

WIMMERA SOUTHERN MALLEE



REGIONAL GROWTH PLAN BACKGROUND REPORT

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Executive summary

This background report is a supporting document to the Wimmera Southern Mallee Regional Growth Plan. It has been developed from an issues paper prepared in March 2012. It provides a summary of research undertaken into the existing conditions and trends in the Wimmera Southern Mallee region. The background report has been released concurrently with the Wimmera Southern Mallee Regional Growth Plan. It allows readers to further explore the basis of strategies contained within the plan.

This background report covers issues under the following chapter headings:

Chapter 1 – Introduction and purpose

Chapter 2 – Wimmera Southern Mallee snapshot

Chapter 3 – Economic prosperity

- The importance of agriculture for the region and emerging opportunities such as intensive agriculture.
- Ensuring a sufficient supply of industrial land in strategic locations throughout the region.
- Key tourism assets and opportunities for complementary activities.
- Opportunities for diversification of the regional economy including energy generation and mining.
- The impacts of enhanced communications technology for future land use and settlement.
- Commercial and retail needs for the region.

Chapter 4 –Population and settlement

- Identifying a preferred long-term future settlement pattern for the region.
- Understanding housing demand and supply of various housing types.
- Managing rural settlement in farming areas.
- The importance of creating liveable places and protection of character and heritage assets in making the region attractive for residents and visitors.

Chapter 5 – Planning for communities

- The spatial implications of service provision given an ageing population, decline of population in many towns and the need for access to services.
- Planning for future education facilities in accordance with patterns of growth and change.
- Providing facilities, housing and infrastructure to attract skilled workers and families.
- Disadvantage in the region and measures to address this through the provision of housing, employment and infrastructure.

Chapter 6 – Transport and infrastructure

- Issues of regional and inter-regional connectivity to stimulate growth and provide access between communities of common interest.
- The importance of freight transport and key assets and challenges in the region.
- Ensuring future employment land can access key transport links.
- Identifying constraints, capacity and opportunities associated with water, sewerage, energy, telecommunications and waste infrastructure.

Chapter 7 – Environment

- An outline of the region’s significant environmental assets.
- Identifying the potential impacts of a climate change and how the region’s environmental, economic and settlement characteristics may need to change to take advantage of, or ameliorate, the impacts.
- Protecting regionally-significant landscapes.

Chapter 8 – Cross-regional issues

1 Introduction and purpose

The Wimmera Southern Mallee Regional Growth Plan has been developed in partnership between local government and State Government agencies and authorities. It provides regional land use planning responses to the strategic aspirations and directions identified in the regional strategic plan, titled the Wimmera Southern Mallee Regional Plan. The regional growth plan takes a 30-year strategic view of future planning for the region.

The Wimmera Southern Mallee region is located in the west of Victoria, comprising almost 33,943 square kilometres (Australian Bureau of Statistics 2006). It extends from St Arnaud in the east to the South Australian border in the west (see Map 1).

Map 1: Wimmera Southern Mallee growth plan boundary



Source: Department of Transport, Planning and Local Infrastructure

The Wimmera Southern Mallee region includes the Hindmarsh, Horsham, Northern Grampians, West Wimmera and Yarriambiack local government areas. Buloke Shire Council issues that are relevant to the wider Wimmera Southern Mallee region are also included in this background report. However, Buloke Shire Council's primary regional growth plan is the Loddon Mallee North Regional Growth Plan, which establishes future land use directions and infrastructure planning for the area.

Strategic planning projects and development frameworks already undertaken by councils have been significant inputs into the Wimmera Southern Mallee Regional Growth 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 Wimmera Southern Mallee Regional Growth Plan informs local strategic planning and future public and private investment. The plan is one of eight regional growth plans that have been prepared across the state and is consistent in its approach to help provide a whole-of regional Victoria overview.

The Wimmera Southern Mallee Regional Plan

The purpose of the Wimmera Southern Mallee Regional Growth Plan is to provide land use planning responses to strategic directions established in the Wimmera Southern Mallee Regional Plan (2010).

The Wimmera Southern Mallee Regional Plan includes the following goals:

- a competitive and innovative economy
- a healthy and resilient environment
- community wellbeing.

The Wimmera Southern Mallee Regional Plan also includes a number of regional settlement planning principles:

- Principle 1 – Support a network of integrated and prosperous regional settlements.
- Principle 2 – Provide for the enhancement of environmental health and productivity within rural and hinterland landscapes.
- Principle 3 – Maintain and enhance regional Victoria's competitive advantage.
- Principle 4 – Respond to the impacts of a variable climate and natural hazards and promote community safety.
- Principle 5 – Support the growth and development of distinct and diverse regional settlements.
- Principle 6 – Promote liveable regional settlements and healthy communities.
- Principle 7 – Encourage regional integration and implementation of policy and regional strategies.

Purpose

The purpose of this background report is to document:

- issues, opportunities and challenges facing the region
- issues in the Wimmera Southern Mallee Regional Plan that influence growth and land use
- local and state government policy directions
- drivers of change over coming decades.

The issues identified in this background report have formed the primary basis for the directions established by the Wimmera Southern Mallee Regional Growth Plan.

Issues covered by this background report

Economic prosperity

- **Agriculture:** Agricultural production, sustainability, and vulnerability, need for diversification and opportunities for value-adding
- **Diversification of regional economy:** Mining, energy and the carbon economy
- **Industrial development:** Industrial land supply and ongoing industrial development
- **Tourism:** Opportunities for tourism, particularly eco-tourism
- **Communications and technology:** Impact of the National Broadband Network
- **Commercial development:** Activity centre planning and commercial land needs

Population and settlement

- **Settlement hierarchy:** Settlement roles and relationships, small towns, managing growth and decline and land supply
- **Rural settlement:** Rural-residential housing and subdivision
- **Housing diversity and affordability:** The mix and type of housing available including social housing
- **Liveability:** Settlement character, identity and urban design

Planning for communities

- **Demographic change:** Demographic trends including an ageing population and out-migration of young people and the implications for services and settlement
- **Education and skills:** Access to education and attracting skilled workers
- **Health and wellbeing:** Planning for health, indigenous health, disadvantage and the social impacts of a variable climate

Transport and infrastructure

- **Regional passenger transport links:** Linking dispersed communities and links to other parts of the state
- **Freight transport:** Freight connections including road and rail, changing freight demand, and infrastructure
- **Services and infrastructure:** Water, gas, sewer, electricity and telecommunications, capacity for growth and location of current and future assets

Environment

- **Natural environment:** Natural environmental assets and potential for enhancement and protection
- **Natural hazards and risks:** Bushfire, flooding, water availability, soil health and a changing climate
- **Landscape protection:** Significant landscapes

Cross-regional issues

Assumptions/Limitations

The population trends and growth rates used in this background report are predominantly based on 2011 Census data and Victoria in Future 2012 data. Different geographic areas were used for the 2011 census data and therefore some population trends are not informed by this most recent Census as the data is not directly comparable. In these cases the report has relied on 2006 and earlier Census data.

2 Wimmera Southern Mallee snapshot

This section describes the Wimmera Southern Mallee's key economic, environmental and community assets.

Access

The main road transport corridor in the region is the Western Highway, which connects Horsham, Stawell and Nhill with Melbourne (via Ballarat) and Adelaide. The Melbourne–Adelaide railway generally follows the Western Highway alignment, with a deviation to Murtoa between Stawell and Horsham. There are numerous other important road and rail corridors including the Henty Highway, which runs north–south through the region and provides access to the Port of Portland for the export of bulk commodities such as grain and mineral sands. The Wimmera Highway provides a regional east–west link. Aviation transport is also important within the region. There are a number of airports within the region that serve a variety of purposes from emergency medical, fire and rescue services to servicing agricultural requirements and driving new business growth.

Population and settlement

In 2011, the population of the Wimmera Southern Mallee region was 50,700. It is projected to reach 51,300 by 2031.

Horsham is the regional centre of the Wimmera Southern Mallee and provides a wide range of services to the whole region and adjoining areas. Located on the Western Highway, it is relatively central within the region. A number of significant sub-regional district towns service smaller surrounding settlements and large sparsely settled areas of agricultural hinterland. These include Stawell, Nhill, Warracknabeal and Edenhope.

Economy and employment

Agriculture is the dominant land use, economic driver and employment sector in the region, predominantly comprising broad-acre cropping of cereals, pulses and oilseeds in the central and northern parts of the region and livestock grazing in the southern parts. Other key employment sectors are healthcare, manufacturing, retail and construction. Manufacturing, tourism, transport and mining are also important elements of the economy in some parts of the region.

Environmental assets

The Wimmera Southern Mallee is highly diverse and includes mountains, plains and desert environments supporting a range of ecosystems. The region has been heavily cleared with most remaining native vegetation located on public land. Key environmental assets identified by the Wimmera Regional Catchment Strategy 2012–2018 include rivers and streams, wetlands, native vegetation, threatened plants and animals and soils. The Grampians, Little Desert and Wyperfeld National Parks are important areas for nature conservation and, together with Mount Arapiles, represent significant tourist attractions.

Facilities and services

Most higher order services are located in Horsham. However, the considerable distance between settlements and the large hinterland areas of some towns results in some small settlements providing a wider range of services than would normally be provided in settlements of a comparable size. For example, there are public hospitals in Stawell, Dimboola, Nhill, St Arnaud, Edenhope, Warracknabeal, Jeparit and Rainbow. Horsham and Stawell also have TAFE and university campuses.

Cultural heritage

Cultural heritage is an important part of the region's identity. Aboriginal people have strong relationships with the region's heritage and have custodianship and decision-making roles, related to heritage. Registered Aboriginal Parties have an important role in place-based activity. The Barengi Gadjin Land Council Aboriginal Corporation, the Dja Dja Wurrung Clans Aboriginal Corporation and the Gunditj Mirring Traditional Owners Aboriginal Corporation have responsibilities relating to the management of Aboriginal culture in the Wimmera Southern Mallee. Key Aboriginal cultural heritage sites in the region include Mount Arapiles, the Grampians and Ebenezer Mission. There are also a number of important post-contact heritage buildings and sites located throughout the region. These heritage places make a strong contribution to the character and amenity of towns such as Stawell and St Arnaud.

Surrounding regions

The Wimmera Southern Mallee has strong links with neighbouring regions including the Limestone Coast region within South Australia. Major infrastructure links the region to state, national and international networks via the national rail/freight network and the Western Highway, which connects the region to Melbourne and Adelaide.

The closest large regional city, Ballarat, is located within the Central Highlands region to the south-east. Residents and business within the region access some higher order services from Ballarat and Bendigo in the adjoining Loddon Mallee South region. The large regional centre of Ararat is located a relatively short distance from the south-eastern boundary of the region and there is a strong relationship between Ararat and Stawell.

Another key relationship is to Buloke Shire, located in the Loddon Mallee North region. Some towns in Buloke Shire use services in Horsham, while the rural economy and settlement pattern of the shire are similar to its neighbours in the Wimmera Southern Mallee.

The Great South Coast region is located to the south and is particularly important for freight movement, with mining and agricultural produce exported through the Port of Portland. The Grampians National Park is a key regional asset shared between the Wimmera Southern Mallee, Central Highlands and Great South Coast.

Towns near South Australia have links with neighbouring communities across the border. Edenhope and Apsley have a relationship with many of their residents accessing jobs located in Naracoorte.

3 Economic prosperity

3.1 Economic snapshot of the region

The regional industry structure in the Wimmera Southern Mallee is strongly underpinned by the primary production sector of agriculture (see Figure 1). Agriculture accounted for a quarter of total employment in the Wimmera Southern Mallee in 1996, although this has declined over the last 15 years to approximately 17 per cent in 2011. Nevertheless the share of employment in agriculture is expected to grow slightly to 18 per cent by 2031 (see Figure 2). While there has been a long-term decline in agricultural employment, which has been experienced consistently across the state, possibly due to factors such as increased mechanisation, efficiencies and productivity (including increasing farm sizes in some areas, this decline may be halted by more intensive agriculture establishing in the region. The long-term decline in employment in manufacturing is forecast to continue, with a reduction from approximately nine per cent in 2011 to six per cent in 2031.

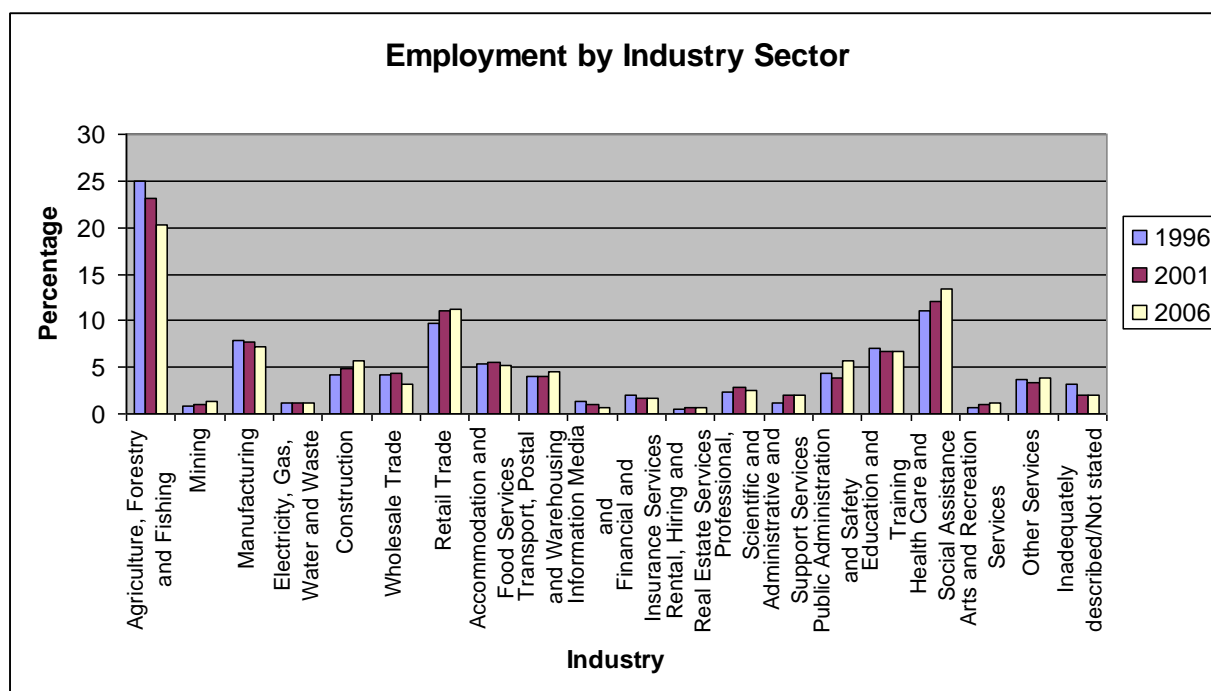
The Regional Economic Profile Wimmera Southern Mallee produced by Regional Development Victoria (2013) compares the region to the rest of the state and regional Victoria. This document forecasts the region will experience lower growth in gross regional product and employment terms compared to the rest of the state and regional Victoria. Growth will most likely be uneven, with Horsham expected to have the bulk of economic and employment growth in the region.

The Regional Development Victoria profile identifies the Wimmera Southern Mallee needs to build on its comparative advantage in agricultural production as the foundation for developing and diversifying its economy, to grow export markets and to minimise the impacts of external shocks to the economy. Potential future growth industries include:

- agricultural production and agribusiness research and development
- food processing
- gold and mineral sands mining
- engineering and manufacturing of equipment for transport, mining, agriculture and alternative energy systems
- renewable energy.

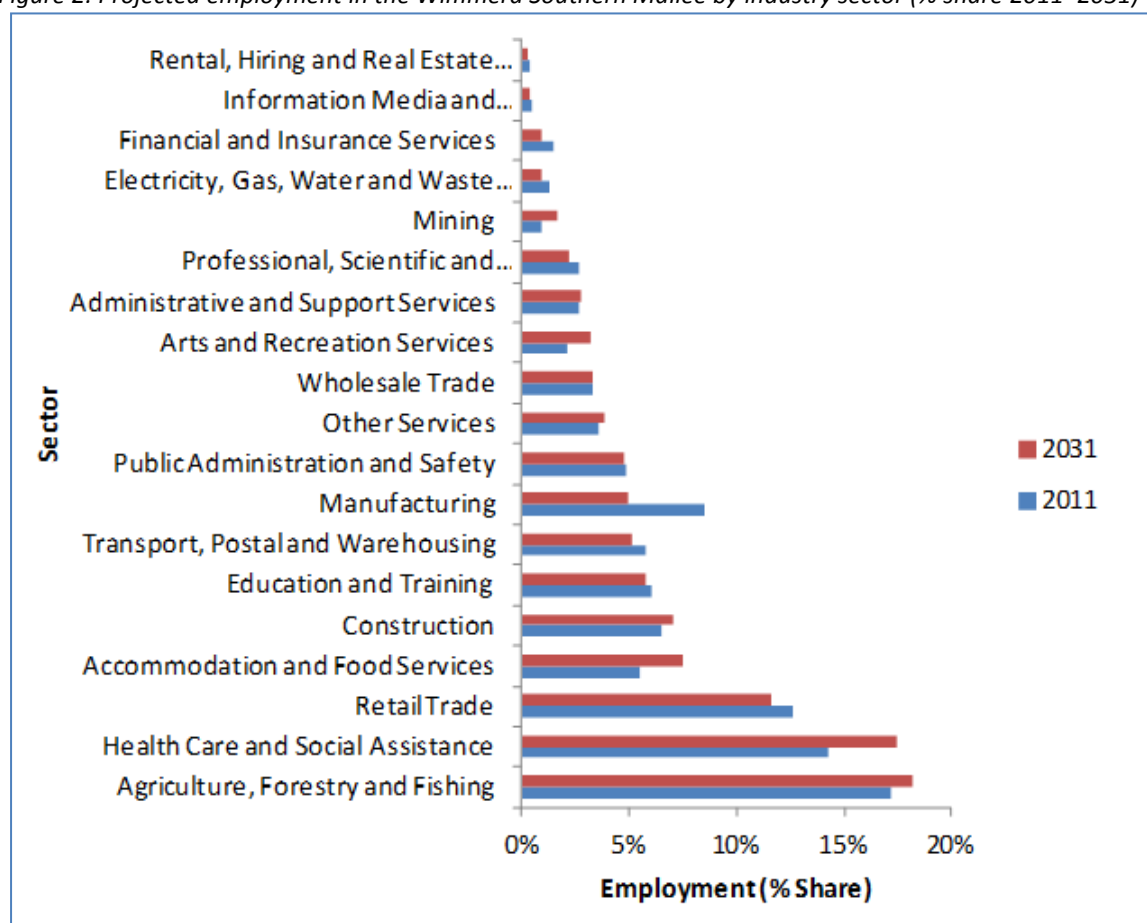
By 2031, agriculture, healthcare, mining, construction and manufacturing are expected to be the largest sectors in the region, accounting for 58 per cent of the region's Gross Regional Product.

Figure 1: Employment by industry sector



Source: Australian Bureau of Statistics

Figure 2: Projected employment in the Wimmera Southern Mallee by industry sector (% share 2011–2031)



Source: Regional Development Victoria, 2013

Other major employers in the Wimmera Southern Mallee region include healthcare and social assistance organisations, which are projected to grow from 14 per cent in 2011 to 17 per cent in 2031.

In terms of relative strength compared with the Victorian average, agriculture and mining are strongly represented in the region. The share of agricultural employment is more than eight times the Victorian average, while the share of mining employment is more than four times the Victorian average. Arts and recreation services, healthcare and social assistance, transport and other services industries are also strongly represented, but to a much lesser extent. As with other agricultural regions in Victoria, the Wimmera Southern Mallee is under-represented in professional, scientific and technical services as well as wholesale trade and telecommunications.

The region is expected to see its employment base reduce between 2008–09 and 2018–19, mainly due to a lack of population growth, but also due to a lack of significant industry growth.

However, the region should not be seen as having a uniform economic profile. For example, SED Consulting (2011) has identified that in the Northern Grampians Shire manufacturing is the largest sector of its local economy, employing similar numbers to the agriculture, forestry and mining sector. Industrial land supply data for the Northern Grampians Shire is being monitored.

3.2 Agriculture

3.2.1 Description and analysis

Agricultural production¹

Agriculture is the dominant land use in the Wimmera Southern Mallee region. In 2008–09 the gross value of agricultural production in the region was \$921 million, which represents around nine per cent of the total Gross State Product. The region therefore plays a critical role, not only in relation to economic outputs, but also Australia's food security. The region is part of the nation's wheat belt as Map 2 shows.

The region is based on broadacre cropping of cereals, pulses and oilseeds in the central and northern areas, and dry land livestock grazing in the south. Agriculture in the Wimmera is highly export-focussed, with over 60 per cent of all crop products exported. A summary of the key agricultural attributes of the region is set out below.

Cereal crop production within the Wimmera was worth around \$361 million, almost 40 per cent of the total value of agriculture in the region. The largest produced crop in the Wimmera is barley, with the Wimmera producing around 47 per cent of Victoria's barley. Other crops include wheat, canola and pulses including lentils, faba beans and lupins.

Sheep and some beef cattle are the dominant livestock industries in the Wimmera, mostly in the south west. Sheep are produced for wool and meat. Trends in the region include a shift away from sheep, towards more profitable production systems, for example cropping, and the increasing focus on prime lambs, with wool production declining.

The prevalence of intensive agriculture, such as piggeries and broiler farms, varies considerably across the region. The Northern Grampians contains a number of relatively large piggeries, particularly around the St Arnaud region. Buloke Shire contains a number of piggeries, many of which have expanded in recent years because of more consistent and better quality water. Buloke also contains the Charlton Feedlot. This is one of the largest feedlots in Victoria and the biggest employer within the Shire. Buloke is part of the Northern Poultry Cluster, which has been established to develop the poultry industry in the region. A broiler farm is located near Donald.

¹ Data in this section is taken from the Department of Environment and Primary Industries web site.

Luv-a-Duck, which supplies around 98 per cent of Victoria's duck consumption, is located just outside Nhill within the Shire of Hindmarsh. Luv-a-Duck is the largest duck meat processing facility in Australia. However, this business is relatively isolated in a region that is predominantly geared towards grain and sheep production. Areas such as West Wimmera and Yarriambiack have almost no intensive animal husbandry.

Vegetable production within the Wimmera is worth around \$19 million. Carrot production at Kaniva is expanding with one of the largest carrot producers in Australia (Lamattinas) establishing a large carrot producing enterprise south of Kaniva.

Fruit production is worth around \$600,000 at the farm gate and is dominated by olive production with a total unprocessed value of approximately \$462,000.

A small number of niche businesses operate in the Wimmera. With the exception of wine grape production, they are generally dry land based. Herb production, goats for meat and hair and shedded sheep are some of the niche businesses in the Wimmera.

Spatial implications

There are approximately 2628 farm establishments in the Wimmera with an average farm size of 880 hectares. A significant majority of private land within the region is included within the Farming Zone which seeks to protect land for agricultural purposes.

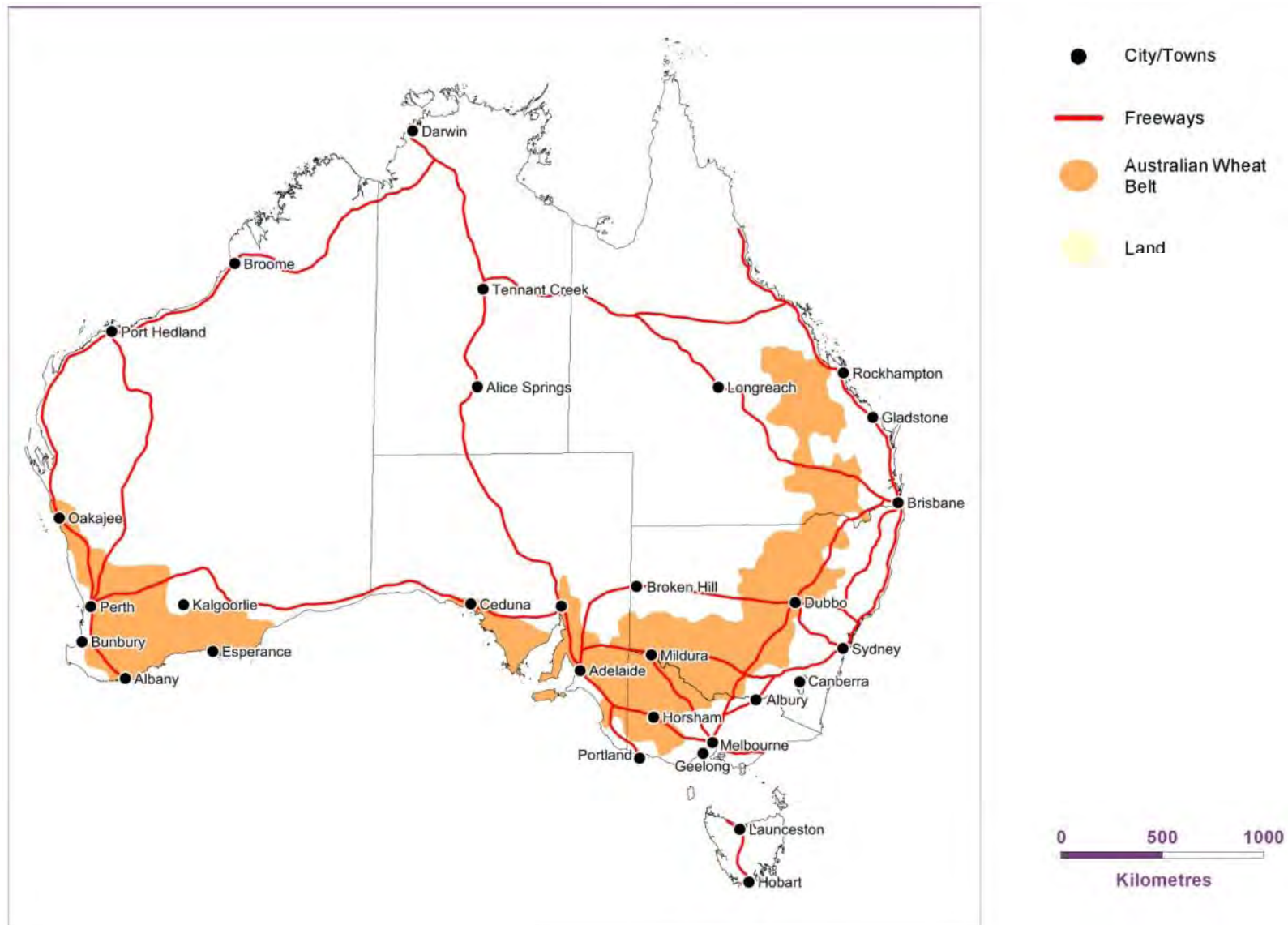
While the zoning regime allows for a wide variety of agricultural activities, in a strategic sense there may be benefits in understanding the spatial distribution of production and what land best suits specific activities, particularly as climates change. Strategically important agricultural land may need to be identified and protected for this purpose, and could include identifying factors such as land capability, critical supporting infrastructure, links to freight networks and locations of industry clusters, among others. This type of assessment could also include identifying whether the current policy and controls are adequately protecting farms from sensitive uses such as new dwellings. There is a need for detailed information about region-wide agricultural land capability to contribute to this analysis. The Wimmera Southern Mallee Regional Growth Plan provides an opportunity to take a long-term approach to address this issue.

Drought over the last decade has seen a shift in agricultural production occurring with reductions in livestock and growth in cropping. This trend has a spatial dimension too as cropping has shifted further south into land previously occupied by extensive grazing. It also has implications for the way freight is transported. There is evidence this trend may be declining given improving returns from livestock and more assured water availability. This is more evident in less favourable cropping areas south of Horsham and around Edenhope but is understood to be occurring in some other locations across the region.

Changing agricultural production and practices will impact on other land uses, including industry and infrastructure. Recent deregulation of the grain industry may affect how products are transported as there may be less demand for existing bulk storages attached to railway lines.

Wimmera Southern Mallee Regional Growth Plan
Background Report

Map 2: Australia's wheat belts



Source: Department of Transport, Planning and Local Infrastructure, derived from Infrastructure Australia and AACL Holdings Limited

3.2.2 Sustainability and vulnerability of agriculture

There are general questions around the affordability of machinery and agricultural expansion in the region. The cost of capital for broadacre farming is increasing, and with farming becoming more capital intensive, it is now very difficult for new players to buy-in.

Whilst there is evidence of some expansion of enterprises, this is more likely to indicate a move to corporate farming where smaller farms are being consolidated into a larger business. In many instances this translates to a shrinking on-farm population with older farmers exiting the industry. The shrinking farm (rural) population may also be accentuated by farmers retiring to major centres such as Horsham, Stawell or Nhill (driven by access to services). Some of the farm consolidation may be via family enterprises becoming more corporate in their size and practices; others may include investment from outside the area.

Changes in local and international sustainability policies and practices will provide additional opportunities. Examples include farmers embracing opportunities to generate income from providing ecosystem services², wind farms providing supplementary income to farmers, opportunities arising from national action to reduce greenhouse gas emissions, and recognition by consumers that natural environmental assets on farms can increase the productive value of traditional agricultural commodities.

The recent variable climatic conditions in the Wimmera Southern Mallee, where a decade of drought was followed by flooding, are an indicator of some of the extreme conditions the region may face in the future. These events demonstrate the need for any land use plan to consider and plan for the potential impacts of climate change on the region, including by:

- maintaining appropriate flexibility in land use controls to ensure agricultural production and farm operations/holdings can be modified, as required, thereby assisting the sustainability of the industry
- assisting in diversifying the regional economy
- protecting significant environmental assets, including soils and water resources, to ensure a healthy environment to support agricultural production.

3.2.3 Diversification and value-adding

The Wimmera Mallee Pipeline

The Wimmera Mallee Pipeline, a major investment in regional water infrastructure, provides a number of possibilities for regional growth and development (route shown in Map 3). AEC & Tract (2012) identify that the pipeline route provides a good indication of the areas most suited for agricultural diversification. The pipeline generally runs in a north-south direction, which corresponds with many of the major transport routes, including the Western and Sunraysia Highways. This combination of secure water and transport infrastructure is an important characteristic that should be leveraged for broader economic growth. The increased reliability and secure supply of water from the pipeline may provide opportunities for on-farm diversification and regional growth and development.

AEC & Tract (2012) state that the facilitation of industry clusters to build on regional strengths would aid investment and create new development opportunities to expand certain sectors. Buloke Shire Council, for example, is already a member of the Northern Poultry Cluster. A parliamentary inquiry (Parliament of Victoria,

² 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 conserve and enhance the environment.

Map 3: Wimmera Mallee Pipeline



On-farm diversification opportunities may become available in some areas as a result of a more reliable and secure supply of water from the pipeline. By connecting to each property through the standard system, the pipeline may be able to deliver additional water to households and farms. Additional water is available at the headworks of the system, requiring additional investment to deliver the water to a storage location close enough to be viable. Opportunities for on-farm diversification may include beef feed lots, lamb finishing, poultry production, pig production, a range of niche plant and animal products, and possibly horticultural enterprises.

A Victorian Parliamentary inquiry into the opportunities arising from Wimmera Mallee Pipeline recommended:

“That the Victorian Government, through the Department of Primary Industries, investigate opportunities for businesses to establish pig, sheep and beef slaughtering facilities in the Wimmera Mallee. This initiative would contribute to the further development of the local economy, the encouragement of these businesses to develop within the region and in the establishment and diversification of these types of local industries. Furthermore, the diversification and establishment of these new industries would significantly contribute to reducing current environmental concerns about food miles travelled by animals in these industries.”

(Rural and Regional Committee, Inquiry Into Positioning The Wimmera Mallee Pipeline Region To Capitalise On New Economic Development Opportunities Final Report, August 2010)

The State Government has supported this recommendation in principle. There is a need for land use planning to identify appropriate criteria for the establishment of certain types of specialist agricultural functions with detrimental off-site amenity impacts. At present, the region’s planning schemes only look at this issue from a reactive perspective, which is, ensuring industries are located where they minimise negative externalities. However, the Northern Grampians Planning Scheme does provide policy support for an approach to determine preferred locations for intensive animal industries. The Wimmera Southern Mallee Regional Growth Plan provides a more strategic approach to this issue linked to the benefits provided by the pipeline, thereby providing support for diversification of the regional economy.

Intensive agriculture

Both the Luv-a-Duck farm near Nhill and Charlton Feedlot are evidence of individual facilities that have become very successful despite what many may regard as sub-optimal locations due to their relative isolation from similar uses. Both these businesses are major employers and central to the local economy. These examples highlight the flexibility that is required in rural land use planning so that it does not stifle entrepreneurship or emerging markets that may not typically be associated with a particular location.

Whilst good opportunities for growth in intensive agriculture lie across the region, AEC & Tract (2012) identify the Buloke, Northern Grampians and Horsham local government areas as particularly well suited for further expansion due to the supporting infrastructure already in place. Key favourable characteristics identified include:

- low population density and close proximity to grain production areas
- Horsham and St Arnaud have established feed mills that can easily deliver feed to the region
- Stawell and Wycheproof contain meat processing centres
- the Western and Sunraysia Highways are key transport routes
- quality and security of water supply provided by the Wimmera Mallee Pipeline.

AEC & Tract (2012) state that further consolidation of intensive agriculture in these local government areas would continue to create efficiencies in production and help facilitate the growth of supporting industries. However, if market conditions permit the establishment of intensive agricultural uses elsewhere in the region, this should be encouraged.

AEC & Tract (2012) found the entire region had potential for piggery development, with the Northern Grampians and Buloke local government areas already containing significant numbers of piggeries. These locations benefit from their relative proximity to abattoirs and transport infrastructure.

FSA Consulting (2008a) found the region had good potential for broiler farm development, however constraints were posed by the lack of associated facilities such as company-operated poultry feed mills and processing plants and the distance from major markets.

In terms of cattle feedlots, FSA Consulting (2008b) found West Wimmera and Hindmarsh local government areas were most suited due to excellent access to grain, cattle and a suitable workforce. These areas also had the benefit of being sparsely populated (cattle feedlots typically require large buffers). The Charlton Feedlot operates very successfully in the Buloke Shire highlighting the relative flexibility in site selection.

Buffers required for lamb feedlots are considerably less than for cattle feedlots. FSA Consulting (2008c) found that much of the region was suitable for lamb feedlots.

The Intermodal Freight Terminal

The Wimmera Intermodal Freight Terminal provides a major opportunity for value-added industries from grain and complementary industries to locate around Horsham. A greater critical mass of agricultural industries would help drive efficiencies in production, providing benefits across the region. Concentrated growth in intensive agricultural production in other parts of the region, for example around St Arnaud, may provide the opportunity for secondary transport and logistics hubs to emerge. Sufficient industrial land would be needed to facilitate the growth of these hubs.

Other opportunities

There are a range of other diversification and value-adding opportunities that have been considered in developing the Wimmera Southern Mallee Regional Growth Plan. The region has several grain processing companies that specialise in value-adding. This is predominantly undertaken in the pulse market (lentils, chickpeas etc.) with processing done to value-add to the raw product and produce a higher value export product. Investigations are being undertaken by a local farming cooperative into the feasibility of a variety of agricultural by-products that may be able to be reprocessed and used as a value-added product. Sufficient industrial land and necessary infrastructure needs to be available in relevant locations to support the development of new industries.

AEC & Tract (2012) found that grape production was primarily isolated to two key regions within the study area, the region around Great Western and to the south of Horsham around Lower Norton. The Victorian viticulture industry is currently operating at surplus production levels and therefore major growth of this sector is unlikely over the medium- to long-term.

Farmers, like many other business owners, are struggling to compete in a globally competitive marketplace. This has driven increased investment in agricultural research and development. There is a need for agricultural industries and related companies to maximise their investigation and uptake of new technology. Greater focus on advanced cropping has translated into a demonstrated strong demand for agronomy services and the focus of service providers to develop relationships with farmers. Again there is a need to understand the spatial requirements, if any, for the development of this industry.

3.2.4 Land use planning response

Land use planning has an important role in supporting agriculture by identifying strategically important agricultural land and areas that should be protected from non-agricultural uses. Planning should also respond to the potential impacts of a changing climate on agriculture, which could result in changing agricultural practices

and commodities in different parts of the region. Changes in agricultural production and diversification of rural industries should be provided for in the planning system, such as through the identification of appropriate locations for intensive animal or agricultural production.

3.3 Industrial development

3.3.1 Description and analysis

The Wimmera Southern Mallee region's location at the heart of Victoria's grain production is a competitive advantage when it comes to attracting industry. The region has well-integrated agribusiness supply chains and good accessibility to south-east Australian population centres.

Food products, including meat processing, are the dominant manufacturing outputs of the region. Other manufacturing includes agricultural machinery and equipment, metal fabrication, wine production and transport equipment.

An ongoing issue across the Wimmera Southern Mallee is access to suitable serviced industrial land. The region's planning schemes recognise the need to provide a sufficient supply of industrial land. The Northern Grampians Shire's municipal strategic statement provides the most strategic approach to this issue, noting:

- the need for 15 years' supply of industrial land
- the need for a strategic analysis of industrial land requirements
- appropriate locations for certain industries including 'one-off' major developments.

The Horsham Municipal Strategic Statement also notes the potential to develop a cluster of agro-processing and industrial activities around the relocated saleyards at Burnt Creek and logistics businesses around Dooen, where the Wimmera Intermodal Freight Terminal has recently commenced operation. Planning permits have been issued for approximately \$7 million of investment from Viterra who are located on the neighbouring property and are a strategic project partner. Viterra has invested some money and land towards roads for the project. Discussions are taking place with businesses that may be looking to relocate including a business that specialises in truck and transport servicing. A structure plan is being prepared to identify the range of uses that could locate around the terminal.

To support the above policy approaches and recent developments, there is a need to understand industrial land supply and demand to ensure the provision of industrial land in the region is strategic and not reactive. The most recent, systematic collection of such information across the region was a 2007 audit of industrial land supply, the results of which are set out in Figure 3. It shows vacancy rates generally above the regional Victorian average of 33 per cent.

Figure 3: Industrial land supply

Hindmarsh

- Total hectares – 33
- Occupied hectares – 21
- Vacant hectares – 12
- Vacancy rate by total area – 37%
- Occupancy rate by total area – 63%

Horsham

- Total hectares – 772
- Occupied hectares – 232
- Vacant hectares – 541
- Vacancy rate by total area – 70%
- Occupancy rate by total area – 30%

Northern Grampians

- Total hectares – 286
- Occupied hectares – 187
- Vacant hectares – 99
- Vacancy rate by total area – 35%
- Occupancy rate by total area – 65%

West Wimmera

- Total hectares – 7
- Occupied hectares – 4
- Vacant hectares – 3
- Vacancy rate by total area – 43%
- Occupancy rate by total area – 57%

Yarriambiack

- Total hectares – 92
- Occupied hectares – 69
- Vacant hectares – 22
- Vacancy rate by total area – 24%
- Occupancy rate by total area – 76%

Source: Parsons Brinckerhoff Australia Pty Limited, 2008

The Department of Transport, Planning and Local Infrastructure has reviewed the supply and demand of industrial land within the Horsham local government area. The Urban Development Program 2011 Regional Industrial Report for the Rural City of Horsham notes that there is sufficient industrial zoned land for this local government area.

3.3.2 Land use planning response

Land use planning has an important role in ensuring that appropriately located industrial zoned land is available for new businesses to establish or existing ones to expand and that this land is protected from encroachment by sensitive uses. The 'communities of interest' concept developed for the regional growth plan should form the basis of a regional approach, with a view to ensuring that each community of interest has access to industrial zoned land.

3.4 Tourism

3.4.1 Description and analysis

A Regional Tourism Profile for tourism sub-regions within Victoria has been prepared based on information provided by Tourism Research Australia visitor surveys. Local government areas within the Wimmera Southern Mallee region are included in the Wimmera, Western Grampians and Central Highlands sub-regions, some of which extend into local government areas beyond the Wimmera Southern Mallee region. For this reason visitor data specific to the Wimmera Southern Mallee region is not available.

An analysis of the visitor surveys for the three tourism sub-regions within the Wimmera Southern Mallee region shows that domestic visitors make up the majority of visitors to the region (over 90%). Domestic visitors to the region typically stay for three nights while international visitors typically stay for around 10 nights. Approximately half of the tourism businesses in the region do not employ staff, with most of the other half having between one and four employees.

Tourism presently contributes a relatively small proportion of the region's economic output. For example The Economic Importance of Tourism in Australia's Regions (Department of Resources, Energy and Tourism, 2011) includes the Ararat and Northern Grampians local government areas in the Western Grampians tourism region. In 2007–08 tourism was valued at 3.45 per cent of the region's total economic output.

While tourism in the Northern Grampians is well established, particularly at the northern end of the Grampians National Park including Halls Gap, there are opportunities to develop and improve the tourism product for the other shires within the Wimmera Southern Mallee region. Tourism Alliance Victoria (2009) undertook a comprehensive research project to identify the existing tourism performance of the region (encompassing the municipalities of Buloke, Hindmarsh, West Wimmera and Yarriambiack) and recommended a clearly defined plan to grow the industry into the future. The research project recorded a number of common impediments to product development. From the 35 common impediments listed, considerations include the lack of accommodation, land availability and impediments to adding accommodation in the Farming Zone. Councils in the Wimmera Southern Mallee have not undertaken rural land use studies. One of the outcomes of such studies could be to investigate use of the Rural Activity Zone which provides opportunities for the establishment of a wide range of uses complementary to rural land uses.

One of the strengths of the region from a tourism perspective is its natural assets, however nature-based activities required further improvement. Victoria's Nature-Based Tourism Strategy 2008–2012 identifies that the Grampians National Park is one of the state's key nature-based tourism assets as shown in Map 4. It states that for Victoria to develop successful nature-based tourism destinations and experiences, gaps in the 'five A's' or critical parts of a destination must be taken into account. The five A's are:

- attractions
- access
- activities
- amenities
- accommodation.

The Wimmera Southern Mallee Regional Plan identifies that building on the region's nature-based and outback tourism industry could contribute towards achieving a broader regional goal of developing a competitive and innovative economy. Some projects are already planned or underway to capitalise on this potential growth industry. The construction of visitor facilities at Mt Arapiles and the development of the Grampians Peak Trail

and potential development of the Grampians Way ring road are examples of the growing tourism infrastructure. The Little Desert, Big Desert and Wyperfeld parks extend over a significantly large area and can offer additional outback/eco-tourism opportunities for the region if adequate infrastructure is built. The Little Desert Nature Lodge, established in 1969, is located adjacent to the national park and hosts nature-based tourism for schools, coach tours and international guests.

The expansion of eco-friendly accommodation throughout the region may strengthen the region's 'nature-based tourism' image and facilitate higher visitation.

The Grampians Tourism Strategic Plan 2012–2016 identifies emerging opportunities around cycling, nature-based tourism and health and wellbeing, capitalising on the region's unique natural features. Increasing visitor dispersal around the region is noted as a key opportunity. The southern parts of the region, and the Northern Grampians and Horsham councils in particular, are expected to be the largest beneficiaries, taking advantage of these areas' mountainous and rugged terrain, fresh watercourses and lakes. Adventure activities also have the benefit of 'opening' tourism to new areas of parks and reserves, and therefore further promoting the region's tourism assets.

It is recommended in the Unlocking Victorian Tourism: An Inquiry into Victoria's Tourism Industry (2011) report that the State Government removes regulatory obstacles to private sector investment in tourism infrastructure in Victoria's national parks to support "sensible and sensitive developments provided that they complement environment, heritage and other values and generate a net community benefit".

The location and ease of access of the Northern Grampians and Horsham from Melbourne means that it is possible to attract day trippers for viticulture (wine) tourism. Viticulture tourism initiatives should be concentrated in areas which already have strong existing infrastructure such as Great Western.

Hindmarsh contains some of the largest water bodies within the region such as Lake Hindmarsh and Lake Albacutya. Encouraging private tourist operators and significant infrastructure development, such as accommodation and visitor facilities, will be the key to growing this market, given existing limited facilities and infrastructure investment. The Wimmera Mallee lakes district attracts a large number of bird watchers and there is anecdotal evidence that there is increased demand for appropriate services and accommodation in this area.

The Wimmera Southern Mallee contains large tracts of land of significant Aboriginal cultural heritage value, presenting an opportunity to expand indigenous heritage tourism. The Brambuk National Park and Cultural Centre at Halls Gap is a high quality example of the tourism offer available. Aboriginal cultural heritage areas generally coincide with the main watercourses and conservation areas. Developing a tourism product based around the heritage/indigenous theme has the added advantage of stimulating tourism and visitation across the least developed tourism markets, such as Hindmarsh, Buloke, West Wimmera and Yarriambiack shires.

Some consideration could be given as to appropriate locations for complementary infrastructure and accommodation for major regional attractions in the Wimmera Southern Mallee Regional Growth Plan.

3.4.2 Land use planning response

Land use plans should identify key tourism assets and experiences to be protected and enhanced. Strategic locations should also be identified where complementary activities in proximity to tourism assets will be supported.

Map 4 : Victoria's Nature-Based Tourism Strategy 2008–2012

Map 1 Project phases and product development initiatives[#]

Great Ocean Road cluster ①

Major projects

- Staged development of a parks precinct and interpretative centre at the Twelve Apostles / Loch Ard Gorge (Port Campbell National Park)*

Phillip Island cluster ②

Major projects

- Phillip Island Nature Parks: upgrade visitor centre

Great Ocean Road cluster ③

Phase I

- Otways and Great Ocean Road nature-based tourism accommodation and activity hubs
- Great Ocean Walk with demountable accommodation
- Otways mountain biking with demountable bike barn accommodation*

Grampians cluster ④

Phase I

- Nature-based tourism accommodation and day walks activity hub
- Grampians mountain biking with demountable bike barn accommodation*
- Wild Grampians Walk with demountable accommodation*

MAJOR PROJECTS

PHASE 1 Projects & Activities

PHASE 2 Projects & Activities

PHASE 3 Projects & Activities



Gippsland cluster ⑤

Phase 2

- Wild East Gippsland Walk with demountable accommodation*
- East Gippsland nature-based tourism accommodation and activity hubs
- Croajingolong and Wilsons Promontory National Parks interpretive centres with a tourism/customer service approach*
- Gippsland Hinterland all-wheel drive touring route
- Gippsland lakes boating infrastructure
- Adventure zip trail near Walhalla

Victoria's High Country cluster ⑥

Phase 3

- Feasibility study for public-private partnership infrastructure upgrade at Mt Buffalo Chalet*
- Wild Alpine Walk with demountable accommodation, potentially linked to the Alpine Resorts*
- Identify new and existing Alpine Resorts accommodation suitable for attracting summer nature-based tourism visitors.
- Alpine National Parks interpretive centre with a tourism/customer service approach*
- High Country/Alpine Resorts adrenalin mountain biking
- Feasibility study to develop a world-class adrenalin activity centre in the Alpine Resorts including mountain biking, bungee jumping, zorbing and other activities.

Source: Tourism Victoria

3.5 Diversification of the regional economy

3.5.1 Description and analysis

Earth resources

Mining for gold is a significant activity in Stawell and mineral sands mining is underway in the south-west Wimmera, near the town of Douglas. Mineral sand mining is also planned for the Donald area. The benefits of such projects are significant but tend to be localised rather than spread throughout the region. Since the viability of mining projects depends on fluctuating external markets, they are difficult to plan at a regional level.

There are a large number of quarries across the region and cumulatively these play an important role in the construction industry. A wide range of materials are extracted from these quarries for construction purposes including sand, limestone, scoria, tuff and basalt/bluestone. There are around 35 to 40 gypsum mines in the west of the region which produce products for the farming and construction industries.

The Stawell Gold Mine has operated for more than 30 years, although is likely to wind down in coming years. There are numerous quarries in the region that are important to support construction activity. There may be potential for petroleum resources at depth. Mineral exploration is underway across the region and areas are continually being re-explored.

The mineral sand resource runs from the south of Horsham to Ouyen, and further into New South Wales. Illuka, which runs the current mineral sand operations, has two mines south of Horsham near Douglas and one operating and one planned near Ouyen. The mineral sands are transported to Hamilton for further refinement and concentration before the concentrated product is moved to the Port of Portland for export. The waste material from the refinement process is then transported back to the mines.

Donald Mineral Sands, a subsidiary of Astron Ltd, is currently developing a mineral sands project proposed to operate south of Minyip. It has completed the environment effects statement and believes the project will have a 25 to 30 year life expectancy processing fine grained planar deposits. The Donald Minerals Sands Environment Effects Statement identifies the significant economic benefits of the project which include a capital investment of \$93 million with an operations workforce of approximately 75 people and a potential 3:1 job multiplier for the local economy.

Australian Zircon NL is investigating the feasibility of developing the WIM150 Mineral Sands Deposit located approximately 20 kilometres south east of Horsham. An Environment Effects Statement is currently in preparation for this project. The project would provide significant economic benefits to the region with an ongoing workforce of 125 permanent jobs at the processing plant and up to a further 125 contractors.

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, greenfields³ 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

³ Greenfields sites are those areas without known mineral deposits

- 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 interest areas into regional growth plans. The plan recognises these areas accordingly.

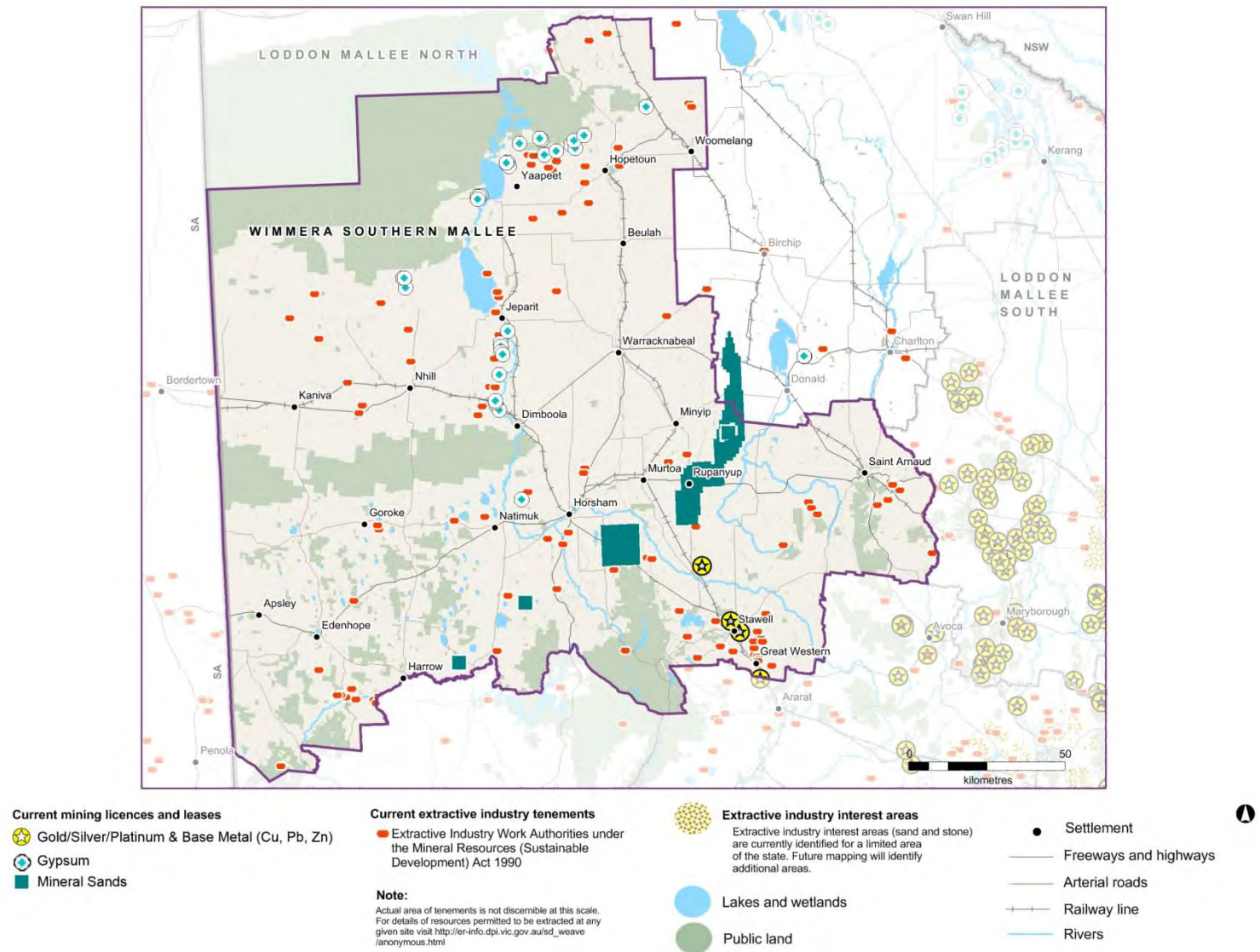
Current minerals and extractive industry activities, along with the extractive industry interest areas and other potential resources that occur within the region are shown in Map 5.

There could be various planning implications for the region, including:

- whether there will be any requirements for additional housing in particular towns to service new mines
- the transport and infrastructure requirements of the mines
- location of processing plants and export ports.

Wimmera Southern Mallee Regional Growth Plan Background Report

Map 5: Mining and extractive industries, tenements and licences



Source: Department of Transport, Planning and Local Infrastructure

Energy

There is significant potential for renewable energy to contribute to Victoria's future economic prosperity. Growth in the renewable energy sector will create new industries across the state that will stimulate local economies and generate skilled jobs. The main sources of renewable energy that could be harnessed to create electricity in Victoria are solar, wind, hydroelectricity and bioenergy. Wind, bioenergy and hydroelectricity account for over 93 per cent of renewable energy in Victoria compared with seven per cent for solar (Sustainability Victoria, 2012).

Paroissien Grant & Associates (2012) identified opportunities for local energy generation in the Wimmera Southern Mallee and examined in some detail opportunities for solar, wind, gas-fired, biomass and geothermal energy production. The report focused on the potential for each settlement within the region to accommodate local energy production and examined the ability of existing infrastructure to accommodate such a facility.

The Wimmera region currently has two companies undertaking wind monitoring studies. Results indicate the development of an 80 turbine wind farm, aligned with the main electricity line between Mildura and Horsham, as having potential.

The Wimmera Southern Mallee has good potential for geothermal energy production. Geothermal energy has the potential to provide a significant portion of base load energy, however exploration of potential locations of the resource is very expensive and access to information about Victoria's geothermal resources is limited. The West Wimmera Shire Council is currently installing a geothermal system into a community building. Once complete, other regional councils will review the project and analyse geothermal potential for other projects.

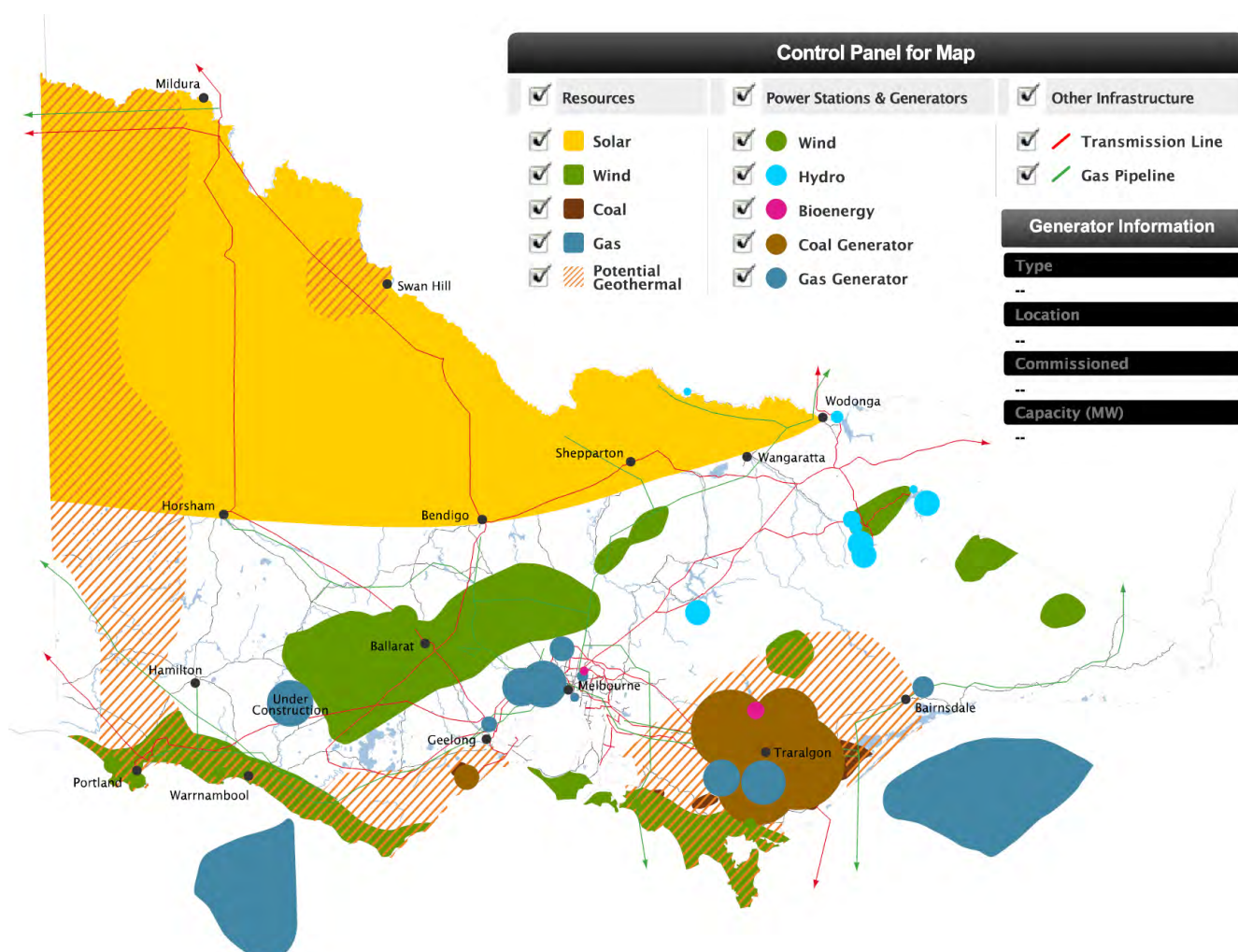
There is potential for growth in solar power in the state and the Wimmera Southern Mallee region, as shown in Map 6. Work conducted to date has identified potential sites for solar installations that align with available infrastructure capacity.

Organic matter, or biomass, can be converted into bioenergy (heat, electricity and biofuels) using a variety of technologies. Bioenergy generators tend to be small in scale and are best suited for local applications such as municipal waste facilities or for on-farm applications. In the Wimmera Southern Mallee several studies have been undertaken into the production of bioenergy along with the use of straw (including pellet manufacture) and other sources of potential biomass that could be used in a bioenergy context.

Biofuel production is occurring on a small scale on some farms and the Shire of Hindmarsh is looking into the establishment of a plant to produce biofuels from municipal waste.

Through funding received from the State Government the Wimmera Development Association administered a regional bioenergy audit. The audit identified possible bioenergy feed stocks to be utilised in energy generation. Currently research into the best technologies to use feed stocks is being conducted as part of developing a business case for energy production. These works are continuing and more analysis will need to be done to find the most appropriate use and value-add opportunity for producers of the biomass products.

Map 6: Energy in the future



Source: Department of Environment and Primary Industries

Carbon economy

As the national carbon price is still relatively new, few projects have been identified around the carbon economy relating to the region.

Of particular note though is the Carbon Farming Initiative, which allows farmers and land managers to earn carbon credits by storing carbon or reducing greenhouse gas emissions on their land. These credits can then be sold to people and businesses wanting to offset their emissions. In terms of the Wimmera Southern Mallee Regional Growth Plan, if carbon farming becomes a major part of farming practices, it could change the services required by farmers from supporting industries, which may then impact on the other businesses in the region. Trees planted for carbon sequestration can eventually be cut down (30 to 50 years) but must be used for a purpose that continues to store the carbon, for example, as furniture, building materials, etc. This will create some new business opportunities although these will be limited in the short- to medium-term.

Forestry

The forestry industry in the southern part of West Wimmera Shire is extensive. It forms part of a green triangle and comprises primarily softwood plantations and pockets of native hardwood plantations. The area is located near the South Australian/Victorian border and part of it is administered by the *Groundwater (Border Agreement) Act 1985* to protect groundwater resources from depletion.

It should be noted that the Western Region Sustainable Water Strategy identified the potential need to put land use controls around the amount of vegetation that could be planted in certain catchments to protect water resources.

3.5.2 Land use planning response

Land use planning should provide support for the establishment of renewable energy generation within the region and can assist by identifying specific locations where opportunities for renewable energy generation exist.

3.6 Information and communications technology

The development of the National Broadband Network will provide infrastructure, fibre, fixed wireless and satellite, to likely make possible new and improved ways of connecting with one another, regardless of geography, from business and lifestyle needs to medical and educational uses. The NBN aims to provide superfast broadband speeds to 93 per cent of Australian premises within the fibre footprint. The remaining seven per cent of premises will be covered by fixed wireless and satellite. Victoria's planned coverage is illustrated in Map 7.

The NBN will have a number of potential advantages to the region including:

- helping businesses overcome the barriers of time and distance
- enabling schools to effectively collaborate online regardless of location, and supporting new teaching environments
- providing opportunities for advancements in medical technology with expanded access to care through interactive internet consultations, supporting telemedicine and addressing health shortages through internet-based care.

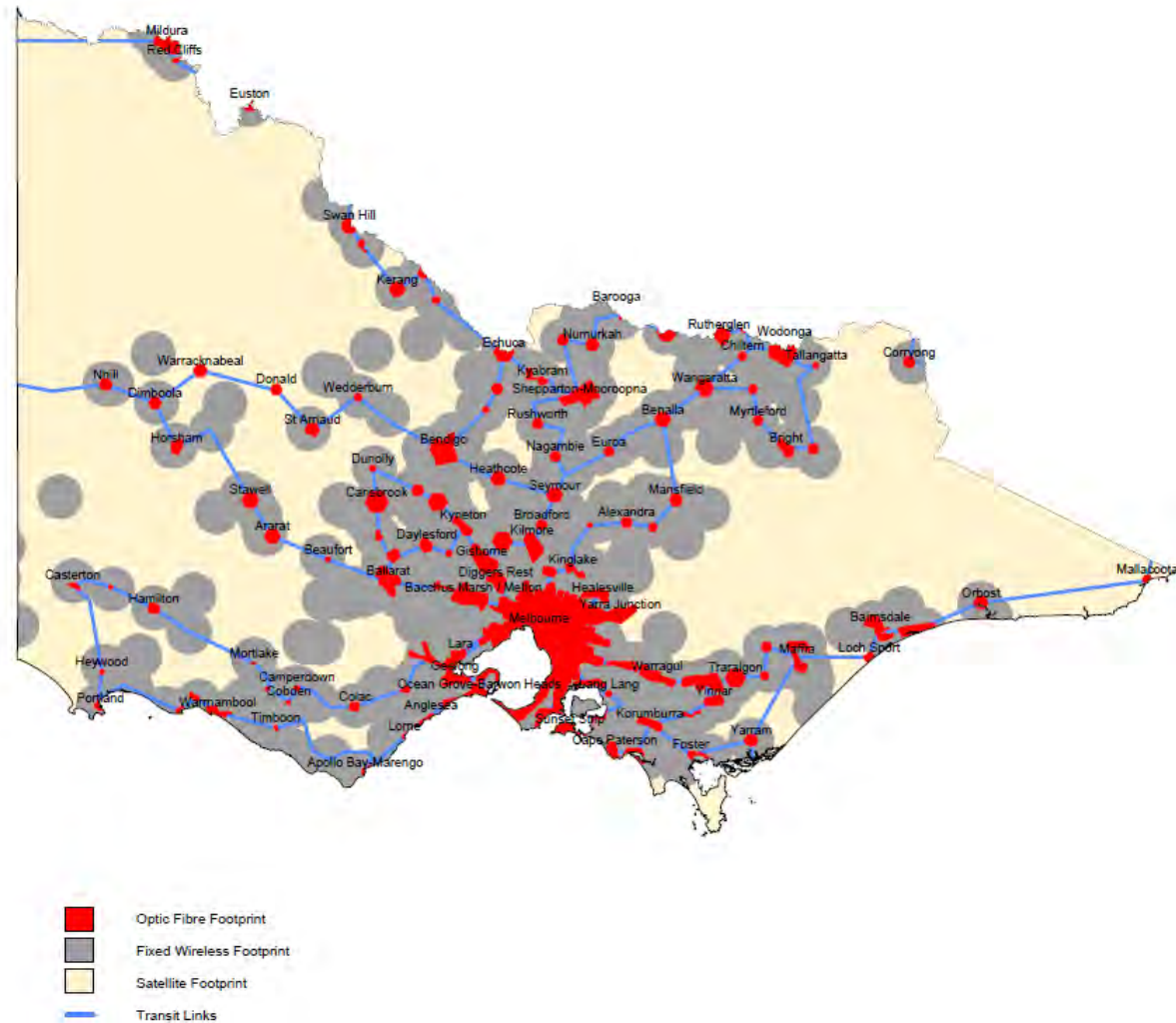
3.6.1 Land use planning response

Land use planning should consider the many potential impacts of improved telecommunications on the way in which people live and where they live. In particular, changes to the way people work and access services may have significant land use planning implications, such as through altered travel patterns.

Map 7: National Broadband Network

Victoria

These maps provide an indicative representation of the fibre and wireless components of the National Broadband Network. The information in these maps is based on initial detailed modelling work done by NBN Co which may be subject to change following more detailed planning and design work. The fibre modelling is based on NBN Co's current optical fibre design rules rather than detailed premise location and density and may not result in contiguous coverage of all locations within the indicated fibre footprint. The wireless modelling does not take into account terrain modelling and clutter, and may not result in contiguous coverage of all locations within the indicated wireless footprint. These maps also assume that satellite services will be provided to remaining premises. The physical path will vary depending on the geography and the presence of existing infrastructure.



Source: National Broadband Network Company

3.7 Commercial development

3.7.1 Description and analysis

Most settlements within the Wimmera Southern Mallee perform a local role with regard to retailing, offices and commercial services. The major exception to this is Horsham which has a substantial central activities district, including regional services, high street retailing and Horsham Plaza. Horsham's vibrant central activities district is the main business and employment location within the region. In 2011 it provided 8811 jobs. A discount department store is located in Horsham. Towns within the region have been successful in containing prime retailing to their central cores. Both Horsham and Stawell also have areas zoned for bulky goods retailing along the major highways.

Most planning schemes within the region provide limited direction on commercial development, beyond stating the provision of services and business is encouraged. The Horsham and Northern Grampians municipal strategic statements seek to contain retail development within a core area. A strategy has recently been prepared for Horsham's central activities district.

At a regional level, there is no information about whether there is a sufficient supply of business zoned land across the region or in particular centres. Given the decline in population in many centres this is unlikely to be a significant issue but it would be useful to have a greater evidence base to ensure the region is able to provide for office and retail investment as required. The servicing of retail needs is an important factor in maintaining the liveability of the region, providing for economic self-sufficiency and a basis to attract new residents.

3.7.2 Land use planning response

Land use planning plays an important role in defining the role and function of each settlement within a region and establishing a settlement hierarchy. The settlement hierarchy should inform decision-making regarding investment in facilities and services and in growth management. A key input for defining the settlement hierarchy is the role and function of the commercial centre of each settlement, with the settlement hierarchy reflecting available retail services. Planning can also help direct commercial development to appropriate locations and support the viability of existing town centres.

4 Population and settlement

4.1 Context

The Wimmera Southern Mallee Regional Strategic Planning Initiative Discussion Paper (RMCG 2010) identified some of the key attributes of the region's population and demographic profile and these are summarised below.

Victoria in Future (Department of Planning and Community Development, 2012) data indicates the 2011 population of the Wimmera Southern Mallee (excluding Buloke) was 50,700. A notable trend from Census data in the period 1981–2006 (comparable 2011 Census data for individual towns has not been released at the time of writing) is that most municipalities and towns have seen a decrease in population (see Figure 4). Horsham and Halls Gap are the only towns to have increased in population over the 25 year period. The key reasons for the decrease in population are the ageing of residents, combined with a net out-migration of young people from the region, as illustrated by Figure 5. RMCG (2010) identifies that Wimmera Southern Mallee has the oldest population of any of Victoria's regions. Figure 6 shows that out-migration has been highest to regional areas on the western side of the state with good access to large regional cities and Melbourne.

Figure 4: Population of Wimmera Southern Mallee 1981–2006

LGA: Horsham

- Town – Horsham
 - Population 1981 – 12,029
 - Population 2006 – 13,255
 - Population change – 10%
 - Comments – Horsham grew steadily between 1981 and 2006, with relatively rapid growth between 1996 and 2006
- Town – Natimuk
 - Population 1981 – 483
 - Population 2006 – 424
 - Population change – -12%
 - Comments – Steady decrease and ageing population

LGA: Hindmarsh

- Town – Dimboola
 - Population 1981 – 1735
 - Population 2006 – 1462
 - Population change – -16%
 - Comments – Population has declined and aged
- Town – Jeparit
 - Population 1981 – 551
 - Population 2006 – 355
 - Population change – -36%
 - Comments – Steady decrease and ageing population
- Town – Nhill
 - Population 1981 – 2067
 - Population 2006 – 1875
 - Population change – -9%

- Comments – Population declined by 5% between 2001 and 2006
- Town – Rainbow
 - Population 1981 – 700
 - Population 2006 – 477
 - Population change – -32%
 - Comments – Steady decrease and ageing population. Population aged under 24 has dropped by 55% between 1981 and 2006

LGA: Yarriambiack

- Town – Beulah
 - Population 1981 – 290
 - Population 2006 – 201
 - Population change – -31%
 - Comments – Population has declined and aged since 1981
- Town – Hopetoun
 - Population 1981 – 832
 - Population 2006 – 586
 - Population change – -30%
 - Comments – Population has declined and aged since 1981
- Town – Minyip
 - Population 1981 – 567
 - Population 2006 – 437
 - Population change – -23%
 - Comments – Population has declined and aged since 1981
- Town – Murtoa
 - Population 1981 – 946
 - Population 2006 – 748
 - Population change – -21%
 - Comments – Population has declined and aged since 1981. Almost one quarter of the population is 65 years or over
- Town – Rupanyup
 - Population 1981 – 406
 - Population 2006 – 307
 - Population change – -9%
 - Comments – Slight increase between 1981 and 1991, gradual decrease since then
- Town – Warracknabeal
 - Population 1981 – 2733
 - Population 2006 – 2417
 - Population change – -12%
 - Comments – Steady decline and ageing population. Over one third of the population is aged 65 years or over
- Town – Woomelang
 - Population 1981 – 290
 - Population 2006 – 194

- Population change – -33%
- Comments – Population has declined and aged since 1981

LGA: West Wimmera

- Town – Apsley
 - Population 1981 – 187
 - Population 2006 – 156
 - Population change – -17%
 - Comments – Population has declined and aged since 1981
- Town – Edenhope
 - Population 1981 – 827
 - Population 2006 – 729
 - Population change – -12%
 - Comments – Population has declined and aged since 1981. One third of the population is aged 65 years or over. Population now stable.
- Town – Goroke
 - Population 1981 – 370
 - Population 2006 – 246
 - Population change – -34%
 - Comments – Population has declined and aged since 1981
- Town – Kaniva
 - Population 1981 – 949
 - Population 2006 – 738
 - Population change – -22%
 - Comments – Population has declined and aged since 1981, but grown since 2001

LGA: Northern Grampians

- Town – Great Western
 - Population 1981 – 188
 - Population 2006 – 182
 - Population change – -3%
 - Comments – Gradual increase up to 1991, then gradual decrease
- Town – Halls Gap
 - Population 1981 – 385
 - Population 2006 – 421
 - Population change – +9%
 - Comments – Steady increase from 1981 to 2001, then decrease of 17% between 2001 and 2006
- Town – St Arnaud
 - Population 1981 – 2662
 - Population 2006 – 2205
 - Population change – -17%
 - Comments – Population was steady through the 1980s, but has been declining since 1991
- Town – Stawell
 - Population 1981 – 6125
 - Population 2006 – 5732

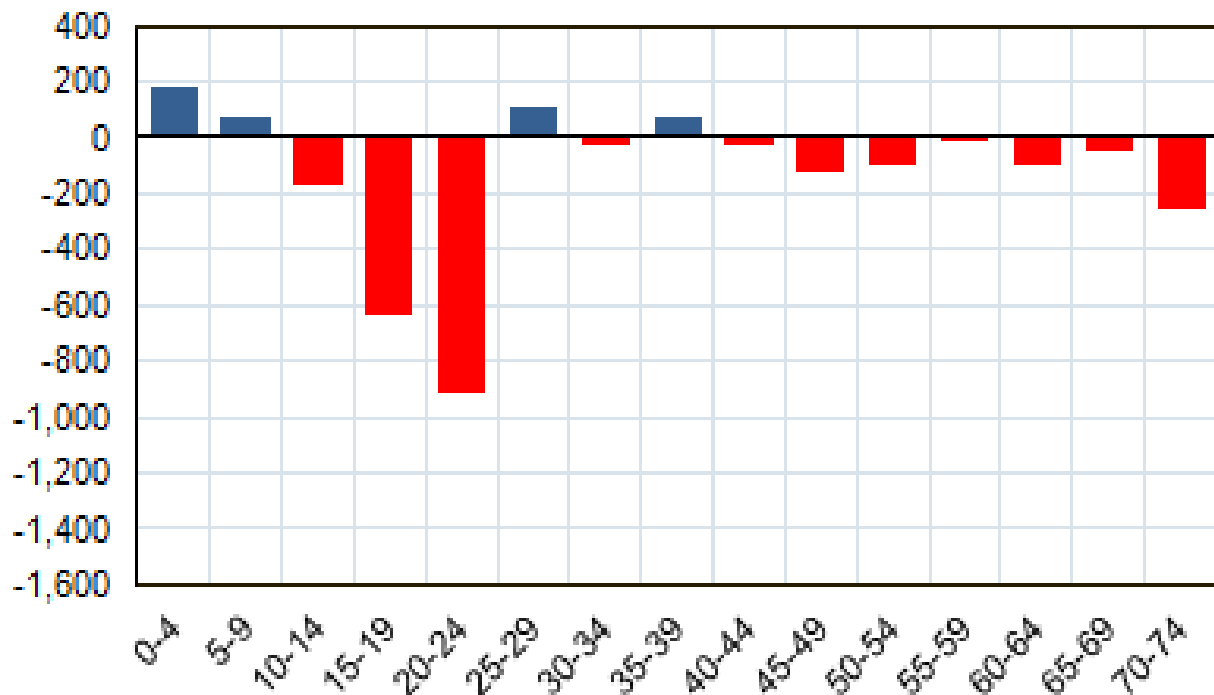
- Population change – -6%
- Comments – Population has declined and aged since 1991

LGA: Buloke (nb. See Loddon Mallee North RGP)

- Town – Berriwillock
 - Population 1981 – 187
 - Population 2006 – 113
 - Population change – -40%
 - Comments – Steady decrease and ageing population
- Town – Birchip
 - Population 1981 – 895
 - Population 2006 – 681
 - Population change – -24%
 - Comments – Between 1981 and 2006, population decreased by 23%. Nearly one quarter of population are aged 65 years or over
- Town – Charlton
 - Population 1981 – 1377
 - Population 2006 – 1052
 - Population change – -24%
 - Comments – After losing population between 1981 and 2001, the population of the town has now stabilised
- Town – Culgoa
 - Population 1981 – 164
 - Population 2006 – 106
 - Population change – -35%
 - Comments – Steady decrease and ageing population
- Town – Donald
 - Population 1981 – 1609
 - Population 2006 – 1367
 - Population change – -15%
 - Comments – After losing population between 1981 and 2001, the population of the town has now stabilised
- Town – Sea Lake
 - Population 1981 – 940
 - Population 2006 – 609
 - Population change – -35%
 - Comments – Population decrease and ageing. Fewer families. 70% of dwellings are occupied by one or two persons
- Town – Wycheproof
 - Population 1981 – 938
 - Population 2006 – 686
 - Population change – -27%
 - Comments – Steady decrease and ageing population

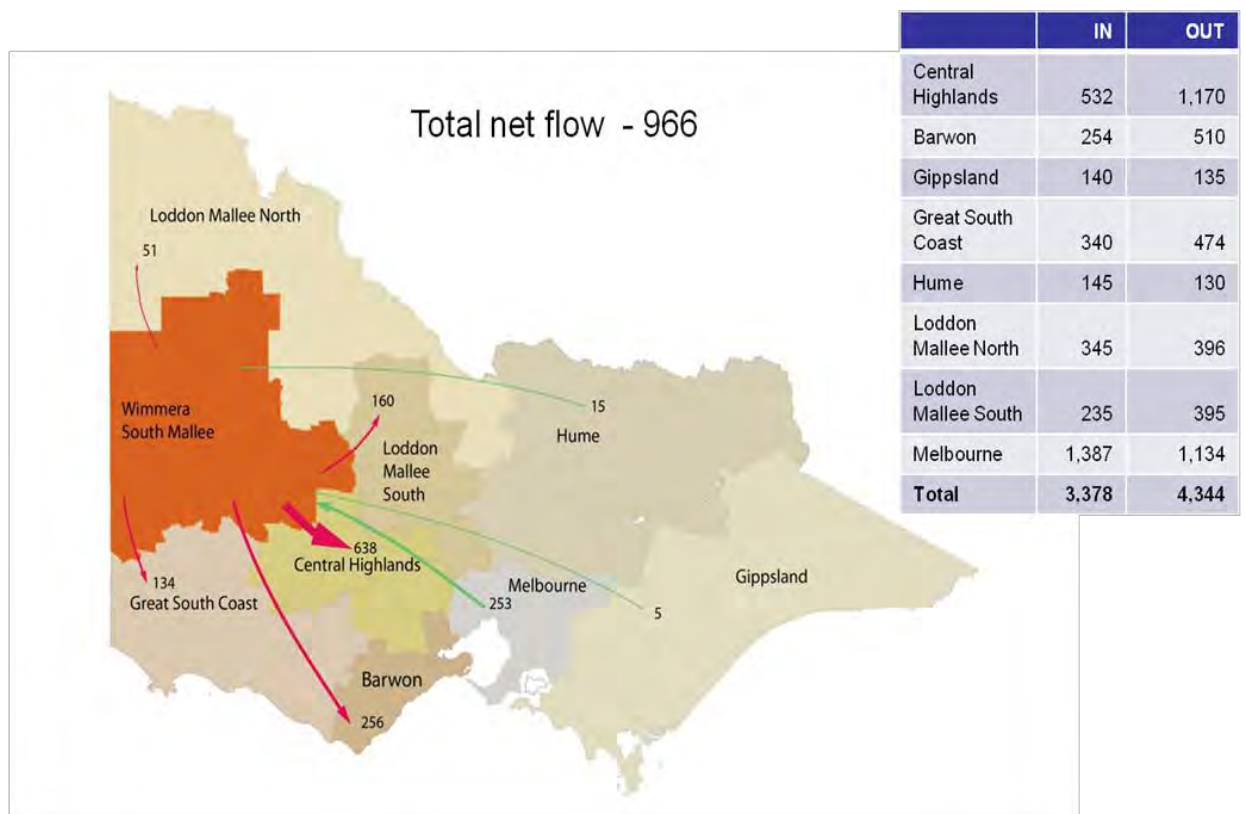
Source: Wimmera Southern Mallee RSPI Discussion Paper, 2010

Figure 5: Net implied migration to the Wimmera (including Buloke) by age group 2001 – 2006



Source: Australian Bureau of Statistics Census 2011

Figure 6: Inter-regional migration flows, Wimmera region 2006-2011



Source: Australian Bureau of Statistics Census 2011

More recent population estimates for the 2006–2011 period (Australian Bureau of Statistics, 2012)⁴ show these trends continuing (see Figure 7), with Horsham being the only municipality in the region to record growth. The rate of growth of this municipality has increased over the past 10 years. Most of this growth is concentrated in and around the city of Horsham and is not distributed through the rural balance of the municipality.

Figure 7: Wimmera Southern Mallee (including Buloke) recent population growth 2006–2011 by statistical local area

Statistical Local Area: Horsham (RC) - Central

- Population 2006 – 13,959
- Population 2011 – 14,477
- Population change – 518
- % change – 3.7

Statistical Local Area: Horsham (RC) Bal

- Population 2006 – 5201
- Population 2011 – 5063
- Population change – -138
- % change – -2.7

Statistical Local Area: N. Grampians (S) – St Arnaud

- Population 2006 – 3528
- Population 2011 – 3343
- Population change – -185
- % change – -5.2

Statistical Local Area: N. Grampians (S) - Stawell

- Population 2006 – 8819
- Population 2011 – 8599
- Population change – -220
- % change – -2.5

Statistical Local Area: West Wimmera (S)

- Population 2006 – 4633
- Population 2011 – 4289
- Population change – -344
- % change – -7.4

Statistical Local Area: Hindmarsh (S)

- Population 2006 – 6246
- Population 2011 – 5870
- Population change – -376
- % change – -6.0

Statistical Local Area: Yarriambiack (S) - North

- Population 2006 – 2055
- Population 2011 – 1866
- Population change – -189

⁴ Note that the Australian Bureau of Statistics' 2011 estimated residential population differs slightly from Victoria in Future's 2011 population estimate quoted elsewhere in this report and the regional growth plan.

- % change – -9.2

Statistical Local Area: Yarriambiack (S) - South

- Population 2006 – 5712
- Population 2011 – 5287
- Population change – -425
- % change – -7.4

Statistical Local Area: Buloke (S) - North

- Population 2006 – 3465
- Population 2011 – 3176
- Population change – -289
- % change – -8.3

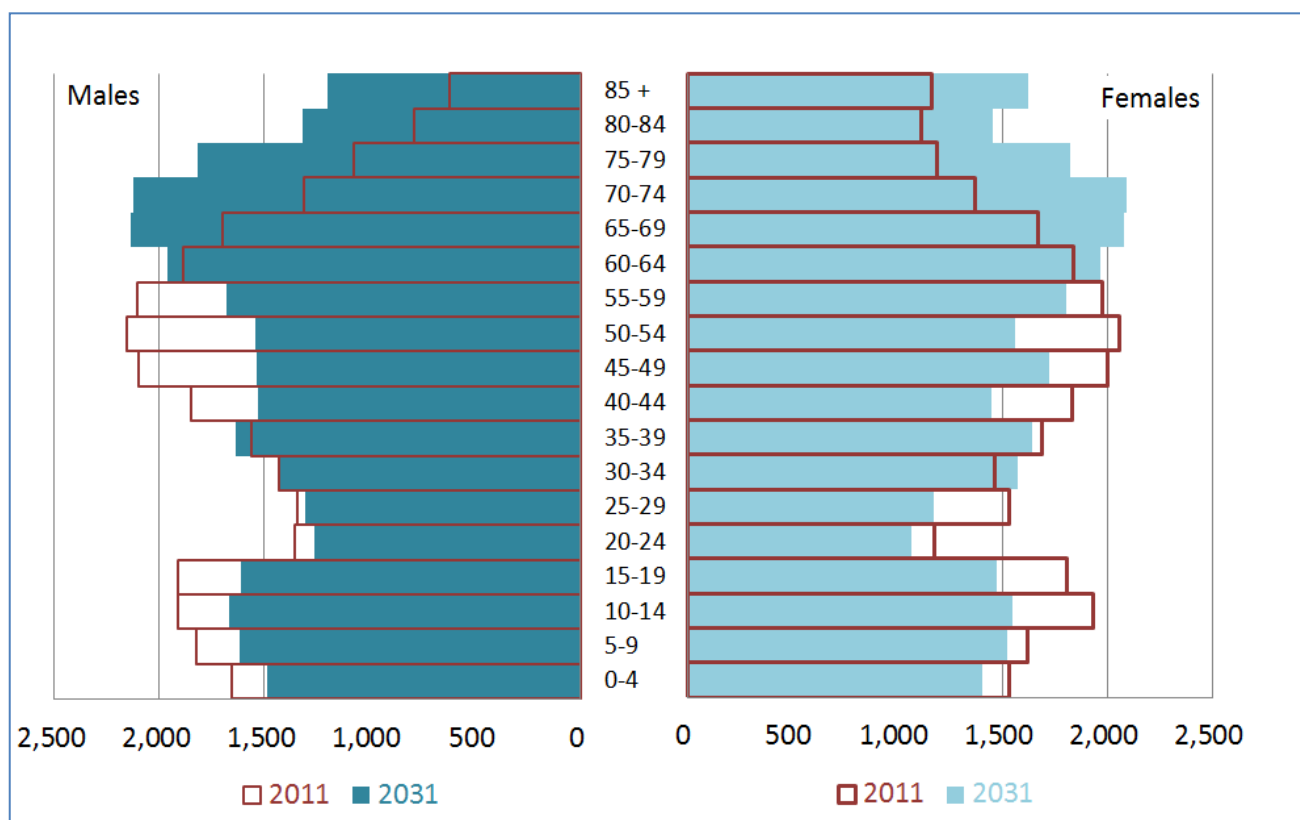
Statistical Local Area: Buloke (S) - South

- Population 2006 – 3637
- Population 2011 – 3286
- Population change – -351
- % change – -9.7

Source: Australian Bureau of Statistics, 2012

Population projections for 2011–2031 show this trend is likely to continue. Horsham is expected to grow over this time while other municipalities will have population losses (see Map 8). At the same time, the age profile of the population will see a significant move toward older cohorts (see Figure 8). This includes a decline of around 3500 people aged 0-19 years old (VIF, 2008).

Figure 8: Wimmera age structure 2011–2031

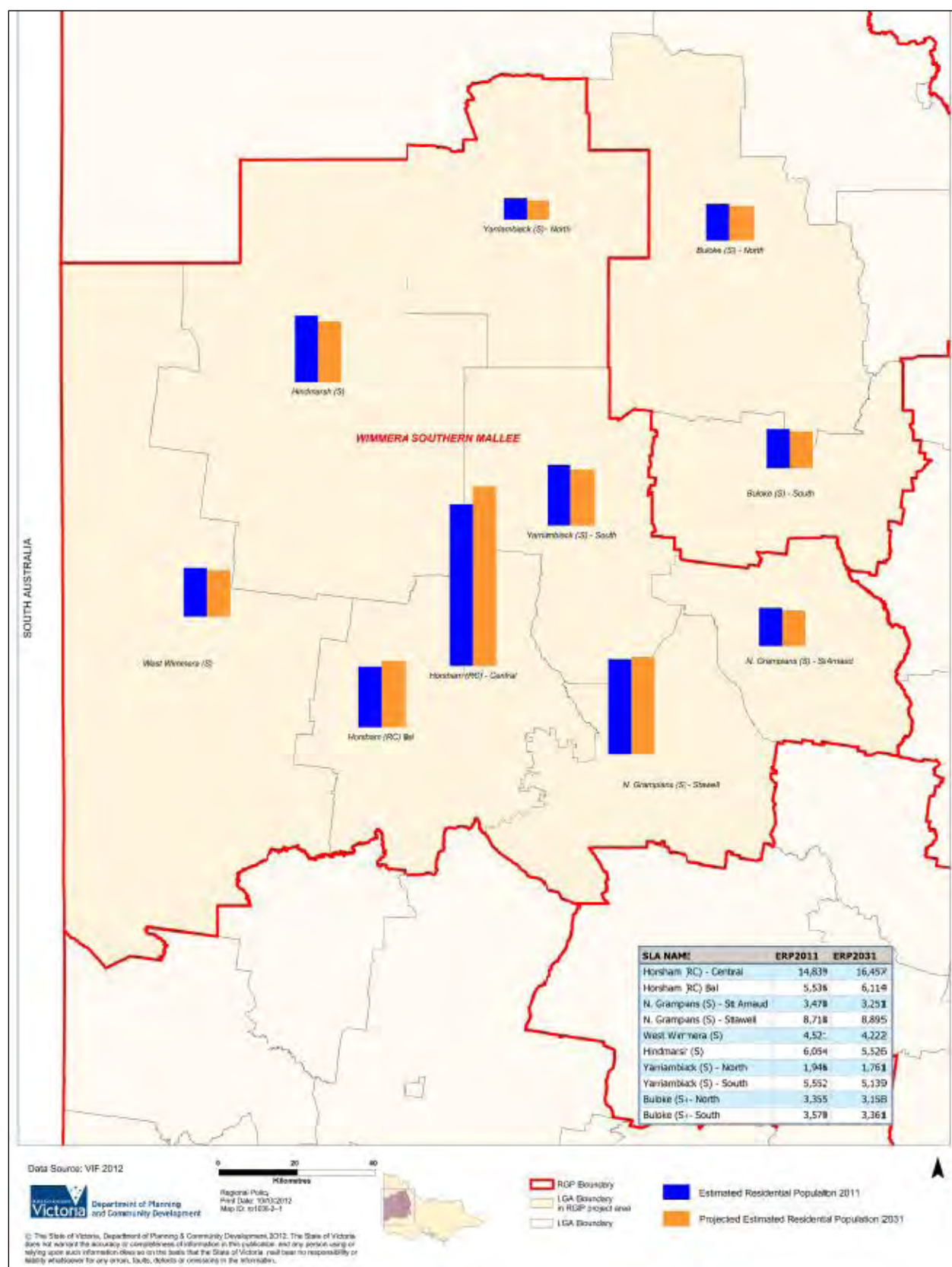


Source: Victoria in Future, Department of Planning and Community Development, 2012

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Map 8: Wimmera Southern Mallee population projections 2011–2031 by Statistical Local Area



Source: Victoria in Future, 2012⁵

5 Note: Victoria in Future 2012 population projections are based on preliminary 2011 Estimated Resident Population as published 30 March 2012.

The settlement pattern of the Wimmera Southern Mallee is dominated by Horsham which is twice the size of any other centre in the region. Outside Horsham, the population is largely concentrated in small towns with over 60 per cent of people living in urban areas. Rural areas of the region are generally sparsely settled and population density of the region outside Horsham ranges from 0.9 to 4.4 persons per square kilometre. This is reflective of the size of agricultural properties in the region and its role in broad agricultural production activities.

Clause 11.05-1 of the State Planning Policy Framework establishes the Victorian Settlement Framework. Horsham is the settlement designated as a regional centre in the Wimmera Southern Mallee Region. The Regional Mapping Project (Planisphere, 2009) undertaken as part of the development of the Wimmera Southern Mallee Regional Plan put forward a detailed hierarchy of settlements for the Wimmera Southern Mallee:

Regional centre (Horsham)

- Diverse population, housing and employment base
- Access to large hospitals and a variety of health services
- Most services focused in a central business district
- All utilities
- Extensive hinterland
- Interchange point for transport

District town (Stawell)

- Diverse population with moderate employment and good access to services
- Subregional service function
- Access to medical/hospital services and variety of education facilities
- All utilities connected

Town (Edenhope, Kaniva, Nhill, Dimboola, Hopetoun, Warracknabeal, Murtoa, St Arnaud, Sea Lake*, Birchip*, Charlton*, Wycheproof*, Donald*)

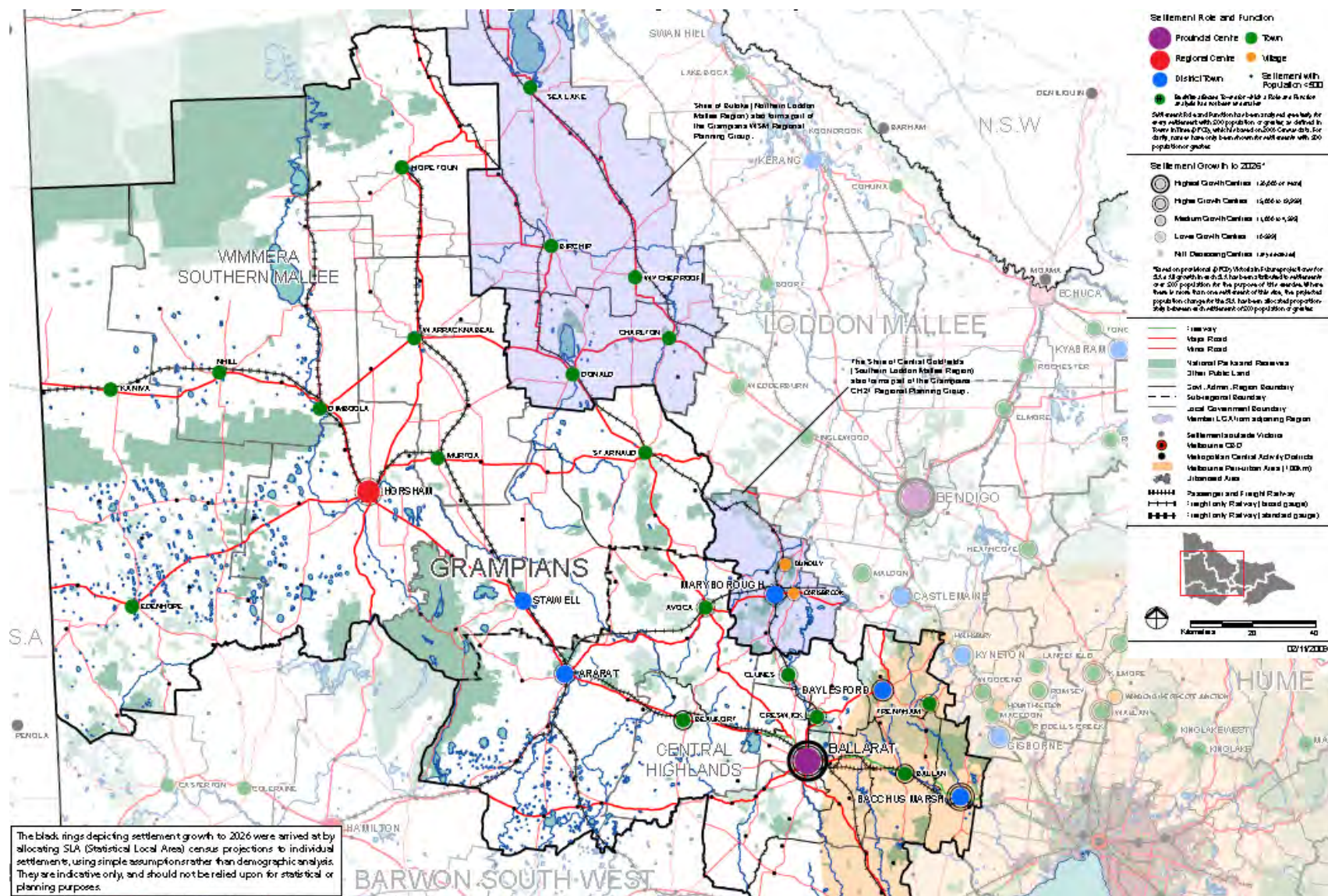
- Diverse population and housing, often with commuters accessing larger nearby settlements
- Water and sewer connected
- Provide services to rural hinterland

* Located in Buloke Shire

The settlement hierarchy is shown on Map 9.

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Map 9: Regional settlement analysis map – Grampians



Source: Planisphere, 2009

4.2 Settlement hierarchy

4.2.1 Description and analysis

The Wimmera Southern Mallee Regional Growth Plan recognises two key challenges in terms of settlements within the region, the growth of Horsham and its dominance in the region and the population change in the remainder of the region, including the decreasing population in small towns and continued ageing.

The region's settlement hierarchy is unlikely to change in the foreseeable future. Growth will continue to be concentrated in Horsham. The preferred direction for Horsham's future development needs to be considered. Some direction is provided in Horsham Rural City's municipal strategic statement and the Horsham 2040 strategy. Both suggest options for residential development to the north east and south. Horsham 2040 also identifies a large potential growth area to the west.

The assumptions in these documents have been considered in light of more recent data and development trends. The Urban Development Program in the Department of Transport, Planning and Local Infrastructure has examined residential and industrial land supply and take-up in Horsham. The results of this work indicate that there is a 10-15 year supply of greenfield residential land within Horsham. Horsham Rural City Council is also undertaking a new growth strategy that will provide further direction on this matter. The proposed Western Highway bypass of Horsham will be another important consideration in determining the future development of this city.

A 2005 analysis of land supply for Northern Grampians Shire towns suggested residential demand could be accommodated by existing zoned land in Halls Gap and St Arnaud but that Stawell would require a 23 hectare expansion. The municipal strategic statements for the Northern Grampians, Hindmarsh and West Wimmera shires identify that opportunities exist for infill development within settlements and contain strategies prioritising development within towns. This is essential given the need to stabilise existing settlement populations and maintain a viable service base across the region. Nevertheless, an adequate supply of residential land needs to be provided in all towns to take advantage of growth opportunities if they emerge.

Small settlements (urban centres with less than 500 people) in the Wimmera Southern Mallee have economies reliant on surrounding agricultural activities and the provision of a limited range of services to local residents and surrounding rural areas. In most parts of the region small towns have decreased in population over the last three decades, with Halls Gap being a notable exception.

Despite the change in population, many small settlements continue their role in servicing local rural communities and contribute to the economic prosperity of rural areas. The relatively remote nature of the Wimmera means that small settlements are more self-sufficient than similar-sized communities closer to Melbourne or other regional cities. For example, Jeparit, Rainbow and Hopetoun contain facilities such as hospitals/health centres, aged care or secondary schools.

Halls Gap is an important tourism gateway for the Grampians National Park. The township is highly constrained by the surrounding steep topography and significant environmental assets. The township is also located some distance from higher order services with a range of natural hazards to consider including bushfire. The Northern Grampians Shire Council's municipal strategic statement recognises the need for new development to protect landscape values, while the strategic framework plan identifies areas for medium and long-term residential development.

A further key issue identified by the regional strategic plan is the relationship between settlements. This will become even more critical over time, particularly if the population of some towns, which have traditionally provided services for their rural hinterland and other settlements, continue to decrease in population in line with

current projections. A number of important communities of common interest have been identified in the Wimmera Southern Mallee Regional Plan. These include:

- St Arnaud, Donald and Charlton – related to employment and education
- Stawell, Ararat and Halls Gap – related to employment and their role as gateways to the Grampians
- Nhill and Kaniva – with Nhill being a key service centre for Kaniva
- Edenhope – which has a strong employment link to South Australia
- Warracknabeal – which provides services to the wider area including Minyip, Hopetoun, Birchip, Jeparit and Rainbow
- Horsham, Dimboola and Murtoa – with Dimboola and Murtoa acting to some extent as dormitory suburbs of Horsham.

Sharing resources, services and economic development initiatives between communities of interest may be one way to assist in maintaining the viability of small towns. This would essentially require future land use and infrastructure planning to consider each community of interest as a single entity. Given that some of these communities operate across municipal (and state) borders, a regional plan represents a good opportunity to pursue this approach.

However, there are limits to the concept of communities of interest due to distance. The towns in each community are around 25 to 60 kilometres apart, resulting in considerable inconvenience for the sharing of some services or facilities. There is a need to examine what services and attributes are vital to protect in these key service centres to ensure they remain sustainable and can continue to attract new residents. Lifestyle migrants or ‘tree changers’ may present one opportunity to attract new residents, particularly to towns with an attractive natural or historic character.

Ultimately economic development will be required to stabilise population decrease and stimulate a growing population of workforce age. Infrastructure investment may also assist achieve such outcomes. For example while it is understood that all major towns in the Wimmera Southern Mallee have access to electricity, reticulated water and reticulated sewerage, only Stawell and Horsham are connected to natural gas.

4.2.2 Land use planning response

The concept of local communities of interest (relationships between settlements) should be recognised by land use planning as an important input when planning for population retention and growth and the provision of services to settlements. Land use planning considerations should help inform how support can be provided to the current range of settlements and services and whether there is a need to consolidate services and future development.

4.3 Housing diversity and affordability

4.3.1 Description and analysis

Housing affordability

The demand for, and supply of, housing suitable to meet the needs of residents is not uniform across the region. Variation occurs between settlements and is influenced by the varying size of towns, job security and average

household incomes. Rental markets within the region can be broadly placed into three categories which describe specific regional housing challenges:

1. Horsham lacks sufficient high quality rental accommodation for attracting professionals.
2. Towns with low household incomes but a growing economy, such as Nhill and Warracknabeal, need additional rental accommodation.
3. Towns where residents are in lower pay profiles, or have less secure employment, need housing for these worker categories and their families.

Barriers to investment in housing include low returns compared to other investments, institutional investors such as hospitals competing in the rental housing market and low incomes, sometimes as a result of insecure employment.

As housing prices rise elsewhere, the relative affordability of properties in Wimmera Southern Mallee could attract people priced out of more expensive areas within and outside the region, resulting in concentrations of low income populations in areas lacking services and employment. The initial affordability of houses in remote areas can be outweighed by costs associated with access to services and reliance on private cars for transport.

Housing prices are relatively low in the Wimmera Southern Mallee region. The median weekly rent for a three bedroom house in 2012 was below \$200 in most parts of the region. The median house prices are considerably lower than the Victorian median of \$413,446 and range from a low of \$75,000 in Hindmarsh (the lowest in Victoria) to \$180,000 in Horsham (Department of Premier and Cabinet, 2012). However this is matched by relatively low incomes and high unemployment in some parts of the region, particularly around larger towns.

All local government areas in the region have relatively low levels of housing stress; that is, households that spend more than 30 per cent of their income on housing costs. Notwithstanding the relatively low existing rates of housing stress and high levels of affordable housing, there are still significant challenges in relation to housing:

- Even as housing prices have increased modestly in Wimmera Southern Mallee, they have not kept pace with the much larger growth in other areas. This means that existing homeowners are unable to move away to more expensive, higher serviced areas as they do not have sufficient equity to 'upgrade' to a more expensive dwelling. Similarly those who are renting or in social housing are less able to move on if they need to as they are priced out of other markets. This could affect their ability to work and access services, particularly as they age and if they are affected by disability or lack of mobility.
- Additionally, underfunded retirees and welfare recipients, who often have high service or employment support needs and move into relatively affordable areas of Wimmera Southern Mallee, will still be at risk of housing stress if housing prices grow faster than their fixed incomes (Change and Disadvantage in the Grampians Region, Department of Planning and Community Development, 2011).
- Maintaining affordability of housing as energy costs increase, particularly for houses that have not been built with energy efficiency in mind, thereby increasing living costs.
- Affordability of houses in remote areas is offset by costs associated with access to services and reliance on private vehicles for transport.

Social housing

This refers to both public housing provided by the Department of Human Service's Office of Housing and housing provided by the not-for-profit community housing sector.

In 2010, there were 840 social housing dwellings in the Wimmera Southern Mallee region including 588 public housing properties, largely located in Horsham and Stawell. Only in Horsham (5.7 per cent) and Northern

Grampians (4.2 per cent) does the proportion of social housing approach the Victorian average. Everywhere else the proportion is significantly lower, down to 0.9 per cent in West Wimmera. This reflects the relative affordability of rental housing in the area.

The suitability of the construction and outfitting of social housing may need to be considered into the future, given the efficiencies needed with changed heating and cooling requirements, to ensure living costs for these residents are manageable.

4.3.2 Land use planning response

A regional housing strategy could help address the need for appropriate housing choice, availability and affordability, and cost of living across the Wimmera Southern Mallee. Such a strategy could identify hotspots or needs for additional or particular types of housing within the region.

4.4 Rural settlement

4.4.1 Description and analysis

The issue of rural living, relating to dwellings outside towns in the rural areas or small residential/hobby farms, was not considered by the Wimmera Southern Mallee Regional Plan. However, rural living is considered in the Wimmera Southern Mallee Regional Growth Plan given that it is a significant land use in the vicinity of Horsham, Stawell and in other parts of the region. Clause 11.05-3 of the State Planning Policy Framework provides strong direction in relation to this issue, with strategies to:

- prevent inappropriately dispersed urban activities in rural areas
- limit new housing development in rural areas, including
 - directing housing growth into existing settlements
 - discouraging development of isolated small lots in the rural zones from use for single dwellings, rural living or other incompatible uses.

The independent Improving Rural Land Use report (Rural Planning Group, 2009) provided discussion around rural dwellings and living in relation to agriculture. It noted that:

- A clear distinction needs to be drawn between subdivision approvals and approval of land for dwellings given that providing for smaller lots can enable greater flexibility for farming operations. Subdivision approvals should not therefore be associated with any right to development of a dwelling.
- Rural lifestyle living should be contained within strategically identified locations away from farmland of strategic significance.
- There can be conflicts between agricultural production and sensitive land uses.

Local information about this issue is limited, with Horsham the only municipality in the region to have completed recent housing studies or rural land strategies. Each council's municipal strategic statement provides some direction; with most identifying there is a need to avoid fragmentation of productive agricultural land. The planning schemes of Horsham, West Wimmera and Northern Grampians specify larger minimum lot sizes for subdivision and dwellings than the default 40 hectares provided for by the Farming Zone. This pattern helps to underpin the dominant agricultural activities (particularly grain).

The Urban Development Program in the Department of Transport, Planning and Local Infrastructure has examined residential (including rural living) land supply and take-up in Horsham. The results of this work indicate there is ample land zoned for rural living in the Horsham local government area.

The approach to rural living in planning schemes is highly variable. Some do not explicitly refer to the issue, for example, Buloke and Yarriambiack, while others provide limited direction:

- West Wimmera notes limited choice in suitable housing for lifestyle changes (this could refer to urban housing as well).
- Northern Grampians states that rural living will be encouraged around St Arnaud.
- Hindmarsh notes opportunities for rural living around Nhill and Dimboola.
- Horsham notes concerns with a significant existing supply of rural living land in the municipality which is in excess of medium-term demand, creates servicing difficulties, disregards environmental constraints, is an inefficient settlement pattern, and may interfere with farming.

The potential for land use conflict between farming enterprises, the 'right to farm' and dwellings in rural locations should be recognised. This particularly relates to areas around some of the major centres such as Horsham, Stawell and possibly St Arnaud. Land use planning and planning schemes play an important role in ensuring that uses that are incompatible with agriculture are discouraged and agricultural activities and the 'right to farm' is safeguarded. This includes limiting dwellings in the Farming Zone, unless they are associated with farming activities.

The need to consider matters such as soil types suitable for rural living areas is also relevant given that some soils are not suited to rural lifestyle development and some areas features soils that are highly productive for cropping.

In terms of zoned land, the largest areas of Rural Living Zone are found around major centres in the Northern Grampians Shire as well as areas around Horsham, Warracknabeal and Dimboola.

4.4.2 Land use planning response

The Wimmera Southern Mallee Regional Growth Plan provides an opportunity to take a regional view about the provision of rural living. Rural living development may be an inefficient use of land, particularly given most towns appear to have a reasonable supply of vacant land within their township boundaries. However, rural living opportunities may attract new residents to the hinterland around settlements with existing underutilised infrastructure. Designating appropriate locations for this use would help ensure regionally significant environmental and agricultural assets are protected.

Changes in rural settlement have also occurred as a result of increasing farm sizes, a process that has been taking place for many decades and is driven mostly by market forces. The rate of this process may have increased recently as a result of climate variability. Anecdotal evidence suggests there is a growing trend for more farmers to live in major centres such as Horsham, Stawell and Nhill where access to services is better and to travel considerable distances to their farms.

4.5 Liveability and heritage

4.5.1 Description and analysis

One of the settlement planning principles outlined in the Wimmera Southern Mallee Regional Plan is the need to support the growth and development of distinct and diverse settlements. The aim of this principle is to ensure future settlement growth respects and enhances the unique character and identity of each place. The background

report to the regional strategic plan (RMCG, 2010) explores liveability from the perspective of the push and pull factors that attract or discourage people from living in the region. The four broad groups of push and pull factors identified are:

- population – decreasing populations and loss of youth
- challenges and opportunities associated with being a rural community in an urbanised nation
- connection of communities via telecommunications
- influence of communities over planning and delivery of services in their local areas.

The level of services, support, and investment, made in these towns has implications for their liveability.

Some of these factors are explored in other parts of this background report. However, from a land use planning perspective, there are a variety of other matters that are relevant to the liveability of communities and attracting people to the Wimmera Southern Mallee.

For example, protection of heritage and cultural assets may be a consideration relevant to liveability in the region. While heritage is often a local issue, it can also have significant regional implications. A regional or state-significant heritage asset can act as an attractor for tourism; or a town with attractive, intact heritage streetscapes can provide a selling point for tourism and lifestyle-related in-migration.

The region has 46 places included on the Victorian Heritage Register, 196 archaeological sites included in the Victorian Heritage Inventory and approximately 140 places or precincts included in the Heritage Overlay.

Planning schemes in the Wimmera Southern Mallee presently contain limited information about heritage and urban character, although the qualities of some settlements are identified. For example, Rainbow is noted as having a quaint old-world charm and rural character, with sites of historic significance; Harrow is identified as being located in a scenic valley with a number of historic buildings (qualities that should be protected), however provision for protection is yet to be made.

There is also a role for planning to create future liveable communities in terms of provision of, and access to, services and in ensuring good urban design and layout of new residential areas. This includes supporting layouts that support safety, encourage healthy living, for example, ensuring walkable catchments for services, and good connections to surrounding areas. For larger towns, liveability provisions could include supporting medium density housing in well-located parts of the town, close to the business centre. This would be particularly important in supporting an ageing population and for those moving from smaller settlements to take advantage of access to facilities and services. These points are particularly relevant when considering the social and health impacts associated with a changing climate.

4.5.2 Land use planning response

The character of an area or settlement, and its heritage values, can be important contributors towards liveability as well as making places unique and attractive to new residents and visitors. Land use planning has an important role to play in protecting and enhancing heritage values and character. Areas of heritage significance should be identified in local schemes. Urban design principles should be introduced in planning schemes to guide development within settlements, to build and maintain the amenity of towns.

The Wimmera Southern Mallee Regional Growth Plan recognises that the key qualities of regional settlements that make them liveable, attractive and unique should be identified and protected through planning schemes. Growth and development should not compromise these qualities.

5 Planning for communities

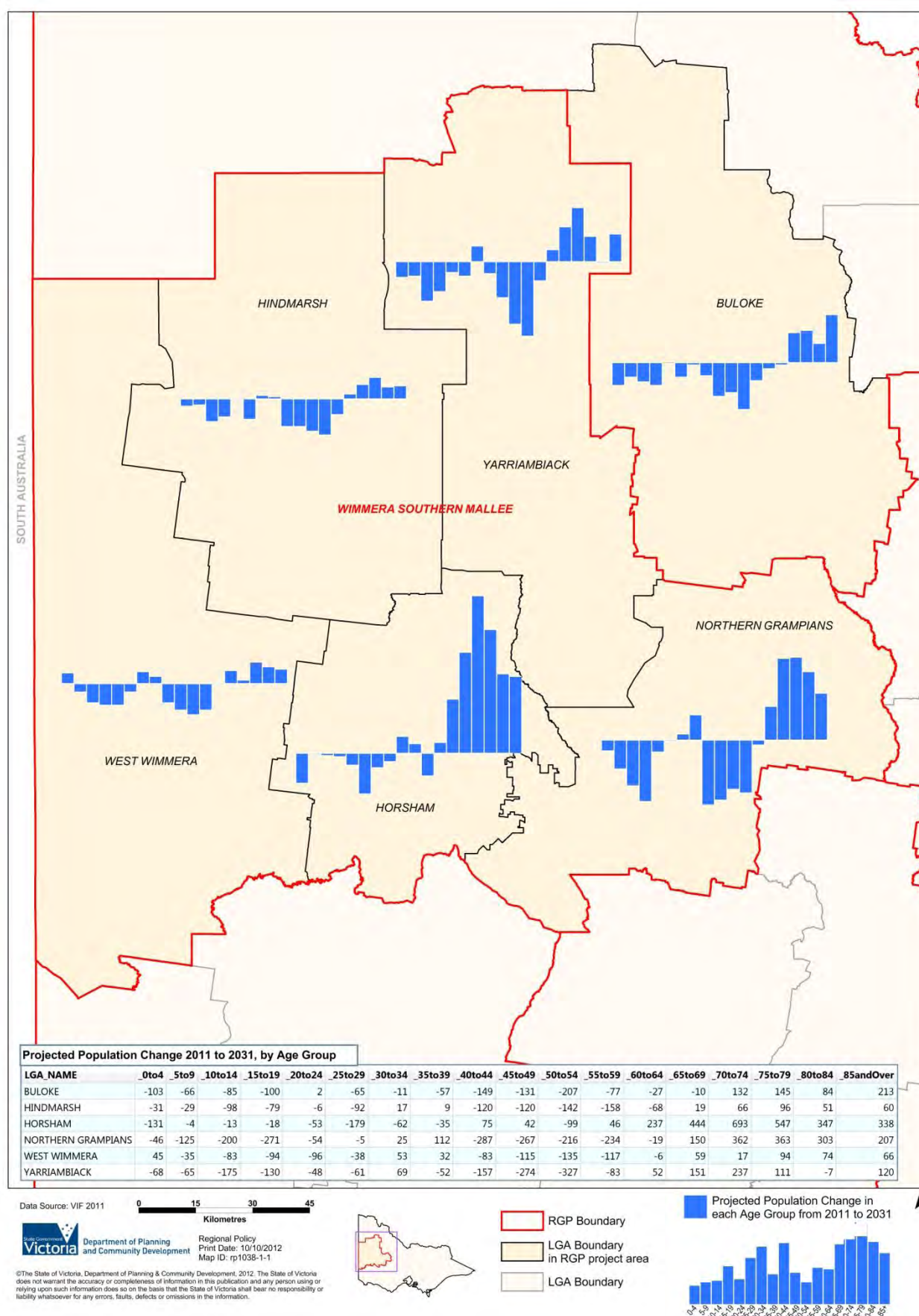
5.1 Context

The Wimmera Southern Mallee Regional Plan identified a number of key issues facing communities in the region. In particular, these related to demographic change and the relative socio-economic disadvantage of the region.

Population changes occurring in the Wimmera Southern Mallee can be characterised as an ageing and decreasing population. Young people are migrating out of the region and areas are experiencing natural decrease, with deaths outnumbering births (RMCG, 2010). Map 10 illustrates the population change by age group which is projected to occur in municipalities across the region.

Another contextual indicator for communities within the Wimmera Southern Mallee is the levels of disadvantage. Map 11 shows there are relatively high levels of disadvantage across the region and particularly within some of the towns which are among the 10 per cent most disadvantaged areas in Victoria.

Map 10: Projected population change in each municipality by age group 2011–2031

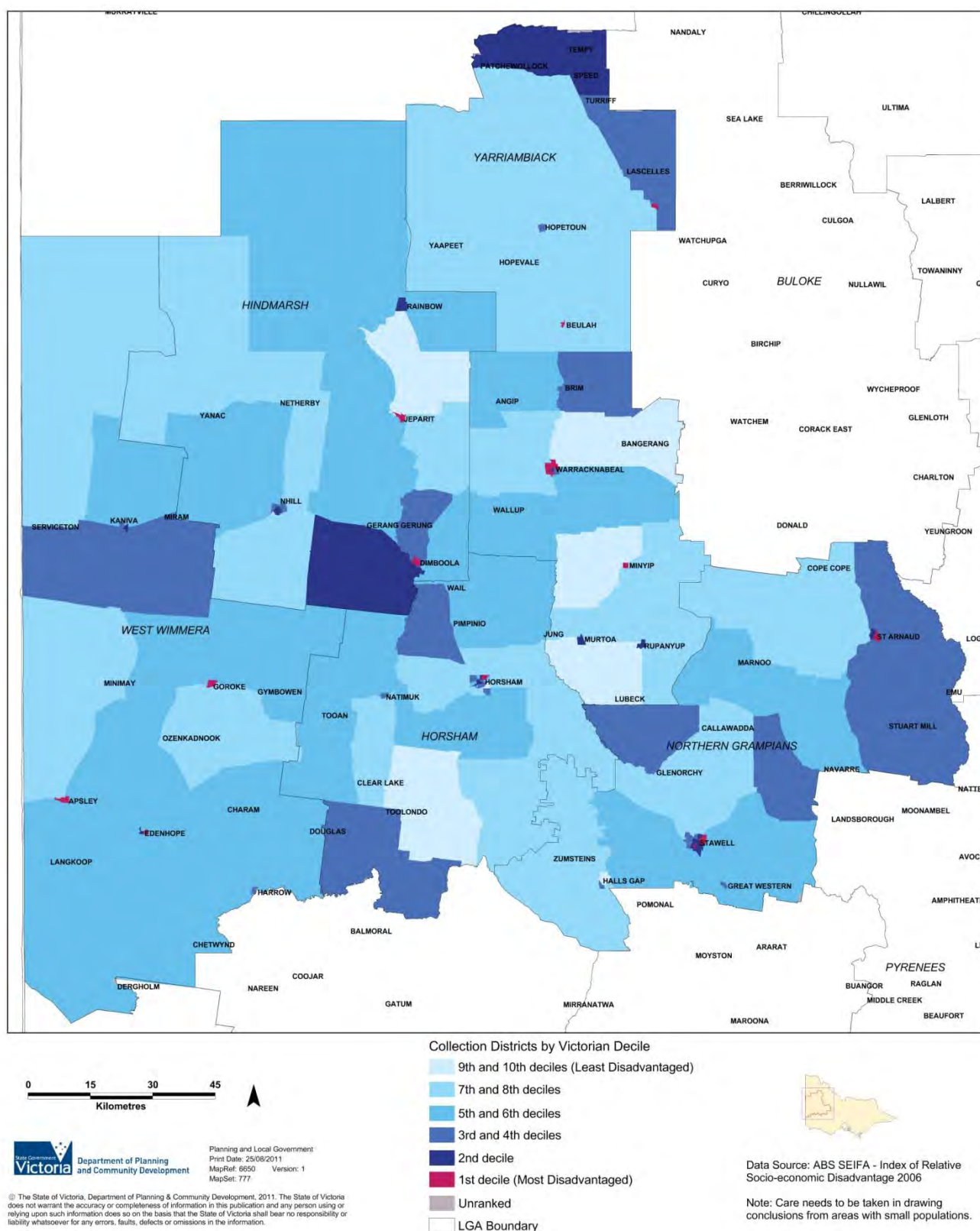


Source: Victoria in Future, Department of Planning and Community Development, 2012.

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Map 11: Index of relative socio-economic disadvantage



Source: Victoria in Future, Department of Planning and Community Development, 2008

5.2 Demographic change

5.2.1 Description and analysis

In recent years population growth in the Wimmera Southern Mallee has been uneven, with Horsham the only municipality in the region to increase its population. The delivery of essential community services requires new approaches to meet the needs of small rural communities, particularly those with decreasing populations. A cross-government agency collaborative approach to working with local communities offers a way forward (RMCG, 2010a).

A decreasing population creates a range of issues that could be addressed through land use planning. These include:

- the long-term implications for infrastructure provision having regard to maintaining the ongoing sustainability of small towns and considerations about directing resources to settlements with decreasing populations
- the need for high quality connections to larger settlements for education, employment, healthcare and other services
- opportunities to revitalise existing settlements through land use planning
- identification of land use responses for the remaining population who may not be able to afford to relocate to larger centres
- the review of future land use in the settlement and the appropriateness of the current subdivision pattern.

Ageing populations

Wimmera Southern Mallee has the oldest population of any of Victoria's regions. The regional city of Horsham is the only town and local government area with fewer people aged 75 and over than the Victorian regional average. All other areas have a higher proportion of older residents than the regional Victorian average. Several small towns have a very high population of people 75 and over (McKenzie & Frieden, 2010). An ageing population and low levels of inward migration create challenges for the capacity of the region to grow in the longer term (RMCG, 2010).

By 2031 population decrease is projected for all shires (except Horsham), with West Wimmera, Yarriambiack and Hindmarsh shires likely to experience the greatest rate of population decline.

At a statewide level the first wave of 'baby boomer' retirement has commenced. In general, retirees tend to age in place, however there are a growing number of people in this population group. The projected strong growth in retirement age groups over the next 20 years (to 2031) is likely to contribute to a more rapid increase in the proportion of older people in regional areas compared to Melbourne.

This growth in retirees is a factor causing the Wimmera Southern Mallee's population composition to change. Structural ageing is occurring as farmers grow older and older people retire to regional Victoria from metropolitan Melbourne. Some 'non-affluent' retirees are also moving into regional areas of Victoria (Department of Planning and Community Development, 2011) possibly driven by the rising cost of living and perceived lifestyle benefits.

An ageing population raises the following issues:

- labour shortages
- increased demand for aged care services
- changing demands for housing, public transport, health and community services
- housing affordability and accessibility
- equitable connections to health and other services in the region.

Youth-out migration

A significant number of young people are moving out of the area to major centres for education, employment and lifestyle reasons. Having fewer young people within a town or region affects the diversity of the social and economic structure. Trends indicate that more young women than men leave regional Victoria leading to a smaller number of young adult women in rural Victoria (RMCG, 2010). Given the challenges in retaining young people, one opportunity for the region might be to attract families and young skilled migrants to the region to replace those lost to education and employment opportunities elsewhere.

The loss of young people from the region raises the following issues:

- decreasing populations in small towns and the viability of services
- labour shortages and economic impacts
- the adequacy of employment, training and education (secondary and tertiary) opportunities in the region
- public transport connections to employment and education facilities in the region
- accessibility of information and communication technology and online educational opportunities.

5.2.2 Land use planning response

Land use planning needs to recognise the implications of the Wimmera Southern Mallee's changing demographics when making decisions regarding infrastructure investment and maintenance. Planning should encourage infrastructure investment to attract young people and families to the region. These facilities and services should be targeted to particular settlements where the need is greatest or planning identifies a strategic direction to grow/maintain the town. Land use planning plays an important role in demographic change by ensuring there is provision of appropriately zoned land, employment opportunities and housing mix to support population growth. Land use planning can also provide direction in relation to the need, and preferred location, for aged care facilities through local policy.

5.3 Education and skills

5.3.1 Description and analysis

Increased participation in higher education and attainment rates has multiple benefits at an individual, family and community level. Those who complete higher education are found to have a lower risk of unemployment, earn higher incomes, have better health outcomes, are more likely to engage in community activities, and have increased life choices than non-graduate counterparts. The community-wide benefits of learning include a more skilled and healthy workforce and higher economic growth rates.

The Wimmera Southern Mallee Regional Plan identified a number of issues associated with education and skills training in the region. One of the key challenges will be to ensure the region's workforce is appropriately matched to the changing economic profile. For instance, agriculture is declining as a source of employment, while other sectors, for example, health and community services, are forecast to grow. Unfortunately these growth sectors already experience difficulties in attracting skilled labour to the region. The region also has a low participation rate in post-secondary education (see Figure 9). Difficulties in accessing education are a contributor to the region's relative disadvantage (see Section 5.4.1) and represent a wasted resource in terms of enhancing local economic prosperity.

Figure 9: Post secondary education indicators

Educational Qualifications – percentage of people who had Tertiary or TAFE qualifications

- Yarriambiack Shire – 33.9%
- Horsham Rural City – 42.7%
- Hindmarsh Shire – 32.3%
- West Wimmera Shire – 33.1%
- Grampians Region – 44.6%
- Victoria – 50.7%

Destinations of School Leavers – data describes the level of engagement in work and study activities of 15-19 year olds who are not attending school. This population can be categorised into 2 major groups: fully engaged school leavers are defined as those who are involved in work and/or non-school (including university, TAFE and vocational training) study on a full-time basis; disengaged school leavers are defined as those who are not involved in any work or study activities at all.

- Yarriambiack Shire
 - Engaged – 64.1%
 - Disengaged – 28.2%
- Horsham Rural City
 - Engaged – 62.4%
 - Disengaged – 20.7%
- Hindmarsh Shire
 - Engaged – 52.9%
 - Disengaged – 28.7%
- West Wimmera Shire
 - Engaged – 61.5%
 - Disengaged – 16.7%
- Grampians Region
 - Engaged – 64.4%
 - Disengaged – 19.4%
- Victoria
 - Engaged – 71.9%
 - Disengaged – 15.4%

Community Indicators Victoria 2007 Wellbeing Report http://www.communityindicators.net.au/wellbeing_reports

Source: Wimmera Primary Care Partnership, 2009

The Wimmera Southern Mallee Regional Plan noted that skills shortages could be addressed by:

- retraining workers from industries with declining employment
- attracting in-migration of skilled workers
- training young people.

In relation to the latter option, education and training is a particular challenge in the region. The Department of Education and Early Childhood Development notes a number of issues associated with education access and provision in the Grampians region. These include a decreasing population, the provision of small primary and secondary schools, youth aspirations and the changing rural economy.

Figure 10 shows the sharp decline in projected secondary school enrolments in the region.

Figure 10: Projected secondary school enrolments 2006–2026

Hindmarsh

- Current market share – 85.7%
- 2006 – 526
- 2011 – 491
- 2016 – 412
- % decline from 2006 – - 21.7%
- 2021 – 379
- 2026 – 350
- % decline from 2006 – - 33.5%

Horsham Rural City

- Current market share – 65.8%
- 2006 – 1198
- 2011 – 1207
- 2016 – 1114
- % decline from 2006 – - 7.1%
- 2021 – 1094
- 2026 – 1112
- % decline from 2006 – - 7.2%

Northern Grampians

- Current market share – 70.3%
- 2006 – 867
- 2011 – 802
- 2016 – 667
- % decline from 2006 – - 23.1%
- 2021 – 548
- 2026 – 497
- % decline from 2006 – - 42.7%

West Wimmera

- Current market share – 85.6%
- 2006 – 341
- 2011 – 315
- 2016 – 235
- % decline from 2006 – - 19.4%
- 2021 – 191
- 2026 – 186
- % decline from 2006 – - 55.5%

Yarriambiack

- Current market share – 89.1%
- 2006 – 693
- 2011 – 637
- 2016 – 484
- % decline from 2006 – - 31.3%
- 2021 – 380
- 2026 – 344
- % decline from 2006 – - 50.6%

Source: Department of Education and Early Childhood Development

The Department of Education and Early Childhood Development's vision for education provision and access in the Grampians relates to six core elements:

- universal access to quality kindergarten provision
- access to a comprehensive and contemporary range of learning programs regardless of location
- provision of school buildings that are fit-for-purpose
- access to flexible, blended learning opportunities
- integration of early childhood services and education through community hubs
- access to qualified and high quality teaching, care and leadership.

While education and skills are vital to the prosperity of the Wimmera Southern Mallee, many aspects of this issue are not within the scope of the Wimmera Southern Mallee Regional Growth Plan but will be addressed by the Wimmera Southern Mallee Regional Plan and other initiatives. Nevertheless, the planning system has a role to play in delivering the Department of Education and Early Childhood Development's vision as well as supporting the provision of a skilled workforce that is compatible with the employment needs of the region. Land use responses might include:

- supporting a pattern of settlement that is compatible with making education facilities highly accessible
- identifying land required for the expansion of existing facilities or development of new infrastructure

- encouraging the growth of settlements where education facilities are provided to ensure their long-term sustainability
- supporting appropriate transport services and infrastructure to maximise accessibility
- ensuring there is an appropriate mix of housing and other facilities to attract highly skilled migrants
- supporting employment uses that link with employment and training programs provided in the area
- identifying gaps in key education infrastructure that are hindering growth and prosperity, or exacerbating disadvantage.

5.3.2 Land use planning response

There are benefits to be gained from adopting an integrated approach to planning for education and strategic land use planning for population growth and change. Key education facilities and infrastructure needs should be informed by land development priorities. Planning for facilities, housing and infrastructure should be aimed at attracting a highly skilled workforce.

5.4 Health and wellbeing

5.4.1 Description and analysis

Health and wellbeing

The World Health Organisation (2003) stated that the social determinants of health can impact negatively or positively on health and addressing these can improve health inequities and therefore increase health status. Social determinants are defined as:

- the social gradient
- early life/early childhood development
- social exclusion
- employment and working conditions
- unemployment/employment security
- addiction
- food
- transport
- support networks

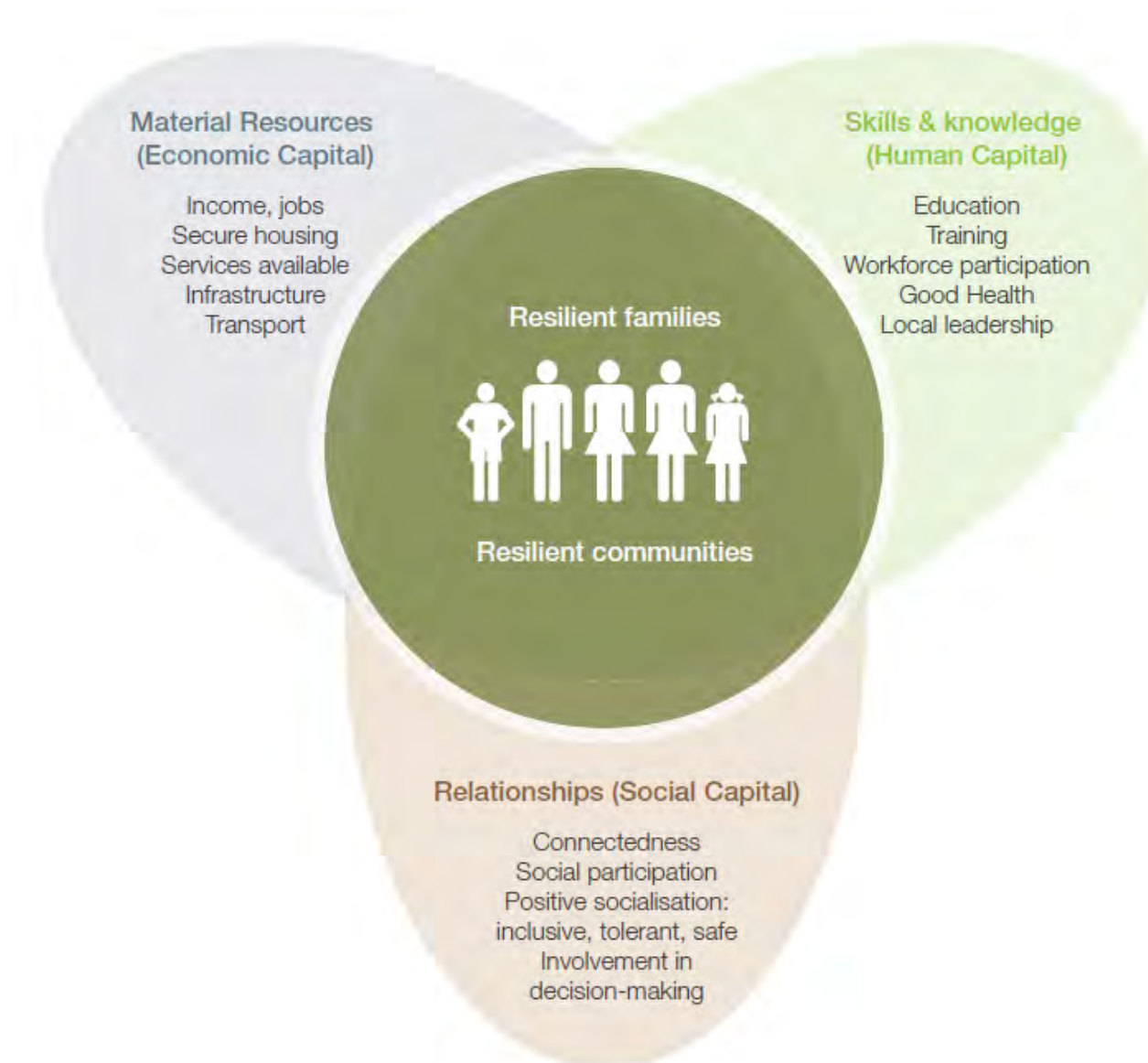
Access to recreation, health and community facilities and services, as well as public spaces, within the Wimmera Southern Mallee is below the Victorian and regional averages. Despite this, evidence shows residents are generally more active in community life and organised sport and feel safer and more valued than the average regional Victorian.

Although life expectancy is increasing in the region it is lower for males than females and below the Victorian average. The region's population has higher levels of overweight and obese people, asthma, unhealthy eating and people report a high or very high degree of psychological distress when compared to the Victorian average (Department of Health, 2010a).

Land use planning may address health and wellbeing in the region by:

- providing places, spaces and settings to encourage healthy, active living (parks, urban spaces, regional trails, waterways, schools, workplaces, community infrastructure)
- providing affordable, reliable and well-connected transport to employment, education, health and other services, and recreation opportunities.

Figure 11: The resources that contribute to an individual, family or community's social and economic wellbeing



Source: Department of Planning and Community Development, 2011

Planning for health

Access to health infrastructure is one element of strengthening people's health status. Nevertheless, the built/physical, economic, social and natural environments are important dimensions of health.

Local governments have the capacity to influence health outcomes through the delivery of services such as transport, roads, footpaths, parks, waste, land use, housing and urban planning, recreation and cultural activities and creating safe public places, as illustrated by Figure 11 (Department of Planning and Community Development, 2011). For example, Horsham Rural City Council has adopted a Health and Wellbeing Plan that identifies priorities and actions for social connection, physical activity, healthy and liveable environments, economic development, and public health and safety.

A key issue affecting the creation of supportive healthy environments within the Wimmera Southern Mallee is a lack of integrated regional planning for sport and recreation infrastructure and limited up-to-date planning at a local level. Given the decreasing and ageing population, there may be a need to consider options such as joint facilities or a consolidation of existing infrastructure.

Access to services and health infrastructure

In its background report to the Wimmera Southern Mallee Regional Plan, RMCG identified a number of concerns relating to access to services in the region:

- Health outcomes in the region are below those of metropolitan Melbourne and Victoria as a whole.
- Levels of disability are higher, with more people in all municipalities except Horsham reporting they needed assistance with core activities than those in Melbourne.
- Regional health issues are compounded by fewer health services and more difficulty accessing them, increased stress, distance and social isolation, and less access to a healthy diet, healthy environments and exercise programs.

The Department of Health's 2010 Local Government Area Statistical Profiles – Grampians Region confirmed some of these observations. For example, it noted the Grampians region ranks relatively poorly compared to other parts of Victoria in relation to life expectancy and has the lowest rate of general practitioners per head of population in Victoria.

The Wimmera Southern Mallee Regional Plan documents that:

“Without a shift in infrastructure and service delivery, it seems unlikely that most rural and remote communities with declining populations will be able to address poor health and meet the needs of their ageing populations. Innovation and collaboration in service delivery is needed to meet the critical challenge of maintaining services and facilities where there are diminishing economies of scale.”

It goes on to state that: “the Department of Health is undertaking regional planning of health services and infrastructure. The Wimmera Health Services Plan will identify the funding, staffing and infrastructure required to provide the services the community needs and define roles for the different service providers. The plan is expected to be comprehensive, covering the breadth of public health services from acute, subacute and primary care, through ambulatory and aged care.” (RMCG, 2010a)

Land use management may protect and enhance the liveability of the region by:

- providing connections to increase access to health and other community services
- providing social infrastructure for a changing population including open space and recreational facilities.

Furthermore, the liveability factors influencing people's choice of where to live include the availability of employment, choice and affordability of housing, access to education, health services, and cultural and lifestyle features. This means the provision of, and access to, services is critical for maintaining the attractiveness, sustainability and liveability of settlements throughout the Wimmera Southern Mallee.

Indigenous health

Responses to improving Indigenous health are contained within the Grampians Indigenous Closing the Gap Health Plan 2009–2013. This plan will implement initiatives to target specific health outcomes for Aboriginal Peoples. Closing the gap in life expectancy between Aboriginal and Torres Strait Islander people and the wider community in the Grampians region will require a substantial increase in resources, including investment in effective primary healthcare services and changing the social determinants of health (Department of Health, 2009).

The Department of Health (2010) noted that:

“As well as being a fundamental health indicator, studies have found life expectancy to be highly correlated with a range of other factors including employment, education and overall economic wellbeing. At the national level for 2005–2007, life expectancy at birth for Aboriginal males was estimated to be 67.2 years, 11.5 years less than life expectancy at birth for non-Aboriginal males (78.7 years). Life expectancy at birth for Aboriginal females was estimated to be 72.9 years, 9.7 years less than life expectancy at birth for non-Aboriginal females (82.6 years).”

Disadvantage

As a largely agricultural economy, the Wimmera Southern Mallee has been significantly affected by years of drought between 1997 and 2009, followed by severe flooding in 2011. This has had significant social and economic effects across the region, and has contributed to the decreasing population and relatively low socio-economic profile of the region. The Wimmera Southern Mallee has a number of areas with a high level of socio-economic disadvantage, characterised by lower levels of income, lower educational attainment, high levels of unemployment, employment in unskilled occupations and dwellings without motor vehicles.

Disadvantage occurs when an individual, family or community is deprived of resources that underpin social and economic wellbeing. Some population groups are consistently overrepresented in data related to disadvantage.

The Change and Disadvantage in the Grampians Region, Victoria report states that:

“disadvantaged people and communities lack either material resources (income, housing, services, transport), skills/knowledge resources (education, health) or ‘social capital’ resources (social participation, inclusion, strong governance).” (Department of Planning and Community Development, 2011)

Towns experiencing population decrease often have difficulty keeping services and facilities viable, from health services to sporting clubs. This can mean people are forced to travel to ensure access to employment, education and services. The issue of access to services particularly affects disadvantaged groups, who are more likely to have a greater range of service needs due to poorer physical and mental health, lower assets and incomes (Department of Planning and Community Development, 2011).

Disadvantage affects different groups within the population differently, with some groups experiencing higher levels of disadvantage including:

- aged persons
- public housing renters
- Aboriginal and Torres Strait Islanders
- single parent families
- people with a disability
- people from non-English-speaking backgrounds.

Although Map 11 illustrates that municipalities in the Wimmera Southern Mallee are relatively disadvantaged, this disadvantage tends to be concentrated in particular urban settlements. Many towns, including Goroke, Edenhope, Apsley, Dimboola, Jeparit, Minyip, Woomelang, Warracknabeal and Horsham North, are in the lowest decile of socio-economic disadvantage. Figure 12 below shows the Wimmera Southern Mallee has 18 localities with higher concentrations of residents in vulnerable cohorts than the average for the Grampians region and regional Victoria.

Of these localities 14 are in small towns with populations under 1000 people. Some of the findings for individual towns are:

- Beulah, Woomelang, Minyip and Rupanyup have a higher than average multicultural mix
- Apsley, Goroke and Edenhope have a higher than average proportion of single parent families
- Horsham and Jeparit have higher than average public housing.

Disadvantage may be reduced by increasing:

- provision and access to aged care and other community services
- access to public transport
- access to employment and training opportunities
- access to culturally appropriate services and economic development opportunities.

Addressing disadvantage in the region through land use planning may include:

- supporting economic diversification and initiatives to meet the skills requirements of emerging industries
- managing housing availability, location and quality – factors that affect the affordability of housing and ongoing living costs
- meeting the demand for public, social and emergency housing
- providing affordable, reliable and effective public transport connections to regional employment and education facilities.

Figure 12 details specific cohorts within localities in the Grampians with Index of Relative Socio-Economic Disadvantage (SEIFA) scores under the regional Victoria average. The index combines information from a number of variables from the 2006 census, including income, education, occupation, wealth and living conditions.

Figure 12: Indicators of relative socio-economic disadvantage

Locality: Grampians

- Towns –
 - SEIFA –
 - Population – 220,160
 - Aged over 65 – 15.5
 - Over 75 living alone – 2.8
 - Aboriginal and Torres Strait Islanders – 0.9
 - Disability – 5.3
 - Public housing dwellings – 4.5
 - Single parent families – 15.3
 - Low English proficiency – 0.4

Locality: Regional Victoria

- Towns –
 - SEIFA – 986
 - Population – 1,383,233
 - Aged over 65 – 16.0
 - Over 75 living alone – 2.7
 - Aboriginal and Torres Strait Islanders – 1.2
 - Disability – 5.0
 - Public housing dwellings – 4.8
 - Single parent families – 15.4
 - Low English proficiency – 0.7

Locality: Hindmarsh

- Towns – Dimboola
 - SEIFA – 913
 - Population – 1490
 - Aged over 65 – 26.2

- Over 75 living alone – 5.3
- Aboriginal and Torres Strait Islanders – 3.0
- Disability – 7.5
- Public housing dwellings – 1.4
- Single parent families – 14.9
- Low English proficiency – 7.4
- Towns – Nhill
 - SEIFA – 953
 - Population – 1919
 - Aged over 65 – 28.7
 - Over 75 living alone – 6.4
 - Aboriginal and Torres Strait Islanders – 0.2
 - Disability – 6.4
 - Public housing dwellings – 1.4
 - Single parent families – 13.0
 - Low English proficiency – 0.0
- Towns – Jeparit*
 - SEIFA – 842
 - Population – 375
 - Aged over 65 – 33.1
 - Over 75 living alone – 9.4
 - Aboriginal and Torres Strait Islanders – 1.1
 - Disability – 9.9
 - Public housing dwellings – 5.7
 - Single parent families – 14.4
 - Low English proficiency – 8.9
- Towns – Rainbow
 - SEIFA – 914

- Population – 497
- Aged over 65 – 29.9
- Over 75 living alone – 9.0
- Aboriginal and Torres Strait Islanders – 0.6
- Disability – 9.6
- Public housing dwellings – 1.4
- Single parent families – 10.8
- Low English proficiency – 0.0

Locality: Horsham

- Towns – Horsham
 - SEIFA – 979
 - Population – 14,135
 - Aged over 65 – 18.7
 - Over 75 living alone – 3.4
 - Aboriginal and Torres Strait Islanders – 1.3
 - Disability – 4.5
 - Public housing dwellings – 5.9
 - Single parent families – 15.6
 - Low English proficiency – 4.0
- Towns – Natimuk
 - SEIFA – 955
 - Population – 449
 - Aged over 65 – 25.8
 - Over 75 living alone – 4.0
 - Aboriginal and Torres Strait Islanders – 0.0
 - Disability – 11.2
 - Public housing dwellings – 2.8
 - Single parent families – 13.2

- Low English proficiency – 0.0

Locality: Northern Grampians

- Towns – Stawell
 - SEIFA – 912
 - Population – 5884
 - Aged over 65 – 19.7
 - Over 75 living alone – 4.8
 - Aboriginal and Torres Strait Islanders – 1.0
 - Disability – 7.7
 - Public housing dwellings – 5.2
 - Single parent families – 17.0
 - Low English proficiency – 3.1
- Towns – St Arnaud
 - SEIFA – 918
 - Population – 2271
 - Aged over 65 – 24.0
 - Over 75 living alone – 5.5
 - Aboriginal and Torres Strait Islanders – 0.4
 - Disability – 7.6
 - Public housing dwellings – 5.0
 - Single parent families – 13.2
 - Low English proficiency – 3.0
- Towns – Great Western
 - SEIFA – 956
 - Population – 190
 - Aged over 65 – 7.3
 - Over 75 living alone – 0.0
 - Aboriginal and Torres Strait Islanders – 0.0

- Disability – 5.7
- Public housing dwellings – 0.0
- Single parent families – 19.6
- Low English proficiency – 0.0
- Towns – Rupanyup Rural Catchment
 - SEIFA – 981
 - Population – 365
 - Aged over 65 – 11.7
 - Over 75 living alone – 2.8
 - Aboriginal and Torres Strait Islanders – 0.8
 - Disability – 7.1
 - Public housing dwellings – 0.0
 - Single parent families – 11.6
 - Low English proficiency – 0.0

Locality: West Wimmera

- Towns – Apsley*
 - SEIFA – 816
 - Population – 166
 - Aged over 65 – 31.2
 - Over 75 living alone – 1.9
 - Aboriginal and Torres Strait Islanders – 3.0
 - Disability – 7.8
 - Public housing dwellings – 0.0
 - Single parent families – 15.7
 - Low English proficiency – 0.0
- Towns – Gorokey
 - SEIFA – 885
 - Population – 250

- Aged over 65 – 19.2
- Over 75 living alone – 3.7
- Aboriginal and Torres Strait Islanders – 0.0
- Disability – 6.9
- Public housing dwellings – 3.7
- Single parent families – 17.1
- Low English proficiency – 0.0
- Towns – Edenhope
 - SEIFA – 904
 - Population – 784
 - Aged over 65 – 31.3
 - Over 75 living alone – 6.3
 - Aboriginal and Torres Strait Islanders – 0.0
 - Disability – 9.9
 - Public housing dwellings – 2.8
 - Single parent families – 15.4
 - Low English proficiency – 0.0
- Towns – Harrow
 - SEIFA – 952
 - Population – 94
 - Aged over 65 – 7.5
 - Over 75 living alone – 0.0
 - Aboriginal and Torres Strait Islanders – 0.0
 - Disability – 5.5
 - Public housing dwellings – 0.0
 - Single parent families – 13.8
 - Low English proficiency – 0.0
- Towns – Kaniva

- SEIFA – 953
- Population – 742
- Aged over 65 – 29.4
- Over 75 living alone – 5.2
- Aboriginal and Torres Strait Islanders – 0.0
- Disability – 7.4
- Public housing dwellings – 2.6
- Single parent families – 11.9
- Low English proficiency – 0.0

Locality: Yarriambiack

- Towns – Warracknabeal*
 - SEIFA – 899
 - Population – 2497
 - Aged over 65 – 27.0
 - Over 75 living alone – 5.6
 - Aboriginal and Torres Strait Islanders – 1.0
 - Disability – 9.5
 - Public housing dwellings – 3.8
 - Single parent families – 16.5
 - Low English proficiency – 1.9
- Towns – Beulah
 - SEIFA – 871
 - Population – 218
 - Aged over 65 – 32.1
 - Over 75 living alone – 6.8
 - Aboriginal and Torres Strait Islanders – 1.8
 - Disability – 6.5
 - Public housing dwellings – 5.7

- Single parent families – 16.4
- Low English proficiency – 0.0
- Towns – Woomelang
 - SEIFA – 879
 - Population – 193
 - Aged over 65 – 28.0
 - Over 75 living alone – 7.2
 - Aboriginal and Torres Strait Islanders – 0.0
 - Disability – 7.6
 - Public housing dwellings – 0.0
 - Single parent families – 18.4
 - Low English proficiency – 25.0
- Towns – Minyip
 - SEIFA – 889
 - Population – 461
 - Aged over 65 – 30.2
 - Over 75 living alone – 5.2
 - Aboriginal and Torres Strait Islanders – 1.1
 - Disability – 13.9
 - Public housing dwellings – 0.0
 - Single parent families – 15.6
 - Low English proficiency – 11.8
- Towns – Murtoa
 - SEIFA – 922
 - Population – 796
 - Aged over 65 – 22.6
 - Over 75 living alone – 6.1
 - Aboriginal and Torres Strait Islanders – 0.0

- Disability – 6.4
- Public housing dwellings – 2.8
- Single parent families – 11.7
- Low English proficiency – 0.0
- Towns – Rupanyup
 - SEIFA – 931
 - Population – 398
 - Aged over 65 – 32.4
 - Over 75 living alone – 6.1
 - Aboriginal and Torres Strait Islanders – 1.0
 - Disability – 12.1
 - Public housing dwellings – 0.0
 - Single parent families – 5.3
 - Low English proficiency – 0.0
- Towns – Hopetoun
 - SEIFA – 965
 - Population – 592
 - Aged over 65 – 30.0
 - Over 75 living alone – 4.7
 - Aboriginal and Torres Strait Islanders – 0.0
 - Disability – 7.9
 - Public housing dwellings – 2.0
 - Single parent families – 12.3
 - Low English proficiency – 0.0

Source: Australian Bureau of Statistics, 2006

* Populations in Jeparit, Stawell, Warracknabeal, St Arnaud, Beulah and Apsley contribute to the most disadvantaged 10 per cent of the population in Australia.

Note caution: using percentages from small populations (there may be high rates from small numbers in small populations).

Potential social impacts of climate change

An expected increase in the number of hot days in the future is likely to affect vulnerable members of the community differently from the broader population. As the average age of residents in the Wimmera Southern Mallee increases, the number of potentially vulnerable people is also forecast to increase. For example, an increase in energy costs will particularly disadvantage vulnerable groups as cooling needs increase.

Given that agriculture is a major component of the region's economy, climate change may lead to change within the local economy, for example, different agricultural commodities, further driving a need for increased productivity. A potentially smaller workforce would challenge rural communities and the ongoing delivery of local services. Increased transport costs may combine to make it more difficult for farming people in remote areas to travel long distances for health and community services. This could further entrench existing disadvantage associated with constrained access to services in remote and rural parts of the Wimmera Southern Mallee. Climate change will also have an impact on sport and recreation facilities given the difficulty in maintaining high quality facilities such as ovals and bowling greens with reduced rainfall.

5.4.2 Land use planning response

Land use planning can play a role in community planning by recognising areas of disadvantage and seeking to undertake positive measures to direct infrastructure, employment and housing to these areas. Planning can also support improved accessibility to services and facilities in disadvantaged locations. A regional approach to planning for sport and recreation facilities would be beneficial, with recognition of changing needs due to population and demographic shifts. Planning can also encourage development types and land use patterns that seek to mitigate costs (such as energy and transport costs) and help ensure accessibility to jobs and facilities. Economic initiatives could be undertaken around key regional strengths such as: the Wimmera Mallee Pipeline; agricultural expertise; mining industries; increased local tourism; and renewable energy industries.

6 Transport and infrastructure

6.1 Context

There are a number of transport and infrastructure challenges within the Wimmera Southern Mallee, including increased demand for freight movement, a general decline in passenger services and a large number of small dispersed settlements that are difficult to service.

The region's economic base is agricultural production, primarily dry land cropping. This base is supported through the production of wool, livestock, mineral resources, mining, timber, horticulture and tourism. In 2005, the region produced three million tonnes of grain representing about 70 per cent of total grain production in Victoria.

Although agricultural productivity continues to increase, the downside of this trend has been a transition to larger and fewer farms. Along with mechanisation, this has meant fewer jobs, resulting in young people moving away and the region experiencing a decrease in population (RMCG, 2010). As a result, passenger services have experienced a decline and the freight task is increasing.

Excluding the major town of Horsham, most of the region's population is located in small dispersed settlements that are often difficult to service by conventional public transport.

The Wimmera Regional Transport Plan, published in 2005, provided a regional overview of key strategic drivers relating to transportation and possible opportunities for infrastructure improvements.

6.2 Regional passenger transport links

6.2.1 Description and analysis

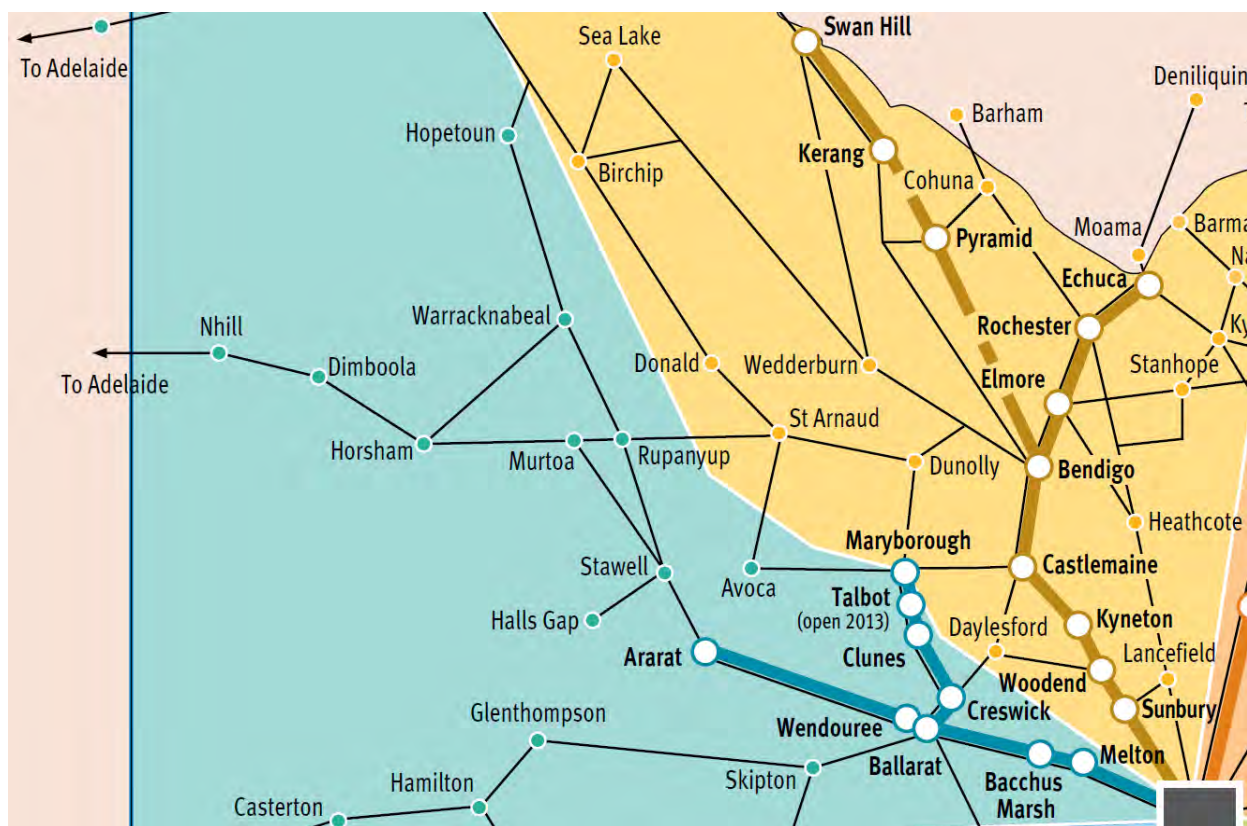
Passenger transport services in the region are primarily based on coach services. Coach services from Horsham, the major centre in the region, provide frequent services to Ballarat, enabling access to higher order services and facilities. Regular coach services to Ararat also provide connections to the V/Line rail network, with connections to Ballarat and Melbourne. The V/Line network is shown in Map 12.

The Great Southern Rail Overland train runs between Melbourne and Adelaide and stops three times per week at Ararat, Stawell, Horsham, Dimboola and Nhill.

Taxi services are available in Horsham, Stawell and Warracknabeal. These services form an invaluable part of an integrated transport network. Taxis have the flexibility to run at any time and are demand-driven. Taxis are often not available in rural and remote areas and in some areas taxi services are not provided on a 24-hour basis.

VicRoads and Horsham Rural City Council are undertaking a planning study to determine a suitable corridor for a future Western Highway realignment at Horsham to address an increase in vehicle volumes. The study synchronises with recommendations in the Western Highway – Upgrade between Stawell and the South Australian Border project, funded under the Federal Government's Nation Building Program (Victorian Government, 2008). The route of the proposed bypass of Horsham will be a key input into the future growth of this centre.

Map 12: V Line Network



Source: V Line

Improving transport connections to and within the Wimmera Southern Mallee has the potential to boost tourism visitation. Tourism is a significant contributor to regional growth, with the Grampians National Park receiving over 1 million visitors per year and Stawell being a popular town from which to access the national park, along with hosting the annual Stawell Gift.

Improved transport services and associated infrastructure could improve access to the existing tourism product in the region and provide new opportunities. Examples could include walking and cycling trails across the region or transport services that allow cyclists to carry their bikes on coaches. Investigations are also underway into a ring road around the Grampians National Park to significantly improve access to the tourism attractions of the area.

There are a number of passenger transport challenges directly related to, or with implications for, the Wimmera Southern Mallee Regional Growth Plan. These are articulated in the future directions for transport in the regional growth plan and include:

- Catering for an ageing population - provide access to services and facilities that an ageing population will require. For many this may mean travelling long distances to access specialist healthcare services for example
- Providing connections to key settlements - links to key towns such as Ouyen and Horsham where a range of services and facilities exist
- Connecting small and remote communities - this may be achieved using innovative and creative non-conventional transport options, such as community transport
- Strengthening Horsham as a transport hub - ensure Horsham is a transport hub for services to Melbourne, Adelaide, Ballarat and Bendigo

- Providing tailored infrastructure services - minimising barriers to access and providing services and support for persons who find it difficult to use the transport system
- Expanding charter flights - consider the expansion of charter flights operating out of Horsham Airport in relation to freight requirements (particularly for perishable products) and, in doing so, enable economies of scale to be achieved through passenger and freight dual use
- Increasing commercial passenger flights - there are a lack of regular commercial passenger flights to provide connectivity for business and skilled workers
- Improving passenger services - investment in major passenger transport services is unlikely due to the rural and dispersed nature of settlements. There is a need to leverage opportunities to link with freight transport to improve accessibility to, from and across the region
- Creating links to enhance tourism - create better links to tourism facilities and attractions.

6.2.2 Land use planning response

Land use planning should encourage improved transport connectivity, such as through improved air and other passenger services, between the Wimmera Southern Mallee and neighbouring regions, particularly given the potential for improved connections to stimulate growth. The potential for innovative transport solutions to enhance connections between communities of common interest should also be identified in planning schemes, particularly to remote and rural settlements within the region.

6.3 Freight transport

6.3.1 Description and analysis

The Victorian Government has published the Victorian Freight and Logistics Plan which is closely co-ordinated with the regional growth plans. This 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 that inform decision making for future projects and initiatives. It also encompasses previous developing policy such as the Transport Solutions Framework and Growing Freight on Rail. The plan provides important support for regional producers and industry.

The freight transport network within the Wimmera Southern Mallee encompasses both road and rail networks some of which form part of a Principal Freight Network (Map 13 – rail and Map 14 - road). The Western, Henty and Wimmera highways and the Melbourne-Adelaide railway line provide strategic transport links across the region. These links connect the region to intrastate and interstate gateways and also cater for movement through the region. Both the road and rail networks are important for the movement of freight within the Wimmera Southern Mallee and to important destinations including the ports of Portland, Geelong and Melbourne.

The Western Highway bisects the region and provides an east-west link. It is of national significance, forming part of the Melbourne-Adelaide corridor. The Calder Highway is also a key route for freight movement connecting with the region. The Henty, Sunraysia and Wimmera Highways, along with the Stawell-Warracknabeal Road, are used to transport freight but do not carry as much traffic as the Calder and Western highways.

Map 13: Principal Freight Network – Rail



Source: Victorian Freight and Logistics Plan 2013, Department of Transport, Planning and Local Infrastructure

Map 14: Principal Freight Network - Road



Source: Victorian Freight and Logistics Plan 2013, Department of Transport, Planning and Local Infrastructure

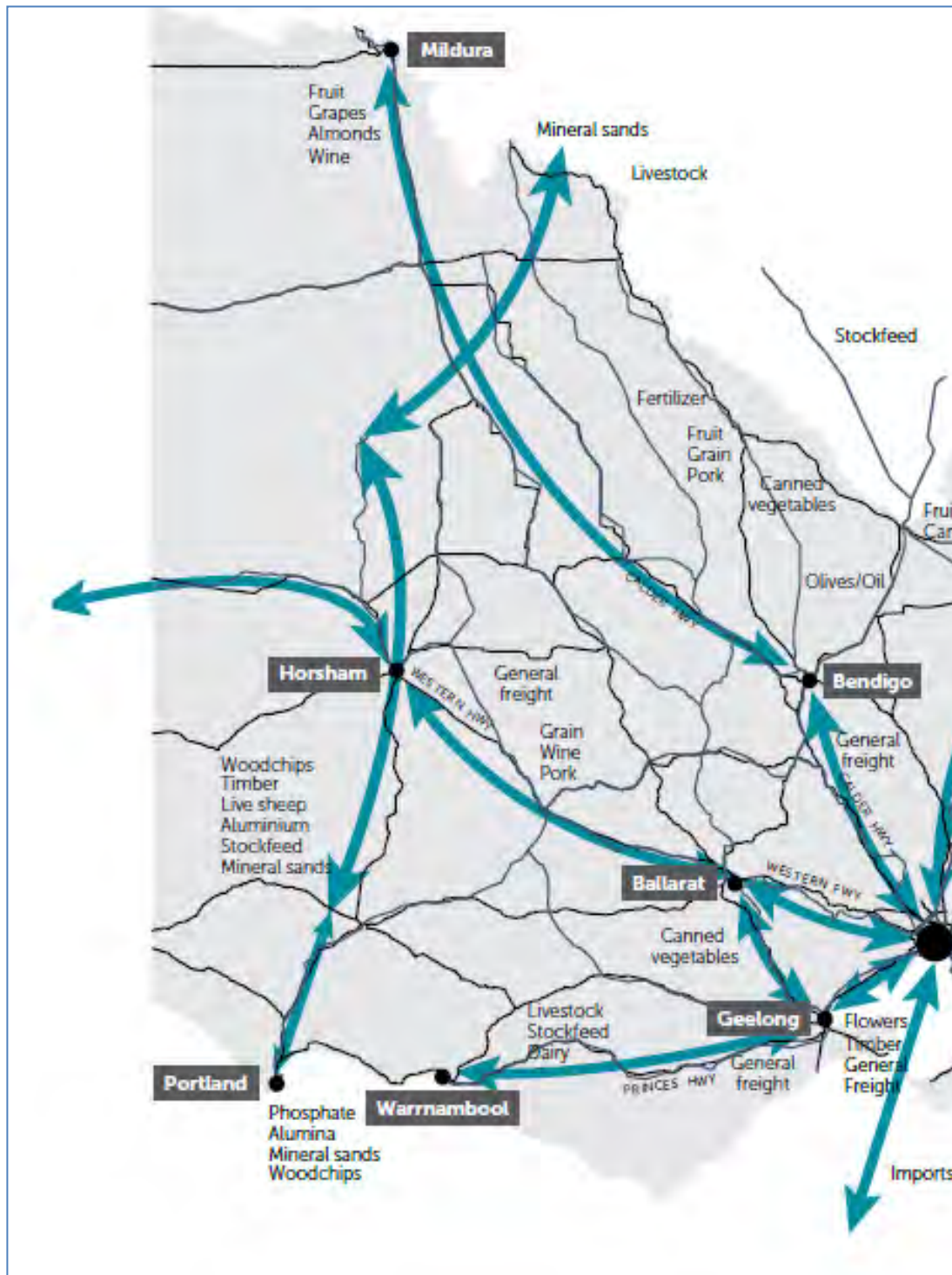
The region's economic base is primarily focussed around dry land cropping and the production of grain. Production of outputs has been increasing (RMCG, 2010), indicating the region is resilient and adaptable to a changing environment and agricultural practices. Consequently, the freight task has increased and dominates the demand for regional transport. The major freight flows within the region are illustrated in Map 15.

The break in the drought over recent years has resulted in significant increases in grain and other crop production hence the growth in the freight handling task. Rail access for both bulk and container services is provided at numerous locations within the region including; Horsham, Murtoa, Dimboola, Hopetoun and Rainbow. Commodities and freight flows are shown in Map 15.

Grain production is significant, and since deregulation of the market, private handlers have been able to store and move grain across the state. This has resulted in more trucks transporting grain. Many grain handlers make use of the local road network to reduce freight costs, which has a negative impact on local roads, increasing maintenance requirements. Most of the grain is destined for the ports of Geelong and Portland, with the majority being transported by rail. There has also been a significant increase in the containerisation of these grain movements.

A number of other commodities support the grain base. Livestock (pigs, sheep and cattle) are carried by B-Doubles and deck semitrailers to saleyards in Horsham. Other saleyards exist, for example in Warracknabeal, but rationalisation is occurring. Most of this traffic is dispersed via the Western Highway as part of the Principal Freight Network. The Western Highway carries the majority of trucks in the region.

Map 15: Commodities and freight flows



Source: Victorian Government submission to Infrastructure Australia 2012

Gypsum is mined in the region with processing plants in Horsham, Stawell, Ararat, Nhill and Warracknabeal. Other quarry products and timber (woodchips) are also produced in the region. Many of these products are transported to the ports of Geelong, Portland and Melbourne. Hay (grass and oaten) is exported by container to Japan and the intermodal terminal at Horsham facilitates carriage of the hay by rail.

It is important to understand the role of intermodal terminals in the freight task in the future. The new Horsham intermodal terminal has been constructed at Dooen. However, the terminal in Boort, a neighbouring town in the Loddon Mallee South region, has closed due to drought and associated lack of (grain) freight. Flexibility to carry a wide range of commodities must be a consideration for the future. Interstate rail freight out of the region goes to South Australia and Western Australia via the western corridor.

In the future, if the freight task remains at existing levels or increases, consideration will need to be given to the impact of high productivity freight vehicles on roads. There is a need to understand whether there is capacity for these vehicles on the network and what infrastructure upgrades will be needed to enable these trucks to run on the Principal Freight Network. The maintenance of the road network needs to be able to accommodate increased use by larger heavy freight vehicles.

A further issue is the complexity arising from two rail gauges in the region and its surrounds. In states outside Victoria standard gauge dominates, whilst Victoria is predominantly broad gauge. It may be prudent to consider standardising the gauge in the area to enable rail to take the majority of freight. The Victorian Freight and Logistics Plan may provide an impetus for increased rail freight. The Mildura rail line was upgraded recently although it was not standardised as part of this upgrade.

The Western, Henty and Wimmera highways all converge on Horsham. As the freight demand increases, consideration of traffic mitigation in Horsham, including the proposed Horsham bypass, may be necessary.

Airports

Most movements in and around the main centre of Horsham for both passenger and freight mainly occur on the road and rail freight network. Horsham and other local airports are locations for air ambulance and other medical air services as well as some freight carriage. During 2012 states and territories signed up to the National Airports Safeguarding Framework. This means that the administration of airports will be carried out in accordance with the Framework which aims to protect airports and their environs from a variety of potential encroachments. Airport locations include Edenhope, Stawell, Nhill, St Arnaud, Hopetoun, Horsham and Warracknabeal.

The Framework arose out of the Federal Government's 2009 Aviation White Paper and 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 is to implement the framework into their respective planning system.

6.3.2 Land use planning response

Land use planning should ensure that future employment land has access to key freight transport infrastructure. Freight infrastructure investment should actively support a transition of freight movement from road to rail, including standardisation of rail lines. There is a need to identify infrastructure required to maintain liveability and efficiently transport freight to markets.

6.4 Services and infrastructure

6.4.1 Description and analysis

Water and sewerage

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

The 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 of Living Victoria 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 and replace existing strategies.

The Living Victoria program responds to the recognition 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 will develop and coordinate new integrated urban and water planning frameworks and develop tools which 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 Strategies⁶
- regional sustainable water strategies
- drought response plans.

⁶ Integrated water cycle strategies will be developed by water corporations by 2017 to replace their current water supply demand strategies, and will consider maintaining demand and supply balances, water supply system resilience, and future water cycle services options (including recycling sewage or trade waste, storm water capture and reuse, and demand management).

Water and sewerage services for urban areas within the Wimmera Southern Mallee region are provided by Grampians Wimmera Mallee Water (GMMWater). Water and sewerage services are provided by GMMWater to all the larger settlements within the region including Horsham, Stawell, Dimboola, Nhill, Halls Gap, Warracknabeal, Hopetoun, St Arnaud, Edenhope and Kaniva. Some of the smaller settlements, such as Great Western, are only provided with potable water services.

GMMWater is also responsible for the provision of stock and irrigation water supplies in rural areas, including services provided through the Wimmera Mallee Pipeline.

Water supply demand strategies were initially released in 2007. These strategies evaluated future water supply and demand scenarios, including under various climate change 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.

Water supplies for urban uses in the Wimmera Southern Mallee region are supplied by surface water from both within the region and outside the region. The region also relies on significant groundwater reserves for most of the west of the region. The region is also part of the water supply catchments for South Australia. In the north-west area of the region covered by the Western Region Sustainable Water Strategy (which generally equates to the Wimmera Southern Mallee), water supply to towns, farm businesses and industry is mainly sourced from surface water (65 per cent), groundwater (35 per cent) and alternative supplies such as recycled water (0.3 per cent).

Based on the GMMWater's water supply demand strategy (2012), the region may experience shortfalls in surface water supply during the life of the regional growth plan. By 2035, most areas are expected to experience shortfalls, however the magnitude of these shortfalls varies depending on how dry conditions are and how the effects of various climate change scenarios unfold. Most urban areas that receive their supplies from groundwater have adequate water supply well beyond the life of the regional growth plan.

A number of capital works are planned to improve water quality, water security and sewerage capacity. These include:

- Nhill and Jeparit – upgrades to drinking quality water
- Warracknabeal, Stawell and St Arnaud – upgrades to wastewater plants
- Rupanyup and Great Western – new town sewerage schemes.

The West Wimmera Groundwater Management Strategy (GMMWater, 2011) provides a framework for future management of groundwater resources. The strategy aims to ensure the groundwater resource of the area is managed in an equitable manner to achieve the long-term sustainability of the resource and maintain the social, environmental and economic benefits that groundwater provides.

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 (including fit-for purpose) through scenario based planning and adaptive management having regard to risk and uncertainty.

These plans will need to consider the growth proposals of the regional growth plan when they are developed.

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. In terms of the Wimmera Southern Mallee, the Western Region Sustainable Water Strategy is the relevant sustainable water strategy. It was released in November 2011 and is still being implemented.

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 meet community expectations and to apply consistent restriction rules across the state.

Gas

Reticulated gas supplies within the Wimmera Southern Mallee are provided by SP AusNet. Currently services are only provided to Horsham and Stawell.

Telecommunications

Telecommunication services within the Wimmera Southern Mallee vary, with mobile phone, television and radio services varying in reliability in some of the more sparsely settled parts of the region. There are a number of variables that affect service provision including:

- topography and terrain
- the availability and quality of infrastructure
- distance from infrastructure
- the quality of transmission signals
- service provider choice
- the quality of receiving equipment, including handsets/television antennae
- security of power source
- affordability
- community awareness and education as to the solutions available.

Currently internet connections within the region are limited to asymmetric digital subscriber line (ADSL) broadband services which are only accessible within four kilometres of telephone exchanges. Telephone exchanges are located in all large townships and many of the smaller townships within the region. The NBN rollout will provide the opportunity to significantly upgrade telecommunications for the region.

Electricity

Security of power supply is important for businesses and residents alike. The region generally has good electricity supplies, but three phase power is unreliable in some smaller centres, particularly in the west (Department of Environment and Primary Industries). The Wimmera Southern Mallee is susceptible at times to the interruption of power supply due to storms and other natural events. One outcome of the 2009 Victorian Bushfires Royal Commission is that the State Government has increased maintenance obligations on electricity service providers.

Waste

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 (household or municipal, commercial and industrial, and construction and demolition).

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. Regional Waste Management Groups are responsible for planning and managing solid waste by preparing waste management plans now and into the future.

Regional landfills within the Wimmera Southern Mallee are located at Dooen and to the south of Stawell, as well as smaller facilities across the region for non-putrescible waste. Transfer stations operate in most other towns, which take waste to the regional landfills. The two regional landfills have a capacity of approximately 20 years.

There are many industries existing and emerging in waste management, particularly in terms of recovery, reuse and recycling of waste. Energy generation from waste is an expanding industry in the state, and opportunities have been identified in the Wimmera Southern Mallee for such industries to develop, particularly in bioenergy.

Capacity for growth

The availability and capacity of reticulated services and infrastructure to the urban parts of the region has been examined by the Infrastructure Study Wimmera Southern Mallee Region (Paroissien Grant & Associates, 2012). This study identified where infrastructure presents constraints to urban or business growth.

There is a need to ensure future growth is not constrained by the availability or capacity of services and infrastructure.

7 Environment

7.1 Context

The Wimmera Southern Mallee comprises a diverse environment with mountains, plains and desert, moist foothill forest, box ironbark forest, woodlands, grasslands, Mallee heath and Mallee woodlands⁷. Many rivers traverse the region. Average annual rainfall varies from up to 1000 millimetres in the Grampians to as low as 300 millimetres in the northern plains (Wimmera Catchment Management Authority, 2012). The main natural features of the region are shown on Map 16.

The Wimmera Catchment Management Authority⁸ (2012) has identified the key assets of the region under the following themes:

- rivers and streams
- wetlands
- native vegetation
- threatened plants and animals
- soils.

Most threats to environmental assets are managed through existing planning systems and strategies, and are not directly the responsibility of regional growth plans. For example:

- Waterway and wetlands health is managed by catchment management authorities, through their regional catchment strategies and relevant sub-strategies, including regional river health strategies and wetland management strategies.
- Public land values are managed by Crown land managers, generally councils, Parks Victoria or the Department of Environment and Primary Industries.
- Private land vegetation clearance is regulated through local planning schemes, governed by the Victorian Native Vegetation Management Framework.
- Other threats to localised biodiversity values are generally managed through the *Flora and Fauna Guarantee Act 1988* and the *Environment Protection and Biodiversity Conservation Act 1999*.
- Other catchment assets, such as soils, are managed through catchment management authority sub-strategies, such as soil management plans and land and water management plans.

The Wimmera Southern Mallee Regional Growth Plan identifies planning directions that are consistent with the objectives of these mechanisms, and identifies areas where it can assist in furthering the outcomes sought. In particular, it recognises the key environmental assets of the region and aims to ensure their protection and enhancement is integrated with other planning considerations such as new residential development or economic

⁷ <http://www.depi.vic.gov.au/conservation-and-environment/native-vegetation-groups-for-victoria/ecological-vegetation-class-evc-benchmarks-by-bioregion>

⁸ The Wimmera Catchment Management Authority covers the majority of the Wimmera Southern Mallee region (though some is outside the Wimmera Southern Mallee region). For this reason, much of the information used in this chapter has been sourced from Wimmera Catchment Management Authority documentation with the assumption made it is generally relevant for the remainder of the Wimmera Southern Mallee region. The Mallee Catchment Management Authority also covers the northern part of the region.

development initiatives. For example, the regional growth plan recognises that the need to protect environmental assets may place limitations on growth in particular locations.

7.2 Environmental assets

7.2.1 Description and analysis

Native vegetation and habitats

The Wimmera Southern Mallee is home to an estimated 1900 plant species and 440 animal species. Habitats for these species occur across the landscape, in the parks and reserve system, state forests and on private land. Protecting the environmental assets of the region is very important as much has declined since European settlement. About 85 per cent of the region's native vegetation has been cleared, resulting in diminished and fragmented habitat for many plant and animal species.

Most remaining native vegetation is on public land. Bush patches and native grasslands on private land represent the last vestiges of the original vegetation community. These remnants play a very important role in assisting the conservation of native plants and animals. The major areas of public land within (or partially within) the Wimmera Southern Mallee include the Grampians National Park, St Arnaud Range National Park, Black Range State Park, Little Desert National Park, Wyperfeld National Park and Big Desert Wilderness Park. There are also dozens of other areas of public land within the region, which protect much of the region's environmental assets.

The catchment management authorities in the region have identified the highest value native vegetation and habitat assets within each of their boundaries. Each catchment management authority has used a different method to identify their highest value native vegetation and habitat.

For consistency across the regional growth plans, the Department of Transport, Planning and Local Infrastructure has used the highest three levels of the Department of Environment and Primary Industries' NaturePrint v2.0⁹ mapping to identify significant clusters of vegetation across the state (refer to Map 16). These align very closely to the terrestrial habitat assets identified by the catchment management authorities.

Rivers and wetlands

The condition of most watercourses and wetlands has declined since European settlement, resulting in diminished and fragmented habitat for many plant and animal species. Private landholdings contain important habitat for endangered species with most wetlands located on private land. The largest wetlands in the region are Lake Albacutya, which is listed on the Ramsar convention for protection, and Lake Hindmarsh. There are also many wetlands that are listed as Nationally Important under the Commonwealth's *Environment Protection and Biodiversity Conservation Act 1999*, and dozens of other wetlands within the region. Sections of the Wimmera River are listed as Heritage Rivers under the *Heritage Rivers Act 1992*.

Soils

Soils are a critical asset for the region given that they support agricultural production as well as biodiversity. Sustainable management of soil is therefore critical to support the region's economy and support the nation's

⁹ 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>

food security. Soil erosion is a key threat to the soil of the region as well as salinity and sodicity (Wimmera Catchment Management Authority, 2012).

Protection, enhancement and expansion of environmental assets

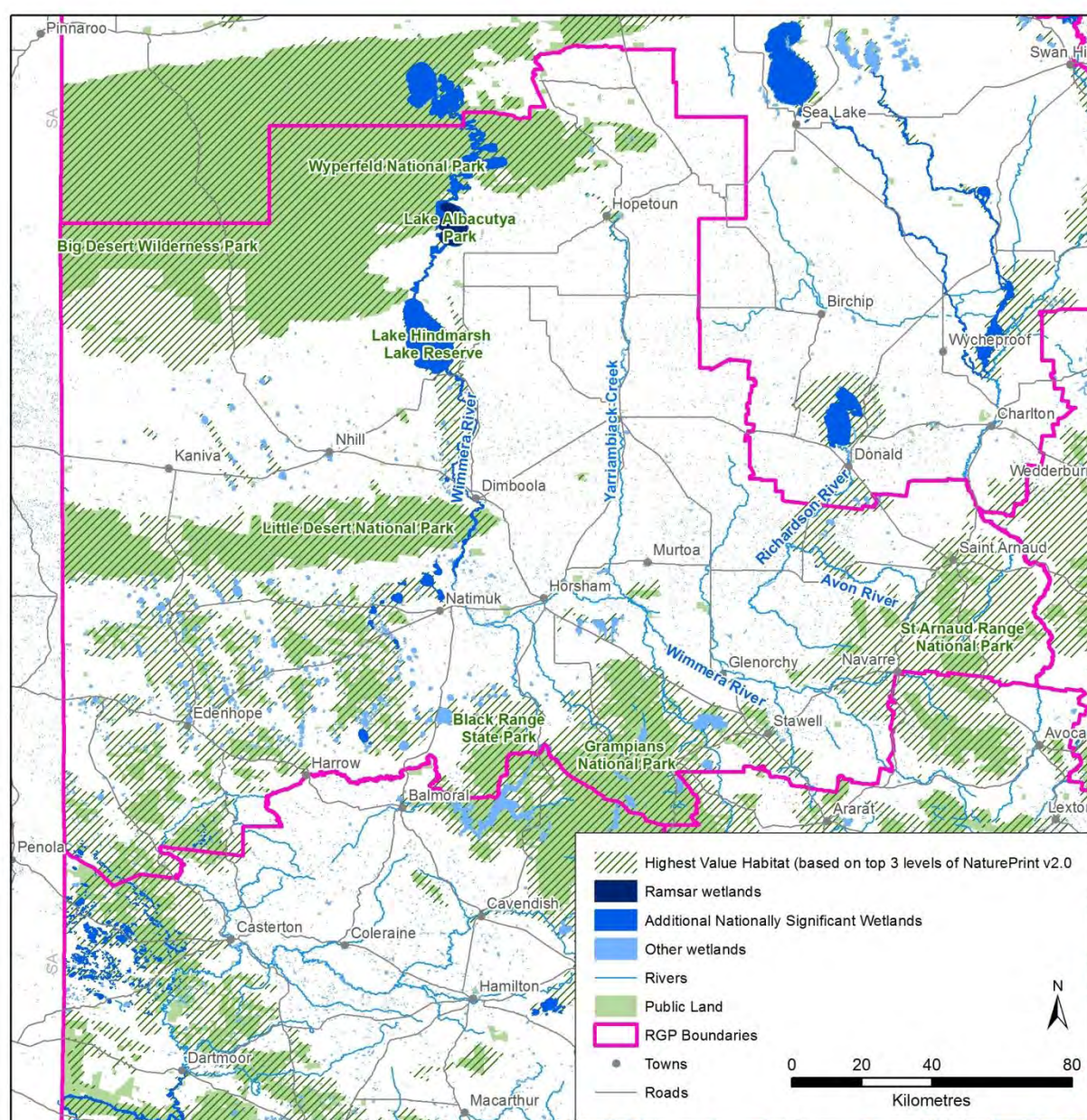
The connections between our natural habitats have been lost through land clearing and changed land uses. Re-establishing appropriate connectivity for Victoria's natural habitats is a necessary part of restoring overall ecosystem resilience and sustaining the productivity of landscapes. Natural resource management activities in the region include actions to increase the vegetation within the region by creating vegetation corridors in strategic areas. The preferred locations for these corridors have been identified by the Wimmera Catchment Management Authority and may overlap with areas that may experience a future change in land use or a change in industry. Increasing landscape connectivity will require planning to improve ecological connectivity while taking into account bushfire management, weed and pest management, and regional development from the outset. Improving connectivity will require some restoration and revegetation in degraded areas.

To achieve the optimum integration between the Wimmera and Mallee regional catchment strategies and the Wimmera Southern Mallee Regional Growth Plan, coordination between the two planning processes is essential. The regional catchment strategies identify environmental assets in the region and the principles for protecting and improving these assets. The regional growth plan recognises these environmental assets and principles and identifies where environmental assets and growth or land use change may present conflicts. Potential conflicts resulting from planned urban development in the region may include the environmental values of the Wimmera River and its riparian zone in and around Horsham and the environmental assets and values around Halls Gap.

The development of tourism assets within the Wimmera Southern Mallee, something which is critical to the diversification of the regional economy, is likely to be strongly linked to the natural environment and the growth of nature-based tourism. Furthermore, the health of the natural environment is strongly linked to the existing regional economy. As noted by the Yarriambiack Shire Council's municipal strategic statement: "given the importance of agricultural production to the Shire, the health of the environment directly impinges on the economy of the Shire."

While many of the region's high profile environmental assets are located on public land, the protection, enhancement and expansion of such assets on private land is undertaken through the initiative of private land owners, often with some funding from government. New opportunities now exist for private land managers to be rewarded for the protection of existing environmental assets on their properties through programs that provide income to them for providing ecosystem services, such as EcoTender, WetlandTender and BushTender, and through development offset arrangements for urban land development. Further opportunities will continue to develop in the coming years with national action to reduce greenhouse gas emissions and the Carbon Farming Initiative.

Map 16: Main natural features of the Wimmera Southern Mallee



Source: Department of Transport, Planning and Local Infrastructure

7.2.2 Land use planning response

The protection, enhancement and expansion of environmental assets on private land and through market mechanisms raises various land use issues including:

- assessing possible land use implications for the continued establishment of landscape connectivity on private land
- acknowledging there are areas of high environmental value on private land and considering:
 - how land use controls can ensure increasing vegetation connectivity at a landscape scale
 - how the environmental values of wetlands, rivers and floodplains can be better protected and managed through land use controls

- how the values of soils can be better protected through land use controls
- ensuring all relevant information on environmental values is made available to local government in a form suitable for use in preparing planning scheme overlays and to assist in making planning decisions.

7.3 Water supply assets

7.3.1 Description and analysis

As noted earlier, water is sourced from both groundwater and surface water in the region and in neighbouring regions. The Wimmera Regional Catchment Strategy states that much of the region lacks reliable surface water flows, resulting in reliance on groundwater (of variable quality) for urban and rural uses and on water transported long distances via the recently completed Wimmera Mallee Pipeline.

The major water users in the region are agricultural industries including broadacre cropping and plantation farming, cities and towns, and other industries, for example, gold and mineral sands mining and alternative energy.

The north west sub-region of the Western Region Sustainable Water Strategy covers the Wimmera Southern Mallee (and a little further north). Here water is scarce, with ephemeral river flows placing greater demand on groundwater that is of variable quality. The Wimmera Mallee Pipeline has secured supplies and increased efficiency in a large part of the area.

Most of the rivers in western Victoria are unregulated, without large dams or weirs. The only major regulated river within the Wimmera Southern Mallee is the Wimmera River, which is regulated by storages that capture and release water when it is needed. Of the water stored and captured in this regulated system, 54.9 gigalitres is diverted from the Glenelg River and used in the Wimmera Mallee supply system and the Wimmera River.

Projected potential streamflow impacts for river basins in the region under four climate scenarios are shown in Figure 13. The most severe variable climate scenario shows significant reductions in water availability, impacting on the environment and water users that rely on surface water supplies. The northern catchments of the region covered in the Western Region Sustainable Water Strategy (which generally correlates to the Wimmera Southern Mallee) are likely to be hardest hit (Department of Sustainability and Environment, 2011).

Figure 13: Projected potential streamflow impacts for river basins in the Wimmera Southern Mallee under four climate scenarios

Inland basins

River basins^a

- Avoca
 - A^c – 2060 – Low (%) – -12
 - B^c – 2060 – Medium (%) – -29
 - C^c – 2060 – High (%) – -48
 - D – 1997 to 2009 drought^b (%) – -90
- Wimmera-Avon
 - A^c – 2060 – Low (%) – -12
 - B^c – 2060 – Medium (%) – -32
 - C^c – 2060 – High (%) – -52
 - D – 1997 to 2009 drought^b (%) – -77
- Lake Corangamite

- A^c – 2060 – Low (%) – -16
- B^c – 2060 – Medium (%) – -33
- C^c – 2060 – High (%) – -42
- D – 1997 to 2009 drought^b (%) – -84

Coastal

River basins^a

- Glenelg
 - A^c – 2060 – Low (%) – -19
 - B^c – 2060 – Medium (%) – -34
 - C^c – 2060 – High (%) – -54
 - D – 1997 to 2009 drought^b (%) – -65
- Hopkins
 - A^c – 2060 – Low (%) – -19
 - B^c – 2060 – Medium (%) – -36
 - C^c – 2060 – High (%) – -50
 - D – 1997 to 2009 drought^b (%) – -40
- Portland Coast
 - A^c – 2060 – Low (%) – -19
 - B^c – 2060 – Medium (%) – -29
 - C^c – 2060 – High (%) – -40
 - D – 1997 to 2009 drought^b (%) – -56
- Otway Coast
 - A^c – 2060 – Low (%) – -14
 - B^c – 2060 – Medium (%) – -27
 - C^c – 2060 – High (%) – -34
 - D – 1997 to 2009 drought^b (%) – -30

Notes:

- a) The seven river basins depicted in this table predominantly rely on surface water resources. The Mallee and Millicent Coast river basins rely mainly on groundwater resources.
- b) Reduction of average annual inflows when comparing pre-July 1997 average inflows with inflows from 1997 to 2009.
- c) Scenarios a, b and c are relative to the long-term average (ie., the full historical record up to and including 2010). These scenarios are taken from projections provided to Department of Sustainability by the CSIRO as part of the SEACI research program.

Source: Department of Sustainability and Environment, 2011

The potential effects of climate change on groundwater are unclear but are likely to vary across the region. Groundwater systems that are unconfined or closer to the surface are more likely to be impacted in the short-term (RM Consulting Group, 2010). Reliance on groundwater is a significant constraint in some locations, particularly in the West Wimmera area. As previously stated, urban groundwater supplies are secure for the life of the regional growth plan (and well beyond).

The Western Region Sustainable Water Strategy and the West Wimmera Groundwater Management Strategy both identify that land use change is one of the potential threats to groundwater resources and specifically identify timber plantations, such as those in the Langkoop area, as a potential contributor to declining groundwater levels.

Reduced water availability in the region will result in greater frequency, severity and duration of urban water restrictions, reduced water availability for irrigation and rural use, and reduced environmental flows (RMCG, 2010). As previously described, water supply demand strategies have been developed by water corporations to ensure urban water supplies can be maintained under a range of climate scenarios.

While the Wimmera Mallee Pipeline will provide great regional benefit there may not be enough water resource to fully secure the community, stock and farmhouse supplies, and irrigation entitlements that are already held (~27,000 megalitres) and the additional entitlements promised (~35,000 megalitres) (RM Consulting Group, 2010).

7.3.2 Land use planning response

Key water availability issues identified in the Wimmera Southern Mallee Regional Growth Plan include:

- land use opportunities presented by the Wimmera Mallee Pipeline
- the influence of long-term water availability on economic development opportunities
- the impacts of land uses such as timber plantations on water resources
- the impacts of a changing climate and climate variability.

7.4 Natural hazards and risks

7.4.1 Description and analysis

The potential impact of climate change on natural hazards

Projected changes to the Wimmera's climate are set out in Figure 14. By 2070, under a higher emissions growth scenario, Horsham's temperatures would resemble those of present day Wentworth in New South Wales, while annual rainfall would be similar to present day Nhill.

Figure 14: Summary of projected annual changes for the Wimmera as a result of a variable climate

Summary of projected annual and seasonal climate changes for the Wimmera relative to 1990 (80% confidence range)

Emissions Growth Scenarios

- 2030 – Medium Emissions
 - Average temperature – 0.8 degrees C (0.6 to 1.1 degrees C)
 - Average rainfall (%) – -4% (-9 to +1%)
 - Potential evaporation (%) – 2% (1 to 5%)
 - Wind speed (%) – No change (-5 to +4%)
 - Relative humidity (%) – -0.7% (-1.4 to -0.1%)
 - Solar radiation (%) – 0.7% (0.1 to 1.4%)
- 2070 – Lower Emissions
 - Average temperature – 1.3 degrees C (0.9 to 1.9 degrees C)
 - Average rainfall (%) – -6% (-15 to +2%)
 - Potential evaporation (%) – 4% (1 to 8%)
 - Wind speed (%) – No change (-8 to +7%)
 - Relative humidity (%) – -1.1% (-2.3 to -0.1%)

- Solar radiation (%) – 1.1% (0.2 to 2.3%)
- 2070 – Higher Emissions
 - Average temperature – 2.6 degrees C (1.8 to 3.7 degrees C)
 - Average rainfall (%) – -12% (-27 to +3%)
 - Potential evaporation (%) – 8% (2 to 15%)
 - Wind speed (%) – No change (-15 to 13%)
 - Relative humidity (%) – -2.1% (-4.4 to -0.3%)
 - Solar radiation (%) – 2.2% (0.4 to 4.4%)

Source: Climate Change in the Wimmera, Department of Sustainability and Environment, 2008

Although average changes in temperature, rainfall and evaporation will have long-term consequences for the region, the impacts of climate change are likely to be most obvious through extremes in weather such as the number of hot days, reductions in the number of frosts and changes in daily rainfall patterns. Due to the increase in number of extreme bushfire hazard days, the frequency and intensity of bushfires is expected to increase, and flooding could become more extreme as a result of intense rainfall events, despite the overall reduction in rainfall predicted. An increase in the number of droughts is also expected. The agricultural mix in the region may need to transition to a new mix to respond to climate change, which will have flow-on implications for other supporting industries.

Figure 15 provides a summary of the potential impacts these changes could have in the Wimmera Southern Mallee region. For a more complete description, refer to Climate Change in the Wimmera (Department of Sustainability and Environment, 2008).

Figure 15: Summary of predicted impacts due to a variable climate in the Wimmera region

<ul style="list-style-type: none">▪ Less soil moisture▪ Less water for rivers▪ Average annual runoff in Wimmera-Avon River expected to decrease by up to 20 per cent by 2030, and by 2070 by a range of 10-50 per cent▪ Lower flows and higher temperatures may reduce water quality▪ Greater bushfire activity could temporarily contaminate water catchments with sediment and ash
<ul style="list-style-type: none">▪ Both positive and negative impacts on types of crops that can be productively grown▪ Higher atmospheric carbon dioxide levels tend to enhance plant growth and water use efficiency▪ Changes in temperature and rainfall are likely to offset these benefits▪ Increased heat stress on dairy cattle, reducing milk production▪ Inadequate winter chilling for some fruit trees which may reduce fruit quality and yield (though higher temperatures may reduce frost damage)▪ Higher temperatures are likely to reduce grape quality in viticulture (although there may be opportunities to shift production to varieties better adapted to warmer conditions)
<ul style="list-style-type: none">▪ Both individual species and whole ecosystem level effects anticipated▪ Species distribution, abundance, behaviour and timing of events such as migration or breeding may occur later▪ Indirect impacts through increased pressure from competitors, predators, parasites, diseases and disturbances, for example, bushfire or drought▪ Composition of ecosystems and their distribution may alter.▪ Altered flows in rivers and wetlands, as well as fires, snow and flood changes may also alter composition and distribution of ecosystems▪ Amplification of existing threats, such as habitat loss and invasive species
<ul style="list-style-type: none">▪ Direct impacts on human health through events such as heatwaves▪ Indirect impacts on human health through events such as bushfires, reducing air quality and increasing respiratory problems▪ Warmer winters likely to reduce some cold-related illnesses▪ Warmer summers likely to increase risk of heat-related problems▪ Increased frequency and intensity of heatwaves may cause more deaths

Source: Department of Sustainability and Environment, 2008

Note: some of these changes are not expected to be very pronounced in the 30 year timeframe of the regional growth plan.

Bushfire hazard

Bushfire hazard is a key consideration for future development, particularly given recent changes in planning requirements resulting from the 2009 Victorian Bushfires Royal Commission recommendations.

The State Government is updating bushfire planning policy. This includes undertaking Regional Bushfire Planning assessments. These assessments identify areas where bushfire hazard correlates with land use planning considerations that may influence the bushfire risk. These assessments provide an indication of areas adjacent to existing settlement and growth fronts, including some rural residential areas that will require further investigation of bushfire risk prior to further development. Many areas affected by the 2009 fires were not identified as bushfire-prone areas under building controls or covered by a Wildfire Management Overlay in the relevant planning schemes.

As a result of the planning policy updates, a new Bushfire Management Overlay is being developed and coverage of this control will be updated in the near future. The current extent of Bushfire Management Overlay in planning

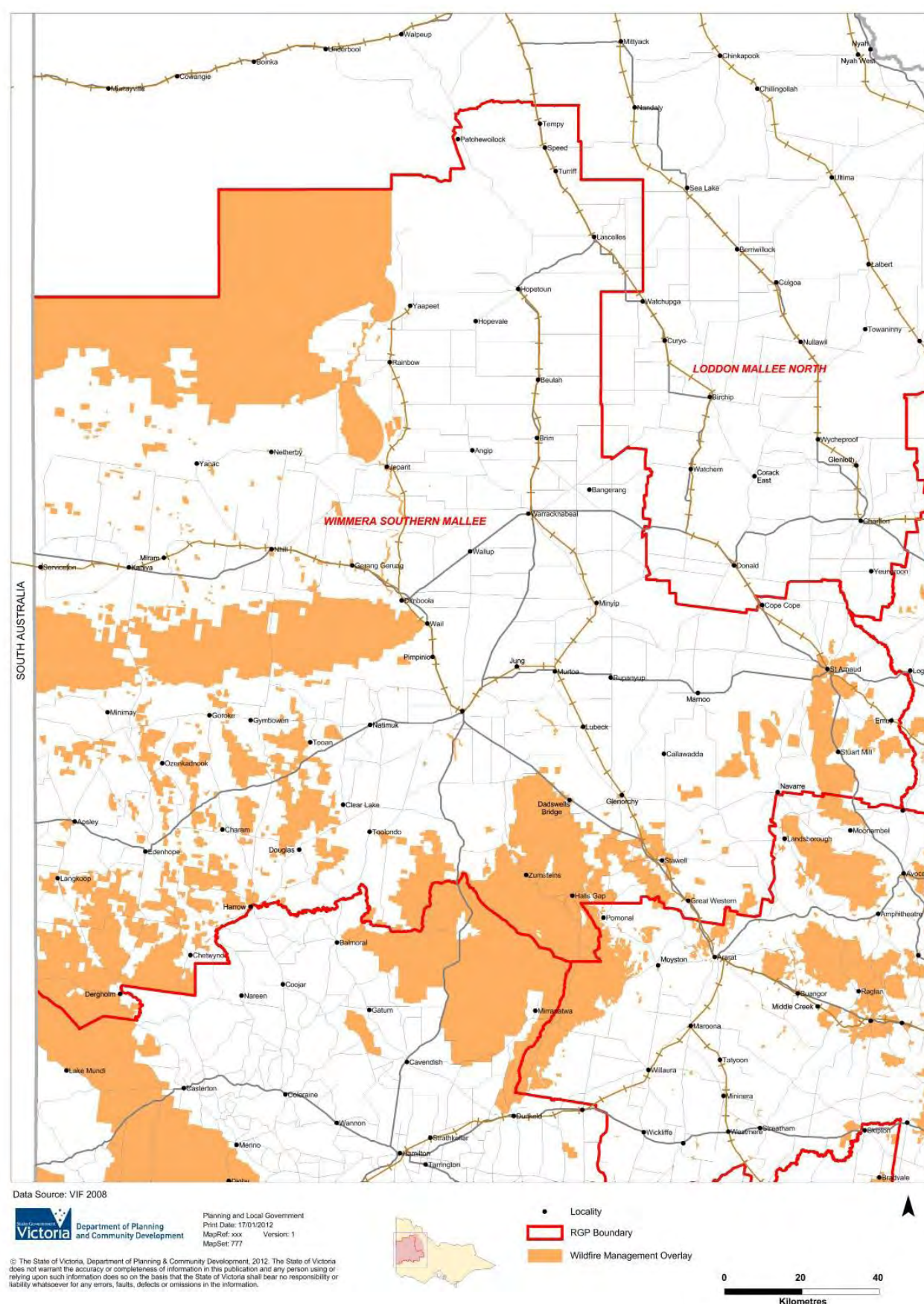
schemes is shown in Map 17. Bushfire Prone Area mapping has also been updated and is another tool to help with planning decisions.

Bushfire intensity and frequency is likely to increase as a result of climate change. Climate change predictions indicate there is likely to be an increase in the number of extreme fire index days each year. The Wimmera Southern Mallee Regional Growth Plan addresses the management of bushfire risk by identifying the need to take a precautionary approach to proposed new developments in areas of identified natural hazards, to limit future risk to new and existing development.

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Map 17: Bushfire Management Overlay



Source: Department of Transport, Planning and Local Infrastructure

Note: This map reflects the previous Wildfire Management Overlay, which is used for the current Bushfire Management Overlay in the region. The Bushfire Management Overlay is being amended to reflect updated information on bushfire hazard.

Flood hazard

Flood extent mapping has been undertaken across the whole Wimmera Southern Mallee (see Map 18). However, more detailed flood modelling is needed in specific locations to better inform decisions regarding urban growth, such as within the complex floodplain of the Wimmera River at Horsham.

Flood zones or overlays are incorporated into the region's planning schemes. Each catchment management authority in the region undertakes flood studies to assist with planning in the region. Flood provisions in planning schemes should be used consistently across the region to avoid inappropriate development (or redevelopment).

The Wimmera Regional Catchment Strategy indicates that management of floodplains in the region could be improved by addressing inappropriate development and land use, among other factors. It proposes various actions to address this.

Recent flooding had a significant impact on parts of the Wimmera Southern Mallee. The severe impacts of a single flooding event can clearly be illustrated through the extensive damage to important infrastructure in the Grampians in January 2011. A number of flood reviews are currently planned or underway in the region to help fill information gaps that were revealed by recent flood events, for example, in relation to Natimuk. This information will need to be used to update flood overlays in planning schemes where relevant. Further understanding of flooding in the region will also need to be incorporated into planning decisions as future research and modelling is released over time.

Land use planning decisions should be based on the best quality information on flooding hazard to minimise risk to life, property, community infrastructure and environmental assets. New development will be directed away from areas of highest floodplain hazard and development should not be supported if it increases the flood risk for other sensitive areas or development.

Climate change predictions indicate that more extreme flood events may occur in the future. Existing flood risk assessments do not take account of these likely increases in the intensity of storm and flood events. The potential future increase in flood risk should be considered in future strategic planning.

7.4.2 Land use planning response

The need to take a precautionary approach to new development in areas of identified natural hazards such as flood and bushfire risk should be identified in land use planning with a view to limiting risk to new development. The Wimmera Southern Mallee Regional Growth Plan notes where flood and bushfire are a key consideration for the growth of specific settlements. These hazards are also an issue across the broader landscape and have implications for rural land use opportunities.

The potential impacts of a changing climate raise various land use issues including:

- determining the areas that need planning controls based on the future bushfire hazard under climate change scenarios
- transitioning to the future agricultural and other industry mix in the region, based on climate change scenarios
- assessing the future carrying capacity of the region based on future water availability, growth pressures, areas currently experiencing decline in population, climate change scenarios and the future industry potential for the region
- transitioning infrastructure for the implications from the anticipated increase in number of days with high temperatures, for example, railway lines, hospital admissions, ability for outdoor work, electricity demand.

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Map 18: Areas in the Wimmera Southern Mallee subject to flood controls in regional planning schemes



Source: Department of Transport, Planning and Local Infrastructure

Soil health decline and erosion

The sustainable use of agricultural land is dependent on the continued health of the physical environment as a whole. Key issues identified as crucial for the future management of agricultural land by the Wimmera Catchment Management Authority include soil health decline, soil erosion and climate change. Large areas of the Wimmera are experiencing a decline in soil condition as a result of poor match of land use to land capability and the underlying land class (soil type, slope, aspect). Soil erosion can be managed in part by statutory planning controls.

Declining soil health may lead to changes in the Wimmera Southern Mallee's agricultural and economic profile, with subsequent land use implications for industry and related uses.

7.4.3 Land use planning response

Consideration should be given to the carrying capacity of land based on water availability and infrastructure, a changing climate, salinity, soil degradation and other constraints where land use change is proposed. Changes to the economic profile of the region, which may be required in order to provide a sustainable future as the climate changes, should be identified with a view to ensuring that land use policy and land designations support this transition.

Consideration could be given as to whether, based on existing knowledge, areas prone to soil health threats have been adequately identified in local government planning schemes.

7.5 Significant landscapes

7.5.1 Description and analysis

Land use change and unsympathetic development can threaten valued heritage and landscapes. Land use planning can play an important role in protecting these assets.

As Map 19 illustrates, only small areas of the Wimmera Southern Mallee are currently identified as being landscapes of significance through local planning schemes. This comprises land subject to a Significant Landscape Overlay around the base of the Grampians National Park, Black Range Park and Mount Arapiles. This overlay has been applied to private land adjacent to the feature but not public land within the parks themselves which are under public management.

These overlays recognise the significance of important natural assets and the need to maintain the scenic rural vistas to and from the parks, from both a landscape and tourism perspective.

The only other planning protection given to the landscape values of the region are some limited areas within the southern part of Northern Grampians Shire included within the Rural Conservation Zone. One of the purposes of this control is: "To conserve and enhance the cultural significance and character of open rural and scenic non-urban landscapes."

It is strategically important to identify regionally significant landscapes given the role they play in attracting visitors and tourists.

Victoria has a nature-based tourism strategy which recognises the importance of natural attractions and seeks to ensure regional Victoria benefits from sustainable use of these assets. Significant landscapes have an integral role to play in supporting the diversification of the regional economy. The protection of significant landscapes is vital to protect the visual amenity for residents and visitors.

The South West Victoria Landscape Assessment Study has been prepared to address the current gap in evidence around significant landscapes in this part of Victoria. Map 20 illustrates the findings of the study which has identified state and regionally significant landscapes and viewing locations in the Grampians and West Wimmera.

However, it is noted that the study does not extend to the northern parts of the region, including to significant natural assets such as the Little Desert National Park, major lakes and Wyperfield National Park. In relation to the latter, its landscape qualities have been identified by the National Trust through its statement of significance on the organisation's register:

“Wyperfield National Park is of national significance. Of outstanding scientific interest, the Park is significant for its representation of a diversity of Mallee ecosystems. It also has high visual quality and moderate cultural interest.”

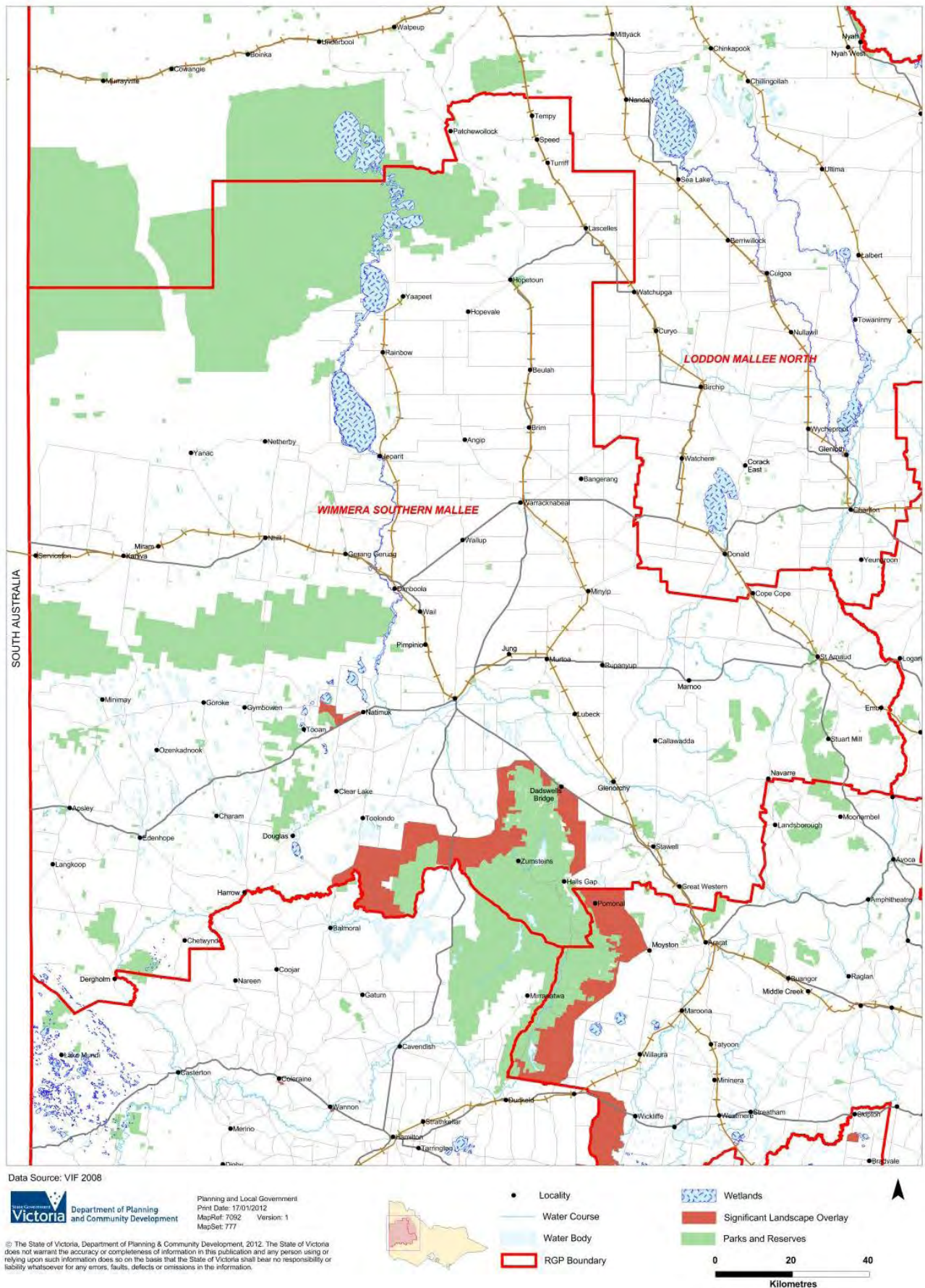
Further work will be required to ensure a consistent evidence base across the whole region.

7.5.2 Land use planning response

Land use planning can recognise the need to protect regionally significant landscapes as identified in landscape assessment studies, including the South West Victoria Landscape Assessment study. Opportunities to link enhanced tourism infrastructure with regionally important landscapes may also be identified to ensure the benefits of landscape protection for the regional economy are recognised.

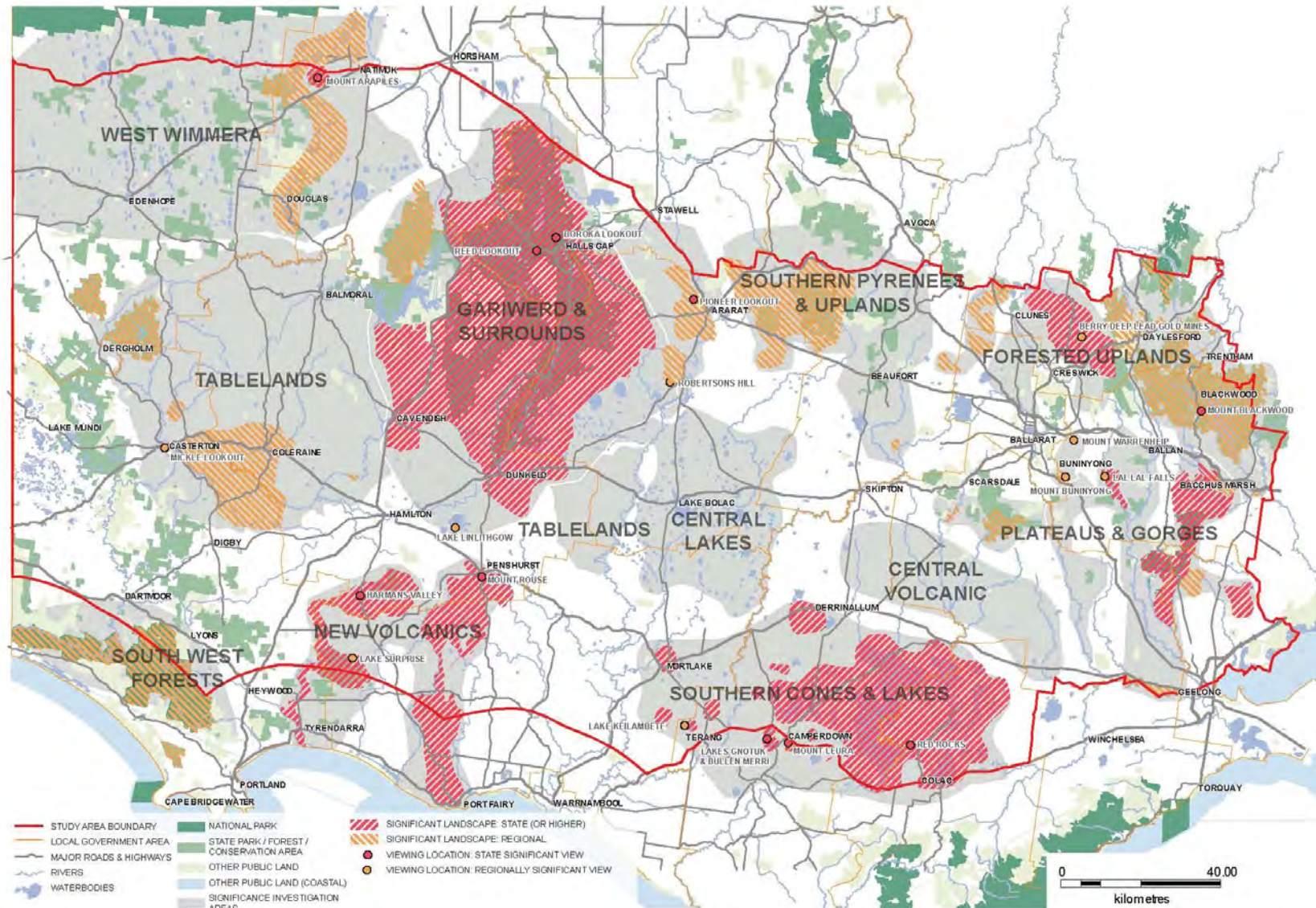
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Map 19: Areas of potential landscape significance in Wimmera Southern Mallee



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Map 20: Landscapes assessed as being of regional or state significance by the South West Victoria Landscape Assessment Study



Source: Planisphere and Department of Planning and Community Development 2013

8 Cross-regional issues

There are communities of interest and relationships between certain sections of the Wimmera Southern Mallee and surrounding regions, including the Limestone Coast Region within South Australia. This section discusses some of these cross-regional issues.

Central Highlands

The closest large regional city to the Wimmera Southern Mallee is Ballarat. Residents and business within the region access some higher order services from Ballarat. The large regional town of Ararat is located close to the south-eastern boundary of the Wimmera Southern Mallee region. There is a strong relationship between Ararat and Stawell and a tourism access relationship with Halls Gap.

Loddon Mallee North and South

The Loddon Mallee region is divided into north and south sections, with the former located to the north and north-east of the Wimmera Southern Mallee region. The Shire of Buloke is located within the Loddon Mallee North region and adjoins Wimmera Southern Mallee. Due to Buloke Shire's strong relationship with the Wimmera Southern Mallee, relevant planning issues concerning the shire are identified and discussed in this background report. However, regional planning for the Buloke Shire is addressed in the Loddon Mallee North Regional Growth Plan.

Some of the residents of the southern parts of the Buloke Shire access higher order services from Horsham.

Great South Coast (Green Triangle)

The Great South Coast region is located to the south of the Wimmera Southern Mallee region. Great South Coast is particularly important for freight movement given that mining and agricultural produce is transported south from the Wimmera Southern Mallee to the Port of Portland. The Grampians National Park also represents a shared asset on the border of the two regions and opportunities are being explored for better linkages around the park.

Limestone Coast (South Australia)

The Limestone Coast region adjoins the Wimmera Southern Mallee region along its western boundary. The relationships between this region and the Wimmera Southern Mallee occur in the proximity of the main transport routes and townships that straddle the border, including Naracoorte and Edenhope, and Bordertown and Kaniva on the Western Highway. The Limestone Coast Region Plan recognises the important relationship between the two regions, including for the movement of freight.

8.1 Land use planning response

Important cross-regional issues should be identified in land use planning to ensure these are considered when planning for growth, infrastructure investment and the provision of services and facilities.

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