REGIONAL GROWTH PLANS
A VISION FOR VICTORIA

GREAT SOUTH COAST

REGIONAL GROWTH PLAN

BACKGROUND REPORT

CORANGAMITE SHIRE
GLENELG SHIRE
MOYNE SHIRE
Southern Grampians SHIRE COUNCIL
WARRNAMBOOL CITY COUNCIL
State Government Victoria

Acknowledgements

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1. Introduction and background

1.1 State context

Eight regional growth plans have been prepared to provide broad direction for land use and development across regional Victoria (Figure 1). They also provide more detailed planning frameworks for key regional cities and centres. The regional growth plans respond to directions established in the regional strategic plans that were prepared across regional Victoria between 2007 and 2010.

The regional growth plans are the next stage in planning for growth and change in regional Victoria. They have been developed in a partnership between local government and state government agencies and authorities. The regional growth plans reflect state and local government objectives. These plans provide a long-term view of the region to 2041 and beyond, allowing for some short-term actions, and providing long-term strategic land use direction.

Figure 1: The eight regional growth plans

Source: Department of Transport, Planning and Local Infrastructure

The regional growth plans translate and integrate emerging statewide regional land use planning policy. They provide the basis for regional coordination and future planning of infrastructure to support regional land use objectives.

The Great South Coast Regional Growth Plan provides regional land use planning responses to the strategic aspirations and directions identified in the Great South Coast Regional Strategic Plan (the regional strategic plan). The regional growth plan takes a 30-year strategic view of future planning for the region. It:

- establishes a framework for strategic land use and settlement planning that can sustainably accommodate growth
- identifies important economic, environmental, social and cultural resources to be preserved, maintained or developed
- provides direction for accommodating growth and change including: residential, employment, industrial, commercial, agriculture and other rural activities
- shows which areas of land can accommodate growth and which are to be maintained
- identifies opportunities for supporting regional level infrastructure, providing an essential contribution to the long-term sustainability of the region.

The plan will help councils by streamlining planning policy and potentially reducing their strategic workload. It will also contribute to broader regional goals.

The plan provides a regional strategic land use framework for growth and change. It is a strategic direction setting document which identifies long-term land uses and growth objectives. It is not at a level where service planning or specific unquantified infrastructure could be committed. The plan will guide infrastructure decisions and provide priority for further investigations of regionally-significant infrastructure.

Site specific development proposals and processes are also outside the scope of the plan.

The plan provides solutions to common issues across the Great South Coast region but will not reduce attention to local issues or replace local planning, for example, identification of future industrial and other employment locations or consistent regional approaches to matters such as planning for key resources, waste, tourism and heritage.

The plan will provide benefits by:

- creating partnerships with local government and regional stakeholders to plan for the future at a regional scale
- supporting resilient communities and being flexible and adaptable to change
- realising the potential of regional Victoria to accommodate growth and provide alternative lifestyle choices to Melbourne
- establishing a vision for Victoria: regional growth plans, the metropolitan planning strategy, *Plan Melbourne* and regional cities planning will collectively provide a whole of state approach to strengthening Victoria's economy, liveability and prosperity.

Strategic planning projects and development frameworks already undertaken by councils have been significant inputs into the plan. By building on existing knowledge, the plan informs short-term regional actions and articulates longer-term direction for the region over the next 30 years.

The plan informs local strategic planning and future public and private investment. As one of eight regional growth plans being prepared across the state it is consistent in its approach to help provide a whole of regional Victoria view.

1.2 Purpose of the background report

This background report provides a summary of research undertaken into the existing conditions and trends in the Great South Coast region. The background report was released as a draft concurrently with the Great South Coast Regional Growth Plan for consultation in June-July 2013. It allows readers to further explore the basis of strategies contained within the regional growth plan. The background report reflects the chapters in the regional growth plan.

2. Regional context

2.1 Regional snapshot

The Great South Coast region is located in south-west Victoria and is comprised of the municipalities of Corangamite, Glenelg, Moyne, Southern Grampians and Warrnambool (Figure 2).

Colac Otway Shire has extremely close links to the region but is within the G21 region and its future growth is planned for in the G21 (Geelong) Regional Growth Plan. The Great South Coast Regional Growth Plan considers the relationship with, but does not specifically plan for, the Colac Otway Shire. This background report identifies where data for the region includes Colac Otway Shire.

For this plan the region extends from Camperdown in the east to the South Australian border in the west, and from Balmoral, Dunkeld and Skipton in the north to the Victorian coastline in the south. The region includes the regional city of Warrnambool, and the regional centres of Hamilton and Portland.

The region is known for high quality agricultural production supported by a network of settlements which provide vital health, education and other services. The region is home to major industry including dairy processing plants, softwood and hardwood timber plantations and associated processing facilities, the Portland Aluminium Smelter, significant natural gas extraction and production facilities, and wind energy facilities. The region contains one of the premier deep-water ports in Australia at Portland, an extensive road and rail network and several commercial airports.

The region is rich in nature-based tourist attractions, from the Great Ocean Road to the Grampians and the volcanic plains landscape. It has a rich cultural heritage, from Aboriginal cultural heritage and the sophisticated engineering feats of the Gunditjmara people, to more recent historic heritage as the birthplace of Victoria, agricultural heritage and historic towns.

Figure 2: Great South Coast region

Source: Department of Transport, Planning and Local Infrastructure

2.2 Population and settlement

In 2011 the population of the Great South Coast region was 101,624[1]. This is projected to grow to 131,239 people by 2041, an increase of approximately 29,615 people from 2011. The regional strategic plan does not specify an aspirational population target. Table 1 sets out key population and demographic data for the region.

The population of the region is ageing. The average age is increasing at a higher rate than for Victoria as a whole, and this trend is projected to continue in the future, albeit at a higher rate as the baby boomers enter old age. As the population ages, there will be less working people to support the economy and provide the resources that older people require.

The ageing population has implications for the economic prosperity of the region and changing demands for transport, health and social infrastructure. Demand for hospital services is expected to rise over the next 10 years, along with the demand for diversity of housing types.

The plan responds to the spatial location of the region's ageing population when planning for the growth of settlements and future regional infrastructure. Static or decreasing populations in smaller towns may provide particular challenges for service provision.

The region contains a number of settlement types, with Warrnambool, the main service centre, being categorised as a regional city, and Portland and Hamilton as regional centres. These towns provide a wide range of services to the region and adjoining areas. Approximately 50 per cent of the region's population lives outside the three main population centres. To service this sparsely populated area, a range of inland and smaller coastal towns and settlement networks act to support economic, social and community needs.

1 Australian Bureau of Statistics 2011 Catalogue 3218.0 Regional Population Growth, Estimated Resident Population

Table 1: Key population and demographic data

- Current Population (2011)[2] - 101,624
- Projected Population (2031)[3] - 124,798
- Projected Population (2041)[4] - 131,239
- Agreed Planning Range[5] - 134,000-145,000
- Projected annual change from 2011 to 2041[6] - +0.7% population/+0.9% households
- Proportion of residents aged 60 years and over 2011[7] / estimated 2031[8] - 22.9% / 31.3%
- Proportion of residents living in the regional city (Warrnambool) or regional centres (Portland, Hamilton) - 48%
- Total households (2011)[9] - 38,264
- Projected households (2031)[10] - 52,208

2.3 Economy and employment

Agriculture is the dominant land use and important economic driver and employer of the region. The major agricultural industry is dairying across the south with significant plantation forestry in the west and increasing livestock and grains industries in the north. The manufacturing and health and community care sectors are also significant contributors to the regional economy and important employers. There is a growing professional and service economy within the region. The alternative energy sector is growing with wind, geothermal, natural gas and wave energy projects all underway across the region. Key economic data relating to the region is outlined in Table 2.

Table 2: Key economic data

- Median individual income ($/week)[11] - $418
- Estimated Labour Force (2011)[12] - 48,604
- Major Industry of Employment)[13] - Agriculture, forestry, fishing (18%)
- Unemployment Rate (2011)[14] - 5.17%
- Total value of trade through Port of Portland (output)[15] - $1.3-$1.5billion (2004-05)

2.4 Transport and access

The road network that supports the Great South Coast region is part of a radial network focussed on Melbourne and Geelong, with some north-south links between inland centres and coastal cities. The two major east-west highways are the Princes Highway (A1) and Hamilton Highway (B140). The Glenelg Highway (B160) traverses the northern parts of the region, linking Ballarat to the north-east and Hamilton to Mount Gambier in the west. The Great Ocean Road (B100) hugs the coast providing the link between the coastal settlements. The two north-south corridors are:

- the Henty Highway (A200) between Portland and Hamilton and linking with the Wimmera region to the north
- the Hopkins Highway (B120) between Mortlake and Warrnambool.

2 Australian Bureau of Statistics 2011 Catalogue 3218.0 Regional Population Growth, Estimated Resident Population
3 Department of Planning and Community Development Victoria in Future 2012
4 Department of Planning and Community Development Unpublished projections 2012
5 Department of Planning and Community Development Unpublished data 2012
6 Department of Planning and Community Development Unpublished projections 2012
7 Australian Bureau of Statistics 2011 Census Population and Housing
8 Department of Planning and Community Development Victoria in Future 2012
9 Australian Bureau of Statistics 2011 Census Population and Housing
10 Department of Planning and Community Development Victoria in Future 2012
11 Regional Development Victoria (2013) Great South Coast Economic Profile
12 Regional Development Victoria (2013) Great South Coast Economic Profile
13 Access Economics 2011
14 Regional Development Victoria (2013) Great South Coast Economic Profile
15 Port of Portland, Port Land Use Strategy 2009

The most important road corridor is the Princes Highway which links metropolitan Melbourne and Geelong to all the major southern centres of the region – Colac in the G21 region to the east, Camperdown, Terang, Warrnambool, Port Fairy, Portland and across to Mount Gambier to the west.

The region contains two major railway corridors. The standard gauge Maroona-Portland branch of the Australian Rail Track Corporation line, running between Melbourne and Adelaide, traverses the western part of the region and principally carries freight traffic. The second rail corridor is the broad gauge Warrnambool–Geelong–Melbourne line. This line carries both freight and passenger rail services.

The region also has one of the nation's major deep-water, bulk handling ports located at Portland. The port handles an increasing amount of commodity exports and is seen as a potential entry point for tourism in the future.

Several airports located within the region cater for a range of commercial and tourism-related services, including regular services from Hamilton and Portland to Melbourne, Adelaide and Mount Gambier.

2.5 Facilities and services

The region has major service centres in Hamilton and Portland with higher order services located in Warrnambool. There are also several settlement networks, where smaller towns within the network provide a key service to nearby towns and rural communities. For example, Casterton has higher order medical and health facilities than some towns of greater size. This allows people within its network to access these facilities rather than having to travel to larger centres.

The region is also a major service provider for areas in other regions. Hamilton provides services to the north (Wimmera) and west (Limestone Coast, in South Australia) and Portland services areas located to the west of the region. It is critical to understand this role when considering the broader links the region has with neighbouring regions.

2.6 Environmental assets

The Great South Coast region contains a range of environmental assets, extending from unique coastline in the south to the Grampians National Park in the north. There are areas of exceptional rainforest in the south east of the region and a range of other significant environmental assets, including rivers, wetlands, volcanic lakes, native grasslands, public land, coastal, estuarine and marine assets. The region's environmental assets are one of the main drivers of its tourism industry.

2.7 Cultural heritage

The region has a rich and diverse representation of natural and man-made heritage assets capturing, both Aboriginal cultural heritage and historic heritage. Cultural heritage assets include Aboriginal places and landscapes, the Great Ocean Road, Shipwreck Coast, maritime history, the Grampians National Park, as well as markets and festivals. There is a diverse range of heritage tourism in the region with significant potential for growth of this sector. The region's cultural heritage also plays a role in underpinning its high levels of amenity and liveability.

2.8 Community and liveability

Many national and state policies and strategies are aimed at addressing disadvantage, developing economic opportunities, and improving health and wellbeing. Some of the major strategies considered in the development of this background report include:

- Sustainable Australia – Sustainable Communities 2011
- Higher Education Participation and Partnerships Program
- Education and Investment Fund
- Building the Education Revolution

- Partnerships Facilitation Fund
- Victorian Health Plan
- Victorian Families Statement
- Change and disadvantage in the Barwon South West Region

Demographics and change

The regional strategic plan identifies a number of key issues facing communities in the region as identified in the Socio-Economic Indexes for Areas (SEIFA) data. In particular, these issues relate to demographic change and the relative socio-economic disadvantage of the region.

Outward migration of young people

A significant number of young people are moving out of the Great South Coast region to major centres for education, employment and lifestyle choices. In 2011, over a third of the region's population (36.6 per cent) was over the age of 49. The regional strategic plan identifies the importance of attracting and retaining young people to the region to fill critical labour force shortages, and maintain a demographically balanced community. An ageing population and decreasing working population will also increase the demand for health and community services.

The loss of young people has serious implications for labour supply and the economic growth of the region. The plan puts forward strategies to achieve a greater diversity of future residents, including retaining young adults. This will provide a balanced community profile, workforce and support adequate service provision in smaller towns.

The age profile of the region's Aboriginal[16] population is different from that of the population as a whole, with a high proportion of people under 40 years of age[17].

The plan, through integrated land use and transport planning, seeks opportunities to retain youth and improve local employment and educational options.

Health and wellbeing

Life expectancy is increasing in the region, but is still below the Victorian average, and is lower for males than females. The region's population has significantly higher levels of overweight and obese people, smoking, alcohol consumption, unhealthy eating, mental illness and behavioural issues and physical inactivity compared to the Victorian average[18].

The regional strategic plan identified the importance of supporting active modes of transport, stating that "settlement planning needs to have regard to the importance of encouraging use of modes of travel other than the private car". The regional growth plan seeks to address health and wellbeing issues in the region by:

- supporting a pattern of settlement that fosters healthy, active living
- providing integrated land use and transport systems that maximise access to employment, education, health and other services.

Education and skills

Almost all personal social and economic benefits such as income, employment, longevity, health and low incarceration rates correlate strongly with educational attainment levels. The community-wide benefits of learning include a more skilled and healthy workforce.

16 Throughout this document the term "Aboriginal" is used to refer to both Aboriginal and Torres Strait Islander people. Use of the terms "Koori", "Koorie" and "Indigenous" are retained in the names of programs and initiatives, and, unless noted otherwise, are inclusive of both Aboriginal and Torres Strait Islander peoples.
17 Regional Development Victoria (2010) Great South Coast Regional Strategic Plan, page 9
18 Regional Development Victoria (2010) Great South Coast Regional Strategic Plan, page 9

The reach, quality and performance of Australia's education system are central to the nation's economic and social progress. The education and training sector has a critical role in maintaining and enhancing the liveability, sustainability and productivity of regions.

Both Year 12 retention and post-secondary qualifications across the Great South Coast region are below the Victorian average[19]. Only 35 per cent of persons aged 15 years and over who were no longer attending primary or secondary school, completed Year 12 or equivalent, well below the Victorian average of 51.7 per cent. The number of people in the region who have completed an Advanced Diploma, Diploma or a Bachelor or higher degree is less than the Victorian average. However, the number of people who have achieved a vocational qualification was higher than the Victorian average[20].

Disadvantage

Disadvantage occurs when an individual, family or community is deprived of resources or opportunities enjoyed by all other Victorians that underpin social and economic wellbeing. Disadvantage has a relationship to the economy and changing demographic profiles in a region, such as a population whose average age is increasing.

Research into change and disadvantage in the Great South Coast region was conducted in 2011 on the basis of the wider Barwon South West Region[21]. It concluded the process of economic restructuring that is occurring in this area is having three major impacts:

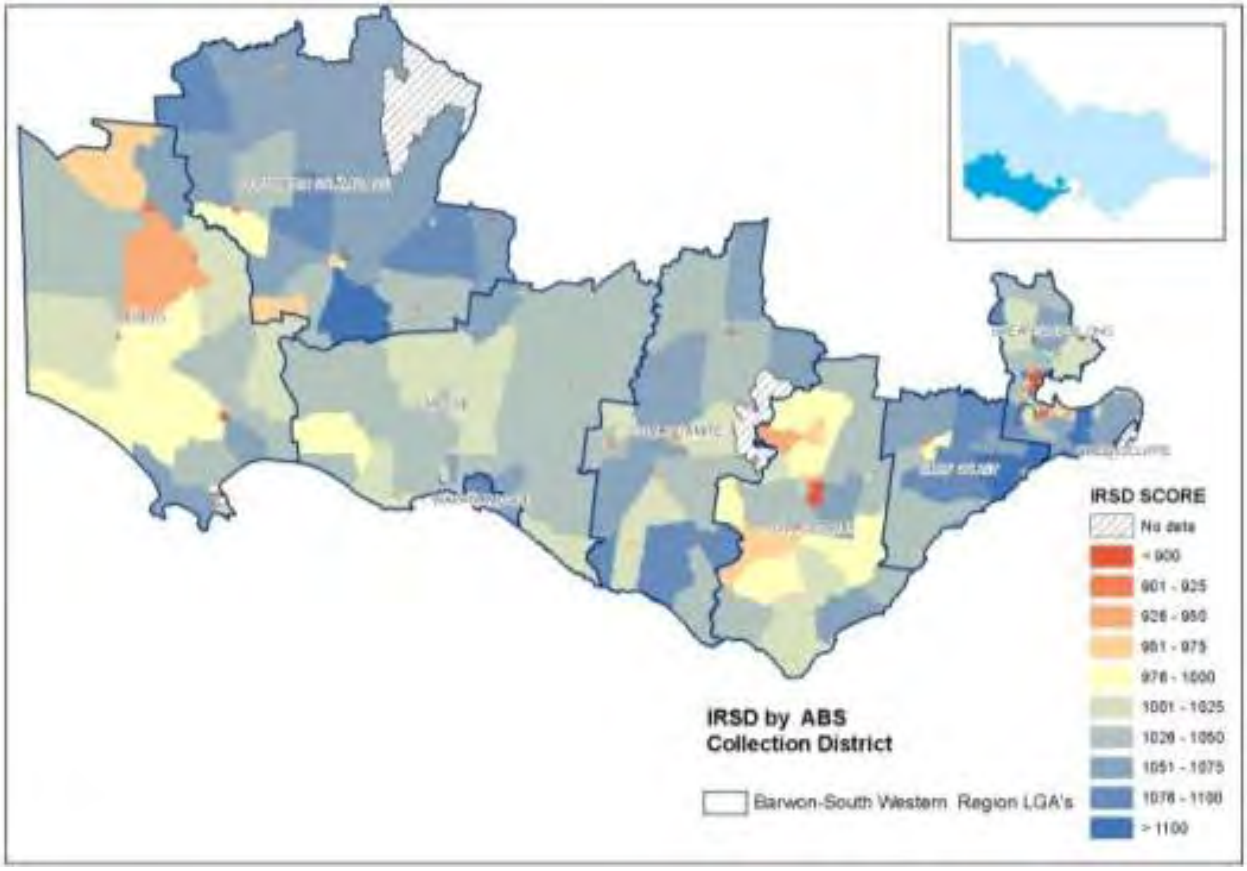
- decreasing economic opportunities for some residents by creating skilled work environments in areas where there are predominantly unskilled workers
- shifting population compositions that are resulting in a need for services and business to restructure as needs change or as services become unviable
- rising house prices that are resulting in some segments of the population becoming concentrated in areas with low levels of service or economic opportunity.

The report Change and Disadvantage in the Barwon South West Region, Victoria stated that "disadvantaged people and communities lack material resources (income, housing, services, and transport), skills/knowledge resources (education, health) or 'social capital' resources (social participation, inclusion, strong governance)"[22].

The region has a number of areas with a high level of socio economic disadvantage, characterised by lower levels of income, lower educational attainment and high levels of unemployment, unskilled occupations and dwellings without motor vehicles. The number of people that live in the locations of highest disadvantage (shown by the lowest Index of Relative Socio-Economic Disadvantage (IRSD) scores in Figure 3) equates to nearly 11,000 people or nine per cent of the region's population.

19 Regional Development Victoria (2010) Great South Coast Regional Strategic Plan
20 Australian Bureau of Statistics 2011 Census of Population and Housing
21 Department of Planning and Community Development (2011) Change and Disadvantage in the Barwon South West Region, Victoria
22 Department of Planning and Community Development (2011) Change and Disadvantage in the Barwon South West Region, Victoria, page 16

Figure 3: Relative social disadvantage in Great South Coast region



Source: Department of Planning and Community Development 2011, Australian Bureau of Statistics 2006

Aboriginal peoples

Aboriginal people live in Heywood, Portland, Hamilton and Warrnambool, and other parts of the region. The region is home to the Gunditjmara people who are the native title holders over a significant area of Crown land and also have substantial freehold title interests at Lake Condah and the surrounding area. The Framlingham Aboriginal Trust, north of Warrnambool, also manages a significant area of freehold title land. The estimated resident Aboriginal population is 1400 people or 1.4 per cent of the total population, twice the percentage of Aboriginal people in the Victorian population (see Table 3).

Table 3: Aboriginal population

Aboriginal Peoples – Great South Coast region

- Number – 1400
- Percentage of total population – 1.4

Corangamite

- Number – 122
- Percentage of total population – 0.7

Glenelg

- Number – 405

- Percentage of total population – 2.1

Moyne

- Number – 190
- Percentage of total population – 1.2

Southern Grampians

- Number – 188
- Percentage of total population – 1.1

Warrnambool

- Number – 495
- Percentage of total population – 1.5

Aboriginal Peoples – Victoria

- Number – 37,990
- Percentage of total population – 0.7

Source: Australian Bureau of Statistics 2011 Census of Population and Housing

The age profile of the Aboriginal population is skewed, with a high proportion of young people compared to the general population.

The Aboriginal population in the region has a higher rate of disadvantage across a range of socio-economic factors, including lower levels of income and home ownership, earlier school leaving, higher unemployment rates and a higher proportion of single-parent families.

Liveability

The regional strategic plan defined a liveable community as: "places where people want to live. They have good local social infrastructure and services, economic and social activities, a diverse and sustainable natural environment, affordable housing and a sense of security where rights are protected and diversity is welcomed. They are communities where a culture of healthy living, learning and working is promoted and embraced".[23]

An attractive environment that is accessible to residents of the region adds considerably to its liveability. A range of lifestyle choices exist, from open undeveloped countryside to a high amenity coastal environment.

The region benefits from good local social infrastructure, particularly health facilities and quality education choices.

Social infrastructure

The Great South Coast region currently has a wide range of health and educational infrastructure that provides high quality services to the local community, particularly in Hamilton, Portland and Warrnambool. The region has a range of popular primary and secondary schools including private schools, for example, The Hamilton and Alexandra College and Baimbridge College, Hamilton. The South West Institute of TAFE has campuses in Hamilton,

23 Regional Development Victoria (2010) Great South Coast Regional Strategic Plan, page 50

Warrnambool, Portland, Glenormiston and Sherwood Park. Deakin University has a growing campus in Warrnambool, containing strategic research centres and faculties of science and technology, health, business and law, arts and education.

South West Healthcare is the region's largest employer. It has 1214 employees and contributes $85 million to the local economy per annum[24]. It provides 144 medical, nursing, mental health, allied health and community health services to residents of the Warrnambool, Moyne, Corangamite, Southern Grampians and Glenelg municipalities. Hospitals are based in Warrnambool, Casterton and Camperdown, with community health centres at Warrnambool, Camperdown, Macarthur and Lismore. South West Healthcare also operates an aged care facility at Camperdown Hospital.

Portland District Health provides primary, acute and aged care services to the Glenelg Shire, including Portland and the townships of Heywood, Narrawong, Tyrendarra and Nelson, employing 395 staff. Services include a public hospital at Portland with 69 acute beds, 30 nursing home beds and a 58-place supported residential service.[25]

Affordability

An adequate supply of affordable and appropriate housing is fundamental to social and community wellbeing. One of the advantages of the region has been its relatively affordable housing market. Housing is generally cheaper in regional Victoria (both to rent and purchase) compared to metropolitan Melbourne areas[26]. However, in more recent times housing availability in Warrnambool and Moyne Shire has become constrained, resulting in rental shortages and inflated prices[27], which has been attributed to population growth. In 2000 the median property price in Warrnambool was $128,000. By 2010 this had risen almost 250 per cent to $322,000. Warrnambool has some of the highest prices in the residential rental market amongst regional cities in Victoria[28].

In terms of impacts on the workforce profile, low cost housing in poorly serviced areas tends to attract welfare recipients and underfunded retirees[29], rather than people participating in the workforce. The consequence can be a concentration of people with relatively high needs and few resources in places where it is difficult and expensive to provide appropriate support.

In March 2012 Warrnambool City Council adopted an affordable housing policy to provide an approach to establishing housing affordability in Warrnambool. One of the objectives is to 'Ensure that access to affordable housing is not a barrier to future economic development'.[30]

Small towns in the region are part of the character and settlement pattern of the region. One of the objectives of the Warrnambool and Moyne Economic Development Strategy is to promote the lifestyle opportunities in these small towns as a housing option for prospective residents. Small towns could form part of the solution to rising house prices in the major centres.

Transport and connections

The region benefits from significant transport assets including freight and passenger rail connections to Melbourne and interstate, the Port of Portland and major highways. Connectivity between smaller settlements, public transport and shared pathways will remain high priority issues as the population increases, to ensure access to employment and services and encourage tourist activities and healthy lifestyles for residents. Transport connectivity can assist in community engagement, encouraging social support and connection, an important part of health and wellbeing.

24 South West Healthcare (2011) South West Healthcare Annual report 2010-11
25 Portland District Health (2012) Portland District Health Annual Report 2012
26 Great South Coast LGAs (2010) The Great South Coast Health and Wellbeing Profile
27 City of Warrnambool and Shire of Moyne (2010) Warrnambool and Moyne Economic Development and Investment Strategy
28 City of Warrnambool (2012) Affordable Housing Policy
29 Australian Housing and Urban Research Institute (2005) Conceptualising and Measuring the Housing Affordability Problem
30 City of Warrnambool (2012) Affordable Housing Policy page 5

Key regional growth considerations

The demographic profile and change in the region has a direct impact on the region's prosperity. The region needs to retain and attract working aged people. This will assist in filling existing vacant jobs and balance an ageing population. Warrnambool and the region's towns have adequate capacity to accommodate new people to the region and many towns have infrastructure and service capacity. Additional growth together with existing education, employment and lifestyle opportunities will assist in retaining and attracting young people.

The health of the region's residents is an important economic and community issue. Only some aspects of health and well-being in the region are within the scope of the regional growth plan. Through settlement planning the plan supports active living and access to services.

Better access to quality educational options is key to retaining youth in the region, attracting more young people and re-skilling the workforce to supply the needs of industry.

Only some aspects of improving education and skills in the region are within the scope of the plan. Other issues will be addressed by further implementation of the regional strategic plan and other initiatives. The plan identifies land use planning measures that can support improved educational outcomes and develop a skilled workforce to meet existing and future employment demand. It addresses provision of land for education opportunities and seeks to integrate land use and transport systems to maximise access to employment and education.

The regional strategic plan stresses that improving access to education and good living and working conditions can help to address disadvantage. The regional growth plan addresses this issue by supporting economic prosperity and a pattern of settlement that provides good connections to employment and education facilities.

New residents are needed to fill labour shortages and improve the age balance in the region. Workforce analysis[31] highlights regional skills and labour shortages across a range of industries and businesses. Liveability is an important factor in attracting a wider population to the region and increasing the workforce profile.

As the average age of the population increases, adjustments to health services will be needed to meet changing demographic needs. The supply of affordable housing will become an issue in areas where property values rise due to growth, sea change migration and major projects like renewable energy.

There is a need to build on these assets and maximise associated opportunities to grow the population and the economy.

2.9 Surrounding regions

The Great South Coast region has strong links with other regions. The region both influences and is influenced by its immediate neighbours.

Major transport linkages to state capitals and the Port of Portland connect the region's industry to a range of other industries and markets located outside the region, for example, the transport of mineral sands and agricultural products from the Wimmera Southern Mallee region to the port.

The proximity of Geelong to the east and Ballarat to the north east means these centres are also important to the region, particularly for the provision of higher order services such as specialist medical treatment that may not be available in the region. Townships such as Camperdown and Skipton are closely linked to the neighbouring G21 and Central Highlands regions.

The Great Southern Touring Route also links the region to the Wimmera Southern Mallee, G21) and Central Highlands regions.

31 SED Consulting 2011 Great South Coast Major Projects Cumulative Impact Study, April 2011

2.10 Key regional strategies

In addition to the regional strategic plan, a large amount of planning and research has already been undertaken in the region by local and state government, industry, regional agencies and other organisations. These studies and strategies identify, address and develop issues across a wide range of areas. Some of the key documents considered include:

- State policy including the State Planning Policy Framework in the Victoria Planning Provisions and all planning schemes
- Council Municipal Strategic Statements and township structure plans
- Green Triangle Region Freight Action Plan
- Great South Coast Transportation Strategy 2013
- Great South Coast Major Projects Cumulative Impact Study 2011
- Great Ocean Road Regional Strategy, and related tourism strategies
- Various regional catchment strategies.

3. Regional strategic plan

The Great South Coast Regional Strategic Plan was developed by the people of the region to articulate the future they want for the region. It was completed in 2010.

The regional strategic plan addresses challenges and opportunities for the region in the areas of economic development, connectivity, environment, health and wellbeing, land use and liveability.

3.1 Aspirations and strategies

The regional strategic plan aims to achieve:

> "A new way of working together for a stronger, more prosperous, equitable, sustainable and liveable Great South Coast."

The regional strategic plan is built around the aspiration of:

> *"Over the next 10-15 years, we will create a thriving, multifaceted and resilient economy, while valuing and protecting our natural resources and environment. Our people will be healthy, well-educated and have great lifestyle choices."*

This is to include:

- a thriving, diverse and resilient agricultural industry
- internationally renowned for nature-based tourism experiences
- Victorian centre for renewable energy
- a magnet for young people to study, work and live
- a family-friendly region with equitable, attractive and affordable lifestyles
- we are well connected.

The aspiration is to be achieved through the following five strategies, with associated strategic goals and actions:

- Strategy 1: Position for economic growth
- Strategy 2: Improve our connections
- Strategy 3: Sustain our natural assets
- Strategy 4: Strengthen our communities
- Strategy 5: Increase regional collaboration.

3.2 Directions

Key policy directions from the regional strategic plan relevant to the preparation of the plan are to:

- Develop a prosperous and socially, economically and environmentally sustainable Great South Coast through a network of settlements.
- Provide sufficient urban land supply to meet projected population growth in the region.
- Develop settlements with a strong identity.
- Encourage the sustainable growth of Hamilton, Portland and Warrnambool.
- Encourage transport, communications and economic links between settlements.
- Protect and manage the sensitive coastal environment.
- Preserve and protect the natural environment and avoid or minimise environmental degradation and natural hazards.
- Protect and manage the region's unique cultural heritage.

- Minimise urban growth impacts on areas of productive agricultural soils, key environmental assets and identified natural and cultural landscapes.
- Manage and diversify agricultural land use to include the maintenance and enhancement of ecosystem services.
- Provide for a strong and innovative economy through the provision of fit-for-purpose land.
- Provide an integrated and sustainable transport network across the Great South Coast which links efficiently with the economies of other regions.
- Provide social and physical infrastructure in a way that is efficient, equitable, accessible and timely.
- Provide for liveable, healthy and safe communities.
- Minimise energy use.
- Manage the adverse impacts of significant land-use change on water availability.

3.3 Implications for the regional growth plan

The regional strategic plan has informed the regional growth plan and this background report, in the following ways:

- the vision is drawn from the regional strategic plan
- the principles in the regional growth plan respond to the aspirations and strategies in the regional strategic plan
- the future directions, land use policies, strategies and actions in the regional growth plan respond to the directions in the regional strategic plan.

4. Regional growth drivers and challenges

4.1 Drivers of change

The plan identifies a number of drivers of change which are grouped under the following headings.

Expanding and diversifying the economy

The principal driver of growth in the region is the forecast level of industry and economic activity rather than population change. Population growth across the region is needed to support anticipated increased economic activity, workforce and skills requirements. There are strong prospects of economic growth in the dairy, forestry, energy, mineral sands and tourism industries.

There are opportunities for new and increased food production including meat and grain as well as developing opportunities in value-adding, service sector and research-related industries. Economic growth will need to be supported by increased productivity, innovation, value-adding, education and training, an appropriately skilled workforce, industry diversification and infrastructure.

The digital economy and improved communication services will change what and how work is done, while influencing the provision of services.

Some aspects of change in climate could stimulate new opportunities for businesses and local communities within the region. Agricultural zones could shift as a result of long-term climate change, some primary producers in the central part of the region (inland from Port Campbell) may experience an increase in productivity, while others may experience a decline requiring change as industries adapt[32].

A shortage of labour and skills

The proportion of people aged over 60 is increasing. Skills and workforce strains are predicted as potential employment growth outstrips population growth by an average of 0.22 per cent per year over the next 10 years. The number of people aged over 65 is increasing faster than the number of people of working age. As the region's population ages there is a need to attract and retain young families and working aged people to the region to support the local economy and local communities.

Without an above average increase in the region's population, there is a risk that economic activity will be constrained due to it not being able to access sufficient labour, or the appropriate skills. The ageing of the region's population is therefore a driver for the region to grow.

Strong Warrnambool

The region benefits from having a strong regional centre in Warrnambool. Warrnambool is the regional services centre and is attracting people to the region, with an average annual growth rate of 1.25 per cent from 2001 to 2011.

This growth is expected to continue and will increase the demand for service-related industries, especially those related to servicing population growth, such as health and professional services. The growth in Warrnambool increases the prospects of higher order services being established in the region and the development of a more advanced services sector. The benefits of clustering industries will begin to influence the regional economy as Warrnambool grows.

32 Victorian Government (2013) Victorian Climate Change Adaptation Plan, page 70

Natural resources and environmental and cultural heritage assets

Natural resources, such as timber and renewable energy help determine the types of industries a region can support, and environmental and cultural heritage assets such as native vegetation, waterways, maritime heritage and Aboriginal heritage places contribute significantly to the liveability of a region. The region's natural resources and environmental and cultural heritage assets provide the basis for much of the competitive attributes enjoyed by the region. These assets must be appropriately utilised to continue to drive economic growth and industry diversification whilst ensuring appropriate protection measures are in place.

According to the Western Region Sustainable Water Strategy and the Wannon Water Supply Demand Strategy 2012-2060 there is expected to be sufficient water resources to meet forecast population and industry growth. Nature-based tourism is expected to increase along the Great Southern Touring Route capitalising on environmental and cultural heritage assets, while agricultural industries are also expected to continue to grow.

Alternative energy and existing infrastructure

The region's abundance of renewable energy assets, such as wind, geothermal, and wave, together with natural gas reserves, provide the opportunity for the region to become Australia's alternative energy capital. Utilising the spare capacity of the 500 kV power line (currently at 25 per cent capacity) to link the region to the wider state and national power grid will be an important part of developing this sector.

Port of Portland

The Port of Portland is a national and state asset that supports the growth of export industries in the immediate and surrounding regions. There are further opportunities to improve access to the port and to provide industrial land and construction-related development associated with its expansion.

Exports of primary products such as timber and mineral sands from the Port of Portland are predicted to increase due to increasing demand for such products from existing and new, developing markets, such as China.

4.2 Challenges for growth

The plan identifies a number of challenges for growth which are grouped under the following headings.

Productive agricultural land

Agricultural land will increasingly come under threat from alternative uses, such as urban expansion and other uses such as rural living, principally around Warrnambool and in the western corridor across to Portland. A key challenge is to maintain and protect productive agricultural land and provide appropriate buffers and protection for rural industries while managing the demands of urban growth.

Transport infrastructure and utilities

The efficiency, maintenance, safety and frequency of services and the quality of the existing transport network will impact on growth. Strong freight networks are needed to support industry growth and distribution of materials and products. The freight network will require sufficient capacity to support major projects and increased industry activity as well as cater for potential increases in road use conflict.

Physical infrastructure will need to be planned, funded and delivered in time to support population growth and industrial development. The provision of gas and sewerage services can make a significant difference to attracting business and people.

Port of Portland constraints

The port's growth, and the development of industries to support this growth are taken as a given in the plan. However, to facilitate forecast growth, constraints to the port and associated industry and infrastructure development in the port precinct will need to be removed or overcome. Many of these constraints can be removed or overcome through clear land use and planning strategies.

National Broadband Network

To support the development of higher technology and value-adding industries and services as well as to take advantages of industry clustering benefits, it is critical that broadband technologies are accessible across the region to both residents and industry. The planned rollout of the National Broadband Network does not include the region in the immediate future. Efforts to secure earlier rollout of this technology will need to be made.

Local utility power distribution system

The region's distribution system is operating at 90 per cent capacity. This system has been identified as having a very high degree of vulnerability to the impacts of climate variability. Power brownouts and blackouts have significant economic impacts and present considerable risks to other critical infrastructure systems. The Great South Coast Major Projects Cumulative Impacts Study 2011 recognises that limitations currently being experienced by the distribution network are hindering investment by industry, notably the dairy industry.

Local stone and mineral resources

The limited sourcing of local stone and mineral resources places additional pressure on the existing road network. This has been seen particularly evident in the development of wind farms. Identifying and gaining approval for local extraction and processing will provide benefits to the regional economy.

Education and skills

The region has below average levels of educational attainment and youth engagement. This situation is compounded by the continuing trend of young people leaving the region for job and educational opportunities. These demographic changes add to the concerns that the region will not have a sufficiently skilled workforce to meet future demands. To achieve the aims of the plan, these trends will need to be slowed or reversed along with improving the liveability of the region through less youth and social disadvantage.

Population growth

To ensure the forecast level of economic activity in the region can be achieved, the plan is based on strategies to increase the rate of population growth. This will require strategies to proactively attract people to the region. Land use planning actions and strategies will play a critical role in improving the liveability and attractiveness of the region which will, in conjunction with other strategies, encourage above forecast population growth.

Affordable housing

To help support new residents and workers, the region must have sufficient, appropriate and affordable housing. While affordability is generally good throughout the region, pressure is being felt in and around Warrnambool. The challenge will be to ensure housing is affordable and accessible across the entire region. Councils have sufficient zoned and planned urban land to meet short- to medium-term population increases, but it is expected Warrnambool will need to extend its growth boundaries to accommodate population increases. For all towns, the affordable housing challenge means increasing supply within town centres and existing built-up areas through medium density solutions.

Health and community service provision

A key challenge for the region is ensuring the population has good access to health and community services. Issues such as travel distances and lack of service in smaller towns continue to be an issue and can affect community wellbeing if not addressed. Health planning for the region has recognised the importance of developing a network that emphasises health promotion strategies, takes into account social disadvantage within the region and provides for timely intervention where possible.

Social connection

Research into social connection and wellbeing shows people place great value on personal relationships. Social connection is therefore critical to wellbeing. As the region continues to age, already over a quarter of the region's households (28 per cent) consist of people living by themselves, and this is the fastest growing household type[33]. Improving social connection is not necessarily a costly exercise, yet the isolation that results from neglect of social needs can and does cost the region.

Climate change

Many parts of the Great South Coast region, including those most attractive to residents and visitors, are susceptible to natural hazards such as flooding and bushfire. Predictions about future climate conditions suggest the region may experience longer periods of drought and that bushfire and high rainfall events may be more severe. Careful management of new land use and development is required to minimise risk to life and property from future natural hazards.

Agriculture is a major component of the region's economy and highly dependent on favourable climatic conditions. Changes to land use as a result of climate change may increase competition between different agricultural land uses and urban development pressures[34].

Climate change impacts may affect essential services, industries, communities and environmental assets and have flow on impacts to the region's economy. Long term changes in rainfall patterns may increase water competition between industry sectors. Built assets and infrastructure, such as the Port of Portland, and environmental assets along the coastline may be at risk due to sea level rise, coastal erosion and inundation.

33 Australian Bureau of Statistics 2011 Census of Population and Housing 2011
34 Victorian Government (2013) Victorian Climate Change Adaptation Plan, page 70

5. Regional economy

5.1 Introduction

The economy of the Great South Coast region is prosperous, dynamic and relatively diversified compared to other regional Victorian economies. In some parts, the region has had a consistently lower unemployment rate than the Victorian average and a higher and more rapidly growing participation rate. These factors indicate that many areas in the region are at or near full employment and with forecast economic growth the region is facing skills and workforce shortages.

Improving the productivity and innovation of the region is a central aim of the regional growth plan. This will be a key factor in raising living standards, improving liveability, attaining higher educational standards, achieving better health outcomes and contributing to social and environmental sustainability. Generating productivity improvements will require greater levels of innovation. Examples of improving innovation within the region include diversifying existing industry, linking more closely with educational and research institutions, securing world-class regional telecommunications and lifting educational standards.

Overall, the region exports around 30 per cent of its output, although there are significant disparities between different areas. Export growth rates are above those of other Victorian regions but below the state average. Improving access to export markets is essential to encourage further growth in export sales and increases in standards of living. The Port of Portland, the Port of Melbourne and the Port of Geelong are key locations for exports out of the region.

Over recent years, there have been more structural changes in the region than in other areas of Victoria, principally due to shifts in the agricultural and service sectors. The relative diversity and resilience of the local economy has helped it to adapt to changing economic conditions and to expand over the past decade.

Agriculture is the most significant sector in the regional economy, despite a decline as a share of the total economy over the past decade. The next largest sector is manufacturing which is dominated by food production and processing. Service sectors, such as finance, retail, health and education are increasingly important. Construction and mining are also substantial economic contributors.

By 2031 the largest sectors in the economy are projected to be healthcare, agriculture, manufacturing and construction. Other high growth sectors will include retail trade, financial, professional and scientific services and accommodation. Changes in the region's economic structure highlight its movement from primary production to a more service-based economy. These shifts require changes to the workforce and to a wide range of services that support skills development and productivity improvements.

Due to growth in other service-based sectors, agricultural and manufacturing outputs are expected to decline as a percentage of the economy between 2011 and 2031. Employment in manufacturing is expected to decline over this period, with healthcare, retail trade and accommodation, and food becoming the largest employers by 2031. Agriculture will still be an extremely important part of the economy and may diversify within the sector.

An ageing demographic profile, forecast economic growth and continued prosperity will require above forecast population growth to overcome workforce and skills related issues in the region. The digital economy could provide part of a solution to overcoming some of the issues associated with an ageing population.

The region faces challenges in the medium- to long-term to further strengthen and diversify strategic economic sectors. These include improving the region's physical infrastructure to facilitate access to key domestic and global markets. The region's strengths in tourism can serve as a basis for further growth.

5.2 Key economic drivers

A number of state, local and industry-based policies and strategies have been assessed to provide the economic background for the plan.

Down the Track – Dairy Strategy and Filling the Glass Study

There are over 1700 dairy farms in the region, producing nearly one quarter of Australia's annual milk production. Western Victorian dairy farmers aim to increase milk production from around 2.4 billion litres per annum to 3.0 billion litres per annum by 2020.[35]

Green Triangle Forest Industry Prospects

The Green Triangle Region is an area in south west Victoria and the south east of South Australia encompassing Warrnambool, Horsham and Mount Gambier, and also includes the regional centres of Portland, Hamilton, Naracoorte, Bordertown, Millicent and Penola. The name Green Triangle reflects the area, which is generally verdant green due to agriculture, pasture and timber plantations, and which has been mostly drought-free for 100 years[36]. The recent report on forestry in the Green Triangle of South Australia and Victoria[37] concludes that plantation forestry in the region is a mature and well organised industry. It is the largest wood fibre producing region in Australia with about 17 per cent of Australia's softwood plantings. The industry is a major economic driver in the region. Significant increases in the volume of wood being transported are forecast as the harvesting phase has begun.

Unlocking Victorian Tourism

In 2012 the Victorian Competition and Efficiency Commission released its report into the state's tourism industry. The report notes the importance of regional planning for tourism priorities and describes the barriers that planning policies and provisions can present to tourism investment and businesses. The Victorian Government's response to the inquiry has identified how it will remove some of these barriers. This has included action to release guidelines for private sector investment into tourism development in national parks.

Great Ocean Road Region Strategy

The Great Ocean Road Region Strategy (2004) is a land use and transport strategy built around four key directions:

1. Environment: protect the landscape and care for the environment.
2. Settlement: manage the growth of towns.
3. Access: improve the management of access and transport.
4. Prosperity: encourage sustainable tourism and resource use.

It is a long-term strategy to manage growth and change in the Great Ocean Road region, and provides direction for state government, regional councils, the community, businesses and other government agencies when planning for the region's future.

Great Ocean Road Tourism Opportunities Report

This recent study identifies world-class tourism infrastructure and tourism development projects which will enable further private sector investment in the tourism industry and attract a greater proportion of higher yielding market segments and 'experience seekers' to the Great Ocean Road region.

35 WestVic Dairy (2009) Driving Down the Track
36 Dept. of Infrastructure 2009
37 Geddes Management, 2011

Great South Coast Major Projects Cumulative Impacts Study

The major projects cumulative impacts study analyses the significant investment potential and the flow-on economic benefits for the region from major energy and infrastructure development over the short- to long-term. The report investigates and analyses the cumulative impacts of projects based on four key challenges:

- workforce
- accommodation
- social infrastructure
- the freight transport network.

5.3 Dairy industry

The dairy industry is Victoria's largest agricultural sub-sector. WestVic Dairy estimates the value of the dairy industry to the Great South Coast region is $4.6 billion per year[38]. The industry is mature, well resourced, well organised and internationally competitive[39]. The Great South Coast region produces over a third of Victoria's milk and a quarter of that for the nation as a whole, making it the largest dairying region in the country on the basis of volume[40].

There are approximately 1700 dairy farming enterprises in the region, employing around 4000 people on farms and 3240 people in the processing sector. Dairy companies manufacturing in the region include Fonterra, Murray Goulburn and the Warrnambool Cheese and Butter Factory, in Dennington, Cobden, Koroit, and Allansford. Around 25 per cent of the output of the region's manufacturing sector is derived from dairy-based products.

A strategic aim of the industry is to increase milk production from the current 2.4 billion litres per year to 3.0 billion litres by 2020[41]. A projected productivity growth of 1.2 per cent annually would deliver an output of 2.75 billion litres by 2020. Therefore, mechanisms to achieve a further 0.250 billion litres of output by 2020 are needed to reach the target. This may include increasing the size of herds, protecting available land for dairy, potential productivity and profitability gains through herd and animal welfare management systems, workforce and skills development and/or investment in capital equipment and infrastructure. The companion report to the Dairy 2020 report (Filling the Glass) states that achieving the 3.0 billion litre target will mean:

- substantially more dairy cattle in the region, from almost 430,000 to 546,000, an increase of 27 per cent
- fewer but larger herds
- fewer but larger farms
- greatly increasing stocking rates through intensification of feeding methods.

Key regional growth plan considerations

The dairy industry reports suggest that larger herds of dairy cattle can be achieved within the existing land footprint but will be dependent on a number of critical factors. Those that have influenced the plan include:

- protecting existing agricultural land for the dairy industry
- managing potential environmental impacts from herd intensification
- industry access to sustainable water supplies and systems for waste disposal
- expansion of dairy-related manufacturing and value-adding activities along the supply chain
- access to freight and distribution networks that can support productivity and efficiency gains
- attracting workers into the industry
- developing technical skills, requiring access to improved education and research and development services in the region

38 WestVic Dairy (2009) Driving Down the Track
39 Department of Primary Industries 2011
40 WestVic Dairy (2009) Driving Down the Track
41 WestVic Dairy (2009) Driving Down the Track

- access to cost effective and quality water supply.

There will also be impacts on rural communities and populations from farm consolidation and changing employment structures within the industry. Support for farm succession planning may be needed to overcome the increasing average age of farmers.

5.4 Energy industry and major projects

Investment and employment in new and renewable energy generation is viewed as a key strategy to diversify the region's economy and create employment and economic growth[42].

The region has a suite of renewable energy resources including wind, wave and geothermal. The existing 500 kV Portland power line has substantial spare capacity (75 per cent) and provides a significant opportunity for new energy-generating operators to access the statewide distribution system[43].

The region has access to extensive offshore gas resources in the Otway Basin. Three gas-fired power plants are proposed in the Moyne Shire, one of which is under construction. The region also has a pilot project demonstrating small-scale commercial distributed energy systems. A pilot project for wave energy development near Portland has also been approved. Further opportunities exist for gas extraction in the Southern Ocean, south of Port Campbell.

Two biofuel mills producing wood pellets are proposed, with one in Heywood and the other in nearby Mount Gambier (in South Australia). The pellets, which can be used for power generation, could be exported through the Port of Portland by rail. A biogas plant is to be built in Colac and a geo-sequestration project to capture and store carbon is being trialled near Peterborough.

There are a total of 29 development projects in the region (including Colac Otway Shire) for a range of energy technologies including wind power, geothermal power, gas-fired power, biodiesel and wave energy. These projects total $9 billion in value, dominated by wind energy. Over 50 per cent of projects have been identified as definitely underway or likely to occur[44].

The region has a strong history in energy production, notably wind and gas with significant further development planned and approved for the near term.

Wave energy provides longer term potential, particularly near Portland with a pilot project for wave energy development being approved.

Sites for small-scale, local energy generation using methane produced by livestock are also being investigated in the region. Such facilities could develop linkages with, and further support for, the region's high-technology alternative energy manufacturing capabilities and support industries.

Development of geothermal, tidal and wind energy are seen as viable pathways for the region, particularly if the cost of conventional energy continues to increase and renewable energy production becomes more efficient. The region's advantages for alternative energy make it well suited to being a research centre for renewable technologies.

The region has a valuable asset in the 500 kilovolt transmission line that runs east-west and is currently only operating at around 25 per cent capacity. However, many of the local energy distribution systems are nearing capacity, limiting the ability of industrial and processing activities to take place.

The extension of natural gas from the pipelines in the eastern part of the region presents an opportunity to support existing industry, notably the energy intensive milk production and processing industries, and encourage newer

42 Regional Development Victoria, 2010a
43 Regional Development Victoria, 2010a
44 SED Consulting (2011) Great South Coast Major Projects Cumulative Impact Study

industrial firms to the region. Access to this energy source would reduce the strain on the existing electricity distribution system.

With large amounts of energy production occurring in the region, the development of smart electricity grids and distribution systems to allow local firms and residents to access regionally-produced power would create a competitive advantage for the region. It would also result in greater levels of energy efficiency.

While the development of alternative energy within the region will continue to produce economic, social and environmental benefits, some of the negative impacts, such as road deterioration, will need to be appropriately managed. This may be partly addressed through obtaining local sources of construction material, particularly approval of onsite or local stone extraction.

Key regional growth plan considerations

The plan has considered the future power demands from population and industry growth and how the region can contribute to energy needs. The plan includes:

- land use planning directions needed to support growth in renewable energy generation in the region
- proposals to manage potential conflicts between urban uses and agriculture, and protection of landscape values and environmental assets
- consideration of how the construction of major projects may affect patterns of population and settlement growth, agricultural practices and demands for transport, housing and skilled labour
- directions for longer term infrastructure planning including supporting assets, transport networks and the reliability of, and access to, energy supplies.

5.5 Timber industry

The timber industry is a major economic driver in the region, with forestry and timber processing both long-standing industries for the western part of the Great South Coast. The region is the largest wood fibre producing region in Australia, constituting more than 17 per cent of the forest plantation sector in Australia[45].

The Green Triangle Region's plantation estate comprises of approximately 350,000 hectares, split approximately 50:50 between hardwood and softwood. Victoria's plantation area in 2009 was 68,253 hectares of softwood and 130,104 hectares of hardwood blue gum.[46]

The recent growth of Casterton, Hamilton and Portland can be directly attributed to service provision for the forest industry[47]. Over the next 20 years, the forestry industry is expected to continue to grow, supplying around 1000 jobs across the Green Triangle (south-eastern South Australia and south-western Victoria) and a further 1000 jobs in industry flow-on. However, if employment growth is not achieved, it is anticipated the industry will spread its harvesting activities over a longer period, which will lead to slower economic growth.

Although the majority of timber processing is undertaken in South Australia, significant facilities are located in Portland and Colac. Softwood plantations provide raw material to two large mills in Mount Gambier and Tarpeena, South Australia, as well as to small sawmills, the KCA pulp mill at Tantanoola in South Australia, two particleboard plants and a number of timber treatment plants. Woodchip, round wood (logs) and processed boards are exported through the Port of Portland.

Following the rapid expansion of hardwood plantations in the 1990s, it was recognised that significant harvest volumes would be coming on line in future years. The majority of this increase is expected to be exported through the Port of Portland increasing by around 100,000 B-double movements per annum. It is estimated there are 100,000

45 Dept. of Infrastructure 2009
46 http://www.gtplantations.org/ and http://www.gtfp.com.au/
47 Geddes Management, 2011

hectares of cleared land currently available and commercially acceptable for expansion of timber plantations across the Green Triangle region.

The processed output of the plantation industry in the Green Triangle generates approximately 5-6 million tonnes of freight transported by road for domestic consumption, predominantly in Melbourne and Adelaide. Approximately 1.2 million tonnes of pine woodchips are exported annually to international markets via the Port of Portland. If timber plantation harvest forecasts are realised, the Port of Portland would become Australia's largest hardwood chip-handling port.

5.6 Earth resources

The region's mining industry, while relatively small, has grown faster than the state average over the past decade, with an annual average growth rate of 3.77 per cent[48]. Earth resources include, but are not limited to, sand, stone, gold and oil shale. While some of the region's mineral and stone resources are destined for export, others including some sand and stone resources are critical for the local construction industry.

The mining sector was the fourth highest contributor to the region's economy in 2011, contributing approximately eight per cent to the region's Gross Regional Product in 2011. Mining accounted for $364 million worth of exports in 2011, third only to the manufacturing and agriculture sectors. In contrast, the mining sector was the third lowest contributor to employment in the Great South Coast region in 2011, with a less than two per cent share of employment[49]. However, the flow-on effect of this sector to regional employment is much higher due to jobs created in associated industries such as earth moving and transport.

Southern Grampians has an emerging mining sector, with significant growth expected in the future. Iluka Resources' mineral sands separation plant is located just outside of Hamilton. Drawing the majority of its workforce from the local region, Iluka has an annual processing capacity of approximately 700 thousand tonnes[50]. There is further potential for the Hamilton plant to process sands brought from South Australia by sea. Export of mineral sands is through the Port of Portland, with containers also transported from Portland to Melbourne by rail. Southern Grampians also has copper deposits near Glenthompson, with additional mineral exploration being undertaken throughout the municipality.

In May 2012, the Economic Development and Infrastructure Committee of the Parliament of Victoria tabled the results of its inquiry into the benefits and drivers of, and possible barriers to, greenfields[51] mineral exploration and project developments in Victoria. The Victorian Government's response to the inquiry was released in May 2013, supporting all recommendations. Key aspects of the response include:

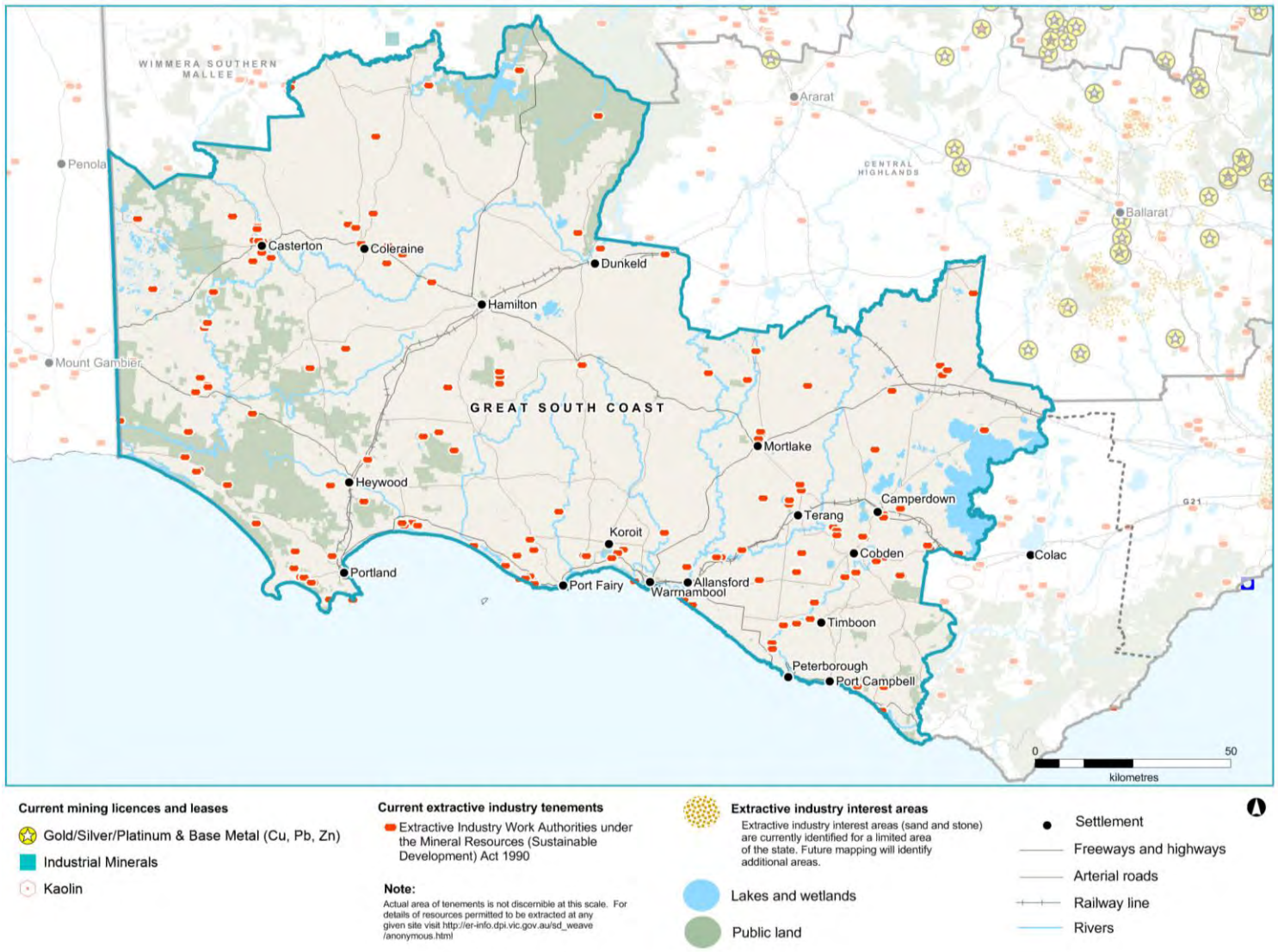
- establish Minerals Development Victoria as a single point of entry for investors dealing with Government on their projects
- actions to reduce regulatory burden imposed in legislation
- actions to build community confidence through greater engagement and clearer communication of information
- additional funding for geosciences research and greater investment attraction
- steps to improve mechanisms to maintain appropriate access to extractive resources while supporting ongoing development and optimum land use.

While it is important to acknowledge these and other aspects of the response, it is beyond the scope of the regional growth plans to deal with the majority of the commitments and they will need to be addressed through other suitable government initiatives. The response did include a commitment to incorporate existing extractive industry

48 Regional Development Victoria (2013) Great South Coast Economic Profile (unpublished)
49 Regional Development Victoria (2013) Great South Coast Economic Profile (unpublished)
50 Southern Grampians Shire Council (2012) Mineral Sands and Mining- Hamilton and Southern Grampians
51 Greenfields sites are those areas without known mineral deposits.

interest areas into regional growth plans. The plan recognises these areas accordingly. Current minerals and extractive industry tenements and licences within the region are shown in Figure 4.

Figure 4: Mining and extractive industries, tenements and licences



Source: Department of Environment and Primary Industries

Key regional growth plan considerations

- Identifying, managing and facilitating access to existing and potential extractive resources.
- Supporting development of infrastructure, assets and utilities associated with the mining industry.
- Managing the impacts of mining and quarrying on infrastructure.

5.7 Tourism

The Great Ocean Road attracts more than half of all international overnight stays in Victoria and more domestic tourism expenditure than any other region in regional Victoria. Most of the western part of the Great South Coast region has lower levels of visitors. Only five per cent of the region's workforce is directly employed in the tourism industry.

The Great Ocean Road coastal areas, along with the Otways and the Grampians, encompass a strong, world-class environment and cultural heritage asset base, underpinning significant tourism potential. These assets are connected, including through touring routes, and have links to assets adjacent to the region including Ballarat, Geelong region, Great Otway National Park and the Coonawarra wine region. The official Great Ocean Road Touring Route was extended in 2013 along the Glenelg Shire coastline through to Nelson. The *Great Ocean Road Tourism Opportunities Report 2012* identifies a number of major projects that would enhance key tourist assets in the region:

- upgrading the Port Campbell precinct and building the proposed Loch Ard Interpretive Centre
- developing Aboriginal cultural heritage tourism opportunities around the Budj Bim National Heritage Landscape at Lake Condah, Mount Eccles and Tyrendarra
- infrastructure and amenity improvements in the volcanic lakes region around Terang, Camperdown and Cobden, and north of Port Campbell
- upgrading the Flagstaff Hill maritime centre and Warrnambool Airport
- developing cruise ship infrastructure at the Port of Portland.

The Great Southern Touring Route is an integral part of the region's tourism product. It provides a link between major and developing tourism destinations and products along the Great Ocean Road and the area from Warrnambool to Port Fairy, then north to the Grampians (Gariwerd) National Park and the Central Goldfields region.

There are a number of other touring routes in the region that provide cultural and environmental experiences, including but not limited to:

- Volcanic Drive
- Two States Touring Route
- Mary MacKillop Trail.

Touring routes can assist in connecting tourism assets across the region including:

- Budj Bim National Heritage Landscape (which incorporates the Mount Eccles Lake Condah area, and the Tyrendarra Area)
- Twelve Apostles Marine National Park and Port Campbell National Park
- Lower Glenelg National Park
- Mount Richmond National Park
- Grampians National Park
- Cobboboonee National Park
- Great Otway National Park
- Great South West Walk
- Bay of Islands Coastal Park
- Cape Bridgewater
- Discovery Bay Marine National Park

- Cape Nelson Lighthouse
- Point Danger
- Lake Corangamite
- Western District lakes – Ramsar listed wetlands
- Griffith Island
- Bonney Upwelling
- Tower Hill
- Shipwreck Coast
- Portland Maritime Discovery Centre.

Other tourism opportunities exist throughout the region including the establishment of a Grampians Ring Road, connections and improvements to trails such as the Great South West Walk, promotion to routes such as the Mary MacKillop Heritage Trail and interpretive centres and information for aboriginal cultural heritage and historic heritage.

Consideration should be given to the development of tourism strategies and the implementation of relevant strategies such as the Barwon South West Regional Trails Master Plan.

Aboriginal cultural heritage products associated with Budj Bim National Heritage Landscape, Tower Hill and the Grampians (Gariwerd) have been identified as opportunities not only to broaden the tourism base in the western area of the region, but also to provide employment opportunities for Aboriginal communities. Three of the five areas in Victoria recognised as Indigenous Protected Areas by the Commonwealth Government are situated in the region.

The Victorian Government has recently released new guidelines relating to private tourism developments in national parks[52]. Opportunities to advance private investment into tourism in or associated with the region's national parks should be investigated, particularly in relation to the Great Southern Touring Route. It is expected that once any proposals are submitted, councils will be consulted and participate in relevant approvals processes.

Key regional growth plan considerations

The plan provides guidance on tourism growth and development in the region including:

- protecting environmental and cultural heritage assets whilst balancing upgrades to coastal tourism infrastructure, to support nature-based and cultural heritage-based tourism assets and lifestyles
- protecting and improving existing infrastructure or creating new facilities to meet emerging tourism needs and support the tourism industry
- the roles of various settlements in tourism development, based on their unique characteristics
- emerging opportunities for private sector investment in appropriate tourism infrastructure within or associated with national parks.

5.8 Agriculture

Over 1,885,000 hectares of land is zoned for agricultural use in the region. Agriculture makes a significant contribution to the economy, employment base and identity of the region. It generates almost $2 billion in gross revenue annually and employs almost one fifth of the workforce. Its continued contribution to the regional economy is dependent on the sustained health of the natural resource base and environmental assets including soil, water and biodiversity, and the support of transport infrastructure and education. Agriculture is the region's number one export earner and will have a strong role in the future development of land uses and the economy.

As previously noted, changes in climate may impact both positively and negatively on agriculture within the region. Increased productivity may result in some areas, for example inland from Port Campbell, due to longer growing

52 Department of Sustainability and Environment, Tourism Investment Opportunities of Significance in National Parks – Guidelines, April 2013.

seasons and increased carbon dioxide in the atmosphere. Others may experience decline in production due to more frequent and extreme events such as heatwaves and heavy rainfall. If agricultural zones shift in response to climate change, there may also be an increase in competition between different agricultural land uses and urban development, especially in the fertile and well watered areas around Warrnambool and Port Fairy[53]. This emphasises the need to identify strategically important agricultural land within the region to appropriately manage development and land use change pressures.

Opportunities and challenges for the agricultural sector include:

- diversification of agricultural production in the region to progress towards a 'food bowl' economy
- increased opportunities for agriculture and new agricultural industries driven by land encroachment from the growth of Melbourne into areas currently used for food production, particularly to the west and south west of Melbourne
- existing and emerging opportunities for clusters of intensive agricultural production within the region due to locational opportunities, such as access to key transport infrastructure and separation from sensitive land uses
- changes to farming patterns influenced by climatic conditions, market forces, international investment in farm enterprises and the resilience and capacity of support infrastructure and utilities
- the capacity of the sector to promote itself as an attractive career or employment choice
- the growth of hobby-farming and farm-gate selling and farmers markets
- fostering productivity and profitability gains along the supply chain including identification of value-adding opportunities
- understanding the impacts of land-based energy generation projects on farming practices.

Key regional growth plan considerations

The plan seeks to encourage growth and development in the agricultural sector by:

- protecting strategic agricultural land across the region, to underpin diversity in agri-production and allow for appropriate adaptation to climate change
- providing for resilient infrastructure and assets and utilities that support industry
- facilitating efficient access to markets via road, rail and port infrastructure
- developing capacity in the agriculture sector through identifying appropriate locations for supporting technology clusters, research and development and education facilities
- identifying strategies for enhancing the liveability of rural communities and settlements, to retain and attract residents and workers in rural areas to meet farm labour requirements.

5.9 Aquaculture and marine industries

The Great South Coast's fishing industry comprises wild-catch commercial fishing, aquaculture, recreational fishing and indigenous fishing. The Port of Portland is the hub for commercial fishing, providing berthing facilities for approximately 50 commercial vessels that together account for more than 40 per cent of Victoria's catch value. The trawling fleet provides up to 7000 tonnes of fresh fish to the Melbourne Fish Market annually.

Portland is the largest rock lobster port in Victoria, landing approximately $4 million worth of product each year, plus $1 million worth of king crabs exported primarily to Asian markets. Commercially harvested abalone is supplied to multi-million dollar export markets. Apollo Bay and Port Campbell have small fishing industries and Warrnambool has development potential for commercial and recreational fishing activities[54].

53 Victorian Government (2013) Victorian Climate Change Adaptation Plan, page 70
54 Regional Development Victoria (2010) Great South Coast Regional Strategic Plan

Key regional growth plan considerations

The plan recognises the need to support sustainable growth and development in the aquaculture and marine industries sector and provides direction on the following issues:

- protecting significant coastal and off-shore ecosystems, environments and landscapes
- managing conflicts of uses in coastal environments including recreation, fishing, major projects, freight movements and tourism.

5.10 Manufacturing

Manufacturing contributes over $4 billion of total output to the region. Milk and meat processing dominate manufacturing activities, with 25 per cent of the manufacturing sector's output being derived from dairy products. This value-adding to agriculture occurs via milk food processing in Warrnambool, Allansford, Koroit, Cobden and Simpson and Colac in Colac Otway Shire, meat processing in Warrnambool and Colac, and timber processing in Portland and Colac[55].

Other significant manufacturing activities include aluminium production near Portland, mineral sands processing near Hamilton, and wind turbine systems fabrication and assembly in Portland. The regional strategic plan identified the need to diversify manufacturing in the region, particularly in the renewable energy sector[56].

There are currently over 2100 hectares of industrially zoned land in the region, including developed and undeveloped land. This is complemented by industrial land in the Colac Otway Shire. A number of structure plans have been completed or are underway to inform servicing and release of new industrial land. Provision of appropriately zoned and serviced industrial land will be a major contributor to achieving regional aspirations for economic growth and diversification. Investment in industrial development will be encouraged in strategic locations with access to key inputs, transport and freight networks, utilities, services and workforce.

Opportunities and challenges for the manufacturing sector include:

- existing and emerging opportunities for clusters of intensive agricultural production and subsequent associated food processing (manufacturing) within the region due to locational advantages
- outward youth migration can result in a lack of workers to cater for manufacturing sector expansion
- the capacity of the sector to promote itself as an attractive career or employment choice
- fostering productivity and profitability gains along the supply chain including identification of value-adding opportunities.

Key regional growth plan considerations

The plan supports growth and development in the manufacturing sector by:

- identifying regionally significant gaps in current infrastructure and utilities that are needed to support manufacturing activities and attract new business
- providing directions that aim to overcome constraints facing the industrial sector in the region
- identifying strategic opportunities for development of the manufacturing sector based on the competitive advantages and comparative strengths of the region
- fostering education and skills development of the regional workforce to meet the labour demand for the manufacturing sector.

55 SED Consulting (2011) Great South Coast Major Projects Cumulative Impact Study
56 Regional Development Victoria, 2010a

5.11 Retail and services

Warrnambool is the major retail and business centre for the region. The Warrnambool Retail Strategy 2007 states that 'Warrnambool's economy and its capacity to support future populations is, in large part, determined by its regional retailing and services role. Maximising the city's regional role as a focus for retailing, administrative, health and professional services, education, hospitality and tourism in western Victoria optimises opportunities for investment and employment in the city'[57].

Warrnambool's potential as the primary service hub for the region has been a key feature in developing the growth scenarios presented later in this background report. When the population grows to a sufficient size and the business and administrative functions of the city increase, Warrnambool will be able to attract higher order services that benefit the wider regional community.

Growth scenarios developed to inform the plan (see Chapter 9 of this background report) also recognise the importance of Hamilton and Portland, the other key centres in the region, and the service role they play for the populations in their catchments. The growth scenarios consider the smaller towns and settlements and the impacts and opportunities the alternative patterns of population size and distribution may have on future service delivery to these areas.

Key regional growth plan considerations

The plan recognises the importance of continuing to support Warrnambool as the regional city and primary growth centre of the region, and provides direction to encourage that:

- appropriate structure plans and urban design frameworks are implemented or developed to retain the liveability of the city
- current activity centres are not adversely impacted by new precincts and suburbs
- access to neighbourhood-level services is provided in new precincts and suburbs as the population grows
- sequencing of service delivery matches population growth and responds to the extra service needs and demands of a larger population
- population growth in other key centres and regional settlements is supported by strategic land use planning and access to infrastructure and utilities.

5.12 Health and education

Major hospitals and other primary healthcare institutions are located in Warrnambool, Hamilton and Portland. These cities and towns act as service hubs supporting programs, care workers and local health service infrastructure in outlying towns and provide outreach services.

The population and growing population are forecast to drive demand and therefore employment opportunities in health services, public administration, information and telecommunications and other service sectors. The employment share of health workers in the region is expected to increase over the next decade and beyond[58]. This is consistent with the Victorian trend generally.

Almost all personal, social and economic benefits such as income, employment, longevity, health and low incarceration rates correlate strongly with education attainment levels[59]. The community-wide benefits of learning include a more skilled and healthy workforce.

Both Year 12 retention and post-secondary qualification rates across the region are below the Victorian average. The ability to meet the needs of current and emerging industries is one of the greatest challenges for growth in the

57 Ratio Consultants (2007) Warrnambool Retail Strategy
58 Access Economics (2011)
59 Great South Coast Local Government Areas 2010

region. Regional workforce analysis highlights regional skill and labour shortages across a range of industries and business. There is opportunity for business and education providers to work together to reduce skill shortages[60].

Key regional growth plan considerations

The plan recognises the role of land use planning in supporting effective provision of health and education services throughout the region by:

- stressing the need to integrate planning for health and education facilities with planning of residential growth areas and business locations and ensuring that services are provided or augmented as populations grow
- recognising that access to health and education services for dispersed populations is critical to the wellbeing of the region and that public transport improvements, outreach services and multi-purpose community hubs in smaller towns and settlements are needed to achieve equity across the region
- supporting programs for improving education attainment rates and ongoing skills development
- encouraging establishment of centres of health and education excellence including research and development, specialist services and industry-led education and training
- enhancing the already strong liveability values of the region to assist in retaining and attracting residents and skilled workers
- supporting a pattern of settlement with well-connected access to employment and education facilities.

5.13 Workforce and skills

The Great South Coast region is experiencing critical shortages of skills and people in particular industries, including technicians, labourers and managers across the transport, food processing and dairy sectors[61]. Under projected growth trends, the current ratio of one retiree to every four workers (1:4 ratio) will drop to one retiree to every two workers (1:2) by around 2030. If left unchecked, this will have significant impacts on the economic prosperity of the region as workforce shortages impact on the capacity for industrial growth. The health and wellbeing of the region could be undermined by a lack of workers to support an older population[62].

Employment in the region is projected to grow from 57,000 to 75,000 from 2006 to 2026. Two thirds of this 18,000 rise in employment is expected to be in the construction, health and community services, retail trade and transport and storage sectors. The agriculture, forestry and fishing sector is forecast to decline. About 30 per cent of the overall employment growth in the region is forecast to occur in Warrnambool, but all municipalities are expected to see a 25-35 per cent growth in jobs over the next 20 years. Unemployment rates currently vary from 2.6 per cent per to 7.7 per cent across the region but remain low and below statewide rates. Nearly 40 per cent of the region's businesses report job vacancies. Over 60 per cent of businesses expect to increase their workforce numbers in the next three years, and many have reported difficulties in recruiting staff[63].

Changes to work habits and businesses, such as home based and internet businesses will also influence the dynamics of the region's workforce and skills.

Key regional growth plan considerations

The plan recognises that:

- the scale of forecast jobs growth, while very welcome, may place pressure on existing infrastructure, housing and natural resources
- providing affordable housing choices will assist with attracting new residents to the region

60 SED Consulting (2010)
61 SED Consulting (2011) Great South Coast Major Projects Cumulative Impact Study
62 Regional Development Victoria (2010) Great South Coast Regional Strategic Plan
63 Regional Development Victoria (2010) Great South Coast Regional Strategic Plan

- residential growth should be encouraged in centres and settlements that have good access to services and employment
- short-term, non-resident workforces attracted by major projects have the potential to create housing and service provision strains on communities and their impacts should be monitored
- opportunities for up-skilling existing workers and retaining temporary workers in the region after projects are complete will go some way towards addressing skills shortages
- access to transport and high speed telecommunications and changing work practices such as home-based businesses or working from home may lead to changes in demand for travel and for some types of office accommodation
- planning should not place unnecessary barriers in the way of new land uses and a restructuring economy.

5.14 Port of Portland

The Port of Portland and the road and rail infrastructure that serve it are critical components of the regional and state freight network systems. The port is one of four major commercial trading ports in Victoria and is of national significance. It is especially important to Victoria due to its natural deep-water capability. Its role is increasing in western Victoria and south-east South Australia and this will be enhanced when planned upgrades of facilities are implemented. The port specialises in the storage and handling of bulk commodities and serves the region's rich agricultural, forestry, manufacturing and mining industries as well as regionally-based aluminium and fertiliser producers.

The value of product moving via the Port of Portland was estimated to be between $1.3 and $1.5 billion per year in 2004–05 and has increased significantly since that time, currently delivering $2 billion into the region each year[64]. The operation of the port in 2004–05 generated an estimated total economic benefit of $70.7 million in Glenelg Shire, $112.6 million in the Green Triangle region, around $121 million for the Victorian economy as a whole, and $172 million nationwide[65].

With the trebling of the export of forestry products over the next 5 to 10 years, coupled with increases in fertiliser and mineral sands, the value of exports through the port is projected to increase by $1 billion per annum over the next decade[66]. This growth will need to be supported with the provision of sufficient land and freight transport infrastructure.

Key regional growth plan considerations

The plan supports the development and expansion of the Port of Portland and provides directions for:

- addressing planning complexities and conflicts between current land uses within and around the port to enable the facility to meet the needs of industry in the region
- planning for upgrades to the transport networks in and out of the port to meet the efficiency requirements of industry and the port itself
- supporting development of infrastructure and assets associated with major on-land and off shore projects, mining and agricultural industries.

6. Environment and heritage

6.1 Introduction

The Great South Coast region has rich and diverse environmental and cultural heritage assets. These assets provide a significant contribution to the economic prosperity and liveability of the region. Some environmental assets are also

64 Port of Portland website www.portofportland.com.au
65 Port of Portland (2009) Port Land Use Strategy 2009
66 Port of Portland (2009) Port Land Use Strategy 2009

associated with risks from natural hazards, such as bushfires, and require specific planning responses to manage risks to development.

Environment and heritage assets are often co-located in the landscape, with many Aboriginal cultural heritage and historic heritage sites located in close association with waterways, wetlands, forested areas and public land. Urban and rural residential development in areas of high amenity may present some risks to environmental assets and values, including declared water supply catchments. However, areas of high amenity provide opportunities for tourism and other economic diversification in rural land use in the region, such as carbon farming and income from providing ecosystem services[67]. Balancing these pressures along with the natural hazards and risks associated with these areas, such as from bushfires, coastal erosion and inundation and flooding, is a key challenge for the plan and more detailed local planning.

The regional strategic plan recognises that terrestrial and aquatic systems underpin the region's economic strength and liveability and aims to appropriately protect and enhance them. In addition, it suggests capitalising on recognised cultural heritage values to reposition the region as a major national tourism destination. Effective management of environmental and cultural heritage assets will assist in building the region's capacity and productivity in primary production and tourism.

The Glenelg Hopkins and Corangamite catchment management authorities coordinate investment in the protection and enhancement of priority environmental assets throughout the region. They work with public land managers and private land owners to implement natural resource management programs that aim to maintain and improve the condition and extent of environmental assets within their regions. Significant environmental assets are clearly described in each catchment management authority's regional catchment strategy. Where possible the regional growth plan has utilised the significant assets as identified by the catchment management authorities, however in some cases this is not possible, as consistency with other regional growth plans across the state is needed. To help with this consistency, regionally significant assets in the plan are generally those that are of state, national or international significance[68].

Planning for residential, commercial and industrial development needs to take into account environmental and cultural heritage assets in order to maintain them for future use and enjoyment.

Many environmental assets overlap within the landscape and interact across the landscape. For example, rivers run through forested areas and agricultural areas, and are impacted upon by the land use activities on the lands they run through. These rivers carry water downstream to wetlands, estuaries and marine environments, which can in turn affect those environmental assets. This background report discusses cultural heritage and different types of environmental assets separately to highlight their values to the region and the considerations for planning associated with those assets. The regional growth plan integrates these considerations in its future directions and strategies.

6.2 Cultural heritage assets

The Great South Coast region has a rich and diverse representation of heritage values capturing both Aboriginal and historic heritage places and cultural landscapes. The plan highlights the diverse range of heritage tourism in the region and the basis this provides for potential growth of tourism in the region.

Regionally-significant heritage assets have been identified during the development of the plan. The plan notes the region can build on its existing world-renowned sites, including the Great Ocean Road, Port Campbell National Park and the Grampians (Gariwerd) National Park, to develop other nature-based and heritage tourism opportunities.

67 Providing ecosystem services through market based approaches (including competitive tenders such as EcoTender and BushTender), can provide farmers with income for undertaking environmental works that conserves and enhances the environment
68 For the purpose of the plan, regionally significant environmental assets cover all assets that are of regional, state, national or international significance

Heritage opportunities centre on both Aboriginal heritage and historic heritage, such as through the settlement and maritime history of the Shipwreck Coast. These key features could be made more attractive by linking the region's tourism experiences to other opportunities, such as recreational assets, volcanic landscapes, iconic walks, rainforest experiences, surfing , markets and festivals. The Budj Bim National Heritage Landscape is potentially of World Heritage significance and there is significant support for its nomination as a World Heritage site.

As a region, the Great South Coast has a high concentration of public botanic gardens which play an important role in providing for amenity, tourism and education. Garden tourism has the potential to attract visitors from a number of countries around the world, including the growing tourism market of China. Avenues and boulevard tree plantings are also a distinctive urban design element in the region. Street trees inform the character of many towns, with grand boulevards and avenues located in towns including Camperdown, Warrnambool, Port Fairy, Mortlake, Terang, Drik Drik and Hamilton.

Key regional growth plan considerations

The plan recognises that:

- cultural heritage is a major asset for the region, in community, economic and social terms and many tourists seek heritage experiences
- historic heritage contributes significantly to the culture, development and attraction of the region, particularly maritime and farming
- Cultural heritage attractions and services contribute to regional economies and employment
- Aboriginal cultural heritage and historic heritage assets should be protected from disturbance and degradation in recognition of their cultural value and significance to the community, to ensure their tourism potential can be realised and to enable the continued use and enjoyment of these heritage assets by Aboriginal peoples and the wider community
- the Heritage Overlay and other relevant planning controls should be reviewed to determine if they have been adequately applied across the region
- public parks and gardens are an important asset in the region for amenity, tourism and education
- opportunities may arise for tourism development associated with or linked to public gardens.

6.3 Significant landscapes

There are many significant landscapes in the region, including those identified through the Coastal Spaces Landscape Assessment Study[69] and the South West Landscape Assessment Study[70].

Both studies aimed to assess the visual character and significance of the landscape in order to prepare planning guidance for retaining and respecting landscape values. Broad landscape areas were examined in detail and assessed for their cultural landscape values. This has led to the designation of some landscapes as regionally significant and others as of state significance (or higher).

The Coastal Spaces Landscape Assessment Study was completed in 2006. All councils in the region have adopted its recommendations and amended their planning schemes (or are in the process of doing so) to protect these landscapes through application of the Significant Landscape Overlay and policy changes.

The South West Victoria Landscape Assessment Study recommends using policies and other tools in local planning schemes, such as the Significant Landscape Overlay, to protect and manage these landscapes into the future. Significant landscapes identified by the Landscape Assessment Study have been included in the plan.

69 http://www.dse.vic.gov.au/coasts-and-marine/coasts/publications/coastal-spaces-initiative-home-page
70 http://www.dtpli.vic.gov.au/planning/plansandpolicies/ruralandregionalplanning/south-west-landscape-assessment-study

The Southern Grampians Significant Landscape Assessment is also underway. It will evaluate the visual character and significance of the Grampians landscape and prepare new planning policies and planning scheme controls to ensure the landscape's protection, while encouraging appropriate development, economic growth and investment[71].

Currently, clear and distinct open breaks are maintained between settlements throughout the region. Consultation on the plan highlighted the need to maintain distinct edges to settlements and protect the landscape in intervening areas.

Key regional growth plan considerations

The plan recognises that:

- there would be benefits in developing a regionally consistent way to apply planning scheme tools to recognise the significant landscapes identified in the South West Landscape Assessment Study
- while providing for growth along designated corridors, it will be important to maintain discrete settlements and ensure open space breaks between settlements are protected, to reinforce the character of towns and landscapes and to protect important agricultural land.

6.4 Terrestrial habitat

Native vegetation and habitats (terrestrial habitats) are important as they provide a range of environmental services, such as filtering nutrients, habitat regeneration and climate regulation, that underpin the health of land and water, flora and fauna and natural communities. Native vegetation and habitats help provide clean water, carbon storage, timber, firewood and the health of soils. They also provide important spiritual and aesthetic values at various scales and are a key to many of the recreation and tourism values in the region.

Clearing of native vegetation along with other threatening processes from urban and rural activities has been, and continues to be, a significant threat to native vegetation and habitats across Victoria.

Several threatened vegetation communities are listed for protection under Commonwealth or Victorian legislation, including the Grassy Eucalypt Woodland of the Victorian Volcanic Plain, the Natural Temperate Grasslands of the Victorian Volcanic Plain[72] and the Coastal Moonah Woodland Community[73]. There are numerous individual threatened species that occur in the region. However, their locations are too specific to be mapped at a regional scale and are better identified through localised planning assessments should consider threatened species.

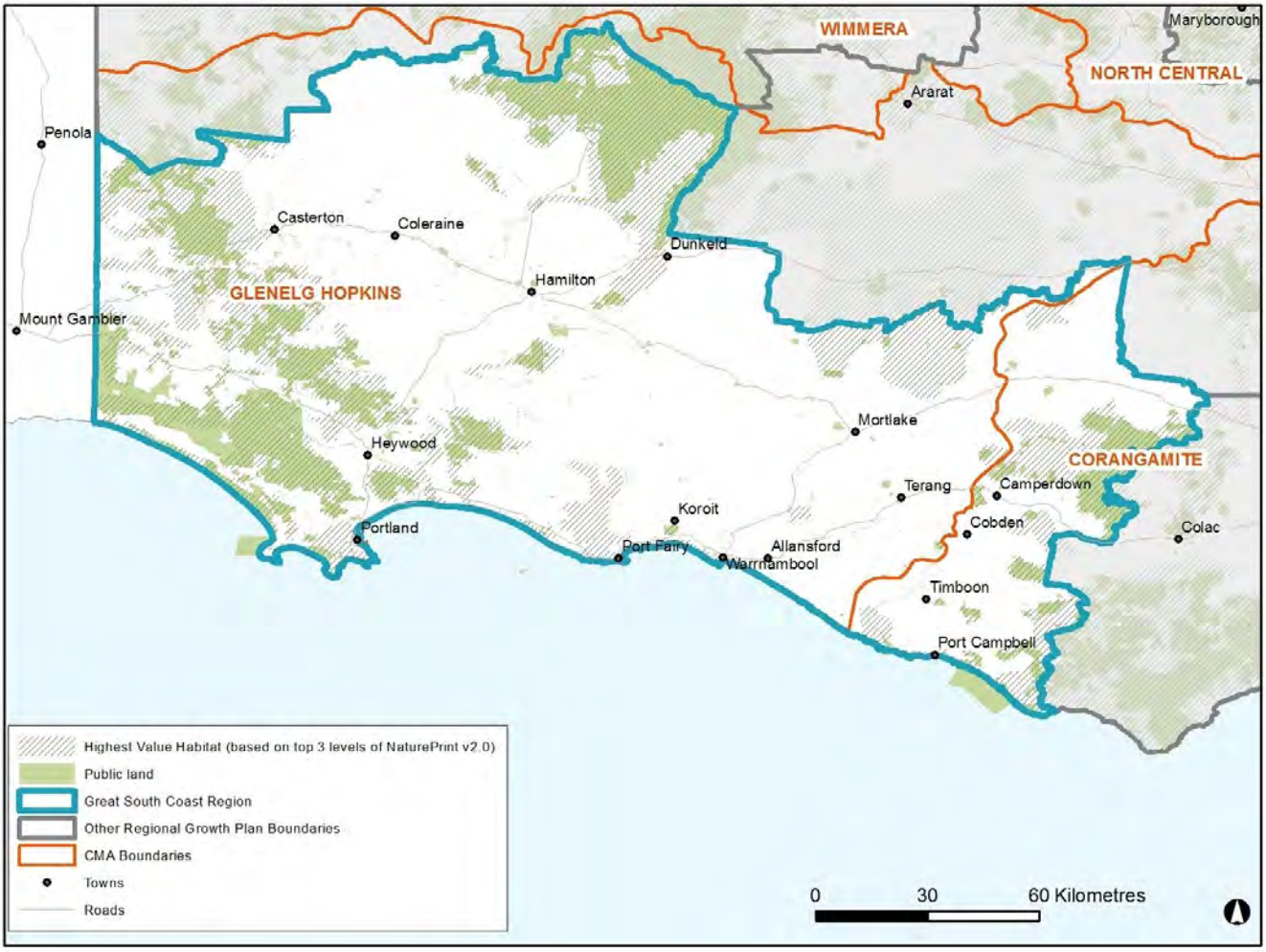
Threatened species and communities are recognised through the Department of Environment and Primary Industries NaturePrint[74] mapping tool, which has been used to inform the development of the regional growth plans, and appropriately covers these issues at a regional scale. Therefore, there are no specific future directions or land use planning actions identified in the plan to address the region's threatened species and communities issues. Finer scale planning, such as precinct structure plans or individual planning assessments, should always consider threatened species and communities appropriately.

The catchment management authorities in the region have identified the highest value native vegetation and habitat assets within their boundaries. They are described and mapped in the regional catchment strategies for these regions.

71 http://www.sthgrampians.vic.gov.au/Page/Page.asp?Page_Id=1704&h=0
72 Environment Protection and Biodiversity Conservation Act 1999 (Cwth)
73 Flora and Fauna Guarantee Act 1988
74 NaturePrint v2.0 conveys information on relative habitat value for all areas in Victoria (excluding marine), not just those with native vegetation. In its most commonly used form, NaturePrint is illustrated as a map showing relative habitat value (Strategic Natural Values map) showing areas that most contribute to biodiversity conservation. Further information on NaturePrint can be found at http://www.depi.vic.gov.au/conservation-and-environment/biodiversity/natureprint

Within the region, both catchment management authorities have used the Department of Environment and Primary Industries NaturePrint tool to identify the highest value native vegetation and habitat assets (termed terrestrial habitat) in their regions. Department of Transport, Planning and Local Infrastructure has used the highest three levels of the NaturePrint mapping to identify significant clusters of vegetation across the state (see Figure 5). This demonstrates the close alignment between the catchment management authority's terrestrial habitat assets and the native vegetation and habitat assets derived for use in preparation of the regional growth plan.

Figure 5: Terrestrial habitat assets



Source: Department of Transport, Planning and Local Infrastructure

Future natural resource management activities within the region may include actions to protect high value habitat assets in the region, along with waterways, wetlands and soil assets. Measures may include increasing vegetation in the region by creating large-scale vegetation corridors in strategic areas. The preferred locations for these corridors may overlap with areas that are expected to experience land use change in the future, or may have implications for natural hazards near existing settlements or planned growth areas. These activities may involve actions on both public and private land and are likely to use agreements and tailored land management plans with relevant land owners.

There are also emerging economic opportunities on private land associated with conserving or enhancing environmental values, such as in carbon markets, payments for providing ecosystem services and markets for vegetation offsets associated with land clearing.

Key regional growth plan considerations

The plan recognises that:

- strategic and statutory land use planning can support natural resource management activities at the regional scale, but will not be the principal mechanism for achieving improvements in catchment condition, including vegetation condition
- planning for large-scale native vegetation corridors should consider directions established in strategic land use planning, particularly in areas that may experience a future change in land use or a change in industry
- emerging economic opportunities should be supported that will provide an income stream to farmers through helping to enhance environmental values on private land
- coordinating planning for natural resource management activities with regional and local land use planning will help to identify the most appropriate locations and maximise the benefits gained from them, for example by improving the visual amenity of popular tourist routes.

6.5 Waterways

Waterways, including rivers, wetlands and floodplains, provide the region with its water supply. This water is critical to supporting the region's towns, industry and agriculture, as well as the environmental values within and adjacent to rivers, wetlands and floodplains. Rivers and wetlands are also the centre of many social, tourism and recreational activities and often are associated with Aboriginal heritage sites and historical settlement patterns.

The region includes parts of the Glenelg River, Hopkins River, Lake Corangamite, Portland Coast, Otway Coast and Millicent Coast catchments. Some parts of the region can experience flooding from these rivers that impacts on both rural and urban areas. Part of the lower Glenelg River is listed as a Victorian Heritage River under the *Heritage Rivers Act 1992*[75]. Management of the region's waterways is underpinned by the Glenelg Hopkins River Health Strategy and the Corangamite River Health Strategy which set out frameworks for managing and restoring the region's rivers, lakes and estuaries.

There are thousands of wetlands throughout the region, making up dozens of wetland complexes. Specific wetlands in Australia are protected under the *Environment Protection and Biodiversity Conservation Act 1999* (Cwth). These include wetlands listed on the Ramsar Convention and on the Commonwealth's Directory of Important Wetlands in Australia. Part of the Western District Lakes Ramsar site, a wetland of international significance, is within the region.

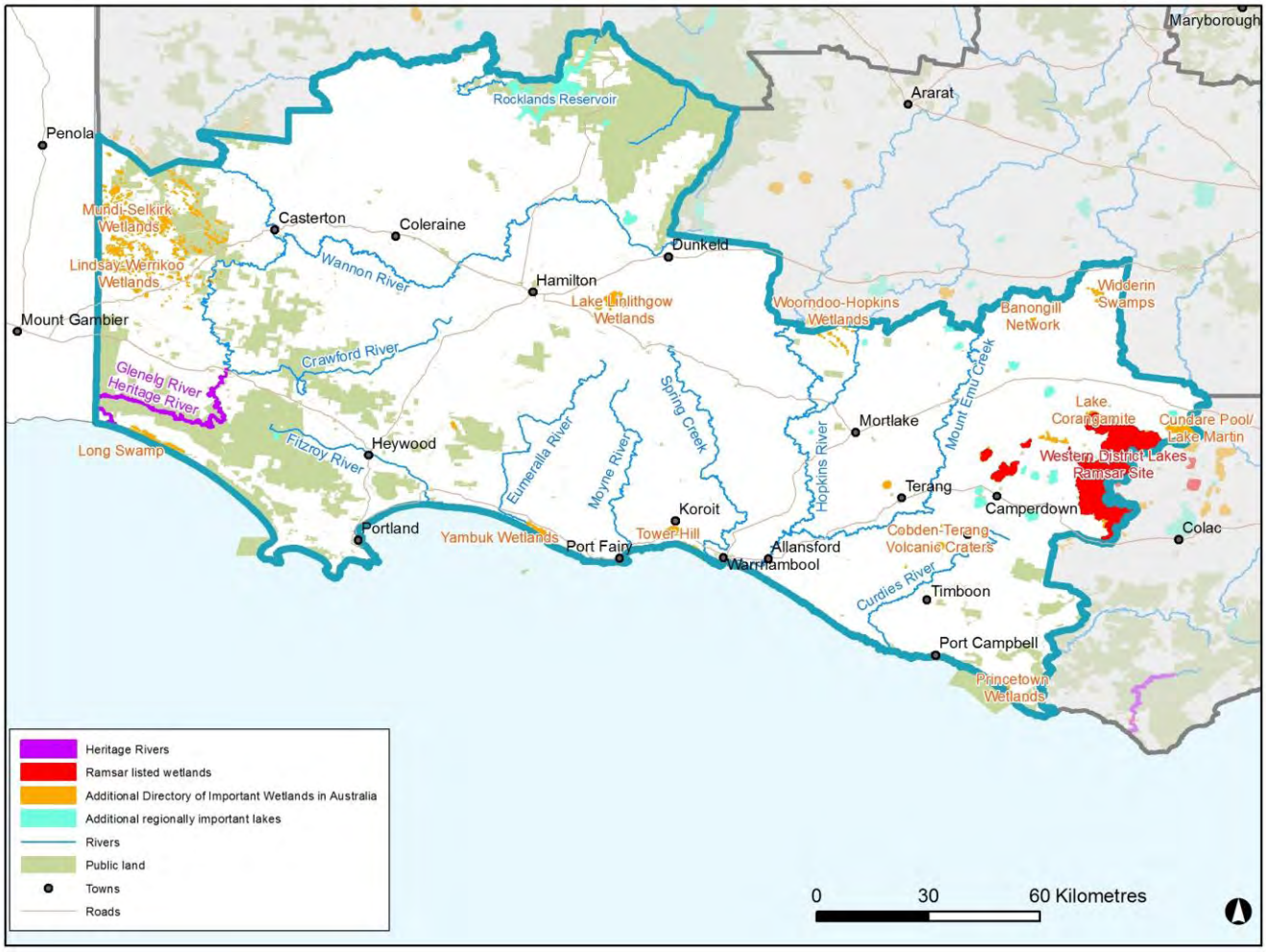
The catchment management authorities have also identified regionally significant wetland areas. Some of the wetlands in the region contain significant cultural heritage assets and many are important for tourism and recreation. Some also provide water supplies for domestic or stock use. There are also several wetlands that fall within the East Asian-Australasian Flyway sites[76] which are mapped in the plan. Detailed listings of the individual bird species occur at these sites can be found at http://www.environment.gov.au/biodiversity/migratory/publications/shorebirds-east-asia.html.

The Glenelg Hopkins Regional Catchment Strategy includes a management measure to prevent negative impacts on wetlands from new developments by working with councils to implement wetland-specific planning scheme overlays.

The important waterway assets of the region are shown in Figure 6.

75 The *Heritage Rivers Act 1992* makes provision for Victorian heritage rivers by providing for the protection of public land in certain parts of rivers and river catchment areas in Victoria which have significant nature conservation, recreation, scenic or cultural heritage attributes.
76 In March 1996, an international program was established to protect migratory shorebirds along the East Asian-Australasian Flyway, known as the East Asian-Australasian Shorebird Site Network.

Figure 6: Significant waterways



Source: Department of Transport, Planning and Local Infrastructure

Key regional growth plan considerations

The plan recognises that:

- appropriate land use planning can help to minimise threats to rivers and wetlands from inappropriate catchment development, urban stormwater runoff, waste and wastewater and reduced wetland connectivity
- some planning mechanisms, such as overlays, can be used to implement specific requirements around regionally and locally important waterway assets and these mechanisms are particularly useful to protect significant wetlands on private land.

6.6 Rainfall and water access

The region has a relatively plentiful water supply and a moderate, reliable rainfall, typically 600mm to 1000mm per year[77] which has been a key determinant of rain fed pasture-based agriculture, closer settlement and more intensive types of farming practice, such as at Kolora, the Heytesbury, Narrawong and Koroit. These higher rainfall levels mean that a significant proportion of the region is dominated by rain fed pasture which puts the region at a significant advantage for increased production levels in the future.

77 Department of Sustainability and Environment 2011, Western Region Sustainable Water Strategy

While most water is available for extraction from surface water (69 per cent) the region also has substantial groundwater resources (31 per cent)[78]. Major land use changes have put pressure on groundwater supplies in the south-west of the region which has mainly been due to the development of plantation forestry. In the future it is expected a change in land uses to those with higher water requirements will generally decrease water availability. The Western Regional Sustainable Water Strategy 2011 sets out a state-wide approach for managing adverse impacts of land use change on water resources which will apply to the region[79]. There will also be significant pressures on future water use due to climate variability and population growth which will also need to be carefully managed.

Key regional growth plan considerations

The plan recognises that:

- land use planning can help to minimise threats to surface and ground water supplies from inappropriate development and unsustainable water use by industries.

6.7 Water and water supply catchments

The region has a relatively plentiful water supply and a moderate, reliable rainfall, typically 600mm to 1000mm per year[80], which has been a key determinant of rain fed pasture-based agriculture, closer settlement and more intensive types of farming practice, such as at Kolora, the Heytesbury, Narrawong and Koroit. These higher rainfall levels mean that a significant proportion of the region is dominated by rain fed pasture which puts the region at a significant advantage for increased production levels in the future.

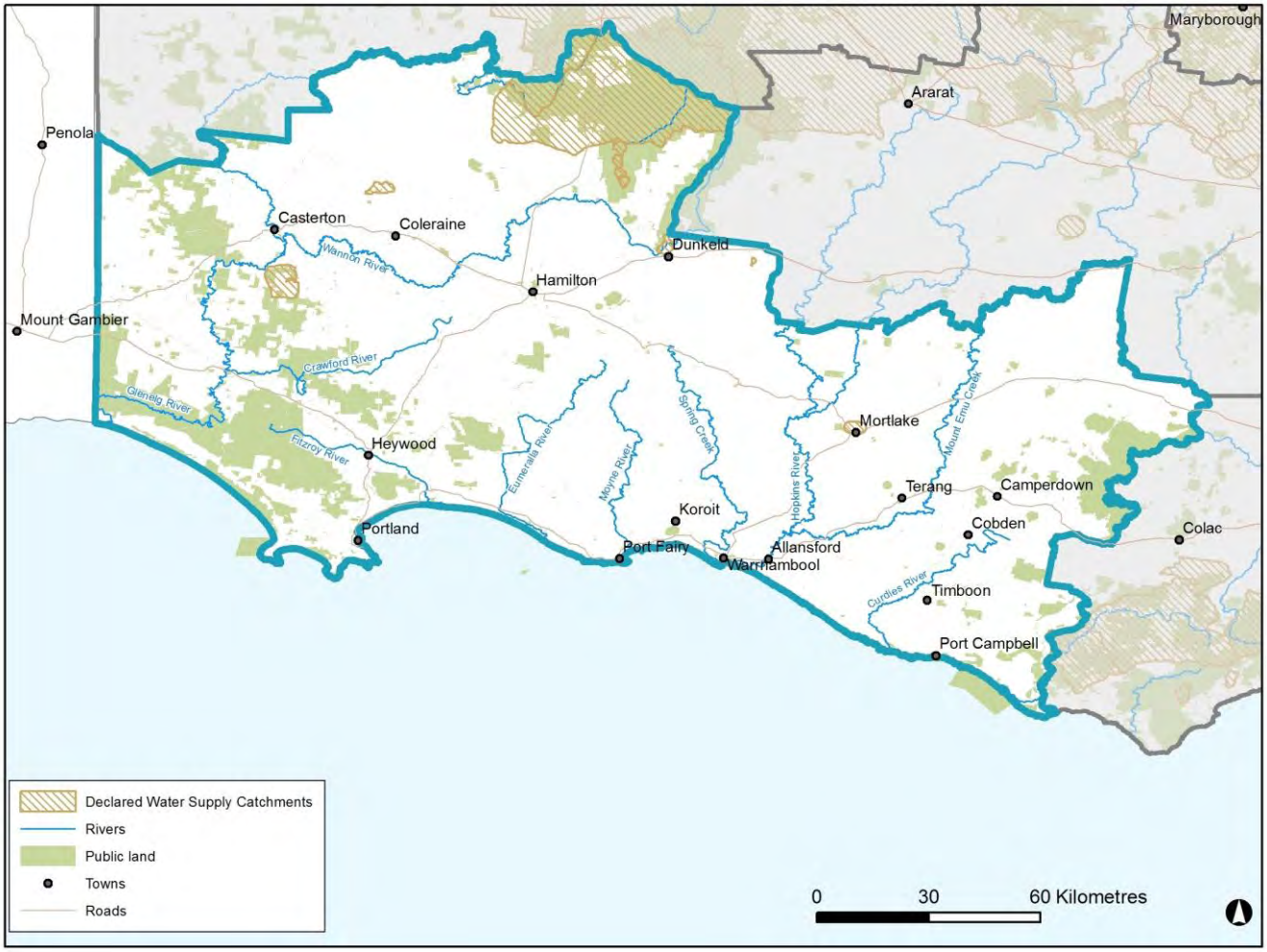
Some catchments are designated for the specific purpose of supplying water and are protected under the *Catchment and Land Protection Act 1994*. These catchments, termed declared water supply catchments, have significant values as a source of water supply, both for domestic and for stock and domestic use. They need specific protection, including land use and subdivision controls, to protect water supply and quality. Guidelines[81] exist to guide planning decisions in these catchments, where they are considered to be 'open'[82].

There are fourteen declared water supply catchments that intersect with the region (see Figure 7), with the largest ones occurring in the north. These declared water supply catchments are listed and described on the Victorian Resources Online website[83]. Groundwater is also a significant source of water for consumptive uses and is critical to the region's future. Southern Rural Water's South West Victoria Ground Water Atlas provides critical groundwater information and guidance on a regional scale and is a valuable tool which can be used to inform land use planning and guide agricultural activity.

The areas of declared water supply catchments within the region are predominantly on public land, although in high amenity areas around the Grampians they include areas of private land that may come under pressure for tourism development.

78 Department of Sustainability and Environment 2011, Western Region Sustainable Water Strategy
79 Department of Sustainability and Environment 2011, Western Region Sustainable Water Strategy
80 Department of Sustainability and Environment 2011, Western Region Sustainable Water Strategy
81 Department of Sustainability and Environment, Planning permit applications in open, potable water supply catchment areas November 2012
82 An open water supply catchment is where part or all of the catchment area is in private ownership and access to the catchment is unrestricted
83 http://vro.dpi.vic.gov.au/DPI/Vro/map_documents.nsf/pages/vic_dwsc

Figure 7: Declared water supply catchments



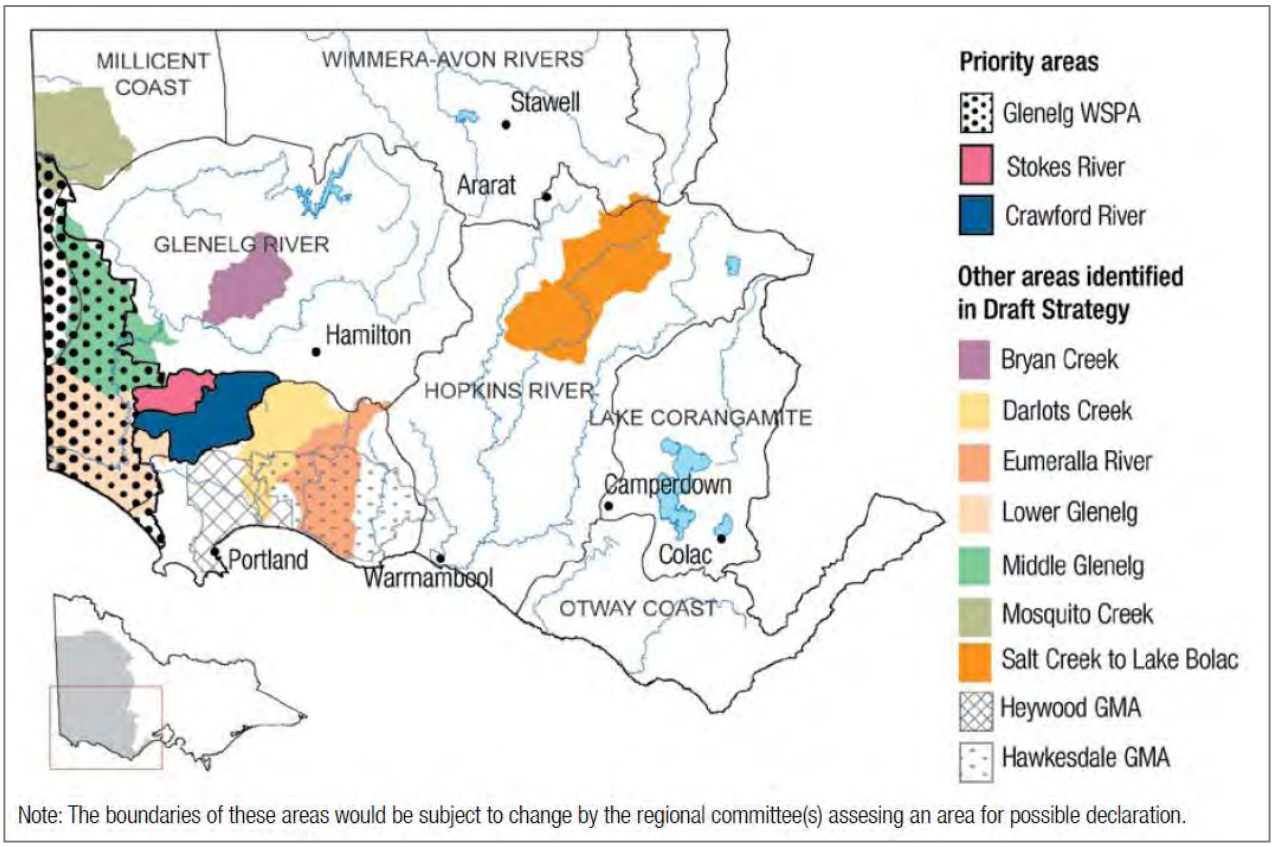
Source: Department of Transport, Planning and Local Infrastructure

The Western Region Sustainable Water Strategy identified the potential need for land use in certain catchment areas to be restricted to protect water supply into the future. This approach may result in changes to the *Water Act 1989.* The foreshadowed controls relate to the amount of vegetation that can be planted within a catchment area, to ensure surface water flows and groundwater supplies are maintained. These areas would become known as 'intensive management areas'[84]. The Western Region Sustainable Water Strategy highlighted many areas where these land use controls may need to be investigated, most of which are in the region (see Figure 8).

There will also be significant pressures on future water use due to climate variability and population growth which will also need to be carefully managed. Water supply infrastructure and planning are discussed further in Section 8.9 of this background report.

84 Department of Sustainability and Environment 2011 Western Region Sustainable Water Strategy, Figure 5.3, pg. 141

Figure 8: Priority areas for investigation as declared 'intensive management' areas



Source: Department of Sustainability and Environment (2011) Western Region Sustainable Water Strategy

Key regional growth plan considerations

The plan recognises that:

- declared water supply catchments need to be considered when proposing land use changes, particularly when considering rezoning that may result in subdivision of unsewered areas, or other increases in the density of dwellings in rural areas. The Guidelines for planning permit applications in open, potable water supply catchment areas 2012 are designed to assist with such considerations
- councils with declared water supply catchments may need to update their domestic wastewater management plans in line with the Guidelines for planning permits applications in open, potable water supply catchment areas 2012
- land use planning can help to minimise threats to surface and ground water supplies from inappropriate development and unsustainable water use from industry
- while the timber industry is very important to the region's economic future, investment may need to be directed away from areas where there may be impacts on water yield to an unacceptable level. As the implications of declaring catchment areas as 'intensive management areas' emerge, the regional growth plan may need to re-assess the most appropriate location for any expansion of the timber industry in the region.

6.8 Soils

The soils in the region vary depending on their geology and the landforms within which they are located. Soil provides the foundation for much of the economic activity within the region, especially for agriculture and timber production. Given the significance of primary production and environmental assets and values to the future of the region's economy, ongoing maintenance and improvement of soil within the region is essential. In particular, significant productive soils need to be carefully managed, including around Tower Hill.

The region's two catchment management authorities have existing soil health plans, aimed at protecting and improving soils, but these may need to be reviewed in line with renewed regional catchment strategies and Department of Environment and Primary Industries 2012 Soil Health Strategy. The Corangamite Catchment Management Authority is also investigating the need for a strategy for integrated management of agricultural land. Councils use overlays, such as the Erosion Management Overlay and the Salinity Management Overlay to manage some potential hazards that might affect the stability and quality of soils. Soil health threats and acid sulfate soils are discussed in Section 6.14 and 6.15 of this background report.

Soil issues often result from a mismatch between land use and management and the inherent capability of the soils. Land capability is a commonly used measure of the value of soil for agricultural production. Both catchment management authorities recognise the need to align land use with land capability. They have proposed initiatives to support decision-making with improved information and policy development, such as capability mapping and regional soil plans. This will be important to enable growth in productive agriculture and to guide the location of future areas for growth of settlements. The Glenelg Hopkins Regional Catchment Strategy 2013-2019 seeks to identify opportunities for land capability mapping as a basis for applying overlays and planning controls to help increase the area of soils managed within their capability.

While land capability is useful for broad strategic planning, it is not the only indicator or driver of the productive value of land. Sometimes proximity or security of feed, roads, processors, power and water can be more important considerations. Not all agriculture requires good soil or water to be productive, therefore soil capability should not be the only indicator of potential of farmland, nor should soil capability be used to discriminate between different types of legitimate agricultural land uses in rural areas.

Key regional growth plan considerations

The plan recognises:

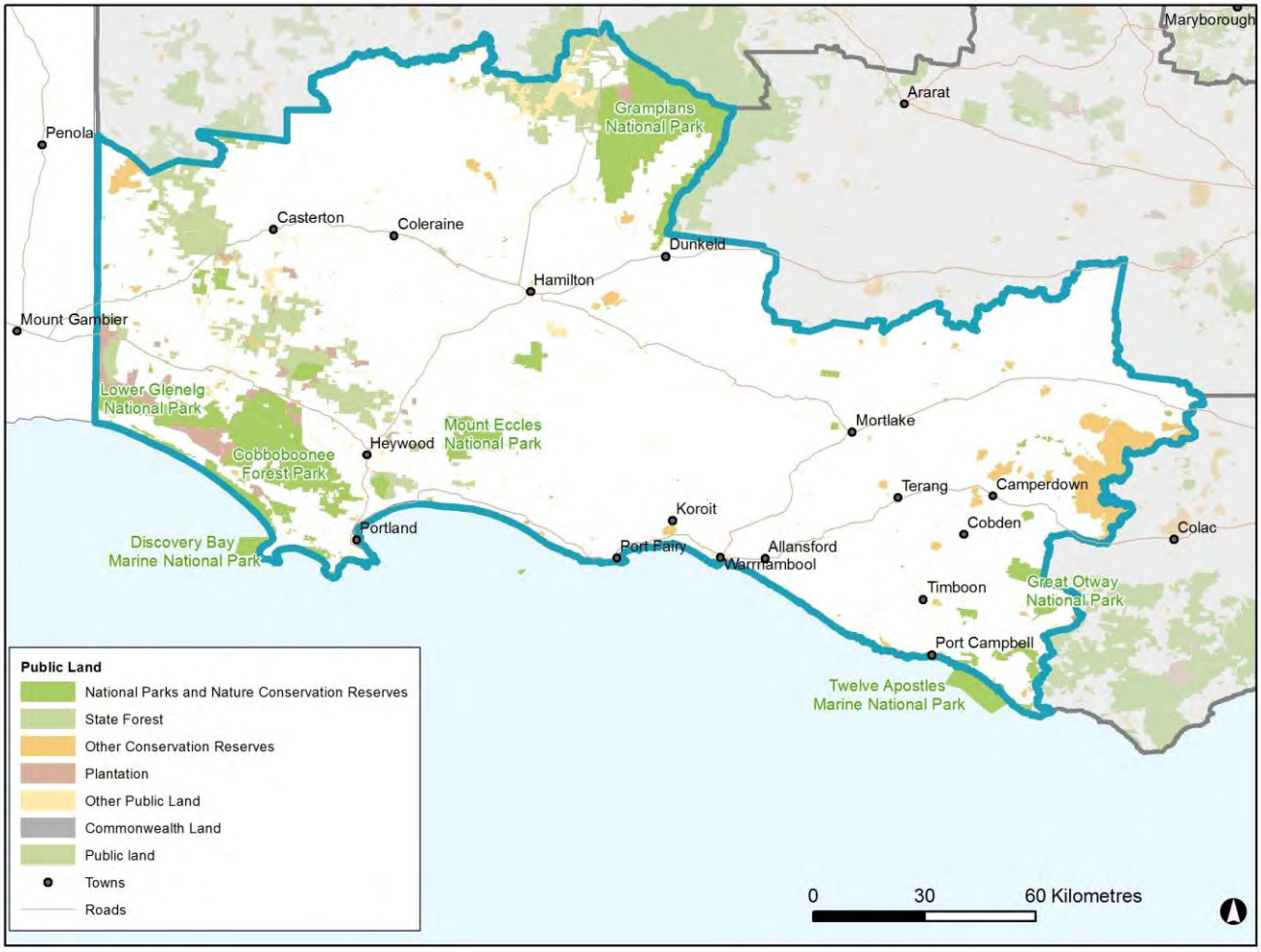
- the importance of maintaining and enhancing soil health and productive capacity, to enable growth in key agricultural industries and to protect catchments and waterways
- the need to protect productive agricultural land and preserve it from inappropriate development
- the benefits of identifying strategically important agricultural land across the region, based on inherent fertility and locational factors and taking into account the potential implications of climate change for the region.

6.9 Public land

There is an extensive network of public land reserves in the region (see Figure 9). Public land encompasses many of the significant environmental and cultural heritage assets in the region, but there are also substantial areas with high environmental values outside of public land.

The region contains nationally and internationally recognised areas of public land such as the Grampians, the Otway Ranges, Tower Hill, Mount Eccles and the Port Campbell and Twelve Apostles areas. These areas and their surrounding landscapes bring in many visitors and significant income to the region. They are a key focus of the tourism future of the region, as well as protecting environmental and cultural heritage assets and values.

Figure 9: Public land



Source: Department of Transport, Planning and Local Infrastructure

Key regional growth plan considerations

The plan recognises that:

- public land is an important asset in the region to protect ecosystems, provide amenity benefits, including through recreation and tourism, and generate income, such as through sustainable forestry and natural resource extraction
- opportunities may arise for tourism development associated with or linked to public land, particularly around the Grampians, the Otway Ranges and Great Ocean Road. There are plans underway to develop the Grampians Peak Trail, a long distance walking route linking Mount Zero to Dunkeld. This trail will require accommodation options along the route, away from established townships and tourism infrastructure to support walkers on their 12 to 14 day walking experience. This may create economic diversification opportunities for private landholders close to the Grampians National Park. There are further opportunities in relation to the significant heritage assets within the region
- the potential to advance tourism in or associated with the region's national parks should be investigated, in particular the Grampians National Park, Otway Ranges and associated with the Great Ocean Road. Such development will need to occur in balance with the environmental assets and natural hazards within each area, and be investigated fully prior to any approvals being granted. Directing tourism development into existing settlements and activity centres that are close to these tourism assets, wherever possible, will help maintain character and values of those assets
- consideration of facilities in towns with the support of established local communities with access to the tourism assets should be undertaken as a first step.

6.10 Coasts and estuaries

Coastal areas in the region contribute significantly to the economic, cultural, environmental and recreational life of the region's residents and visitors. The majority of the coastline in the region is public land, with a limited area of coastline where land to high watermark is in private ownership.

The region is included within the area covered by the Western Coastal Board, which extends from near Torquay in the east to the South Australia border in the west, and includes the coastal sections of the Corangamite and Glenelg Hopkins catchment management authority regions[85].

The Western Coastal Board has developed coastal action plans for each of the local government areas along its coast, as well as several sub-regional coastal action plans. The coastal action plans provide the strategic planning framework to ensure the appropriate management, development and use of the coastal area (coastal and marine environments), in line with the broader principles and priorities of the Victorian Coastal Strategy[86]. The coastal action plans for the region can be found on the Western Coastal Board's website[87]. The Minister for Environment and Climate Change has asked the Western Coastal Board to prepare a new overarching coastal action plan for the region.

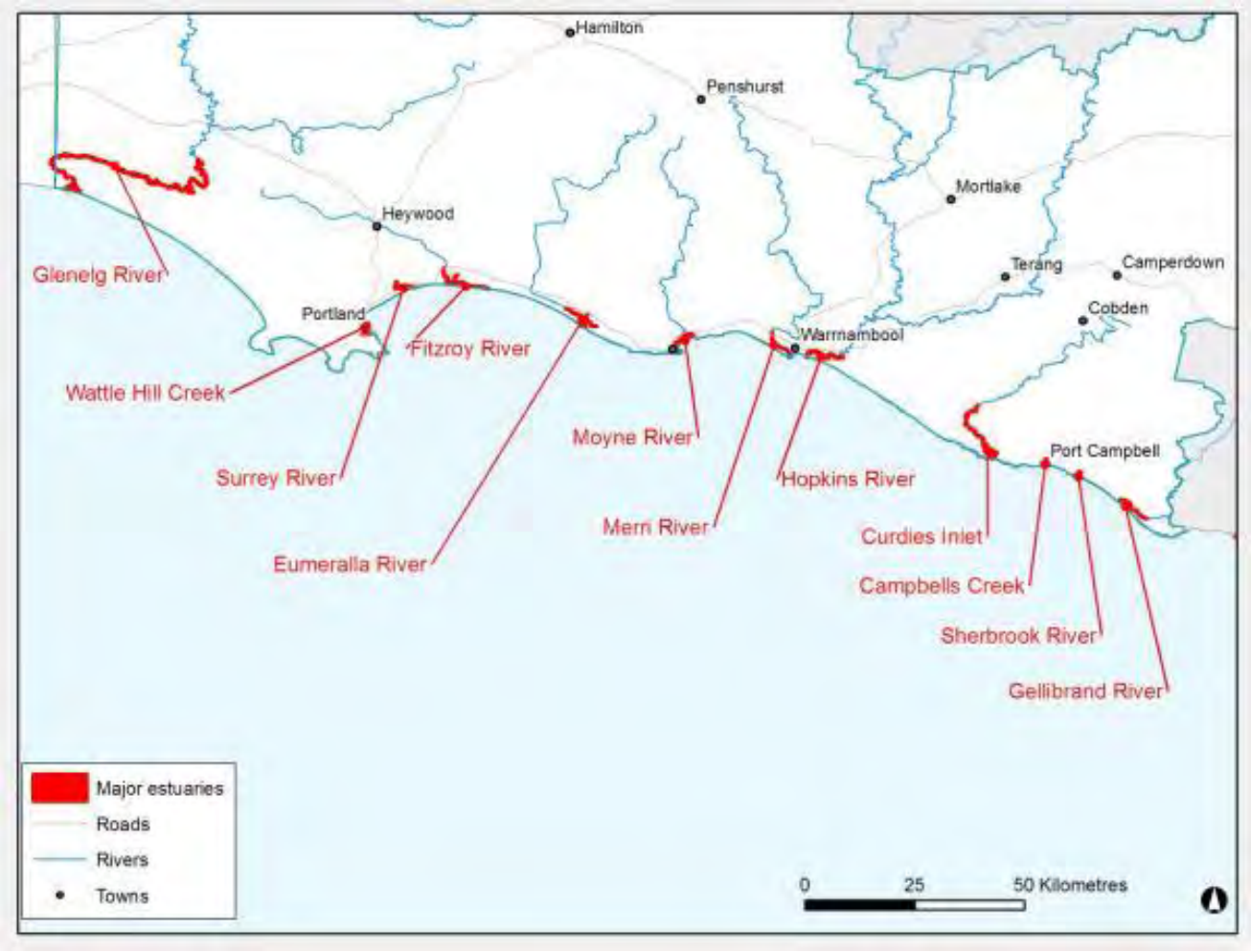
Estuaries, bays and inlets are important for fish spawning or as nursery grounds. Saltmarshes, mangroves and wetlands are important nesting and feeding grounds for a broad range of significant waterbirds and waders including migratory species. Ecosystems along the coast vary greatly, and also vary greatly as further inland from the beach.

There are eight major estuaries identified in the Glenelg Hopkins Regional Catchment Strategy: the Glenelg River Estuary, Fawthrop Lagoon, Surry River Estuary, Fitzroy River Estuary, Yambuk Lake, Moyne River Estuary, Merri Estuary, and Hopkins River Estuary. The Corangamite Regional Catchment Strategy does not specifically map its major estuaries. However, this does not diminish their importance within the region. Some of the estuaries in the Great South Coast region are shown in Figure 10.

Both catchment management authorities have also identified and mapped important coastal areas in their regional catchment strategies. These coastal areas include coastal habitat, estuaries, coastal wetlands and threatened species.

85 Western Coastal Board Website http://www.wcb.vic.gov.au/
86 Victorian Government (2008) Victorian Coastal Strategy
87 Western Coastal Board Coastal Action Plans http://www.wcb.vic.gov.au/plans.htm

Figure 10: Estuaries



Source: Department of Transport, Planning and Local Infrastructure

Key regional growth plan considerations

The plan recognises that:

- population growth and subsequent development could pose threats to coastal assets and appropriate planning and management will be required to manage potential conflicts
- potential tools include applying the Environmental Significance Overlay to protect estuaries and reviewing coastal settlement boundaries to ensure that areas with significant environmental assets and values are shielded from inappropriate development. Public land management has a significant role to play given the extent of public land in these environments
- there are many opportunities associated with coastal and estuarine assets for the region, particularly around recreation and tourism, provided such development occurs with appropriate consideration of the environmental assets and natural hazards in these areas. This will be consistent with relevant coastal management plans such as the Victorian Coastal Strategy 2008 and the relevant coastal action plans of coastal management boards.

6.11 Marine assets

The whole of the Great South Coast marine area is part of the Otway Marine Bioregion[88], which extends from Cape Jaffa in South Australia to Apollo Bay in Victoria.

Some of the distinctive environmental values of the marine bioregion include:

- the region's nutrient rich waters attract swarms of krill that generate a feeding aggregation area for Pygmy Blue Whales
- Lawrence Rocks near Portland supports the country's largest colony of Australasian Gannets
- Deen Maar (Lady Julia Percy Island) supports one of the country's largest breeding colonies of Australian Fur Seals and is also an important Aboriginal spiritual place
- the imposing undersea 'wall' in the Port Campbell area where the seafloor plunges 20 metres over a short distance
- the extensive seagrass meadows of Sea Nymph (*Amphibolis antarctica)* within Portland Bay
- the Warrnambool to Port Fairy area is a significant calving and nursery area for Southern Right Whales.

The four marine national parks and sanctuaries within the region are: Discovery Bay Marine National Park; Twelve Apostles Marine National Park; Merri Marine Sanctuary; and The Arches Marine Sanctuary. Special management areas also exist at Cape Bridgewater, Lawrence Rocks, Portland Bay, Deen Maar and Logan's Beach.

The significant marine areas of the region, including the above areas, are mapped in the Glenelg Hopkins and Corangamite regional catchment strategies. The location of the two marine national parks can be seen in Figure 9.

Population growth and subsequent development may cause some threats to marine assets however more information is needed to quantify and manage these threats. The Victorian Government is working in partnership with the Glenelg Hopkins Catchment Management Authority to further understand the implications of climate change on Victoria's marine environment[89].

Key regional growth plan considerations

The plan recognises that:

- protection of marine assets is a key consideration in any proposed development in marine environments, including tourism, wave energy, oil and gas
- there is a need to better understand catchment-based threats to marine assets and whether planning tools can assist in enabling and promoting growth while protecting marine assets.

6.12 Climate change

Predicted changes in rainfall, temperature and evaporation as a result of climate change suggest the Great South Coast region will be hotter and drier than it is today. Bushfire risk is expected to increase and although rainfall is expected to decline, the intensity of heavy rainfall is likely to rise, potentially resulting in more intense floods when they occur.

This will have long-term consequences for the region, including:

- increased risks to life and property from natural hazards such as bushfires and floods
- implications for water supply and reliability

88 A marine bioregion is a large area of the sea that, through the complex interaction of ocean currents, wave energy, seawater temperature, seafloor geology and geography, displays a distinct grouping or pattern of marine plant and animal communities and species. http://www.exploreunderwatervictoria.org.au/the-otway-marine-bioregion
89 Victorian Government (2013) Victorian Climate Change Adaptation Plan, page 61

- increased water demand
- altered agricultural commodities within the region - this could present some diversification opportunities for the region's economy over the life of the plan and beyond
- damage to infrastructure, industries and agriculture from severe weather events and natural hazards
- potential increase in erosion and reduction in water quality
- pressures on natural ecosystems
- implications for communities such as human health, energy use, housing needs and service provision
- sea level rise accompanied with increased coastal hazards[90].

Important built assets and infrastructure such as the Port of Portland, as well as environmental assets along the region's coastline may be at risk due to sea level rise, coastal erosion and inundation. Areas most vulnerable to inundation are generally beach fronts, low-lying wetlands and coastal reserve areas, including Portland and Port Fairy. Inundation of high value environmental assets along the Great Ocean Road may have implications for recreation and tourism[91].

Research is underway to better understand the potential risks and opportunities arising from climate change in the region, including on fisheries and communities. Projects include the Port Fairy Local Coastal Hazards Assessment, Climate Resilient Communities of the Barwon South-West, research at the Department of Environment and Primary Industries shellfish hatchery in Queenscliff.

Key regional growth plan considerations

The plan recognises that:

- land use planning can help improve the region's resilience and ability to adapt to changes in climate as its impacts emerge
- planning needs to take account of the likelihood of an increase in the frequency and intensity of major weather events and an intensification of climate-related hazards such as bushfires, floods, sea level rise, storm surge and coastal inundation
- increased coastal hazards that may result from changes in climate are key considerations for planning of future land use
- the commodities that can successfully be cultivated on agricultural land in the region may alter as the climate changes and economic diversification may see the expansion of other commodities and industries in response to national action to reduce greenhouse gas emissions on such as carbon farming, renewable energies or new industries
- climate-induced changes in production will have implications for supporting industries such as food processing, and for the transport system
- regional and local planning should respond to opportunities for innovation and industry development arising from changes in climate and national action to reduce greenhouse emissions, and where appropriate remove any barriers to action
- consideration should be given to the appropriate design of urban areas to address potential climate change risks on settlements, for example increased urban heat island effects.

6.13 Flood

Flooding is an important natural process but can be highly disruptive to the community and the economy. Floods are a moderately severe risk within the region.

90 Department of Sustainability and Environment (2008) Climate change in the Glenelg Hopkins region, and Department of Sustainability and Environment (2008) Climate change in the Corangamite region
91 Victorian Government (2013) Victorian Climate Change Adaptation Plan, page 70

There are a number of localised flood studies completed or underway in the region, such as the Hamilton Flood Investigation 2012. More information about localised flood investigations and regional floodplain management plans can be found through the catchment management authorities. Some existing flood studies may need to be reviewed in light of the Victorian Flood Review[92] and the Victorian Government's implementation plan that responds to the review. Future development will need to consider the findings of the Review of the 2010-11 Flood Warnings and Response (2011) and Inquiry into Flood Mitigation Infrastructure in Victoria (2012) documents which detail recommendations that will support necessary reform to the state's emergency management arrangements and a revised Victoria Flood Management Strategy to appropriately manage flood risk, protection and mitigation.

The majority of flood hazards currently identified though planning scheme overlays are in the Glenelg and Southern Grampians shires. Warrnambool also has flooding issues to consider in planning (Figure 11). The extent of flood overlays across the region may need to be reviewed as new information is released on flood hazard over time.

Given the likely increase in intensity of flooding in the region over time as a result of climate change, the impacts and costs of these events are likely to increase as well. Land use planning will continue to consider this potential increase in flooding risk as part of responsible planning decisions for the region. Flood mapping is continuing by the Department of Environment and Primary Industries, Department of Transport, Planning and Local Infrastructure and catchment management authorities that will address changing risk profiles.

Figure 11: Flood Overlays

Source: Department of Transport, Planning and Local Infrastructure

92 Victorian Government, Victorian Government's Response to the Victorian Floods Review – Improving Flood Warning Systems Implementation Plan, November 2012

Key regional growth plan considerations

The plan recognises that:

- flood hazard must be taken into account in strategic planning particularly when identifying locations for future growth of settlements
- land use planning is an effective means of reducing future risks and damage from flooding
- land use planning decisions should be based on the best quality information on flood hazard to minimise risk to life, property, community infrastructure and environmental assets[93]
- flood provisions in planning schemes should be used consistently across the region to avoid inappropriate development, or redevelopment.

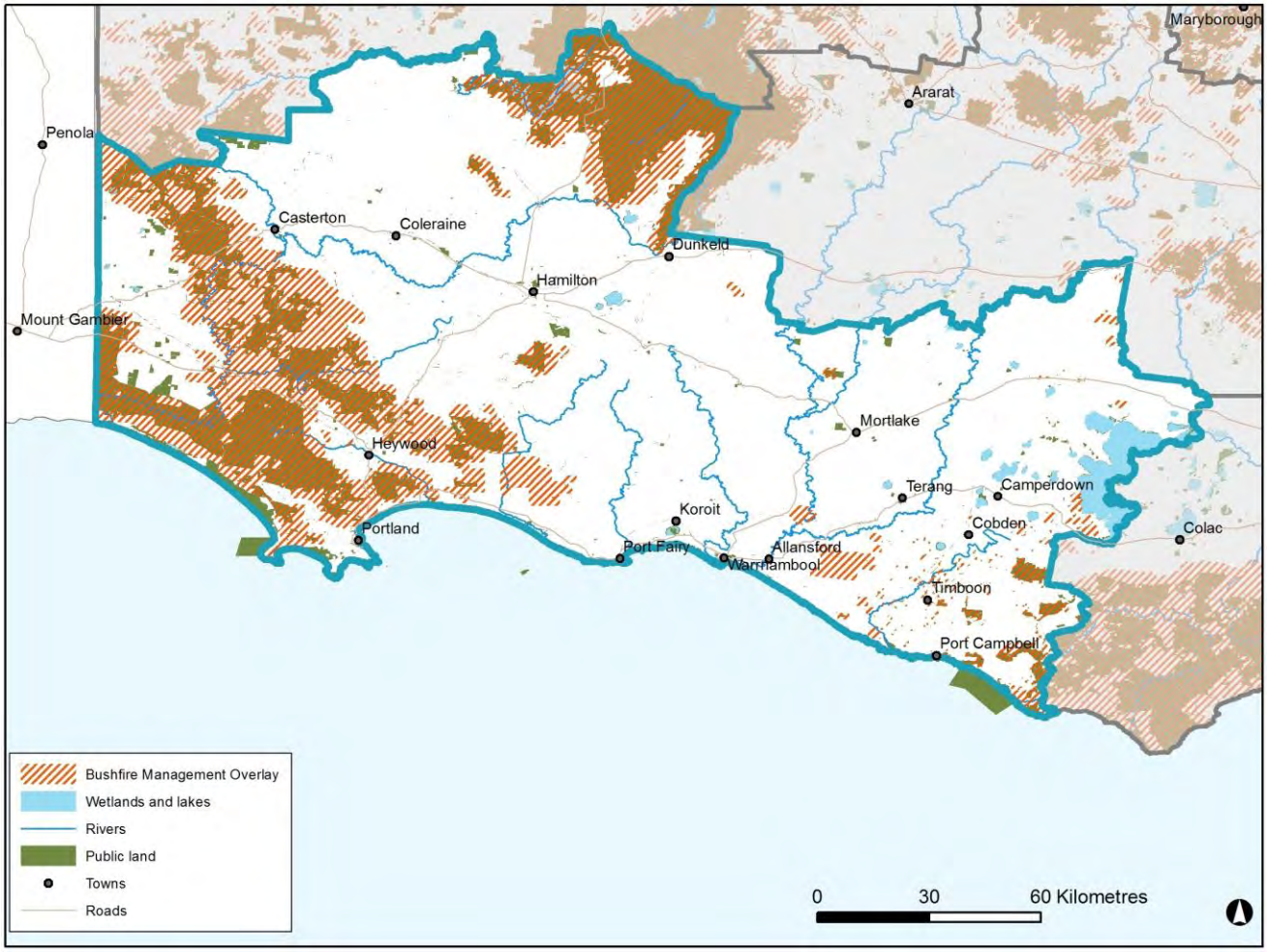
6.14 Bushfire

The region has areas with a significant level of bushfire threat, often associated with large treed areas and extensive grasslands. Many of the landscapes most attractive to residents and tourists are at the highest risk from bushfire. The existing Bushfire Management Overlay for the region is shown in Figure 12. This overlay will be updated to reflect new understanding of bushfire risk in the near future, as part of implementing recommendations from the Victorian Bushfires Royal Commission.

Regional bushfire planning assessments provide extra information about areas, referred to as 'identified areas', where a range of land use planning matters intersect with a bushfire hazard to influence the level of risk to life and property from bushfire. The regional bushfire planning assessments map where a significant bushfire hazard may affect land use planning and identify features such as settlements, urban interfaces and single access roads. This information will be addressed as part of strategic land use and settlement planning at the regional, municipal and local levels. The regional bushfire planning assessment maps and supporting information for the region can be found on the Department of Transport, Planning and Local Infrastructure website[94].

93 Victorian Government, Victorian Government's Response to the Victorian Floods Review – Improving Flood Warning Systems Implementation Plan, November 2012
94 http://www.dtpli.vic.gov.au/planning/plansandpolicies/bushfire-planning-and-building/planning-for-bushfire-protection/regional-bushfire-planning-assessments

Figure 12: Application of the Bushfire Management Overlay



Source: Department of Transport, Planning and Local Infrastructure

Key regional growth plan considerations

The plan recognises that:

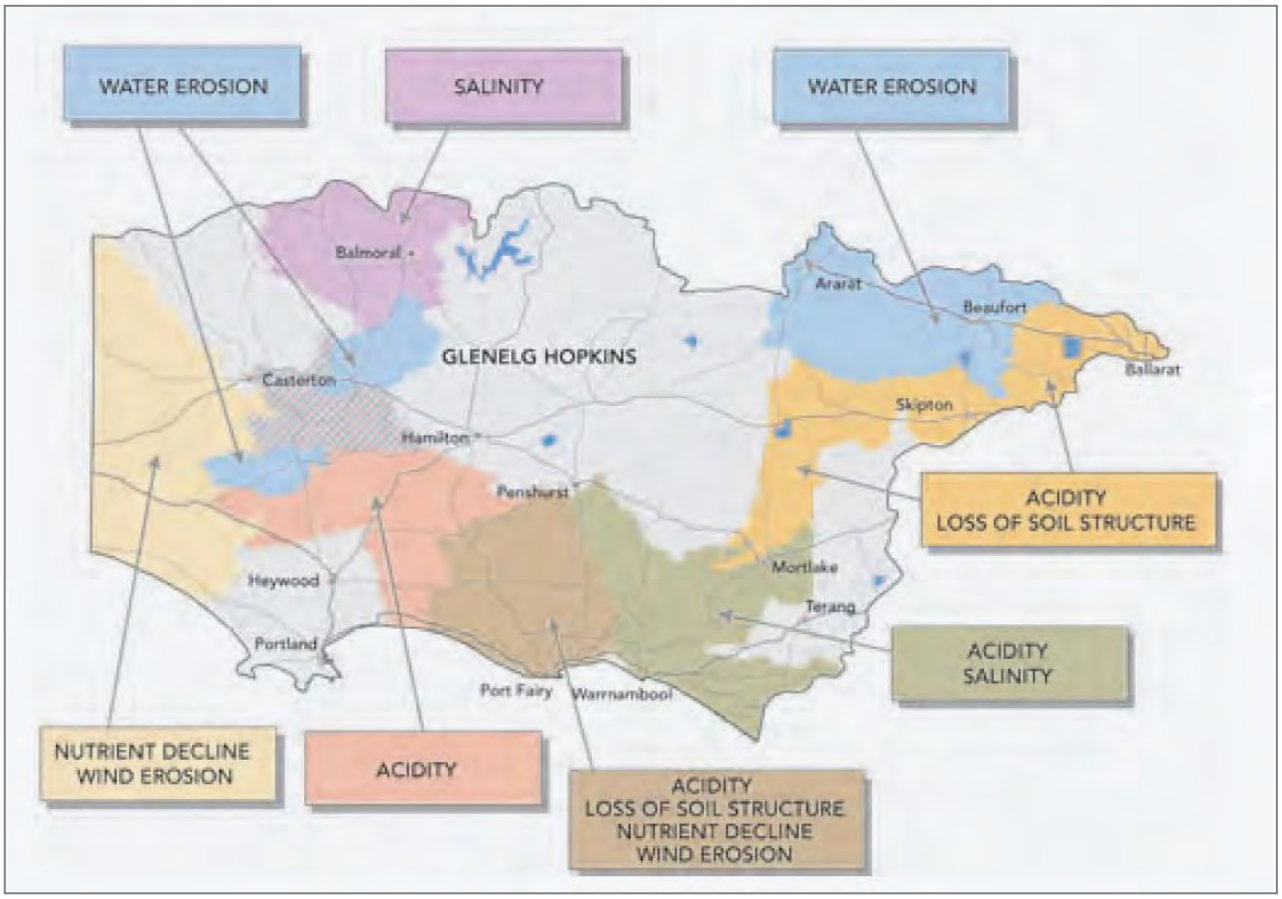
- pressures to develop in highly attractive, bushfire prone areas in the region such as near the Otways, along the coast and near the Grampians are likely to continue, and present significant challenges for land use planning
- new development should be substantially restricted in the areas of highest bushfire risk, while giving due consideration to biodiversity conservation[95]. The region must apply the precautionary principle in decision-making and minimise risk to human life. This is particularly problematic with respect to nature-based tourism activities
- there are particular risks associated with areas of extreme bushfire hazards, high concentrations of people, particularly during the high bushfire danger summer months, and limited road capacity for large-scale evacuation
- bushfire risk is a key consideration for growth of specific settlements and this has been considered in determining future areas for new development in the plan
- bushfire risk will need to be assessed to a finer level in conjunction with detailed planning at a municipal level.

95 Recommendation 39 of the 2009 Victorian Bushfires Royal Commission report

6.15 Threats to soil health

Threats to soil health vary across the region depending on soil type and other aspects of the landscape, such as slope and land use. The catchment management authorities have identified the dominant threats to soil health across the region[96] (refer to Figure 13 and Table 4).

Figure 13: Dominant soil health issues – Glenelg Hopkins Catchment Management Authority region



Source: Glenelg Hopkins Catchment Management Authority

Table 4: Dominant soil health issues – Corangamite Catchment Management Authority area

Sandy plains soils

- Characteristics – Variable sand, silt and clay content. Support cropping, forestry, grazing and dairy
- Threats – Susceptible to water and wind erosion, nutrient decline and acidification

Limestone and marl soils

- Characteristics – Generally well-structured soils. Support dairying and grazing
- Threats – Susceptible to compaction, landslides and water logging

Alluvial soils (including lunettes)

- Characteristics – High natural fertility, good depth and structure. Support cropping and grazing
- Threats – Susceptible to salinity, water logging, wind erosion, nutrient decline and some become sodic

96 Glenelg Hopkins Catchment Management Authority (2012) Glenelg Hopkins Regional Catchment Strategy 2012–18, Figure 17, page 58; Corangamite Catchment Management Authority (2012) Adapted from Corangamite Regional Catchment Strategy 2012-18 – Appendix 14

Coarse sandy soils

- Characteristics – Nutrient deficient. Can support forestry, grazing, dairying and cropping
- Threats – Highly susceptible to all forms of erosion by water

Key regional growth plan considerations

- Various planning tools, including overlays such as the Erosion Management Overlay, could be used more extensively across the region to assist in managing soil health issues. Part of the purpose of these tools is to prevent damage to buildings and infrastructure, and to manage threats to downstream waterway assets.

6.16 Acid sulfate soils

Acid sulfate soils occur naturally in coastal and inland settings. These soils can cause significant harm to human health and damage infrastructure. Areas with potential coastal acid sulfate soils have been mapped within the region. These maps are used to inform local government planning processes and can be found on the Victorian Government Resources Online website[97]. An example is shown in Figure 14.

There is also a high probability of acid sulfate soils occurring in many of the saline wetlands across the region[98].

Acid sulfate soils are acknowledged as a threat to rivers and streams, agricultural production and human health within the region, and is a consideration for land use planning. Already, there are many examples of costly mistakes in Australia involving considerable damage to land, buildings and waterways as a result of disturbing acid sulfate soils.

The former Department of Sustainability and Environment released the Victorian Best Practice Guidelines for Assessing and Managing Coastal Acid Sulfate Soils in 2010. These guidelines have been produced to guide landowners, developers, planners and decision-makers through a risk identification approach that will assist them to make decisions about the assessment and management of coastal acid sulfate soils.

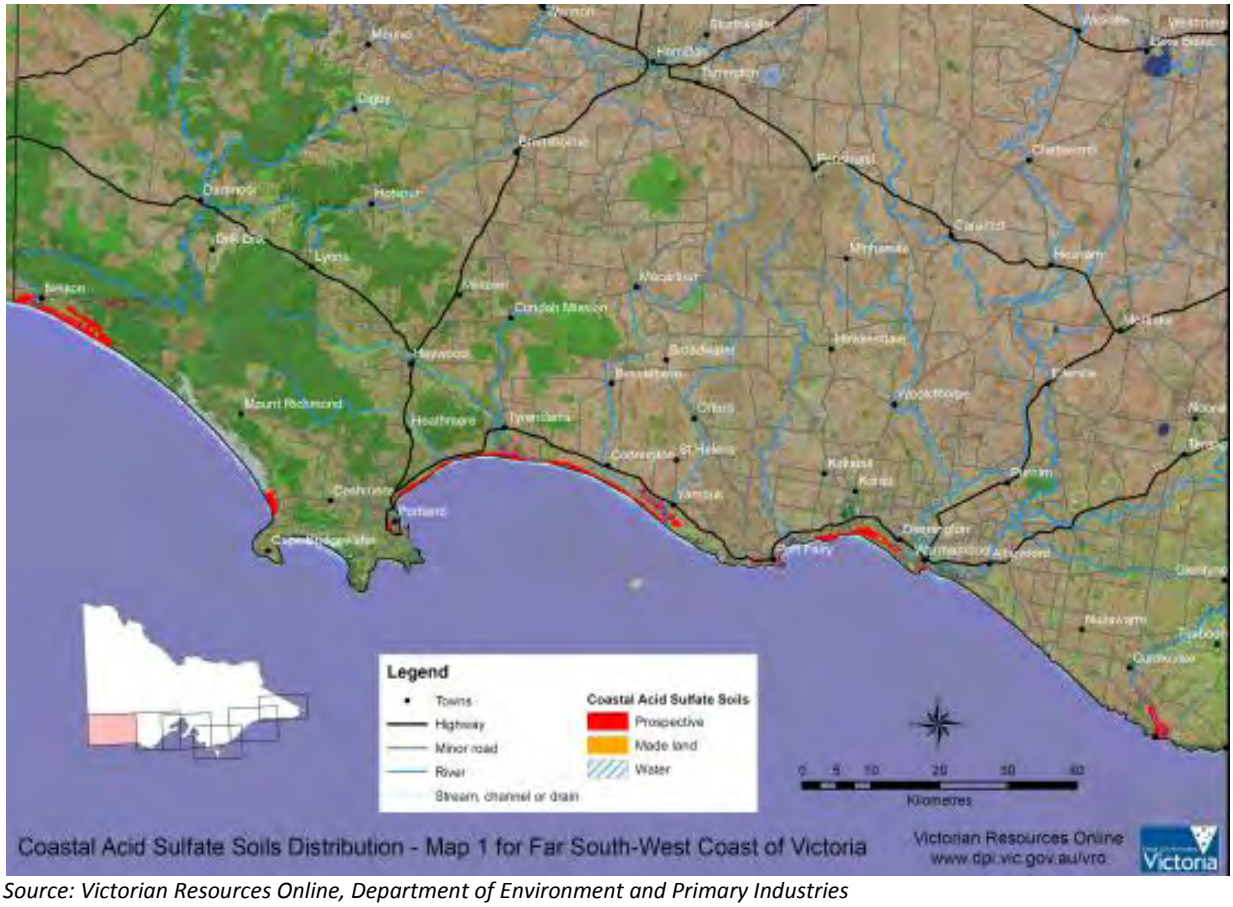
Key regional growth plan considerations

The plan recognises that:

- acid sulfate soils should remain undisturbed
- land use planners and managers need to be able to identify areas where development is best avoided due to acid sulfate soils
- inland acid sulfate soils should be considered as a possibility when any development occurs around wetlands within the region
- the location of potential acid sulfate soils has been taken into account in identifying suitable locations for future growth opportunities and land use change.

97 http://vro.dpi.vic.gov.au/dpi/vro/vrosite.nsf/pages/soil_acid_sulfate_soils
98 Australian Soil Resource Information System (ASRIS) (2011) http://www.asris.csiro.au Accessed 1 November 2012

Figure 14: Example mapping of potential coastal acid sulfate soils in the region



Source: Victorian Resources Online, Department of Environment and Primary Industries

6.17 Coastal hazards

The State Government's Future Coasts Program has developed the Victorian Coastal Inundation Dataset, which provides a high level indication of potential risks from sea level rise and storm surge at a statewide to regional scale for four different time periods (2009, 2040, 2070 and 2100). The Victorian Coastal Inundation Dataset is designed to be used at a regional scale to assist strategic planning and risk management, including regional growth plans. The maps for the Great South Coast region can be found on the Future Coasts Victorian Coastal Inundation Dataset website[99].

Potential coastal hazards for Victoria are outlined in the Victorian Coastal Hazard Guide (2012). The guide provides a risk management framework that can be used to examine the likelihood and ramifications of a specified coastal hazard event occurring. It also outlines possible response options, while accounting for local factors, stakeholder input, complexity and uncertainties. The guide is intended for use by regional municipalities and government agencies to inform future coastal planning and decision-making. Coastal hazards that may be experienced in the region include coastal inundation, coastal erosion and damage to infrastructure.

The Victorian Coastal Hazard Guide notes that climate change is not expected to create any new coastal hazards, but at many locations it has the potential to make existing coastal hazards worse. Climate change may affect the rate of change and the mean level of the sea, the frequency and elevation of extreme sea levels, the height of waves, and the frequency and intensity of rainfall, and consequently catchment flooding.

As the impacts of climate change emerge, Victoria's coastal areas are at risk from probable sea level rise, storm surge and flooding. Probable sea level rise, in combination with coastal storm events and storm surge, increase the risk of coastal inundation and erosion. Coastal inundation can affect infrastructure such as roads, services and the natural

99 http://www.climatechange.vic.gov.au/adapting-to-climate-change/future-coasts/victorian-coastal-inundation-dataset

environment. For Victoria's coastal areas to successfully adapt to changes in climate, a better understanding of the impacts on coastal areas is needed, along with building capacity to manage potential impacts[100].

Under the Victoria Planning Provisions, planning authorities must plan for sea level rise. A local coastal hazards assessment is underway in the Great South Coast region for Port Fairy. This assessment will produce information and data to assist decision makers such as by informing settlement and land use plans, infrastructure asset planning and potentially the development of statutory tools[101].

The Glenelg Hopkins Catchment Management Authority has proposed developing coastal adaptation plans to manage the impact of sea level rise, and storm surge and flooding in priority areas, along with updating the regional coastal action plan. The Corangamite Catchment Management Authority has proposed developing and implementing appropriate planning tools to aid coastal planning.

Key regional growth plan considerations

The plan recognises that:

- a greater understanding of potential coastal hazards for the region is needed in light of potential climate change
- regional approaches to planning for coastal impacts of changes in climate should be supported
- decisions will be required in the near future about the appropriate long-term approach to planning and managing coastal hazards in specific areas, including settlements and around key coastal tourism assets.

6.18 Potentially contaminated land

There are many areas in the region that may contain contaminated land. Some of these could be subject to development pressures, either through infill or urban expansion. There are also many individual properties that may have pockets of contaminated land due to historic land use and management.

The specific location of potentially contaminated sites is not well known across the region, posing a challenge for land use planning. This is likely to be particularly true as residential development expands and infill development occurs on sites that have a complex land use history. The existence of contamination can significantly restrict the viable uses of affected land unless the contamination is remediated, which often involves costly soil removal or treatment.

A report by the Victorian Auditor General's Office determined that the Department of Transport, Planning and Local Infrastructure, the Environment Protection Authority Victoria and councils are not effectively managing contaminated sites, and consequently cannot demonstrate they are reducing potentially significant risks to human health and the environment to acceptable levels. The Auditor General determined this is 'largely because the complex regulatory framework that has evolved to deal with contaminated sites has significant gaps, and key elements lack clarity. In many cases, this has led to a lack of accountability and responsibility, and subsequent inaction'[102].

Key regional growth plan considerations

The plan recognises that:

- consideration of potential contamination needs to be built into local planning for future growth, particularly for redevelopment or infill sites.

100 Victorian Government (2013) Victorian Climate Change Adaptation Plan
101 Victorian Government (2013) Victorian Climate Change Adaptation Plan
102 Victorian Auditor General's Office (2011) Managing Contaminated Sites, page vii

7. Settlements and population

7.1 Introduction

In order to attract people to the Great South Coast region it is essential that urban settlements are highly liveable places. Residents should be able to live comfortably and conveniently through all stages of their lives. The amenity of established residential areas should be enhanced while providing new and more diverse housing opportunities in areas where appropriate services can be delivered. Land use planning can contribute to creating attractive towns in the region by recognising and protecting those attributes which are valued by the community and which make places distinctive.

The region has a network of settlements varying in size and function. The greatest concentration of population centres occurs along the coast, but settlements are also dispersed throughout the region to support farming and other rural industries. Settlements also spread eastwards along the Princes Highway corridor from Warrnambool towards Colac, Geelong and through to Melbourne. Approximately half of the region's population is located in the three largest regional centres of Warrnambool, Portland and Hamilton. The majority of the remaining population is dispersed amongst smaller settlements including Camperdown, Cobden, Skipton, Casterton, Heywood, Koroit and Port Fairy. The region's population is projected to grow to approximately 124,798 by 2031[103], and to 131,239 by 2041[104]. Warrnambool is likely to attract the majority of population growth.

The regional growth plan aspires to achieve population growth that exceeds the forecast for the region. A baseline growth average annual growth rate of only 0.8 per cent will put at risk the economic development and living standards enjoyed in the region, due to workforce constraints and possible lack of skills to service the economic, health and social requirements of the region.

Therefore, the plan's direction is to increase the region's population to around 143,000 people by 2041 requiring an average annual growth rate of 1.2 per cent. Based on this above-baseline population forecast, the number of households in the region will increase by 5000 from around 54,800 to approximately 59,800.

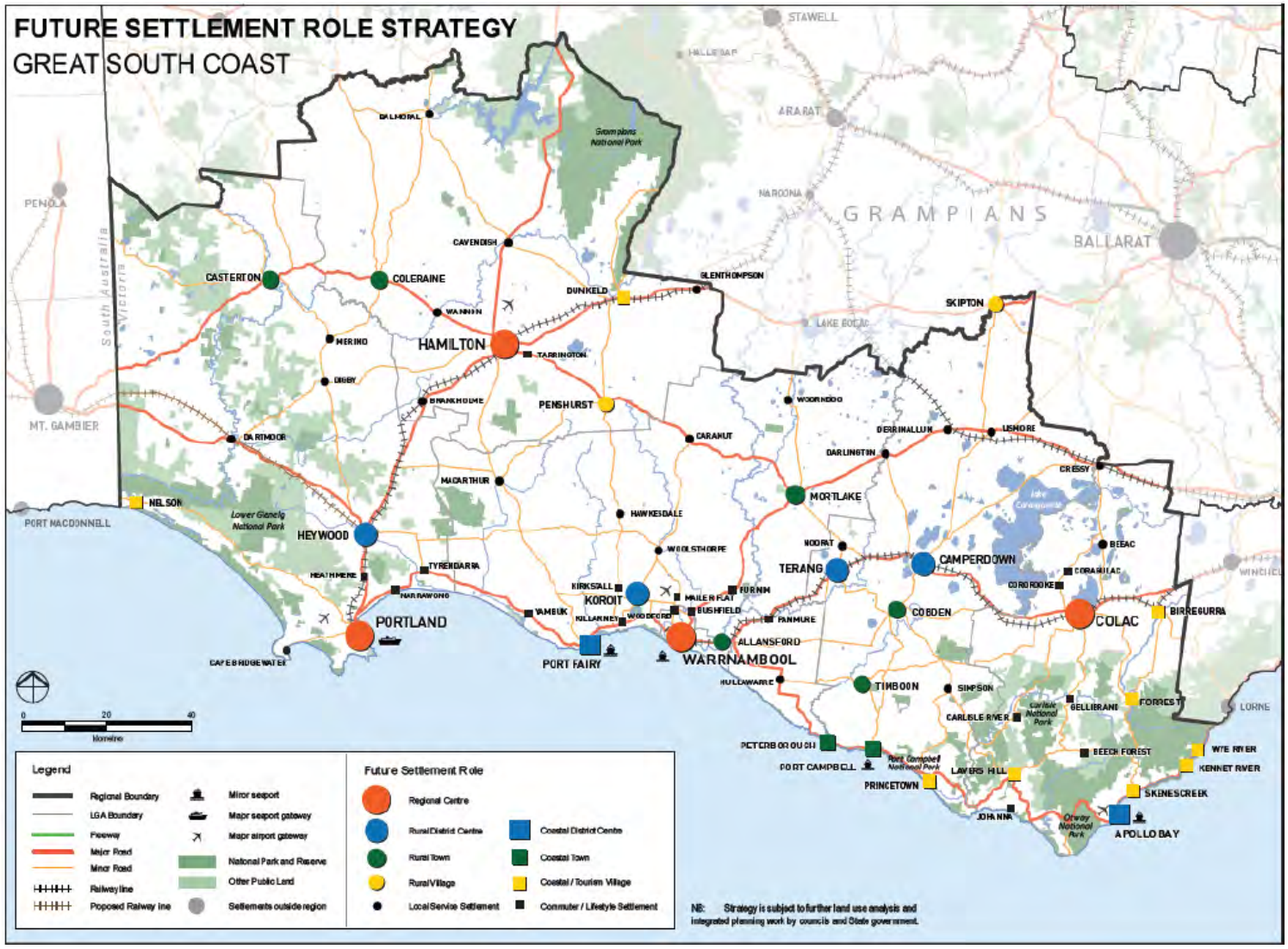
The plan aims to provide the land use planning framework to assist in delivering this targeted regional population growth. Based on available information, there is sufficient residential land supply (either zoned or strategically identified) throughout the region to cater for the target growth levels identified in the plan.

This chapter considers possible land use planning responses to manage population growth pressures in the region's network of settlements. The housing supply required to accommodate the projected population growth is investigated at the local level.

The regional strategic plan outlined a Future Settlement Role Strategy (Figure 15), mapping the future settlement pattern of the region. A hierarchy of settlements is clearly visible, distinguishing between smaller settlements serving a localised role and larger centres that provide a wider range of services aimed at the broader region.

103 Department of Planning and Community Development, Victoria in Future 2012
104 Department of Planning and Community Development Unpublished projection 2012

Figure 15: Future settlement role strategy



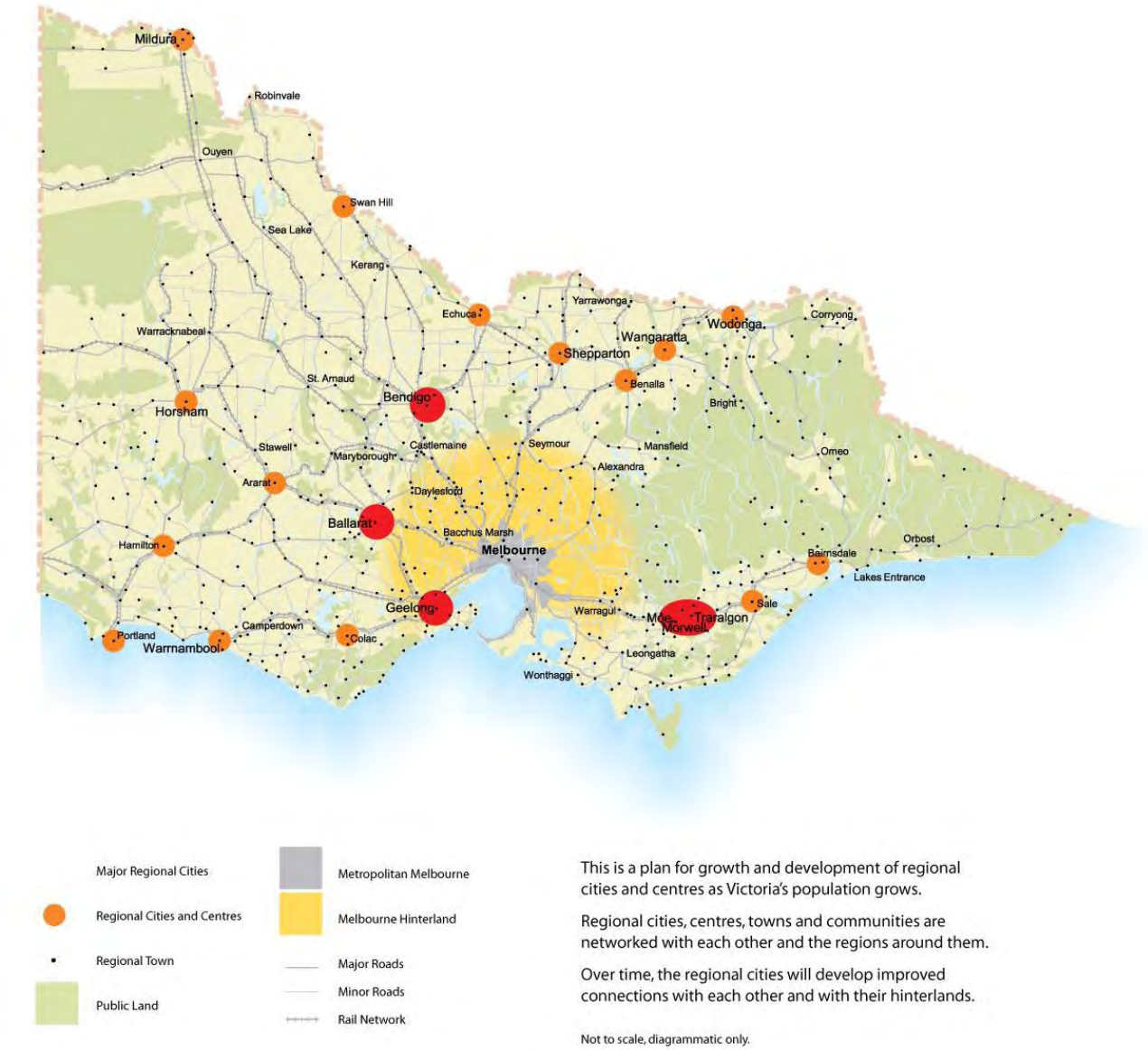
Source: Regional Development Victoria (2010)

Victoria Planning Provisions

The State Planning Policy Framework in all Victorian planning schemes provides that planning in Victoria is to anticipate and respond to the needs of existing and future communities through the provision of zoned and serviced land for housing, employment, recreation and open space, commercial and community facilities and infrastructure. Clear objectives and strategies are set for achieving sufficient urban land supply, planning for growth, regional development and planning for coastal areas. The plan contains strategic directions that respond to these statewide provisions.

Sustainable development of the regional cities and centres of Warrnambool, Hamilton and Portland is to be supported. The Regional Victoria Settlement Framework contained in clause 11 of the State Planning Policy Framework (under review) is shown in Figure 16. The policy also recognises that development should provide for growth in population and development of facilities and services across a region or sub-region network. Balancing strategic objectives to achieve improved land use and development outcomes at regional, catchment or local level is supported.

Figure 16: Victoria Planning Provisions: Regional Victoria Settlement Framework



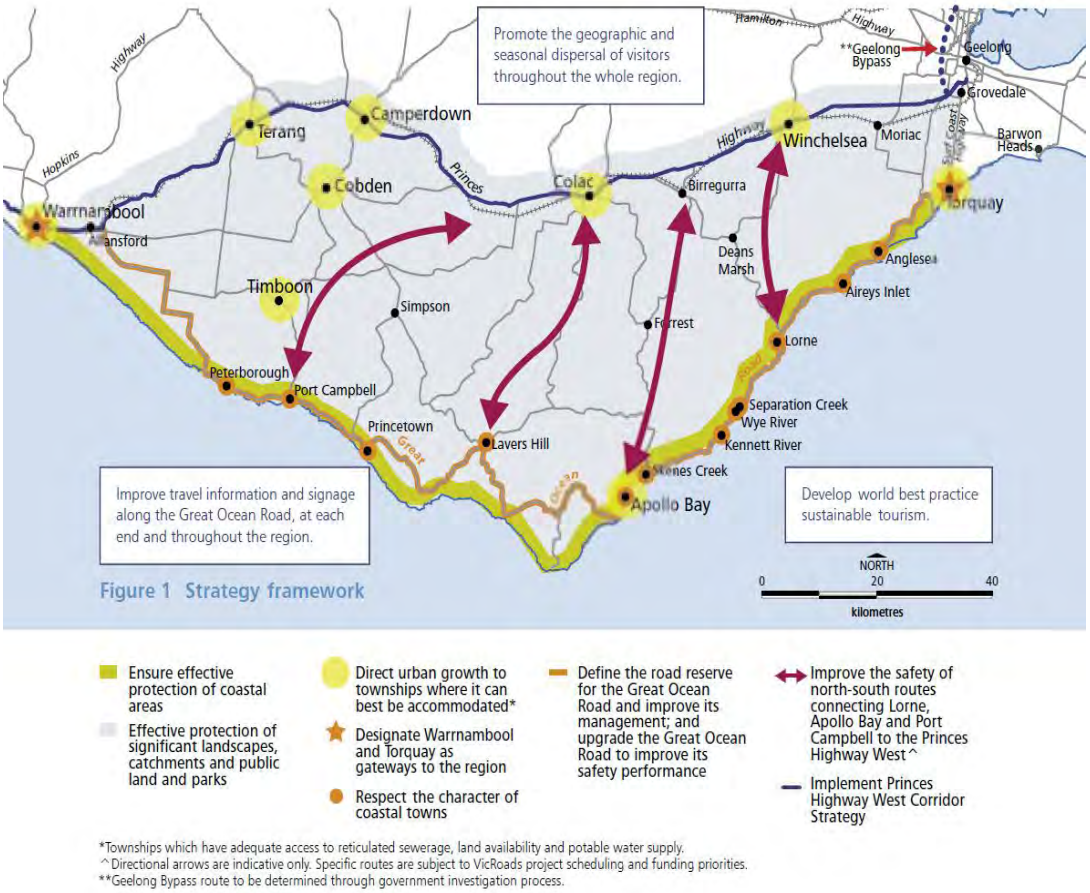
Source: Department of Transport, Planning and Local Infrastructure

Great Ocean Road Strategy

Growth in coastal locations must be consistent with the Victorian Coastal Strategy (2008) and the Great Ocean Road Region Strategy, which set out principles for development on the coast and outline the settlements where population growth can be accommodated most sustainably (Figure 17).

The strategy supports population growth in Warrnambool, Terang, Camperdown, Cobden and Timboon.

Figure 17: Great Ocean Road Strategy



Source: Department of Transport, Planning and Local Infrastructure

Understanding Smaller Settlements

The Department of Transport, Planning and Local Infrastructure commissioned a study titled Understanding Smaller Settlements[105] to inform the development of regional growth plans. This report focuses on smaller settlements in regional Victoria and their interface with larger regional centres. It outlines how larger regional centres exert an influence on their hinterland including surrounding smaller settlements through the more diverse range of employment options and services they provide. This in turn reduces risk by enabling smaller settlements to survive without the reliance on a sole industry.

The report reinforced the notion that smaller settlements will need to rely on larger centres to remain viable. Smaller settlements included in the report from the Great South Coast region are Cavendish, Dunkeld and Coleraine. Their interaction with the larger centre of Hamilton is cited as a case study. The case study was one of a number in the study that helped inform a series of key findings about smaller settlements across the state, the identification of drivers and implications of change and land use strategies that could be considered when planning for smaller settlements to contribute to supporting their adaptation and resilience.

105 Planisphere (2012) Understanding Smaller Settlements, July 2012

The land use strategies related to managing growth, at a regional and structure planning level, providing infrastructure, accessing services, jobs and social opportunities, supporting agriculture and rural production reform, facilitating localised responses, diversifying economies, addressing hazards, benefiting from new technology and global changes, and strengthening communities.

The study found that the role, function and definition of smaller settlements varies widely across Victoria, and is influenced by multiple variables including distance, transport options, infrastructure, geography and historical linkages. Strategic planning for smaller settlements across the region could consider the findings of this report.

Local planning

Councils in the region have prepared a range of planning strategies. Structure plans have been prepared for Warrnambool, Portland and Hamilton and other key towns throughout the region. The structure plans have informed the framework plans developed in the plan for each of these centres.

Key regional growth plan considerations

Previous policy work provides a context for the plan. This includes: the regional strategic plan, the Victoria Planning Provisions, the Great Ocean Road Strategy, the Victorian Coastal Strategy, the smaller settlements study and local planning.

7.2 Description and analysis – settlement

Settlement patterns – a growing and changing population

In 2011 the population of the region was estimated to be 101,624[106] (Table 5).

Table 5: Great South Coast population 2011 to 2031

Corangamite

- 2011 – 16,504
- 2021 – 18,172
- 2031 – 18,821

Glenelg

- 2011 – 19,843
- 2021 – 22,214
- 2031 – 23,155

Moyne

- 2011 – 16,175
- 2021 – 18,496
- 2031 – 19,884

106 Australian Bureau of Statistics 2011 Census Population and Housing

Southern Grampians

- 2011 – 16,510
- 2021 – 18,256
- 2031 – 19,004

Warrnambool

- 2011 – 32,592
- 2021 – 39,416
- 2031 – 43,934

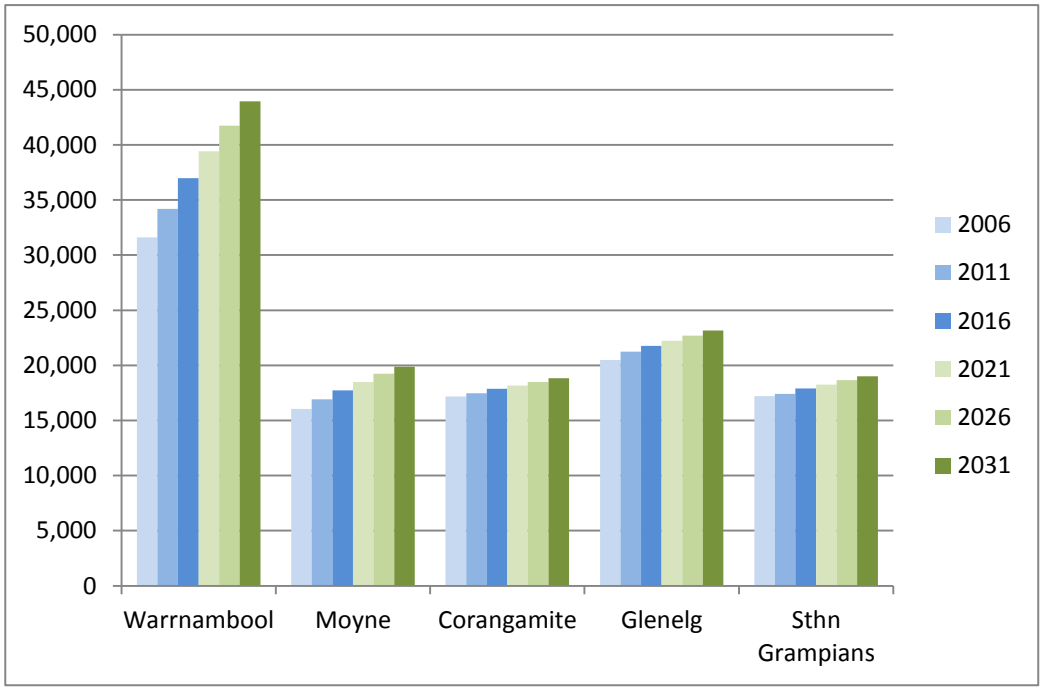
Region total

- 2011 – 101,624
- 2021 – 116,554
- 2031 – 124,798

**Estimated Resident Population.*
Source: Australian Bureau of Statistics Catalogue 3218.0 Regional Population Growth; Victoria in Future 2012

The Great South Coast region is projected to grow to 124,798 people by 2031, an increase of 23,174 people, and to 131,239 by 2041[107] (see Figure 18).

Figure 18: Past and projected growth in the region



Source: Australian Bureau of Statistics Catalogue 3218.0 Regional Population Growth; Victoria in Future 2012.

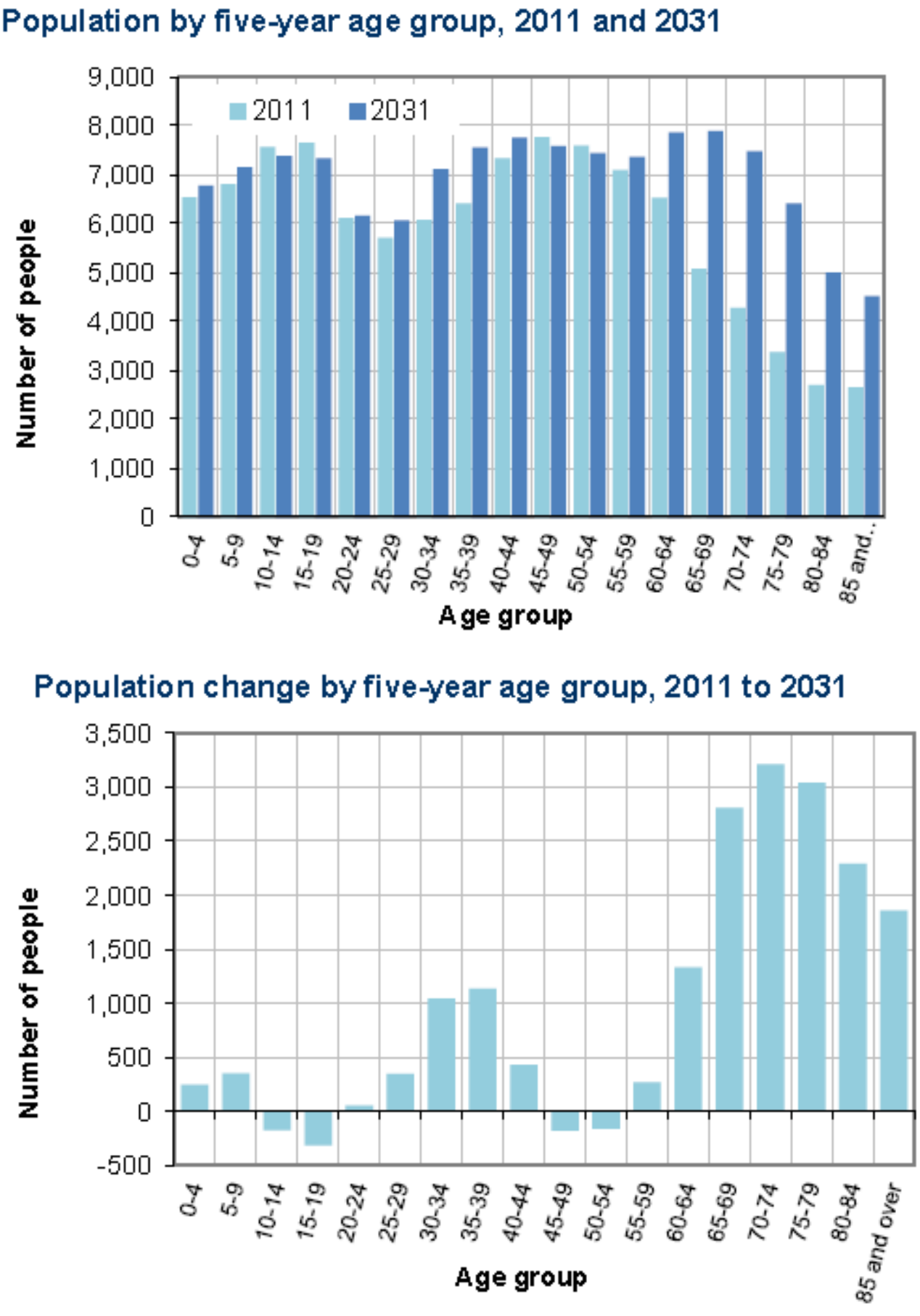
There has been an overall increase in the population across the region since 2006, but patterns of change have varied from municipality to municipality Figure 8. This differential growth is expected to continue, with the populations of some areas, such as Corangamite Shire and Southern Grampians Shire, predicted to experience relatively slow rates of growth while other areas will experience substantial growth. Warrnambool has grown strongly in recent years, accounting for most of the region's growth, and is expected to continue to do so.

The region needs to plan for a population where the average age is increasing at a rate higher than for Victoria as a whole. The ageing trend is projected to continue in the future, but at a higher rate as the baby boomers enter old age. By 2031 the number of people aged 60 years and over will comprise almost one-third of the region's population (Figure 19). Already there is a higher concentration of older people in rural areas compared to Warrnambool[108]. The region's 'aged dependency ratio', which measures the number of people aged 65 years or over against those of workforce age, has risen steadily over the past 10 years and is expected to accelerate sharply from 1:4 to 1:2 in the next 15 years[109]. As the population ages, there will be less working people to support the economy and provide the resources older people require.

The ageing population has implications for the economic prosperity of the region and changing demands for transport, health and social infrastructure. Demand for hospital services is expected to rise over the next 10 years, along with the demand for diversity of housing types.

107 Department of Planning and Community Development unpublished projections, 2012
108 Regional Development Victoria (2010) Great South Coast Regional Strategic Plan
109 SED Consulting (2011) Great South Coast Major Projects Cumulative Impact Study

Figure 19: Forecast population change 2011 to 2031



Source: Victoria in Future 2012 Western District Profile

Table 6 shows the region is expected to grow to 131,239 people by 2041. Based on past trends, it is expected that a significant proportion of people moving to the region will be from Melbourne or from overseas migration (see Table 6). It is also expected the region will experience some population losses to other regions within Victoria and interstate. Surrounding regions have differing growth rates to that of the Great South Coast region.

The population of the adjoining G21 (Barwon) region to the east is projected to increase from around 270,000 people to approximately 500,000 people by 2051[110]. To the north, the Wimmera Southern Mallee region is experiencing population decline though at a slower rate than in previous periods[111].

Table 6: Predicted components of population change 2011 to 2041

Estimated Resident Population 30 June 2011 - 107,215

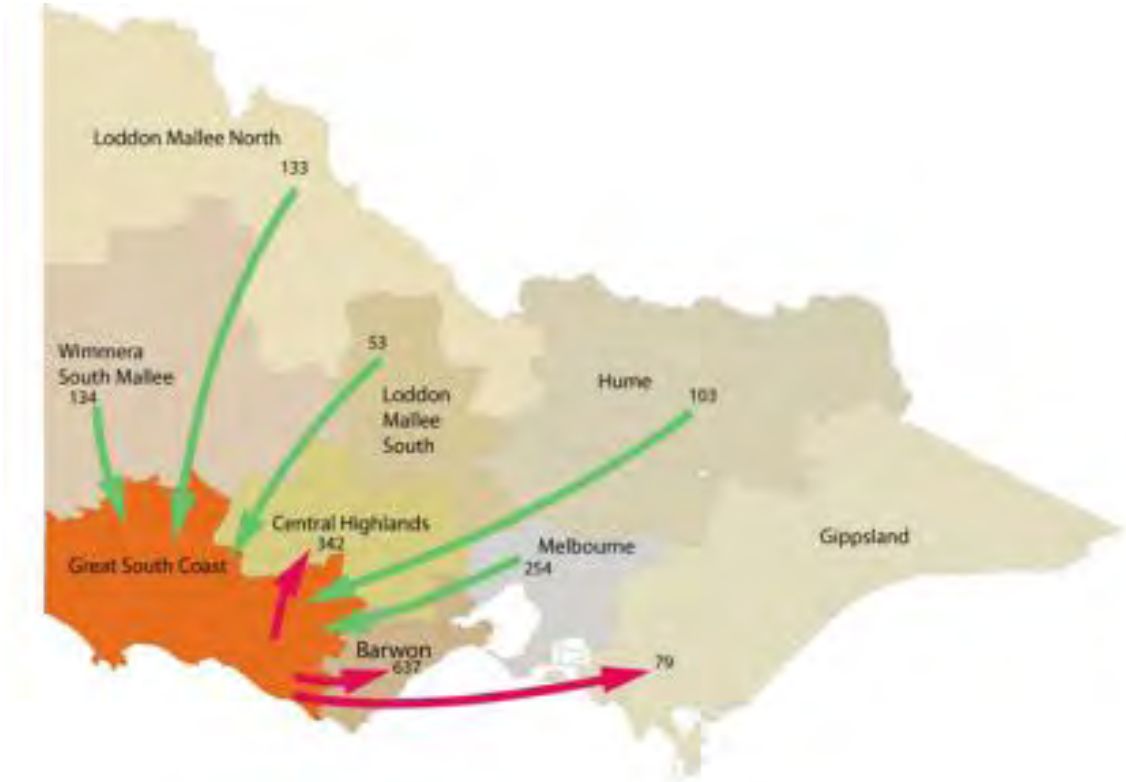
Estimated Resident Population 30 June 2041 - 131,239

- Births (2011-2041) - 38,199
- Deaths (2011-2041) - 34,188
- Natural increase (2011-2041) - 4011
- Net migration (2011-2041) - 20,012
- Total change (2011-2041) - 24,024

Source: Victoria in Future 2012

The region also gains population from in-migration from other parts of regional Victoria, as well as losing people to adjoining areas (see Figure 20). In the period 2006 to 2011, significant numbers of people migrated from the region to the G21 and Central Highlands regions. The region gained smaller numbers of people from other regions.

Figure 20: Regional migration between 2006 and 2011



Source: Australian Bureau of Statistics 2011 Census Population and Housing

110 G21 Geelong Region Alliance 2007 G21 Geelong Region Plan
111 Regional Development Victoria 2010 Wimmera Southern Mallee Regional Strategic Plan

Key regional growth plan considerations

The plan anticipates and plans for population growth within the region, identifying and responding to known growth drivers that may affect future migration into and out of the region over the next 30 years. The plan encourages proactive planning to attract additional population from other regions and states and from overseas. It also identifies opportunities to sustain population levels, to support local service provision and provide workers for industry, while facilitating the growth of Warrnambool and other towns, for the benefit of the entire region.

7.3 Settlement hierarchy

The region's networks of settlements, large and small, are vital to the liveability of the region and to supporting the viability and growth of its primary industries, the cornerstone of the regional economy.

The plan sets out a settlement hierarchy for the region that clearly establishes each settlement's category and the services available or intended to be provided (see Figure 21). It is recognised that smaller settlements will have limited services available and larger regional centres have a more diverse population and employment base and more services and that this pattern and hierarchy is unlikely to change significantly in the next 30 years.

Figure 21: Current settlement hierarchy

Source: Department of Transport, Planning and Local Infrastructure

Regional growth plans – settlement pattern

In order to develop a consistent approach to describe settlements in the text and maps of the plan, Table 7 seeks to combine and reflect some commonly used approaches, such as the typologies of settlements used in various regional strategic plans throughout Victoria and other previous work on settlement analysis.

Table 7: Typology – Settlement analysis

Regional city (represented as a solid black star)

- Places: Warrnambool
- Primary role and function:
  - Highest levels of population and employment outside metropolitan Melbourne.
  - Urban areas encompass a variety of residential opportunities with a clear commercial centre and smaller activity centres servicing suburbs.
  - Offer the highest level of goods and services in regional Victoria with at least one major retailing centre and may include the head offices of major regionally-based firms, major retail firms, universities, regional hospitals and headquarters policing and fire services.
  - Service a network of settlements on a regional scale and can influence the role of smaller settlements surrounding them from a lifestyle and commuter perspective.
  - Strong arts and cultural precincts.
  - Provide major transport interchanges, for intra and interstate travel and are significant freight destinations.

Regional centres (represented as a solid black circle)

- Places: Hamilton, Portland, (Colac).
- Primary role and function:
  - Have large diverse populations, housing, significant district retail centres and employment bases with all levels of education.
  - Have access to large hospitals (with emergency departments and acute and ancillary facilities) and provide a variety of general medical services.
  - All forms of education facilities can be found including major university and TAFE campuses.
  - Have well defined commercial and industrial precincts.
  - Depending on location, act as the centre for access to specialised goods and services for a large rural hinterland and as staging points for the movement of freight and interchange points for rail, bus and air and sea transport.
  - All major utility service provisions are provided for often through large systems.

District Towns and towns (represented as a black circle with white dot in centre)

- Places: Camperdown, Heywood, Koroit, Terang, Port Fairy, Allansford, Casterton, Coleraine, Dunkeld, Cobden, Mortlake, Timboon, Port Campbell.
- Primary role and function
  - Have a diverse to moderately diverse population and housing base with retailing, moderate employment and good access to services, including some higher order services such as medical/hospital services and a variety of education facilities – larger towns may have a higher education campus.
  - Some towns have strong employment relationships with larger high order settlements nearby.
  - All utility services are provided for, with some larger towns having access to reticulated gas.
  - Provide an important sub-regional goods and service role, servicing smaller town and rural district needs including local government, policing and ambulance services to a surrounding rural hinterland. Dedicated full-time policing and access to ambulance services are available in larger towns.
  - In popular tourism localities, towns provide large-scale district accommodation and holiday home demand with significant seasonal variation in population and demand for services.
  - Closer to major regional cities and/or Melbourne their role may be more associated with lifestyle commuting or retirement living.
  - They are distinguished from small towns by size and higher rates of population growth, usually associated with proximity to regional cities and/or Melbourne.

Small towns (represented as a small white circle with a black outline and a black dot in the centre)

- Places: Balmoral, Branxholme, Bushfield-Woodford, Byaduk, Caramut, Cavendish, Dartmoor, Derrinallum, Digby, Glenthompson, Harrow, Hawkesdale, Hexham, Koonongwootong, Lismore, Macarthur, Mailors Flat, Merino, Mirranatwa, Mooralla, Nareen, Narrawong, Nelson, Panmure, Penshurst, Peterborough, Pigeon Ponds, Purnim, Sandford, Simpson, Skipton, Tarrington, Tyrendarra, Wannon, Woolsthorpe, Yambuk.
- Primary role and function:
    - Small towns have low population levels. Access to services such as a small primary school and general store with postal facilities may be found in a small retail area.
    - Connection to reticulated water is generally available, but access to sewer connection varies, generally dependant on geographic location and provided where environmental sensitiveness are prevalent.
    - In popular tourism localities, their role may include a low level supply of visitor accommodation and holiday homes with seasonal variation in population.

**Includes all Regional Cities Victoria cities: Geelong, Ballarat, Bendigo, Latrobe Valley, Wodonga, Shepparton, Mildura, Warrnambool, Wangaratta and Horsham.*

A growing and changing network of settlements

The region contains a network of settlements that have changed over time, and will continue to change. The changing distribution of the region's population has profound implications for planning for the growth of the region.

The changing population of settlements in the region over the past 10 years is shown in Table 8. Almost half the region's population lives in the three largest settlements of Warrnambool, Portland and Hamilton[112]. The overall pattern of growth can be summarised as follows:

- larger regional centres such as Warrnambool are experiencing growth
- peripheral towns that rely on the larger regional centres for services and employment are growing slightly
- most other medium and small towns are static or have a declining population, with the exception of several settlements that are near the coast or present unique lifestyle opportunities.

Table 8: Town populations 2001 to 2011

Southern Grampians

- Coleraine
    - 2001 – 1013
    - 2006 – 976
    - 2011 – 872
    - Change 2001-2011 (%) – -13.9
    - Average Annual Growth Rate (%) – -1.39
- Dunkeld
    - 2001 – 390
    - 2006 – 424
    - 2011 – 471
    - Change 2001-2011 (%) – 20.8
    - Average Annual Growth Rate (%) – 2.08
- Hamilton
    - 2001 – 9233
    - 2006 – 9484
    - 2011 – 9307
    - Change 2001-2011 (%) – 0.8
    - Average Annual Growth Rate (%) – 0.08

Glenelg

112 Australian Bureau of Statistics 2011 Census of Population and Housing

- Casterton
  - 2001 – 1670
  - 2006 – 1618
  - 2011 – 1358
  - Change 2001-2011 (%) – -18.7
  - Average Annual Growth Rate (%) – -1.87
- Heywood
  - 2001 – 1223
  - 2006 – 1229
  - 2011 – 1240
  - Change 2001-2011 (%) – 1.4
  - Average Annual Growth Rate (%) – 0.14
- Portland
  - 2001 – 9584
  - 2006 – 9716
  - 2011 – 9698
  - Change 2001-2011 (%) – 1.2
  - Average Annual Growth Rate (%) – 0.12

Moyne

- Koroit
  - 2001 – 1455
  - 2006 – 1449
  - 2011 – 1365
  - Change 2001-2011 (%) – -6.2
  - Average Annual Growth Rate (%) – -0.62
- Mortlake
  - 2001 – 941
  - 2006 – 940
  - 2011 – 1050
  - Change 2001-2011 (%) – 11.6
  - Average Annual Growth Rate (%) – 1.16
- Port Fairy
  - 2001 – 2560
  - 2006 – 2631
  - 2011 – 2893
  - Change 2001-2011 (%) – 13.0
  - Average Annual Growth Rate (%) – 1.30

Warrnambool

- Allansford
  - 2001 – 529
  - 2006 – 607
  - 2011 – 724
  - Change 2001-2011 (%) – 36.9
  - Average Annual Growth Rate (%) – 3.69
- Warrnambool
  - 2001 – 25,882
  - 2006 – 28,029
  - 2011 – 29,130
  - Change 2001-2011 (%) – 12.5
  - Average Annual Growth Rate (%) – 1.25

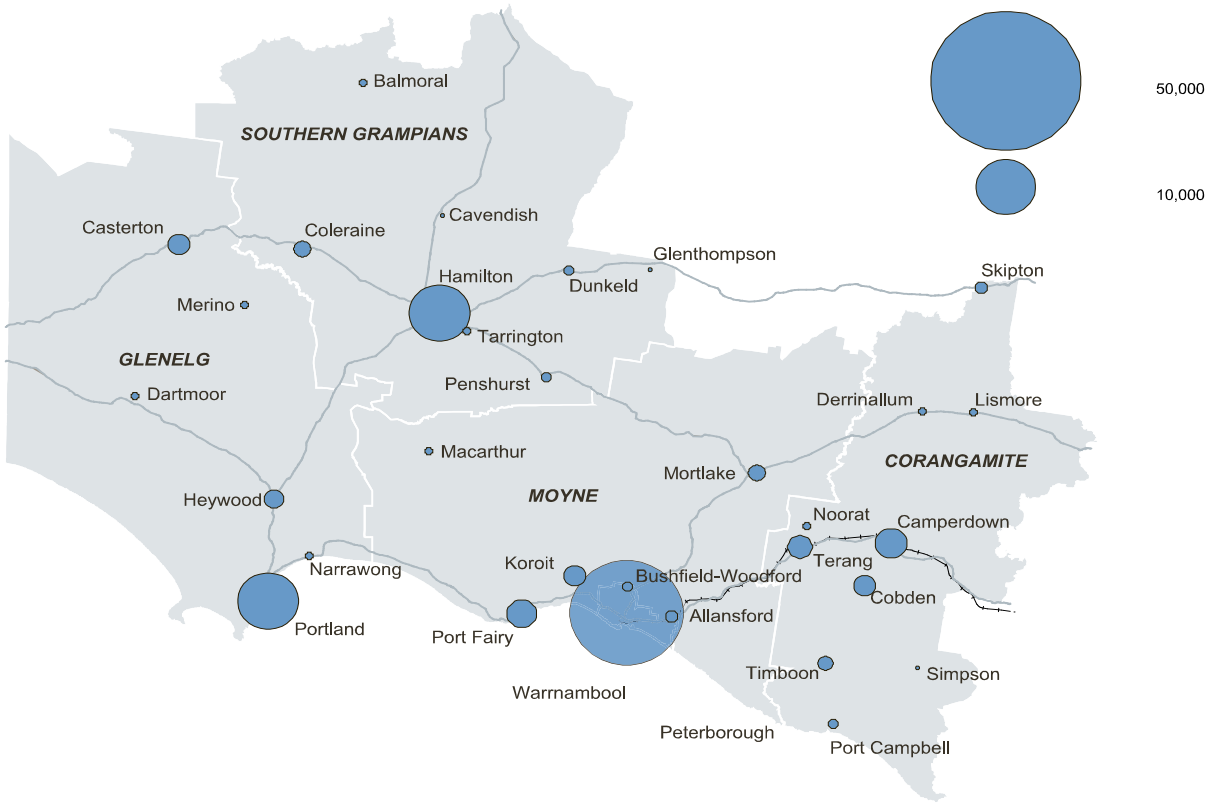
Corangamite

- Camperdown
  - 2001 – 3125
  - 2006 – 3028
  - 2011 – 2857
  - Change 2001-2011 (%) – -8.6
  - Average Annual Growth Rate (%) – -0.86
- Cobden
  - 2001 – 1420
  - 2006 – 1491
  - 2011 – 1532
  - Change 2001-2011 (%) – 7.9
  - Average Annual Growth Rate (%) – 0.79
- Port Campbell
  - 2001 – 459
  - 2006 – 431
  - 2011 – 435
  - Change 2001-2011 (%) – -5.2
  - Average Annual Growth Rate (%) – -0.52
- Terang
  - 2001 – 1862
  - 2006 – 1787
  - 2011 – 1909
  - Change 2001-2011 (%) – 2.5
  - Average Annual Growth Rate (%) – 0.25
- Timboon
  - 2001 – 824
  - 2006 – 813
  - 2011 – 692
  - Change 2001-2011 (%) – -16.0
  - Average Annual Growth Rate (%) – -1.6

Source: Department of Planning and Community Development Towns in Time and Australian Bureau of Statistics 2011 Census of Population and Housing

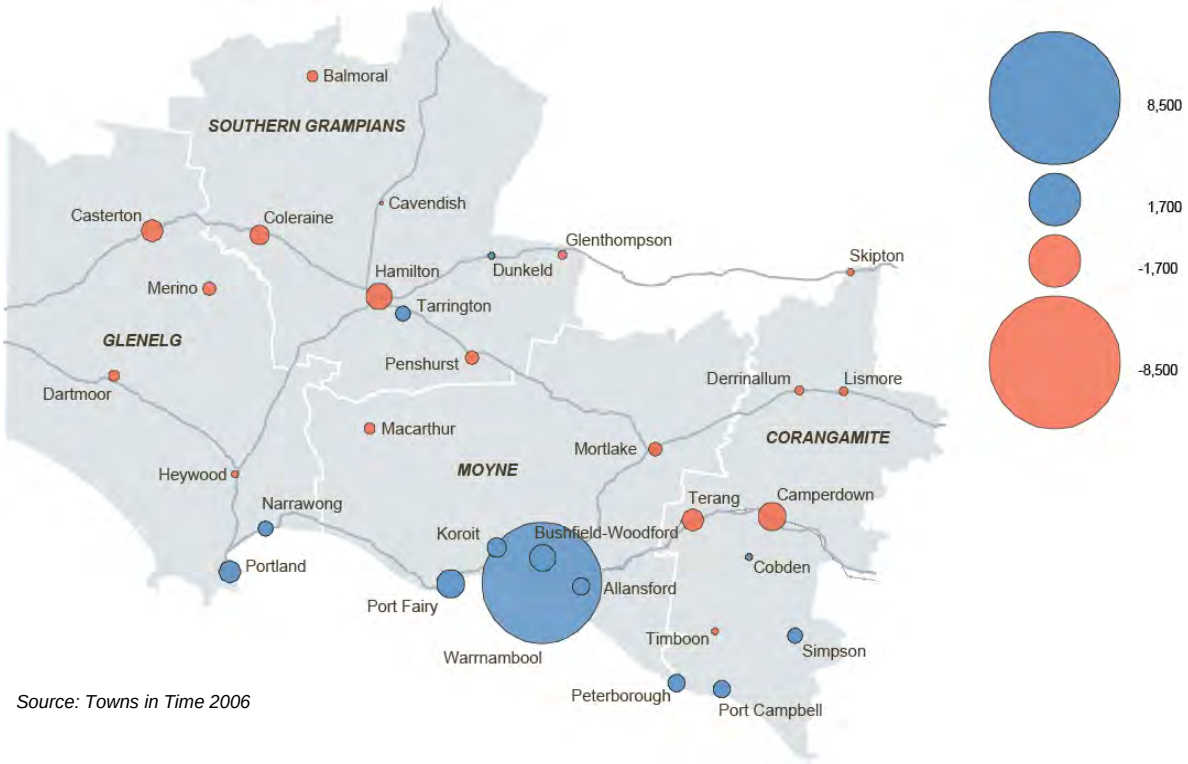
The regional growth plan provides directions for accommodating a changing population size in the region over the next 30 years. This includes a settlement framework that sets out directions for urban growth and a high level growth area framework (refer to Figure 22 and Figure 23).

Figure 22: Settlement size 2006



Source: Towns in Time 2006

Figure 23: Population change 1981 to 2006



Source: Towns in Time 2006

For the purpose of considering growth levels in the plan, settlements can be grouped into three categories: major growth, medium growth and sustainable change (see Table 9). The aspirational growth rate of a particular settlement will not affect its assigned category within the settlement hierarchy.

Table 9: Future growth of Great South Coast settlements

Major growth
- Settlement – Warrnambool
- Annual population increase – above 1.0%

Medium growth
- Settlement – Allansford, Camperdown, Cobden, Dunkeld, Hamilton, Heywood, Koroit, Port Campbell, Port Fairy, Portland, Mortlake, Terang, Timboon
- Annual population increase – Between 0.5% and 1.0%

Sustainable change
- Settlement – remaining towns
- Annual population increase – Below 0.5%

Key regional growth plan considerations

The regional growth plan provides a framework for accommodating levels of growth above those expected by the regional strategic plan to around 143,000 by 2041. This is an increase of around 12,000 people on the growth levels considered by the regional strategic plan. Higher growth levels will require intervention in line with the future directions of the plan.

The plan addresses the challenges facing the region, including Warrnambool's increasing share of regional population growth, demand for coastal and rural living and the need to manage connections to smaller towns. It seeks to ensure an integrated network of settlements and that the distribution of settlements supports existing communities and future economic prosperity. The plan establishes the scale and direction of urban growth needed to achieve and accommodate projected population growth, consistent with the identified role and function of each settlement.

7.4 Housing diversity and affordability

Housing satisfies the essential needs of people for shelter, security and privacy. The adequacy of housing is an important component of individual wellbeing and shelter is recognised throughout the world as a basic human right. Housing also has great significance in the national economy, influencing investment levels, interest rates, building activity and employment.

Household formation

Housing needs can be predicted by looking at both population change and how the population divides itself into households. The region's average household size in 2011 was 2.5[113]**.** Changes in individual preferences and in family composition (increased divorce rates, declining fertility) and an increase in the average age of the population are resulting in smaller households across Victoria. The average household size has reduced, with an increase in the number of households comprising single people living alone or couples without children. This trend is projected to continue. Families with children are expected to represent 33 per cent of households in the region in 2031, down from 38 per cent of households in 2011 (see Table 10).

Table 10: Household types 2011 to 2031

Household types
- Couple only
  - 2011 – 12,563
  - 2016 – 13,784
  - 2021 – 14,947
  - 2026 – 15,886
  - 2031 – 16,471

113 Australian Bureau of Statistics 2011 Census of Population and Housing

- Family with children
  - 2011 – 16,381
  - 2016 – 16,481
  - 2021 – 16,585
  - 2026 – 16,731
  - 2031 – 17,168
- One-person
  - 2011 – 12,116
  - 2016 – 13,273
  - 2021 – 14,502
  - 2026 – 15,756
  - 2031 – 17,886
- Other
  - 2011 – 1553
  - 2016 – 1610
  - 2021 – 1651
  - 2026 – 1657
  - 2031 – 1683

Source: Victoria in Future 2012 Western District Profile

Rising affluence has resulted in an increase in ownership of holiday homes and second dwellings in the region. These are typically not occupied on a full-time basis and located in coastal areas and high amenity inland areas[114].

Dwellings

Dwellings in the region are predominantly single houses on separate lots. In 2011, approximately 90 per cent of the region's 38,248 privately-occupied dwellings were separate houses (Table 11). Almost 75 per cent of dwellings are owner occupied or being purchased, while approximately 26 per cent of dwellings are rented[115].

Table 11: Dwelling structure 2011

Warrnambool

- Separate house
  - Number – 9859
  - Percentage – 82.1
- Semi-detached, row or terrace house, townhouse etc.
  - Number – 717
  - Percentage – 6
- Flat, unit or apartment
  - Number – 1343
  - Percentage – 11.2
- Other dwellings
  - Number – 93
  - Percentage – 0.8

Corangamite

- Separate house
  - Number – 5889
  - Percentage – 95.1
- Semi-detached, row or terrace house, townhouse etc.
  - Number – 53

114 McKenzie and Frieden (2010) Regional Victoria Trends and Prospects
115 Australian Bureau of Statistics 2011 Census of Population and Housing

    - Percentage – 0.9
- Flat, unit or apartment
    - Number – 182
    - Percentage – 2.9
- Other dwellings
    - Number – 63
    - Percentage – 1

Glenelg

- Separate house
    - Number – 7062
    - Percentage – 91.5
- Semi-detached, row or terrace house, townhouse etc.
    - Number – 271
    - Percentage – 3.5
- Flat, unit or apartment
    - Number – 315
    - Percentage – 4.1
- Other dwellings
    - Number – 61
    - Percentage – 0.8

Southern Grampians

- Separate house
    - Number – 6075
    - Percentage – 92.9
- Semi-detached, row or terrace house, townhouse etc.
    - Number – 77
    - Percentage – 1.2
- Flat, unit or apartment
    - Number – 316
    - Percentage – 4.8
- Other dwellings
    - Number – 68
    - Percentage – 1

Moyne

- Separate house
    - Number – 5593
    - Percentage – 96.4
- Semi-detached, row or terrace house, townhouse etc.
    - Number – 129
    - Percentage – 2.2
- Flat, unit or apartment
    - Number – 37
    - Percentage – 0.6
- Other dwellings
    - Number – 45
    - Percentage – 0.8

Region total

- Separate house
    - Number – 34,478
    - Percentage – 90
- Semi-detached, row or terrace house, townhouse etc.

  - Number – 1247
  - Percentage – 3.3
- Flat, unit or apartment
  - Number – 2193
  - Percentage – 5.7
- Other dwellings
  - Number – 330
  - Percentage – 0.9

Source: Australian Bureau of Statistics 2011 Census Population and Housing

Housing affordability

Median house prices in the region increased 150 per cent between 1999 and 2009. In 2008 the median house price in the Great South Coast region (including Colac Otway Shire) was $224,083[116].

In June 2012, the median weekly rent for a three-bedroom house in the region was $248. There were 324 rental properties in the region classified as 'affordable'[117] to lower income households, ranging from 31 per cent of all new lettings (Warrnambool) to 90 per cent (Corangamite)[118]. Social housing rentals comprise between 1.5 per cent (Moyne) and 6 per cent (Warrnambool) of household tenure[119]. In Warrnambool, there were 491 applicants on the public housing waiting list as at December 2012[120].

Investment and development projects can have a significant impact on a region's infrastructure and communities, including housing. The Great South Coast Major Project Cumulative Impacts Study 2011 investigated the cumulative impacts on accommodation of major investment and development projects in the region and concluded that:

- during the construction period of any project (1-3 years) there is a rapid increase in demand for accommodation within 30 to 40 minutes' travel time from the project
- there is a high impact on residential rents and later on housing prices due to demand
- there is competition between local demand and the construction workforce
- often investment expectations by local investors can be over-ambitious
- accommodation of workers in tourism hot-spots during peak season may be problematic
- there is demand for a range of accommodation types – private housing, apartments, motels, private rooms and caravans
- with 60 major investment and development projects identified across the region, managing the impacts of these projects on local communities and the associated accommodation needs will be challenging.

7.5 Land supply

Land supply refers to the land currently available, and zoned or planned, for residential, commercial or industrial purposes or land that has been identified in planning schemes as an area for urban expansion. Understanding land supply helps direct growth to areas where appropriate infrastructure is available or can be provided cost-effectively, and to determine the appropriate sequencing and servicing of development. It can also help to prevent environmental degradation and loss of productive agricultural land, for example by preventing rezoning of excessive amounts of land for rural living or low density residential use.

The level of available land supply for housing and industry varies across the five municipalities of the region.

Warrnambool and Moyne

116 Great South Coast Local Government Areas 2010
117 Affordability is defined as no more than 30 per cent of gross income is spent on rent.
118 Department of Human Services 2012 Rental Report June 2012
119 http://profile.id.com.au
120 Department of Human Services (2012) Public Housing Waiting and Transfer List December 2012

Land available for housing in Warrnambool and Moyne, which are scheduled to experience the most growth, has been identified in the Warrnambool Land Supply Study. The study found that 19 years' of land supply for housing is currently available. Areas where future residential growth can be accommodated have been mapped out in the North of the Merri River Structure Plan[121]. The structure plan identifies land north of the Merri River as one of the key growth areas, suitable for accommodating residential expansion to ensure a sufficient land supply is available in the future. The land supply study also determined that land currently available for industrial use would accommodate 13 to 25 years' demand.

Glenelg

The Glenelg Sustainable Settlement Strategy concluded that unevenly dispersed residential development on the periphery of Portland in previous years has resulted in fragmentation of large tracts of agricultural land for rural living purposes. The challenge Portland faces is to identify an alternative future for the fragmented land through the planning scheme and to protect larger rural lots from further fragmentation. Strategic work has been undertaken to revitalise residential areas within Portland, through rezoning of substantial disused industrial sites, encouraging a wider range of accommodation and providing new open space. This work will enable a sufficient level of land supply for residential purposes to accommodate future population growth. Further, the Glenelg Strategic Futures Plan 2009 outlines both residential and industrial land supply levels necessary for sustained population and economic growth.

Southern Grampians

The recent Hamilton Structure Plan 2011 investigated both the residential and industrial land requirements for the Southern Grampians Shire. The study established there was around 120 years' supply of Residential 1 zoned land and 114 years' supply of Low Density Residential zoned land available in 2008. The study concluded that Hamilton has sufficient supply of industrial land and there is consequently no need to rezone any further areas for industrial use. This should, however be carefully monitored to ensure suitable land is available to support the establishment of new industrial uses in the city.

Corangamite

Department of Transport, Planning and Local Infrastructure's Urban Development Program examined residential growth and land supply across Corangamite Shire. It found the majority of growth occurred in Camperdown and Cobden and to a lesser extent in Terang. Based on current trends there is in excess of 25 years' supply available.

Key regional growth plan considerations

The plan provides directions for accommodating urban growth in the region over the next 30 years and sets out a framework under which the region's housing needs can be met.

The plan seeks to facilitate greater diversity in the region's housing stock, to satisfy existing and future needs. While 'greenfield' development will still be required in major growth areas, such as Warrnambool, it is likely that infill development (including medium-density) will play a substantial role in increasing the available housing options.

An adequate supply of affordable housing is a key factor in supporting sustainable communities and attracting new residents. The regional strategic plan identified a significant housing shortage in some areas. Further work through the Urban Development Program will provide a greater understanding of the existing stock of residential land across the region and provide a basis for planning to increase housing availability and affordability in key locations.

7.6 Rural settlement

The plan takes a regional view of the provision of land for rural living and seeks to limit encroachment of rural residential uses into productive agricultural land and areas with significant environmental or landscape values.

121 City of Warrnambool (2011) North of the Merri River Structure Plan September 2011

Dispersed rural living can result in reduced liveability for residents, as small populations are unable to support many of the facilities and opportunities that are viable in larger settlements. Continued pressure for growth in coastal locations has led to residential development outside urban centres. There are a number of areas within each municipality where such development is allowed through the Rural Living Zone. Rural Living Zone land includes the places identified in Table 12.

Table 12: Rural Living Zones by Local Government Area (LGA)

Corangamite, Rural Living Zones - Around the settlements of Camperdown and Terang

Glenelg, Rural Living Zones - Narrawong and to the west of Portland

Moyne, Rural Living Zones - Around the settlements of Mortlake, Port Fairy, Panmure, Nullawarre

Southern Grampians, Rural Living Zones - Currently no Rural Living Zone land (but some is proposed in Amendment C25 around Hamilton)

Warrnambool, Rural Living Zones - To the west of Warrnambool, Bushfield, Hopkins Coastal area

Moyne, Corangamite and Warrnambool are currently working on or have completed rural strategies that, amongst other things, address the future supply, location and management of rural living opportunities. Colac Otway Shire has also completed a rural living strategy, with implications for the supply of this residential land type in proximity to the region.

The Victoria Planning Provisions provide strong direction on this issue, with strategies to prevent inappropriately dispersed urban activities in rural areas, to limit new housing development in rural areas, to direct housing growth to existing settlements and to discourage the use of isolated small lots in the rural zones for single dwellings, rural living or other incompatible uses. Local planning policies in the region also emphasise the importance of protecting agricultural land. Planning Practice Note 37 provides clear guidelines around the appropriate location of, and considerations in, rural residential development.

Key regional growth plan considerations

The plan provides direction for rural residential development in the region, to continue to provide opportunities for this lifestyle choice while protecting productive agricultural land and land with significant environmental or landscape values. It seeks to ensure that urban development is directed to settlements where infrastructure and services are available or could viably be provided.

8. Transport and regional infrastructure

8.1 Introduction

Timely provision of infrastructure and services is required to support future growth and change in the Great South Coast region. Delivering sustainable urban growth will be supported by sequencing of development and services. Some existing services and facilities may have to be augmented or replicated to accommodate new levels of demand.

Infrastructure plays a key role in liveability and economic prosperity and enables the region's natural resources to be converted into tradeable commodities. It is central to improving the connectivity of the region, which the regional growth plan outlines, is crucial to ongoing growth. Use of the settlement networks concept allows infrastructure requirements to be assessed from this perspective, rather than on the basis of individual townships.

Existing infrastructure facilities and networks in the region, particularly the local and arterial road systems, need to be properly maintained and further developed. The plan also contemplates a future where the region's natural resources are made more widely available to support regional growth and economic development. Limiting distribution costs and expanding the utilities network could enable energy to be made available more cheaply and more broadly across the region. This would provide a competitive advantage for the region and support industrial development.

8.2 Policy context

State

Victorian Freight and Logistics Plan

The Victorian Freight and Logistics Plan was released in August 2013. The plan examines long-term freight forecasts for Victoria up to the year 2050 and uses these forecasts to create and model a wide range of freight network scenarios to inform decision-making for future projects and initiatives. The plan also encompasses previous state government policy such as Growing Freight on Rail and the Transport Solutions Framework.

Victoria's Submission to Infrastructure Australia 2012

The State Government has submitted a number of projects to Infrastructure Australia to take forward its strategic frameworks arising out of the development of a metropolitan planning strategy, *Plan Melbourne*, regional growth plans and the Victorian Freight and Logistics Plan. Projects submitted to Infrastructure Australia that are relevant to the Great South Coast region include:

- Managed motorways
- High Productivity Freight Vehicles upgrade package
- Transport Solutions
- Green Triangle Freight Transport Program.

The National Airports Safeguarding Framework 2012

The Federal Government's 2009 Aviation White Paper proposed the development of a national land use planning framework that would:

- improve community amenity by minimising aircraft noise-sensitive developments near airports including through the use of additional noise metrics and improved noise-disclosure mechanisms
- improve safety outcomes by ensuring aviation safety requirements are recognised in land use planning decisions through guidelines being adopted by jurisdictions on various safety-related issues.

In 2012 the National Airports Safeguarding Advisory Group started work on developing the National Airports Safeguarding Framework. The framework has a number of guidance notes including:

- the principles of the framework
- measures for managing impacts of aircraft noise
- managing the risk of building generated windshear and turbulence at airports
- managing risk of wildlife strikes in the vicinity of airports
- managing the risk of wind turbines as physical obstacles to air navigation
- managing the risk of intrusions into the protected airspace of airports.

The national land use planning framework will ensure future airport operations and their economic viability are not constrained by incompatible residential development. Each state government will implement the framework into its respective planning system.

Local

Great South Coast Regional Transportation Strategy 2013

This study was commissioned by the Corangamite Shire Council as lead council, along with Colac-Otway Shire Council, Warrnambool City Council and Moyne Shire Council. Glenelg Shire Council and Southern Grampians Shire Council, part of the six-member Great South Coast Group of Councils, have had observer status in relation to the development of this study.

The prime focus of the study is on the regionally-significant freight tasks arising from the unique combination of agricultural and other production in the region. The study identifies the types of freight traffic using the network, demand growth patterns that are increasing the usage of certain routes, and the need for investment in strategically significant corridors to cater for this growth safely and efficiently.

In addition, the study focuses attention on the potential for the rail freight corridors to be utilised more effectively for freight and passenger traffic, to complement road usage and reduce or delay the need for roads investments.

8.3 Transport

The region combined with the G21 (Geelong) region contains two major ports: Portland and Geelong. The region also has a good network of road and rail infrastructure, enabling access to services and facilities.

The main arterial road network comprises of:

- the Princes Highway connecting Geelong and Mount Gambier via Colac, Warrnambool, Port Fairy and Portland
- the Hamilton Highway connecting Geelong and Hamilton via Mortlake
- the Henty Highway connecting Hamilton and northern Victoria, via Horsham with the Port of Portland
- the Hopkins Highway connecting Mortlake with Warrnambool
- the Glenelg Highway connecting Mount Gambier to Hamilton and Ballarat.

The main arterial road routes, the Princes and Henty highways, form part of the Principal Freight Network. The Princes Highway from Portland via Heywood and the Henty Highway are earmarked as being suitable for High Productivity Freight Vehicles.

The Port of Portland and the road and rail infrastructure that serve it are critical components of the state's freight transport system. This transport infrastructure provides Victorian and South Australian producers with a gateway to global markets, specifically for bulk commodities.

Freight movements occur internally within the region to the Port of Portland and to and from other regions. For example, Gippsland and Central Highlands producers send their goods to the Port of Portland for distribution.

8.4 Overview of freight movements

This section provides an indicative overview of the region's economic flows and interactions. The last part of this section provides an analysis of journey to work patterns within the region.

Exports

The region's exports have grown at an average annual rate of 3.5 per cent from 2001 to 2011 which is above the regional Victoria growth rate (3.3 per cent) but slightly lower than the state average (3.9 per cent). The main exporting sectors of the region are manufacturing and agriculture (Table 13). In combination, these sectors comprised 70 per cent of the total exports from the region in 2011.

Table 13: Exports, 2011 and the annual average growth rate from 2001 to 2011

Manufacturing
- 2011 Exports ($m, 2008) – $1967
- Annual average growth rate, 2001 to 2011 – 6.22%

Agriculture, Forestry and Fishing
- 2011 Exports ($m, 2008) – $754
- Annual average growth rate, 2001 to 2011 – -2.26%

Mining
- 2011 Exports ($m, 2008) – $364
- Annual average growth rate, 2001 to 2011 – 3.77%

Retail Trade
- 2011 Exports ($m, 2008) – $191
- Annual average growth rate, 2001 to 2011 – 10.08%

Health Care and Social Assistance
- 2011 Exports ($m, 2008) – $119
- Annual average growth rate, 2001 to 2011 – 6.43%

Electricity, Gas, Water and Waste Services
- 2011 Exports ($m, 2008) – $93
- Annual average growth rate, 2001 to 2011 – 9.50%

Education and Training
- 2011 Exports ($m, 2008) – $85
- Annual average growth rate, 2001 to 2011 – 5.18%

Transport, Postal and Warehousing
- 2011 Exports ($m, 2008) – $61
- Annual average growth rate, 2001 to 2011 – 0.92%

Other Services
- 2011 Exports ($m, 2008) – $46
- Annual average growth rate, 2001 to 2011 – 4.05%

Accommodation and Food Services
- 2011 Exports ($m, 2008) – $43
- Annual average growth rate, 2001 to 2011 – -1.17%

Financial and Insurance Services
- 2011 Exports ($m, 2008) – $36
- Annual average growth rate, 2001 to 2011 – 5.40%

Arts and Recreation Services

- 2011 Exports ($m, 2008) – $27
- Annual average growth rate, 2001 to 2011 – 29.24%

Wholesale Trade

- 2011 Exports ($m, 2008) – $23
- Annual average growth rate, 2001 to 2011 – -8.22%

Information Media and Telecommunications

- 2011 Exports ($m, 2008) – $18
- Annual average growth rate, 2001 to 2011 – -1.39%

Public Administration and Safety

- 2011 Exports ($m, 2008) – $16
- Annual average growth rate, 2001 to 2011 – 22.38%

Administrative and Support Services

- 2011 Exports ($m, 2008) – $14
- Annual average growth rate, 2001 to 2011 – 11.01%

Rental, Hiring and Real Estate Services

- 2011 Exports ($m, 2008) – $7
- Annual average growth rate, 2001 to 2011 – 12.45%

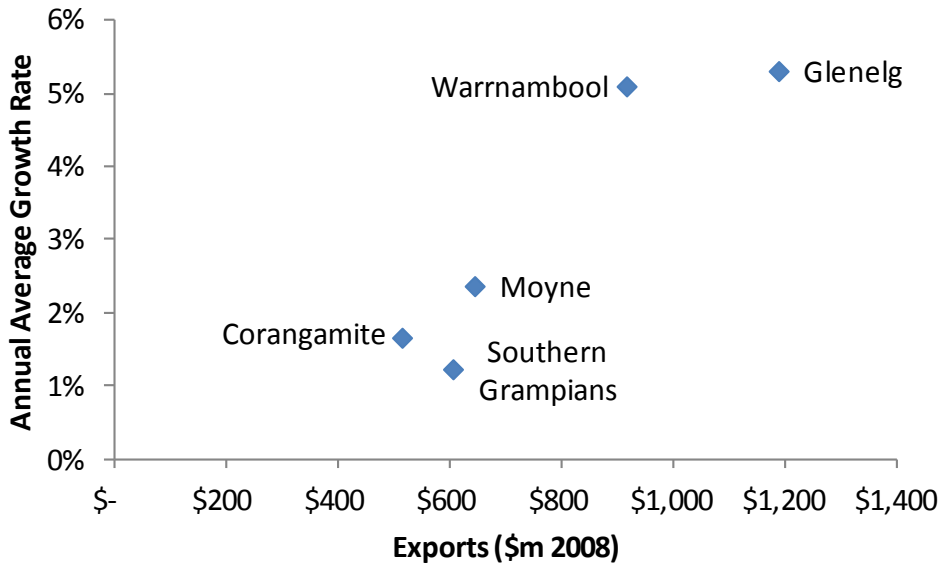
Professional, Scientific and Technical Services

- 2011 Exports ($m, 2008) – $4
- Annual average growth rate, 2001 to 2011 – 3.63%

Source: Regional Development Victoria, 2012 Great South Coast Economic Profile (unpublished)

Most of the region's exports in 2011 came from Glenelg (31 per cent) and Warrnambool (24 per cent) (see Figure 24). Moyne, Southern Grampians and Corangamite accounted for 17, 16 and 13 per cent respectively of the region's 2011 exports.

Figure 24: Local Government Area exports, 2011 and average annual growth rate, 2001 to 2011



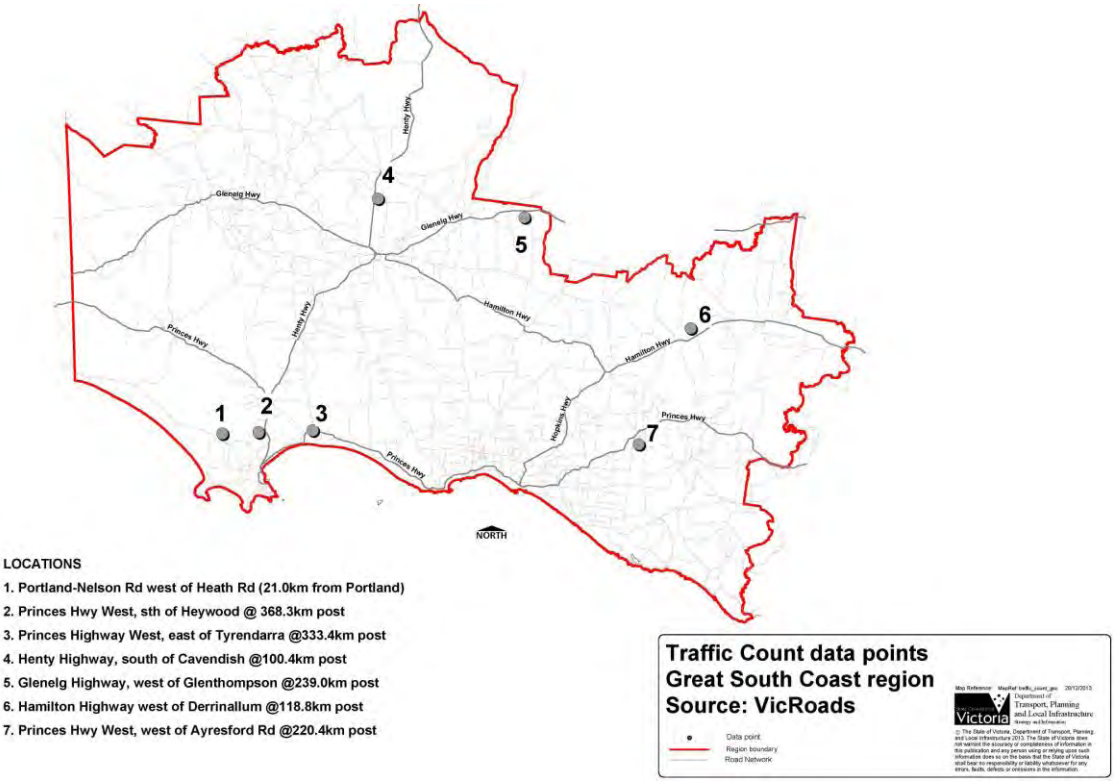
Source: National Institute of Economic Research (2011)

Road traffic flows

The region has strong infrastructure links with South Australia as well the adjoining Wimmera Southern Mallee, Central Highlands and G21 regions. The Great South Coast's road infrastructure is critical to its export performance and the efficiency of its labour market.

Traffic data collected at seven points along the region's main arterial roads (Figure 25) is used by VicRoads to assess traffic volumes.

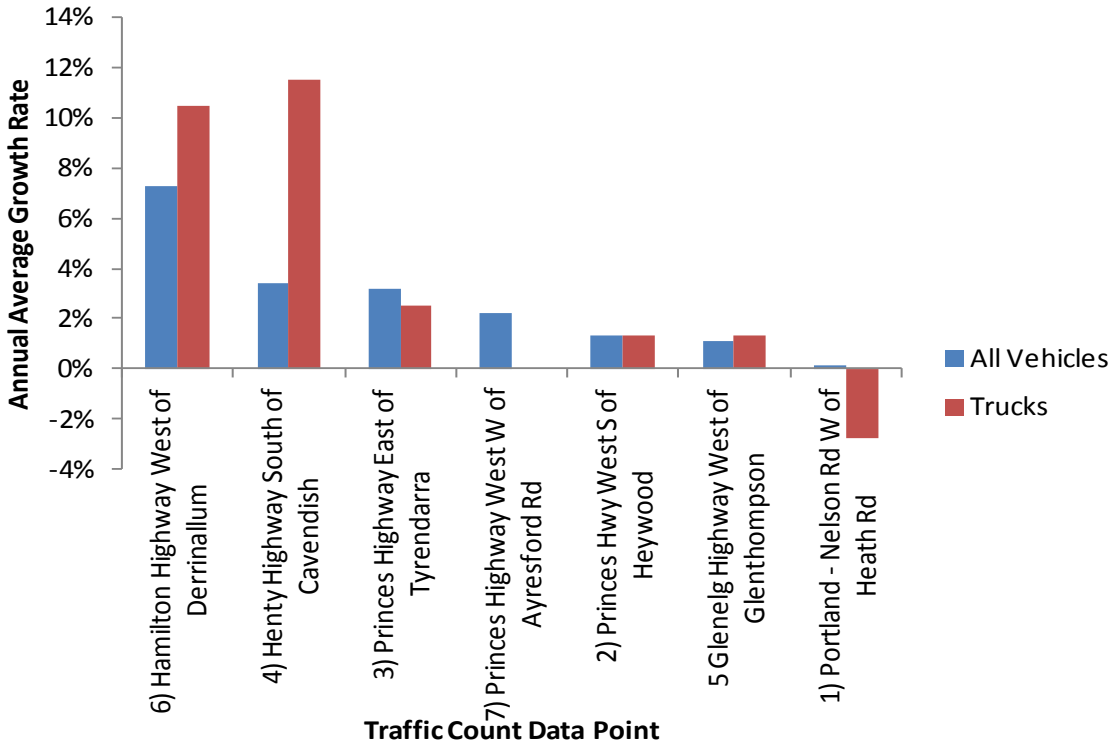
Figure 25: Traffic count data points, Great South Coast region



Source: VicRoads

Of the seven traffic count points, the Hamilton Highway (point 6 in Figure 25) had the highest growth in two-way traffic for all vehicles while the Henty Highway (point 4) had the highest growth in two-way truck traffic (see Figure 26). The Princes Highway (points 2, 3 and 7 in Figure 25) had the highest annual average daily traffic for all vehicles and trucks from 2006 to 2009.

Figure 26: Compound growth rates, two-way traffic 2006 to 2009



Source: VicRoads

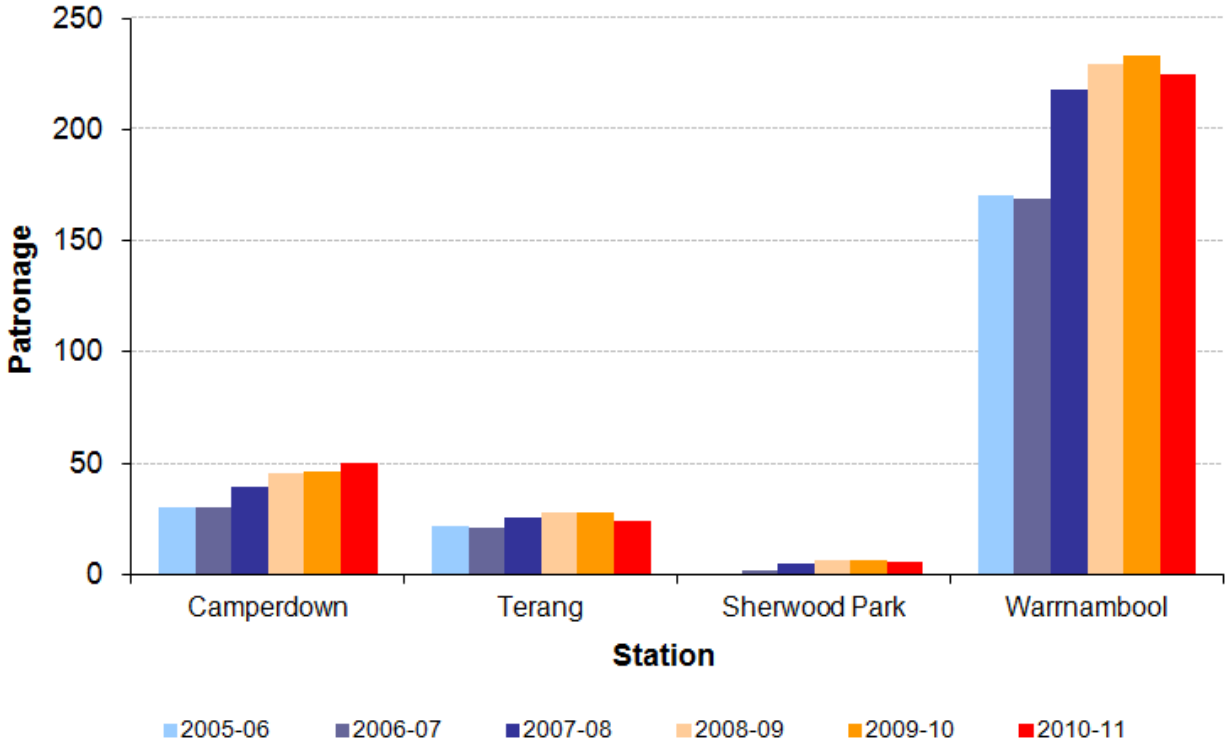
Although the Hamilton and Henty highways have had the highest average annual traffic growth rates, the traffic count data clearly indicates the importance of the Princes Highway as the regional link to Geelong and onwards to Melbourne, other regional areas and interstate.

8.5 Overview of passenger movements

Train passenger patronage

Another asset for the region is the extent of railway coverage to and from Melbourne. Passenger rail enables daily or regular commuting to Melbourne for business. The region currently has four passenger railway stations, two each in Corangamite (Camperdown and Terang stations) and Warrnambool (Sherwood Park, which was completed in 2006, and Warrnambool stations). In 2010–11, 74 per cent of the estimated normal weekday patronage came from the Warrnambool Station, with 17 per cent from Camperdown Station (see Figure 27).

Figure 27: Normal weekday rail patronage (estimate) by station



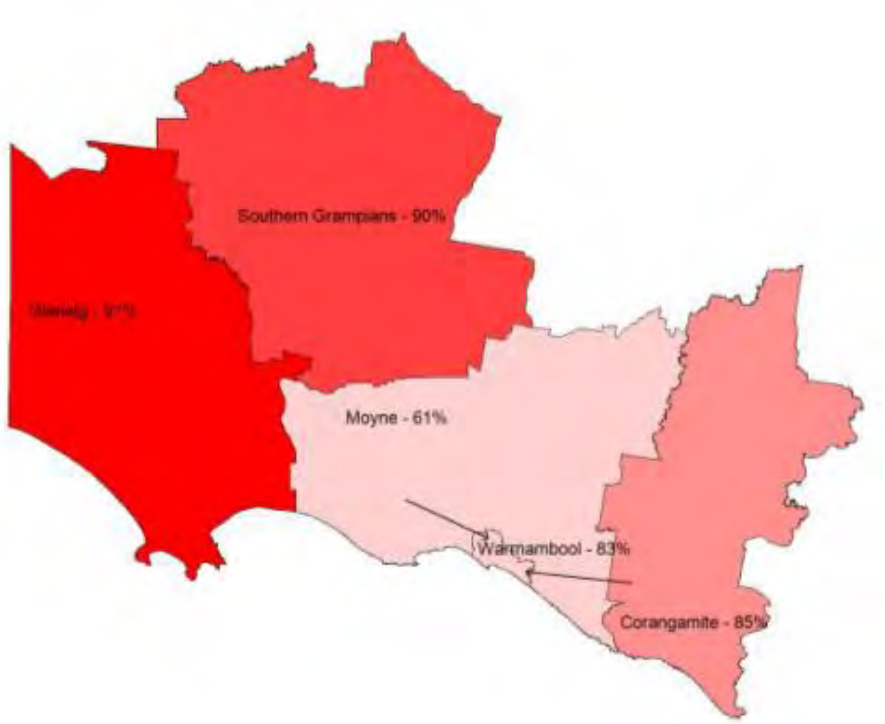
Passenger rail services connect Warrnambool to Melbourne via Camperdown, Colac and Geelong and service the north of the region from Ararat to Melbourne via Ballarat. Freight rail systems link Portland to Geelong and Melbourne via Hamilton and to the north via Ararat[122]. Of the region's four passenger rail stations, Warrnambool Station had the highest normal weekday rail patronage, followed by Camperdown Station. Normal weekday patronage grew at an annual average rate of 11 per cent in Camperdown, the highest among the rail stations in the region.

Journey to work patterns

Aside from being a valuable input to transport planning and service provision[123], journey to work data can also provide an indication on the economic flows and linkages within the region and with its surrounding areas. Of the five municipalities, Glenelg and Southern Grampians shires have a high journey to work containment – more than 90 per cent of journeys to work are within their local government area boundaries (see Figure 28).

122 Regional Development Victoria (2010) Great South Coast Regional Strategic Plan, page 18
123 Inbakaran and Harwood, Journey to Work Patterns in Regional Victoria Analysis of Census Data 1996 to 2006

Figure 28: Journey to work within Great South Coast Local Government Area boundaries, 2006



Source: Australian Bureau of Statistics (Based on Place of Usual Residence)

In terms of interactions between local government areas in the region:

- around 27 per cent of journeys to work from Moyne were headed towards Warrnambool while 9 per cent of work journeys from Warrnambool were headed to Moyne
- while Corangamite has a fairly contained journey to work pattern, this is less than the patterns seen for Glenelg and Southern Grampians
- around four per cent of journeys to work from Corangamite were headed towards Warrnambool, higher than the levels seen for neighbouring local government areas such as Moyne and Colac Otway.

This data indicates three broad functional economic areas within the region: Glenelg; Southern Grampians; and a sub-region organised around the regional city of Warrnambool drawing in workers from Moyne and Corangamite.

8.6 Guiding future transport opportunities

There are differing needs for freight and people movements. These require differing solutions, and the future directions of the transport network need to be considered in this light. It will be important to enhance and build on existing infrastructure to ensure access and connectivity. The future directions form part of the regional growth plan.

8.7 Freight movement

Freight gateways and hubs

The Princes Highway is part of a designated Heavy Vehicle Network. The recently upgraded intermodal freight terminal at Warrnambool now has improved capacity for future expansion of rail freight, which will have significant economic benefits for the region. A proposed rail passing loop, to be constructed near Birregurra, will also further enhance the efficiency of rail freight.

Ports

In combination with the G21 region the Great South Coast region has access to two key ports: Portland and Geelong. It is likely with increasing economic growth that these ports will experience more intensive freight activity. Therefore it will be important to protect and enhance access to the Port of Portland and along the transport network providing wider access options to both ports.

The Port of Portland Port Land Use Strategy 2009 identified the region cannot allow the port to be undermined by the encroachment of sensitive land use and development. Predicted growth in port activities could potentially generate further boundary interface issues if growth is not appropriately planned and managed. New residential development in proximity to the port presents risks to its long-term operations and consequently the region's economic growth, as residents seek to protect their amenity.

In May 2012, the Minister for Planning responded to the Ports and Environs Advisory Committee Report advising of his support for the recommendation that a new Port Zone be introduced into the Victorian planning system to apply to the ports of Melbourne, Hastings, Geelong and Portland. The new zone will recognise the significance of Victoria's four commercial trading ports and provide transparency and consistency in decision-making.

The Department of Transport, Planning and Local Infrastructure has consulted port managers and relevant municipalities on a draft Port Zone and will seek authorisation to introduce the new zone.

The Port of Geelong and Port of Portland Port Land Use Strategies were both finalised and released in 2009. These strategies were included in the State Planning Policy Framework as part of the State Government's response to the Advisory Committee report.

In accordance with the provisions of the *Port Management Act 1995*, port development strategies need to be prepared every four years. Victoria's four commercial ports, including Geelong and Portland, worked through this process during 2013.

Network capacity

The region's economic future will depend heavily on the road network. The region's ability to generate renewable energy, particularly from wind turbines, supports the diversity of the economy. However, the delivery and construction of the turbines as well as ongoing maintenance have all had an impact on the transport network.

It is therefore important to ensure the network can cope with the number, volume and regularity of goods and services that need to be moved and are used in the region. A well-maintained road network will be a key feature of managing growth into the future, particularly on the designated heavy vehicle network. Identification of strategic local roads will be important to ensure the transport network can cope with increased traffic volumes and has the capacity for freight movement.

Local roads

Local roads in the region are part of the regional transport network which provides connectivity within and between settlements. Many local roads are the subject of freight movements such as the movement of milk from the farm-gate for distribution across the region and interstate, and timber from plantations to processing.

The increasing number of freight vehicles using the network is having a detrimental impact on the network's ability to provide reliable and safe freight movements. Reviewing the overall network and identifying strategic local roads and assessing if they are fit-for-purpose will assist in the provision of safe and efficient freight movements. Heavy vehicle movement such as those related to mineral sands and the renewable energy industry have impacted on the quality of the existing network and have the potential to further impact future economic growth and development.

Connectivity for freight

Ensuring freight access will be critical for current commodities such as agricultural produce, timber products, minerals sands and components for the renewable energy sector that the region generates. New opportunities to diversify the commodity base into the future, where freight access will be a requirement, will need to be facilitated and will be crucial to maintaining a strong economy.

The creation of a network of logistics precincts with various facilities will ensure future connectivity, as will regular maintenance of the road and rail network.

Airports

Due to the nature of commodities being carried in the region, the local airports of Warrnambool, Portland and Hamilton are increasingly important for: getting freight to market; getting tourists to holiday destinations; and getting workers to employment (fly-in fly-out for mining operations). The freight capacity of these airports could be enhanced to take advantage of exporting fresh food to Asia, a growing market for regional produce, as well as other perishable goods to markets in and around Australia. These opportunities have been realised in places such as Port Lincoln, which exports tuna by air.

The growth of internet shopping may enable quicker parcel delivery and could assist in diversifying and enhancing the local economy.

A reliable and resilient network

The region has a number of rural areas with business-related activities such as those associated with the dairy industry, in particular milk production. These areas require freight access for their commodities and local roads are used by heavy trucks to collect and distribute the commodities placing strain on the maintenance of local roads. With the advent of larger and potentially heavier trucks and the consolidation of farming practices, strategic local roads may need to be identified in order to allow for continued freight access.

The Municipal Association of Victoria is currently running a pilot project in the Hume region looking at heavy vehicle access on local roads. The findings of this study may have implications for the Great South Coast region, which may wish to commission its own study into managing local road impacts to assist in determining local road priorities. This work would assist in accessing new Commonwealth funding programs and would also complement the Great South Coast Regional Transport Strategy.

Supply chains

Understanding supply chain movements will assist in providing access to Melbourne and Adelaide but also to other regions and within the region. This includes terminals used for freight such as ports at Geelong and Melbourne, and airports. Into the future it will be important to understand the nature of the freight task to ensure connections to the region are protected and enhanced. Opportunities exist to expand and use some regional airports such as Warrnambool to carry perishable freight products to markets.

8.8 People movement

Network capacity

As key settlements such as Warrnambool and Portland grow, liveability can be improved by providing good walking and cycling networks that give access to and from developments in key employment nodes as an alternative to car use. Equally, improved public transport access within these urban centres could play a role and assist in mitigating areas of traffic congestion.

Access and connectivity

The region's transport network provides for accessible cross-border connections to South Australia. These connections will be crucial into the future as they will provide access to employment and a range of services and facilities such as health and education.

The region has a number of smaller communities dispersed across the region. Smaller towns provide services and facilities for rural communities. The larger regional centres of Warrnambool, Hamilton and Portland provide these smaller settlements with access to higher order services and facilities, such as train services to Melbourne. Smaller settlements in the region's west often look across the border to South Australia to places like Mount Gambier for services and facilities, and as such will require continued access and connectivity across the border.

Some smaller towns are not likely to experience any significant growth. Small towns are likely to continue to experience population decline into the future. With this in mind, it will be important for transport links to keep pace with growth and changing demographics and be adaptable to community needs.

A reliable and resilient network

A reliable and resilient transport network is required by all people to ensure they can access services and facilities within the region and interstate. Many people will require access to Warrnambool for higher order services and facilities but equally many will require access to Melbourne for both business and pleasure. A good walking and cycling network will be essential for local travel in and around Warrnambool and the other key regional centres, Hamilton and Portland.

Good train services to cater for long haul journeys to Geelong and Melbourne will be essential into the future. To ensure ease of travel, the network must be well maintained and should grow with economic development and population growth scenarios.

Technological advancements

Information and communications technology are expected to improve through the rollout of the National Broadband Network that will provide access to faster and more reliable internet connections. The health and education sectors are leading the way for people to access services and facilities remotely online rather than at a fixed location. Online courses in education, and rehabilitation in the health sectors, are some examples.

As the population ages and becomes a population familiar with technology, distance services provision will become critical, particularly in rural and remote areas. Improved information and communications technology may also mean that people may not need or want to travel either long distances or frequently. The National Broadband Network may enable a mix and match communication style, for example, the use of the train for some journeys on some days and internet access for other days.

Technological advancements in the freight and logistics industry, such as high productivity vehicles, could also provide improvements to the carriage of commodities.

Amenity and useability

The region aims to develop its tourism product and create the Great South Coast Touring Route. For example, cycling is growing in popularity as a leisure pursuit and ensuring the region has a good network of tracks and trails, amongst other attractors, will be important in harnessing this opportunity. However, there is also a need to consider facilities such as rest areas that tourists require as they travel through the region including those used to get to the region. These facilities attract longer distance visitors.

In order to ensure the attractiveness of towns for tourists and residents alike, consideration will need to be given to the impact that freight traffic has on the amenity of towns. Infrastructure improvements may assist such as new roads and identification of freight routes away from town centres.

The cruise ship industry may find the deep water Port of Portland attractive and this may be a key asset into the future for diversifying and enhancing the tourism product and economy of the region.

Key regional growth plan considerations

- Review transport and infrastructure provision in the key urban areas to keep pace with growth.
- Plan for flexible and adaptable freight connectivity to the transport network to cater for changes in commodities to be carried and freight logistics operations into the future.
- Incorporate future directions into future planning schemes and structure plans to ensure infrastructure keeps pace with changes in demography, land use and with economic and social development.
- Set aside land to future proof road and rail projects using zoning and overlays.
- Maximise the strategic position of the transport network to encourage settlement and economic growth along existing transport infrastructure.
- Support infrastructure projects into the future to assist with growth.

8.9 Water supply

Policy context

Victoria has an integrated and adaptive water planning framework, which ensures urban water customers and the broader community have secure supplies of high quality water. These supplies support drinking water and non-drinking needs such as healthy recreational facilities, parks and gardens.

The state government's Living Victoria program was launched in April 2012 and has direct implications for water and urban planning across the state. Although the immediate focus of Living Victoria is on the metropolitan Melbourne region, the overarching directions are intended to apply more broadly across the state over time. As this occurs, the plans and strategies produced under this program will gradually supersede existing strategies.

The Living Victoria program recognises that:

- water needs to be better integrated into urban landscapes
- the community needs to be better engaged in water planning
- improved evaluation frameworks capable of capturing a broader range of costs and benefits are needed to effectively assess the wide array of options for the provision of urban water services.

Through implementing the Living Victoria program, the Office of Living Victoria (OLV) will develop and coordinate new integrated urban and water planning frameworks and develop tools that will apply across the state, such as changes to the Victoria Planning Provisions.

At present, the key plans and strategies that guide urban water planning in regional Victoria are:

- water supply demand strategies, which will be superseded by integrated water cycle strategies
- regional sustainable water strategies
- drought response plans.

Water supply demand strategies were initially released in 2007. These strategies evaluated future water supply and demand scenarios and identified the mix of water supply and demand management measures needed to secure safe and reliable town water supplies with a 50-year outlook. Urban water corporations released updated strategies in early 2012, which included new features to increase their alignment with the Living Victoria program including an Alternative Water Atlas and an annual Water Security Outlook.

Integrated water cycle strategies will identify the best mix of measures to:

- maintain a balance between the demand for water and the supply of water in cities and towns

- facilitate efficient investment in all water cycle services, including recycling sewage or trade waste, stormwater capture and re-use, and demand management
- improve the resilience of water supply systems.

Regional sustainable water strategies take a long-term view of water resource planning, considering all sources of water and the needs of towns, industry, agriculture and the environment at a regional scale. They identify threats to reliability of water supply and quality of water, and ways to improve supply and quality of supply for existing and future consumptive users. They also identify ways to improve, protect and increase environmental water reserves. Sustainable water strategies have been implemented to varying degrees across the state but some new programs have meant older strategies need to be refined to meet new priorities.

Drought response plans manage temporary water shortages due to prolonged periods of below average rainfall or other causes such as poor water quality. They outline a range of options to balance supply and demand, which may include imposing water restrictions. The water restriction framework was reviewed in late 2011 to apply consistent restriction rules across the state.

Water supply throughout the region will have a strong influence on the type of industries that can operate in both rural and urban areas, and on the sustainability of settlements into the future. Making use of existing infrastructure, potentially including decommissioned water catchment storage facilities such as the Hamilton and Koonongwootong Reservoirs, can assist in providing opportunities for new industry development in the region.

The main water corporations in the region are Southern Rural Water (rural water authority) and Wannon Water (urban water authority).

Key regional growth plan considerations

- Coordinated future water resource planning, including surface and groundwater resources, and growth planning will create the best outcomes for the region's future.
- The region acknowledges the need to protect water security as it is a key driver for capital investment and land use change.
- The plan will need to adapt and respond to any updated water resource planning that occurs within the region. Increased populations and settlement footprints will need to take account of areas with water supply capacity and the impact of development on water supply.
- Existing work on urban water supply suggests there is security of supply until 2055. This may need to be reassessed given the growth proposed for the region, and where this growth is likely to occur. For example, can sufficient water physically be supplied to these areas?

8.10 Waste management

Policy context

The Victorian waste and resource recovery policy states:

> "As our cities grow, securing land for our waste management facilities is a challenge. As population increases, our waste generation increases and as we strive for world's best practice environmental standards, finding and securing land for waste management facilities is likely to become even more difficult.
>
> Successfully securing land close to transport corridors, points of waste generation and end markets, and where possible co-locating activities to achieve economies of scale, relies on coordination across the environment portfolio, land use planning and transport, and local government and industry investors."[124]

124 Victorian Government (2013) Getting Full Value – The Victorian waste and resource recovery policy, April 2013, page16

Effective waste and resource recovery management is an essential service that protects environmental and public health. The Victorian waste management system includes waste generation, collection and transport, sorting and processing, recycling and reprocessing, export, reuse and disposal. The waste management system operates across all activities in the region including household or municipal, commercial and industrial, and construction and demolition[125].

The State Government is responsible for policy development and regulation for waste management and for promoting environmental sustainability. Local governments are responsible for providing waste collection, transport and reprocessing or disposal to landfill services. Regional waste management groups are responsible for planning and coordinating the management of municipal solid waste for local governments within their regions, as well as helping them to reduce waste, maximise recovery and reduce environmental harm.

There are many existing and emerging industries in waste management, particularly in terms of recovery, reuse and recycling of waste. Energy generation from waste is an expanding industry in Victoria.

Key regional growth plan considerations

- The plan needs to consider how it will plan for and manage the waste associated with proposed growth.
- The plan can encourage future strategic land use planning for councils to include consideration of waste management, including protecting buffer zones around these sites from incompatible development.
- There are opportunities to encourage and support investment into advanced technology that can convert waste into energy or fuel products in the region. Regional and local planning should encourage and enable such developments, where appropriate.
- The plan should consider an integrated and coordinated approach to waste management into the future as the region grows.

125 Victorian Government (2013) Getting Full Value – The Victorian waste and resource recovery policy, April 2013

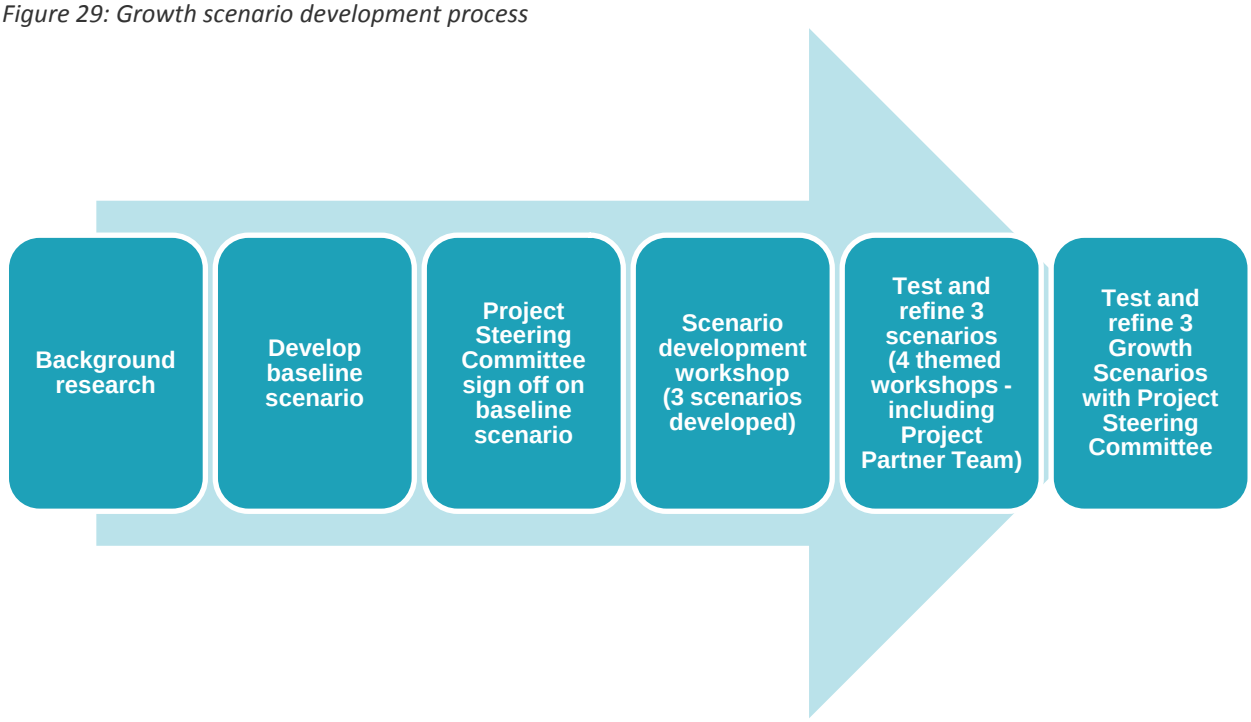
9. Towards the regional growth plan

9.1 Growth scenarios

In preparation for the plan, three scenarios for growth in the region were developed then assessed for their potential contribution to delivering a preferred regional future. Considering growth scenarios enabled alternative possible futures for the region to be visualised and tested.

The scenario development process was iterative, with scenarios being built and tested through workshops, consultations and endorsement from the Project Steering Committee (see Figure 29). There was extensive involvement from key stakeholders during the scenario development process. A preferred growth scenario for the Great South Coast region was identified through in-depth analysis of the impacts, capacity and gaps associated with each scenario and consideration of what would be needed to realise the preferred option.

Figure 29: Growth scenario development process



Baseline scenario

The baseline scenario was built around the growth drivers and growth forecasts identified in the earlier work done in the project's Context and Issues Paper and discussed previously in this background report. It was also informed by an analysis of regional land use and demographic maps developed by Department of Transport, Planning and Local Infrastructure. It described the region based on existing evidence and facts and formed the benchmark on which the three alternative growth scenarios were developed.

The baseline scenario identified the following growth patterns and issues for the region including:

- Population growth[126] can be largely catered for with a forecast increase of 24,000 (2041) from 107,000 (2011) to 131,000[127] (an increase of 21 per cent).
- According to councils there is probably sufficient existing urban development land across the region for growth in dwellings from 42,612 to 52,208 (22 per cent)[128]. However, the nature of households will change

126 Data used to develop the 3 Growth Scenarios was based upon a Victoria In Future population projection of 107,215. This figure is different to the latest Australian Bureau of Statistics population estimate of 101,624 contained elsewhere in the background report and the Plan.
127 Department of Planning and Community Development unpublished projections, 2012
128 Department of Planning and Community Development Victoria in Future 2012

across the region, with a higher need for single person dwellings and for housing for couples with no children.

- The average age of population would be increasing, with the proportion of people aged 60 years and over growing by 8.4 per cent from 22.9 per cent in 2011 to 33.1 per cent by 2031[129]. A key impact of this ageing profile is the significant shift in the ratio of those aged over 60 to the number of people in the workforce. Currently this ratio is 1:4, but the scenario predicted this ratio would decrease to 1:2 over the next 20 to 30 years[130].
- Employment growth is expected to outstrip population growth over the next 10 years presenting potential for significant skills and workforce strain for the region[131].
- Industry growth prospects are strong particularly in the key sectors of dairy, timber, energy projects and tourism. This growth is enabled by the presence of the Port of Portland and key transport and freight corridors running north to south in the western part of the region and west to east across the central and southern parts of the region[132].
- Natural resources and the environment are significant regional assets that determine the types of industry the region can support and contribute to the liveability facets of the region[133].
- Population growth will mainly occur within the key regional centre of the City of Warrnambool and surrounding settlements particularly along the coast and the hinterland around Warrnambool[134].
- Water resources were seen to be sufficient to meet the needs of the predicted population and industry growth[135] but according to councils, there may be issues associated with location of water supplies and the associated infrastructure.
- According to councils, there is expected to be sufficient industrial zoned land, however some locations will be constrained industrially, notably Portland[136].
- Industry and economic activity were the key drivers of growth for the region rather than population being the driver which presents some significant challenges in terms of attraction of a workforce to support industry growth and potential for land use tensions.

9.2 Key considerations for the three growth scenarios

It was decided that the first theme for the development of scenarios would be 'high growth', which for this purpose was defined as population growth equalling baseline (131,000) + 50 per cent (24,000 x 50 per cent = 12,000 additional people) of projected growth to 2041. The forecast population at 2041 used in the scenarios is therefore 143,000. This was based on assumptions that:

- Without a high growth scenario, a baseline trend in the ratio of people in older age groups to those in the workforce (from 1:4 to 1:2) was seen as a risk to the longer term economic viability of the region. As the region's growth is being driven principally from expansion of the economic base rather than population migration, above baseline population growth will be needed to support the economic growth of the region. Further, it will be increasingly important for the region to attract and retain youth and working aged people to assist with future economic activity.
- It is less risky to plan for higher growth than lower growth. It is preferable to achieve forecast growth targets later than 2040 while having planned for infrastructure and support services, rather than planning for baseline growth and having to manage higher unplanned growth.

129 Department of Planning and Community Development Victoria in Future 2012
130 Department of Planning and Community Development Internal working paper, 2012; Great South Coast Local Government Areas 2010
131 Access Economics, 2007 Victorian regional economic outlook (unpublished)
132 Department of Planning and Community Development Internal working paper, 2012; Regional Development Victoria 2010 Great South Coast Regional Strategic Plan; SED 2011
133 Regional Development Victoria 2010 Great South Coast Regional Strategic Plan
134 Department of Planning and Community Development Victoria in Future 2012; unpublished projection 2012.
135 Department of Planning and Community Development Internal working paper 2012; Local Great South Coast Local Government Areas 2010
136 Port of Portland, 2009

Scenario A: Centralised growth

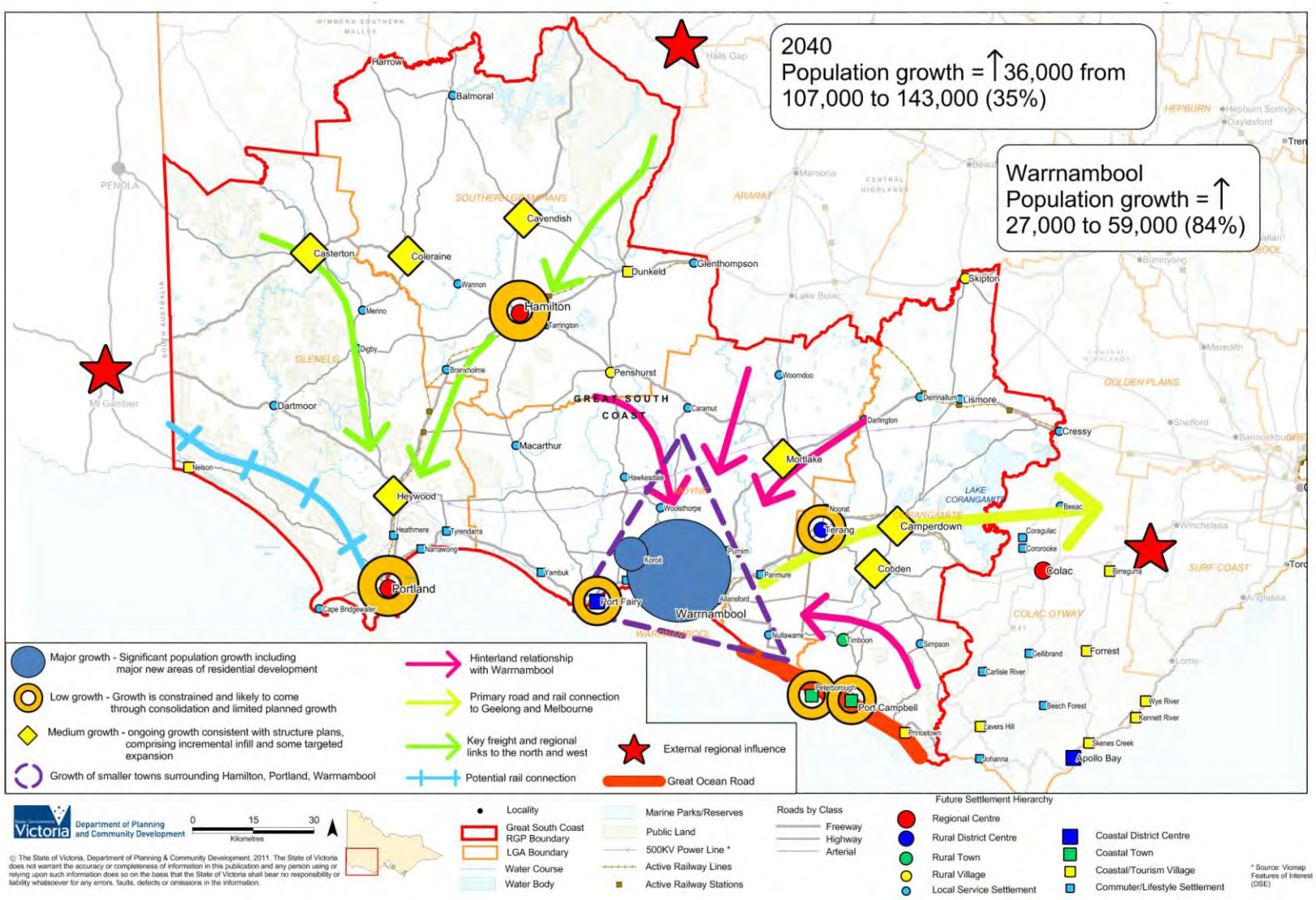
Description

The location of population growth (50 per cent above baseline) is focussed on the major regional city of Warrnambool which takes around 75 per cent of projected population growth in the region (see Figure 30). People would experience a busy and active Warrnambool with access to its strong retail and service industries and importantly the natural beauty of the Southern Ocean. This scenario would see a balanced demographic profile in Warrnambool and allow opportunity for new industry development. Other areas and townships within the region may not enjoy the same balanced demographic profile.

With acceleration in economic growth through increased investment and development in the dairy, timber and tourism industries, Warrnambool would strongly promote its place as the regional city in the south west. As it approached a population of 50,000 people, Warrnambool would attract services and some demographic sectors that would otherwise not come to the region. Improved infrastructure would allow ease of access to health and education services while installation of the National Broadband Network and provision of affordable housing would provide opportunities for a more diverse economy.

The other regional centres, Portland and Hamilton, would experience smaller-scale growth while the centralising of key infrastructure would release the pressures on smaller outlying towns. A large number of drive-in, drive-out workers could result in these towns taking on a village-like atmosphere with improved amenities, and those living in Warrnambool driving to places of employment within the region.

Figure 30: Map of Scenario A – Centralised growth



Source: Department of Transport, Planning and Local Infrastructure

Scenario B: Regional centres

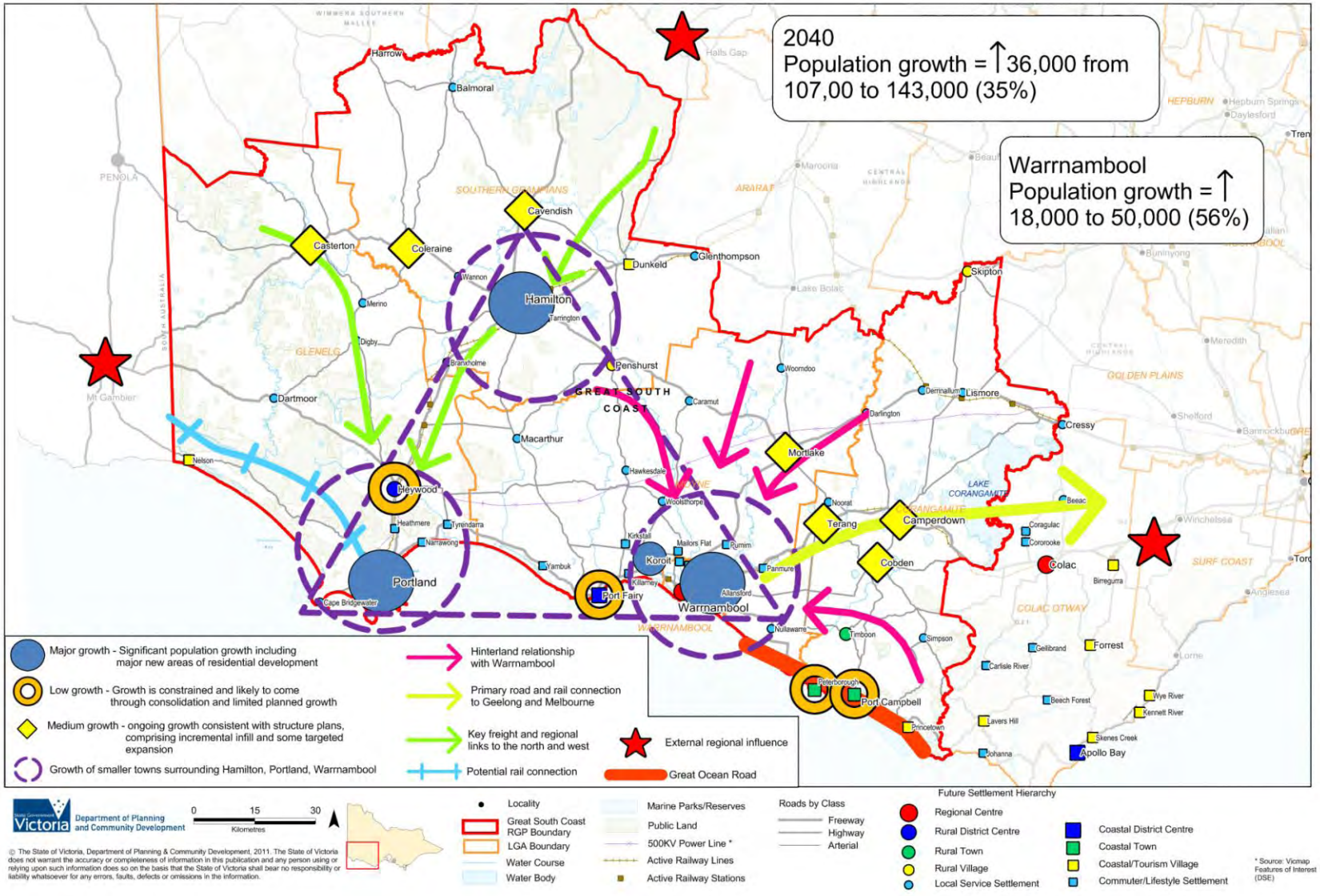
Description

Scenario B (see Figure 31) would see dispersal of growth shared throughout the region principally between the regional centres of Warrnambool, Portland and Hamilton. While Warrnambool would still accommodate a large percentage of this growth (around 50 per cent), more emphasis would be placed on developing existing infrastructure and opportunities for Hamilton and Portland and surrounding townships as a way to attract residents and further develop these settlements.

The three centres would work together with improved public transport allowing ease of transport between centres and creating a strong network of social, technological and educational infrastructure, readily accessible to all. Growth in all three main centres and their surrounding towns would support the industrial economy with more workers closer to jobs. This feature would also be likely to strengthen services across the region.

Regional centre dispersal would allow for the development of the north-south corridor from Portland to Hamilton and the Wimmera Southern Mallee region and would highlight the importance of industry, processing and transportation. Decreased urban sprawl in Warrnambool relieves some coastal and land use pressures in the region. However, these pressures would increase around Portland and Hamilton and potentially impact on natural resources and environmental assets between population centres. This scenario would see the opportunity for the development of smaller settlements along the major transport routes.

Figure 31: Map of Scenario B – Regional centres



Source: Department of Transport, Planning and Local Infrastructure

Scenario C: Corridor

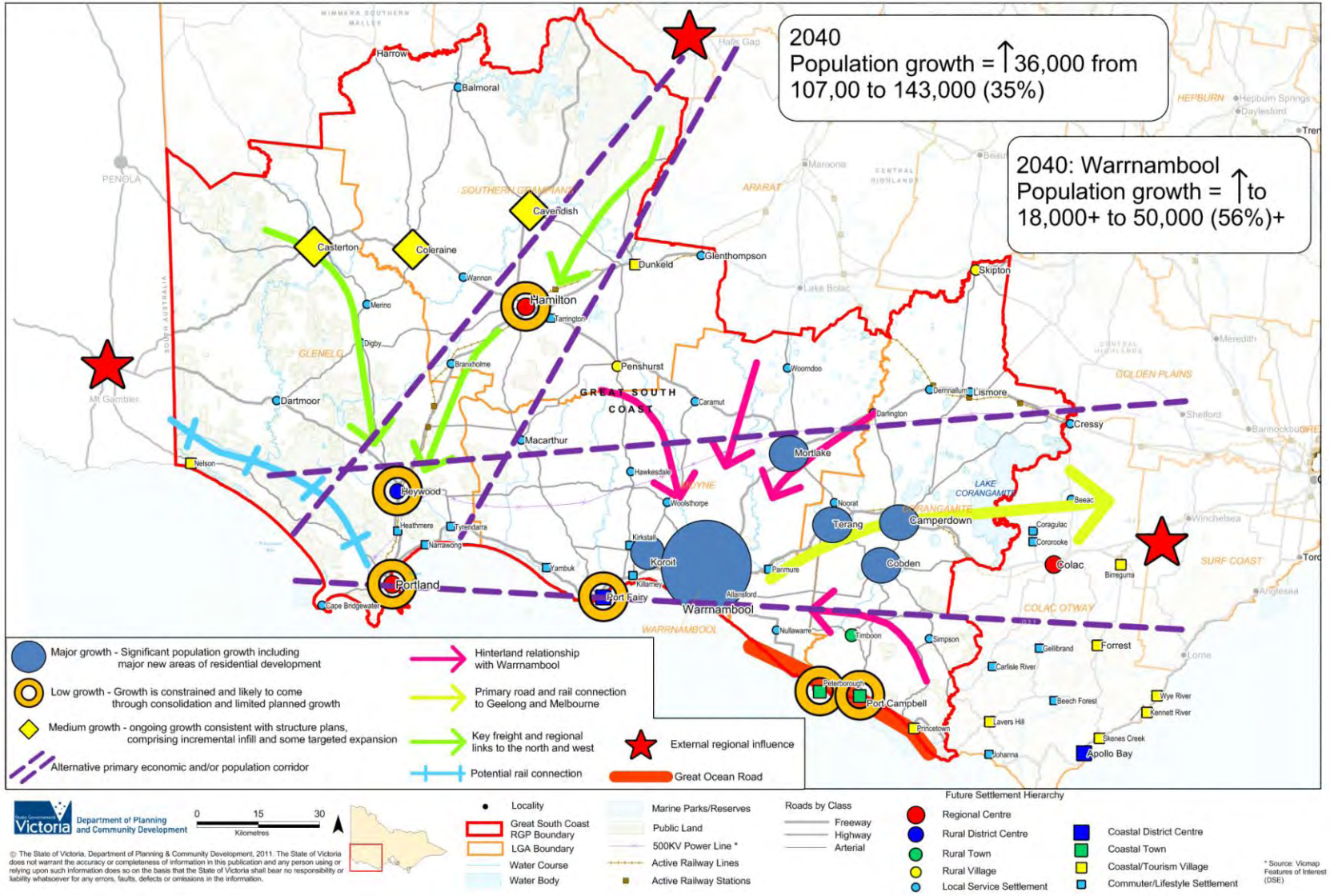
Description

Under Scenario C the focus of growth would be centred on the east-west corridor from Colac to Portland and south of this corridor, together with growth in a north-south corridor from Portland to Hamilton and beyond (see Figure 32). This would result in relatively high growth in the existing townships and coastal settlements, specifically in the east of the region. Population growth would be significant in Warrnambool (around 50-60 per cent of the region's growth) but would also be attracted to the corridor townships of Portland, Mortlake, Terang, and Camperdown. Some spill-over growth would be likely in Heywood and Cobden with population increase in Hamilton anticipated to be modest.

Improved transport infrastructure including increased frequency of existing train services/infrastructure investment would provide improved intra-regional connectivity and allow ease of accessibility to centralised services along the corridors, principally focused in Warrnambool. The National Broadband Network provides opportunities for increased retail and improved liveability.

This scenario would open up the Great South Coast region to more diversified industry opportunities in the east towards Geelong and Colac and tap into a workforce potentially spilling over from the Geelong (G21) region. The scenario would see greater connections to the Port of Portland, wider regional processing facilities and primary resources. The Corridor scenario would allow industry to access new off-shore gas supply and therefore may be an attractive investment scenario for industries seeking good transport access to Geelong, Portland and Melbourne ports with low cost and reliable energy.

Figure 32: Map of Scenario C – Corridor



Source: Department of Transport, Planning and Local Infrastructure

9.3 Scenario testing

The three growth scenario options were tested with key stakeholders in the region through a series of workshops and interviews with representatives from major organisations and businesses. The results are presented in Table 14.

Table 14: Workshop findings

Scenario A: Centralised growth

- Like:
  - Less pressure and impacts on ecosystems and biodiversity due to concentrated growth.
  - Builds a centre of a scale that will attract investment and services.
  - Acknowledgement of the attraction of Warrnambool and its propensity to grow.
- Dislike:
  - The growth of Warrnambool at the expense of other communities.
  - Land use conflicts particularly high value agriculture around Warrnambool.
  - Focus on one centre, which may disadvantage other centres and communities.
  - City sprawl and drain of population from the region into Warrnambool.
- Change/improve:
  - Protection of natural resources and environmental assets around the growth centre and greater understanding of land capabilities through reference to biodiversity strategies.
  - Planning around the delivery of services and infrastructure.

Scenario B: Regional centres

- Like:
  - Spreads growth benefits across the region into the three main centres.
  - Reduces the potential for urban sprawl around Warrnambool.
  - Increases social inclusion opportunities and evens out the services and social divide.
  - Less concentrated pressure on natural resources and environmental assets due to dispersed populations.
- Dislike:
  - Reduced likelihood to strategic attraction of investment, infrastructure and employment.
  - Level of intervention needed for Hamilton and to a lesser extent Portland.
  - Increased pressures on the natural environment between the three key centres.
  - Impacts of increased traffic movements on the environment and the capacity of transport networks to manage increased use.
  - Increased growth pressures on coastal areas.
- Change/improve:
  - How to overcome the growth capacity of the Port of Portland.
  - Population attraction strategies particularly to Hamilton and Portland.
  - Improvements to intra- and inter-regional connections.
  - Water availability to growth centres other than Warrnambool.
  - Land use conflict management as growth will occur on several fronts across the region.

Scenario C: Corridor growth

- Like
  - Plays to regional strengths and connections to adjoining regions.
  - More equal dispersal of population and opportunities for smaller regional settlements to prosper.
  - Capacity to build on existing infrastructure and transport corridors and assets.
  - Supports a more diversified economy whilst sustaining existing business and industry.

- Builds a choice of liveable areas for existing and new residents.
- Most logical and likely and probably the most cost effective.

- Dislike:
  - Gap in growth opportunities for the north west or consideration of north west in general.
  - May attract an older population as younger people may not find the lifestyle opportunities as appealing.
  - Potential for greater pressure on coastal environments and into other areas of environmental sensitivity across the region.
- Change/improve:
  - How to identify infrastructure priorities.
  - Increased job creation and population attraction efforts.
  - Development of growth strategies for the north west.
  - Industrial and land use planning along the corridors.
  - Further regional planning for the protection of natural resources and environmental assets.

Throughout the scenario testing phase, stakeholders ranked their preferred scenario. The results of this are summarised in Table 15.

Table 15: Results of preferred scenario questionnaire

Natural resources and environmental assets

- Scenario A – 25%
- Scenario B – 75%
- Scenario C – 0

Economic / infrastructure

- Scenario A – 40%
- Scenario B – 0
- Scenario C – 60%

Community

- Scenario A – 11%
- Scenario B – 56%
- Scenario C – 33%

Project Partner Team

- Scenario A – 17%
- Scenario B – 17%
- Scenario C – 66%

Total

- Scenario A – 22%
- Scenario B – 27%
- Scenario C – 51%

9.4 Assessment of impacts, gaps and constraints

The primary impacts, gaps and constraints identified were assessed against the key regional growth plan themes and drivers as well as by scenario. The results of this assessment are shown in Table 16.

Table 16: Summary of preferred scenario

Net Score

Impacts

- Scenario A – 9
- Scenario B – 6
- Scenario C – 13

Gaps

- Scenario A – -22
- Scenario B – -20
- Scenario C – -19

Constraints

- Scenario A – -22
- Scenario B – -24
- Scenario C – -21

Total

- Scenario A – -35
- Scenario B – -38
- Scenario C – -27

The analysis highlights that Scenario C scores the lowest based on an analysis of negative impacts, gaps and constraints. Key issues to arise from this process are outlined below.

The analysis shows that Scenario C may be the most manageable in terms of impact. Key beneficial outcomes of this scenario include:

- attraction of larger scale services
- access to and geographic spread of employment, services and lifestyle choices, notably the development of the eastern part of the region
- regional centres benefiting from shared growth
- mitigating risks from demographic imbalances
- fostering economic diversification
- connectivity to other growth regions
- potential to trigger investment in improved public transports service along the east-west corridor.

The key negative impacts include:

- impacts on agricultural activity from peri-urban development and growth
- the level of investment needed in north-south transport networks to connect to the east-west corridor
- the level of investment needed in public transport infrastructure and services
- the potential for economic leakage out of the Great South Coast region into the G21 and the Central Highlands regions.

The analysis shows that Scenario C scored marginally better in terms of realisation gaps. Key gaps that would need to be addressed include:

- skilled migration policy to attract workers to the region and access to a skilled workforce particularly in areas where new industry may develop
- investment in road infrastructure along and connecting to the corridors
- public transport services across the region
- the availability of serviced industrial land particularly in 'new' growth areas of the region.

The analysis shows that Scenario C scored marginally better regarding issues that would constrain scenario realisation. Key constraints that would need to be addressed include:

- availability across the region and throughout key corridors of appropriately zoned and serviced industrial and residential land and managing housing affordability issues
- access to a skilled workforce to support industry growth and development
- telecommunications capacity
- freight corridors and road networks to support potentially more dispersed industry activity across the region, and to enable access to external markets
- attraction of investment to support infrastructure development.

Key regional growth plan considerations

The analysis of impacts, gaps and constraints present a number of strategic considerations to inform the realisation of the preferred growth Scenario C. These include:

- ensuring land use planning includes industrial, residential and agricultural uses and identifies areas where conflict may occur
- enabling land use planning to incorporate the infrastructure, utility and service needs of uses and allow for appropriate sequencing of development based on the key drivers for that land use
- considering the influences and opportunities from the region's strategic location to a number of important growth regions
- understanding the importance of the role key centres and settlements play and how communities connect with one another via infrastructure, transport, information technology and service needs and demands

- focussing economic growth opportunities around the region's competitive advantages and comparative strengths to differentiate it from other regions; including the drivers identified in the project's Context and Issues Paper, and those drivers which informed the development of the growth scenarios
- encouraging strategic planning to foster improved health, education, skills and liveability outcomes for the region to enhance the standard of living for residents and underpin population attraction activities.

While Scenario C was the 'preferred' growth concept, it was not chosen as the growth model for the plan. This was further refined through subsequent consultation and development.

9.5 Strategic directions

Based on the preferred Scenario C, a modified strategic direction was established for the region and has been incorporated into the plan (see Figure 18 of the Great South Coast Regional Growth Plan).

9.6 Principles for growth

Throughout the consultative process, key principles to guide development of the plan were developed.

Table 17 highlights the principles and rationale adopted by the Project Steering Committee for inclusion in the plan.

Table 17: Principles for growth

- **Principle 1:** Strengthen the region's economy through increased industry diversification, innovation and development

  Rationale: Key industries such as dairying, tourism, timber and energy will continue to be the main sources of growth. Research, innovation, a skilled workforce and improved transport and utility infrastructure are needed to support future development and foster new value adding. The unique land, sea and climatic assets of the region provide opportunities for new industries.

- **Principle 2:** Attract more people to the region

  Rationale: To support the economy and liveable communities, the Great South Coast region needs to plan for population growth above the currently projected additional 29,615 people by 2041. With the average age of region's population increasing, more workers are required to support the growth of existing and new industries.

- **Principle 3:** Enhance our liveability through improved health, education and standards of living

  Rationale: Appropriately managing growth in the Great South Coast region should enhance the liveability of the region for current and prospective residents and workers. Liveability will support growth through sustainable communities, access to jobs, education and services, affordable and diverse housing and protecting and enhancing the unique attributes of the region, including its natural environment.

- **Principle 4:** Build on our network of towns and the roles played by them

  Rationale: With approximately 50 per cent of the region's population living outside major centres, smaller towns and communities play a critical role in the social, environmental and economic functioning of the region and its liveability. Improved connections to all towns are vital as is the provision of key services in the regional centres of Warrnambool, Hamilton and Portland to support the dispersed population of the region.

- **Principle 5:** Manage and utilise our strategic assets and support agricultural productivity

  Rationale: The quality and abundance of environmental and constructed assets, including major transport infrastructure, marine environments and fertile agricultural land, provides sustainable competitive advantages for the region. The use and improvement of these assets supports the region's increasing role in food and fibre production for domestic and international markets. Planning must sustainably manage valuable agricultural land, together with the water, air and ecosystems that support it, and the environmental assets (including significant landscapes) that contribute to the identity of the region and its growing tourism industry.

- **Principle 6:** Sustainably manage our natural resources, cultural and environmental assets

  Rationale: Natural resources such as fish, timber, stone and gas, and environmental assets, such as native forests, waterways, coasts and soils, all contribute to the liveability and economic prosperity of the region. Sustainable management will include a combination of use, protection and enhancement. Environmental assets are also recognised for their natural beauty, and their contribution to visitor experiences and quality of life for existing residents. Cultural heritage assets including Aboriginal and historic heritage places, connect people to the land and to the past while providing opportunities for the future.

- **Principle 7:** Enhance equity of access to infrastructure, facilities and services

  Rationale: The Great South Coast's dispersed population provides lifestyle choices for residents, diverse communities and a workforce distributed throughout the region. Equitable access to infrastructure, facilities

and services will need to be maintained and enhanced, including through technology, coordinated service delivery and transport improvements.

- **Principle 8:** Strengthen connections to other regions

  Rationale: The Great South Coast region exports goods to other parts of Victoria, Australia and internationally. It has townships that service dispersed communities which are also close to large cities in adjacent regions. Improved inter-regional connections will promote economic activity, social inclusion and facilitate access for residents and visitors.

- **Principle 9:** Ensure that land and infrastructure needed to support growth is identified and appropriately planned

  Rationale: New and improved infrastructure that supports growth, including road, rail, water, waste, gas, sewer and social infrastructure, must be planned and coordinated to ensure it is supplied efficiently and when required. To support economic and population growth, land supply must be monitored to ensure availability of the right type of land in the right location.

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