as the Green Triangle Freight Action Plan. Time frames and rankings have been developed in accordance with shire desires and priorities.

Road Condition Service Rating

The Road Condition Service Rating is taken from the VicRoads Road Priority and Risk Matrices, developed in 2012 for maintenance purposes, providing the ranking of the road for the shire, allowing for discrepancies across the state. These matrices uses factors including traffic volumes, speed zones, percentage of commercial vehicles, and the preservation of assets to determine a road condition service rating.

Time Frames

Short Term	Medium Term	Long Term
0-5 years	5-15 years	15+ years

Smart Roads

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. *SmartRoads* ensures that decisions about the operation of the road network support land use and transport planning and better consider the effects on the surrounding community, key activity centres and the environment.

Victorian Integrated Traffic Model

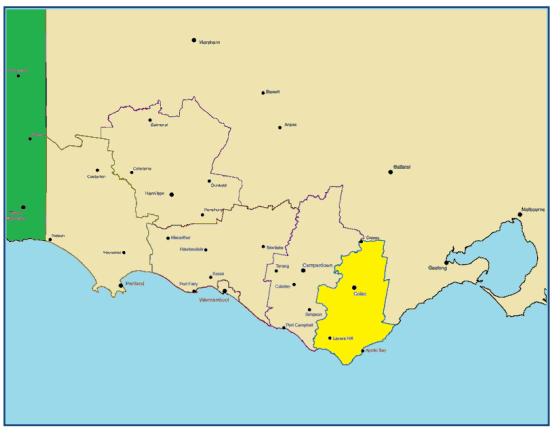
The *Victorian Integrated Traffic Model* is expected to predict the impact on the existing and future road network of projected population growth and developments over the next 30 years. This work will enable the need and sequencing of future projects and other upgrades to the existing road network not yet identified.

Once the VIT modelling has been undertaken, any new outcomes that have been identified will be added to the outcome listing for each shire / council as shown.

Road Safety Initiatives

Work that may be undertaken as part of road safety initiatives include widening of narrow pavements, sealing shoulders, implementing low cost safety measures such as tactile edgelines, signage, and reviews of speed limits, rest areas and access management.

COLAC OTWAY SHIRE



Located in Victoria's south west, the Colac Otway Shire is diverse, with volcanic lakes, craters and plains in the north, the hinterland forests of the Otway Ranges and the Great Ocean Road coastline. Colac City is situated beside Lake Colac, on the Princes Highway, and has a current population of 22,100.

The Colac region supports a network of over 1200 businesses and well over 800 farms. The main industries are dairy, beef, sheep, crops, specified pastures, horticulture and organic farming; timber, manufacturing and service, construction, retail and wholesale. Tourism, centering on the Great Ocean Road and the coastline, is becoming increasingly important.

Provides direct connects to Warrnambool and Geelong, and has important connections with key nodes such as agricultural, dairy and tourism industries with inland routes to the Great Ocean Road.

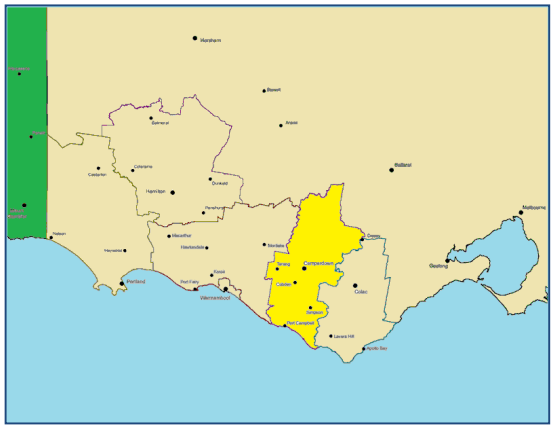
KEY FREIGHT ROUTES TO IMPROVE OR MAINTAIN TO PROVIDE HIGH LEVELS OF SERVICE

Road	Strategic Rating	Road Condition Service Rating	Ranking
Hamilton Highway	2250	5	11250
Princes Highway West	2695	4	10780
Colac – Ballarat Road	1660	5	8300
Great Ocean Road	2175	3	6525
Timboon-Colac Road	1590	4	6360
Colac – Lavers Hill Road	1460	3	4380

OUTCOMES TO BE DEVELOPED

Road / Township	Outcomes	Time Frame	Priority Ranking
Princes Highway West (East of Colac)	Duplication	Short Term	1
Arterial Roads	HPFV Planning	Short Term	2
Colac	Smart Roads Planning	Short Term	3
Colac	Bypass Route Planning	Short Term	4
Princes Highway West	Safety Improvements	Short Term	5
Princes Highway West	Overtaking Lanes	Short Term	6
Princes Highway West	Capacity Improvements	Medium Term	1
Hamilton Highway	Overtaking Lanes	Medium Term	2
Princes Highway West (West of Colac)	Duplication	Long Term	1
Colac	Bypass Route	Long Term	2
Arterial Roads	Introduction of HPFV	Long Term	3

CORANGAMITE SHIRE



Corangamite Shire is located in Victoria's south west. The Shire extends from the 12 Apostles on the coast near Port Campbell and Princetown to Skipton in the north. The eastern boundary is Lake Corangamite and the western border is near Garvoc. The shire's economic base is provided through agriculture and some value-adding manufacturing. Corangamite contains wool growing and cropping areas in the north, while the south has one of the most intensive dairying areas in the State. Several milk processing industries are located within Corangamite.

The current population for Corangamite Shire is 17,500.

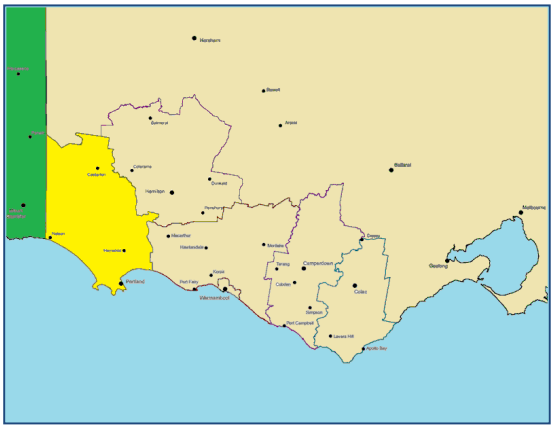
KEY FREIGHT ROUTES TO IMPROVE OR MAINTAIN TO PROVIDE HIGH LEVELS OF SERVICE

Road	Strategic Rating	Road Condition Service Rating	Ranking
Hamilton Highway	2250	5	11250
Princes Highway West	2695	4	10780
Colac – Ballarat Road	1660	5	8300
Foxhow Road	1885	4	7540
Great Ocean Road	2175	3	6525
Mortlake – Terang Road	1590	4	6360
Cobden – Stoneyford Road	1590	3	4770
Warrnambool-Cobden Road	1570	3	4710
Cobden – Port Campbell Road	1450	3	4350
Camperdown – Cobden Road	1450	3	4350

OUTCOMES TO BE DEVELOPED

Road / Township	Outcomes	Time Frame	Priority Ranking
Arterial Roads	HPFV Planning	Short Term	1
Princes Highway West	Rest Areas	Short Term	2
Princes Highway West	Overtaking Lanes	Short Term	3
Princes Highway West	Safety Improvements	Short Term	4
Princes Highway West	Capacity Improvements	Medium Term	1
Hamilton Highway	Overtaking Lanes	Medium Term	2
Princes Highway West	Duplication	Long Term	1
Arterial Roads	Introduction of HPFV	Long Term	2

GLENELG SHIRE



Located around a deep-water port, Portland is the major centre in the shire and home to one of only two aluminium smelters in Victoria. The shire's economy is based around service industries, timber production, grazing and manufacturing. Glenelg Shire's current population is 21,240.

The port of Portland, in conjunction with the port of Geelong, are critical components of freight infrastructure in the Great South Coast region, and are supported by the road and rail infrastructure, providing a gateway to global markets. A deep water port, it handles increasing volumes of commodity exports, and is a potential entry point for tourism in the future. Freight movements occur internally within the region to the port of Portland, as well as inter-regional and inter-state linkages.

The timber supply chain in south western Victoria currently consists of road based transport of timber logs from the timber plantations of south west Victoria. The main route used by the timber and truck industry to transport logs from the plantation to the Myamyn Wood Chip Mill, operated by SWF, is the Condah Hotspur Upper Road (CHUR). The woodchip product is then transported via road to the Port of Portland for export via the Henty Highway.

The CHUR has been identified as a major wood flow arterial supply road due to its linking of major plantation resources at its western end with the SWF plant at its eastern end. The condition of the CHUR, along with the volume of timber trucks travelling along the road daily, greatly reduces the amenity of residents and other users, such as school buses. Given the high volume, low margin nature of the timber industry, re-routing of trucks around CHUR would adversely impact the viability of businesses in the supply chain, such as transport companies and processors.

The 17km local road is estimated cost approximately $5M to upgrade and has been the subject of two unsuccessful bids by Glenelg Shire Council to the Commonwealth Government Regional Development Australia Fund (RDAF).

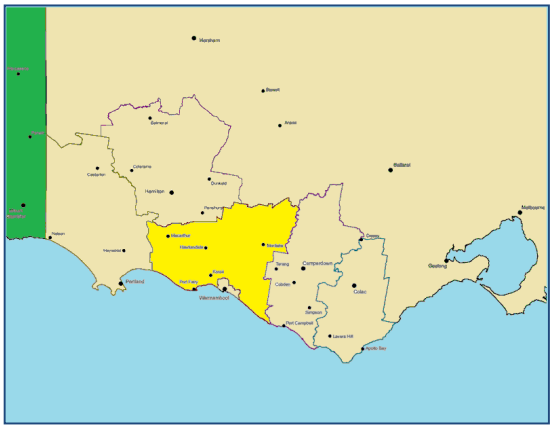
KEY FREIGHT ROUTES TO IMPROVE OR MAINTAIN TO PROVIDE HIGH LEVELS OF SERVICE

Road	Strategic Rating	Road Condition Service Rating	Ranking
Princes Highway West	2695	4	10780
Henty Highway	2370	4	9480
Woolsthorpe – Heywood Road	1785	5	8925
Condah – Hotspur Road	1820	4	7280
Portland – Casterton Road	1335	4	5340
Portland - Nelson Road	1685	3	5055
Dartmoor - Hamilton Road	1590	3	4770
Ettrick-Tyrendarra Road	1555	3	4665
Myamyn – Macarthur Road	1335	3	4005

OUTCOMES TO BE DEVELOPED

Road / Township	Outcomes	Time Frame	Priority Ranking
Portland	Smart Roads Planning	Short Term	1
Arterial Roads	HPFV Planning	Short Term	2
Henty Highway	Ring Road Upgrade	Short Term	3
Arterial Roads	Rest Areas	Short Term	4
Princes Highway West	Overtaking Lanes	Short Term	5
Henty Highway	Overtaking Lanes	Short Term	6
Princes Highway West	Safety Improvements	Short Term	7
Princes Highway West	Capacity Improvements	Medium Term	1
Henty Highway	Capacity Improvements	Medium Term	2
Princes Highway West	Duplication	Long Term	1
Henty Highway	Duplication	Long Term	2

MOYNE SHIRE



Moyne Shire supports a population of 17,800. The shire is predominantly rural based, with a focus on grazing, dairying and grain production. Wool and lamb production are the most significant sources of income for the shire. Some residents commute to Warrnambool to work and shop. The main industries include agriculture, dairy product manufacturing, and tourism.

Provides direct connects to Portland, Hamilton, Colac, Geelong has important connections with key nodes such as agricultural, dairy and tourism industries and is renewable energy hub (wind farm) of the Great South Coast.

KEY FREIGHT ROUTES TO IMPROVE OR MAINTAIN TO PROVIDE HIGH LEVELS OF SERVICE

Road	Strategic Rating	Road Condition Service Rating	Ranking
Princes Highway West	2695	5	13475
Hamilton Highway	2250	4	9000
Woolsthorpe – Heywood Road	1785	5	8925
Hopkins Highway	2190	3	6570
Great Ocean Road	2175	3	6525
Spencers Road	1180	5	5900
Hamilton – Port Fairy Road	1435	4	5740
Penshurst – Warrnambool Road	1355	4	5420
Warrnambool – Cobden Road	1570	3	4710
Warrnambool – Caramut Road	1130	5	3390

OUTCOMES TO BE DEVELOPED

Road / Township	Outcomes	Time Frame	Priority Ranking
Heywood-Woolsthorpe Road	Upgrades	Short Term	1
Hopkins Highway	Upgrades	Short Term	2
Hamilton Highway	Upgrades	Short Term	3
Koroit	Heavy Vehicle Alternative Route	Short Term	4
Arterial Roads	HPFV Planning	Short Term	5
Princes Highway West	Rest Areas	Short Term	6
Princes Highway West	Overtaking Lanes	Short Term	7
Princes Highway West	Safety Improvements	Short Term	8
Princes Highway West	Capacity Improvements	Medium Term	1
Princes Highway West	Duplication	Long Term	1
Port Fairy	Bypass	Long Term	2

SOUTHERN GRAMPIANS SHIRE

Agriculture and sheep grazing are the dominant industries in the Southern Grampians Shire. The region is a major wool growing area, producing 15% of Australia's wool clip. Hamilton, the major centre in the shire, is also an important centre for education and health.

Southern Grampians Shire has a current population of 17,900.

Southern Grampians Shire Council has recently adopted the Hamilton Structure Plan, which includes a review of the alternative truck route strategy, evaluation of future growth areas in the city, access management strategies and a review of existing and future transport needs, including freight, rail and bus. Council is also in the process of a significant development of the Hamilton Airport which includes refurbishment of the terminal, a new Airport Reporting Officer facility and extending the main runway.

KEY FREIGHT ROUTES TO IMPROVE OR MAINTAIN TO PROVIDE HIGH LEVELS OF SERVICE

Road	Strategic Rating	Road Condition Service Rating	Ranking
Hamilton Highway	2250	5	11250
Henty Highway	2370	4	9480
Penshurst – Macarthur Road	1335	5	6675
Coleraine-Edenhope Road	1435	4	5740
Hamilton – Dartmoor Road	1590	3	4770
Glenelg Highway	2180	2	4360
Hamilton – Port Fairy Road	1435	3	4305
Penshurst – Warrnambool Road	1355	3	4065

OUTCOMES TO BE DEVELOPED

Road / Township	Outcomes	Time Frame	Priority Ranking
Hamilton	Smart Roads Planning	Short Term	1
Arterial Roads	HPFV Planning	Short Term	2
Henty Highway	Overtaking Lanes	Short Term	3
Hamilton Airport	Redevelopment	Short Term	4
Henty Highway	Rest Areas	Medium Term	1
Hamilton	Heavy Vehicle Bypass (Stage 1)	Medium Term	2
Cox Street	Amenity Improvements	Medium Term	3
Hamilton Highway	Rest Areas	Medium Term	4
Hamilton	Heavy Vehicle Bypass (Stage 2+3)	Long Term	1
Arterial Roads	Introduction of HPFV	Long Term	2

WARRNAMBOOL CITY COUNCIL

Warrnambool is Victoria's largest coastal city outside of Port Phillip Bay, and is the fastest growing economy and population centre in the Great South Coast.

As well as a developing tourist industry, Warrnambool is the focus for a range of activities that provide an employment base for the city's population of 32,000, and a population of 25,000 in the adjoining sub-region.

The recent growth in Warrnambool has resulted in capacity issues on arterial and local roads, and additional planning and studies are required to support the development of infrastructure to increase capacity, reduce bottle necks and address maintenance issues.

KEY FREIGHT ROUTES TO IMPROVE OR MAINTAIN TO PROVIDE HIGH LEVELS OF SERVICE

Road	Strategic Rating	Road Condition Service Rating	Ranking
Princes Highway West	2695	4	10780
Warrnambool – Caramut Road	1390	5	6950
Hopkins Highway	2190	2	4380
Bridge Road	1365	3	4095

OUTCOMES TO BE DEVELOPED

Road / Township	Outcomes	Time Frame	Priority Ranking
Warrnambool	Smart Roads	Short Term	1
Hopkins Highway	Upgrades	Short Term	2
W'Bool-Caramut Road	Upgrades	Short Term	3
Princes Highway West	Overtaking Lanes	Short Term	4
Bridge Road	Bridge Improvement	Medium Term	1
Warrnambool	Heavy Vehicle Bypass	Medium Term	2
Princes Highway West	Rest Areas	Medium Term	4
Princes Highway West	Capacity Improvements	Medium Term	5
Intermodal Rail Freight Terminal	Upgrade	Medium Term	6
Princes Highway West	Duplication	Long Term	1
Bridge Road	Bypass	Long Term	2