

HUME



REGIONAL GROWTH PLAN

BACKGROUND REPORT

Authorised and published by the Victorian Government, 1 Treasury Place, Melbourne

Printed by Finsbury Green, Melbourne

If you would like to receive this publication in an accessible format, please telephone 1300 366 356.

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March 2014

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PART A: INTRODUCTION

1. Regional Growth Plans

The Hume Regional Growth Plan is one of eight regional growth plans in Victoria intended to guide regional growth and change to 2041 (Figure 1). Regional growth plans were prepared in conjunction with the new metropolitan planning strategy for Melbourne, *Plan Melbourne*. These plans will build on the strengths of Melbourne and Victoria's regions to provide long-term planning for the state.

Figure 1: Victoria's eight regional growth plans



Source: Department of Transport, Planning and Local Infrastructure

Regional growth plans are being developed in partnership with local government to provide broad direction for land use and development across regional Victoria. Regional growth plans will assist councils in regional areas to plan for population and economic growth, enable long term land supply, and guide investment decisions (public and private).

The Hume Region's boundary includes future metropolitan growth areas extending into Mitchell Shire in the southern part of the region. This metropolitan growth planned for through *Plan Melbourne* and the plan only considers regional growth outside future metropolitan areas.

The plan has been developed following adoption of the Hume Strategy for Sustainable Communities 2010–2020 (the Hume Strategy), which was finalised in 2010. The Hume Strategy sets out future land use and infrastructure directions. It was prepared in the region and represents regional stakeholders' aspirations and agenda for regional development and long term strategic planning.

The Hume Strategy outlines goals focused on:

- natural resources protected and enhanced for current and future generations
- healthy, vibrant and resilient communities
- a thriving and dynamic economy
- an integrated network of efficient and high functioning transport systems
- an efficient and sustainable pattern of urban and rural land use and development.

The Hume Strategy also establishes four key directions about regional settlement planning:

- directing future population growth to settlements with the greatest capacity to accommodate it
- maximising the use of existing infrastructure and services and facilitating strategic investment in future infrastructure and services
- retaining productive rural land for agriculture and other compatible rural uses
- ensuring efficient use of land use planning resources in the region.

The plan refines these directions and provides advice on implementation.

2. Role of the background paper

This background paper documents the information and considerations that were taken into account when preparing the plan.

The background paper was published alongside the plan, in order to:

- provide background data on the existing characteristics of the Hume Region's environment, economy and communities
- summarise current information on the changes the region is expected to experience in the next 30 years
- discuss in more detail than can be accommodated in the plan the challenges and opportunities facing the region during this period
- support the key strategic directions for land use and development as set out in the plan.

3. Project governance and stakeholder engagement

The plan is a partnership approach to regional planning across 12 municipalities, state government departments and agencies including the Department of Transport, Planning and Local Infrastructure, Department of Environment and Primary Industries, Department of State Development, Business and Innovation, VicRoads, the Goulburn Broken Catchment Management Authority and the North East Catchment Management Authority.

The plan has been informed by a Project Steering Committee and a Technical Working Group, both formed as part of this project. The Technical Working Group is made up of representatives from a broad range of government agencies including those listed above and the Department of Education and Early Childhood Development, Department of Health and Department of Human Services. A full list of organisations represented on the Technical Working Group is included in Appendix B.

The plan has been prepared in close consultation with stakeholders. The first phase of consultation (January to April 2012) assisted development of the strategic framework, which comprised a vision, a set of principles and a 'high level' concept plan. During this phase, workshops were held with the Project Steering Committee, Technical Working Group, North East Planners Forum and the Hume Regional Development Australia committee. Three community leadership groups across the region were also consulted on the draft Strategic Framework.

The second phase of consultation (June to August 2012) sought input on the development of the plan. Five workshops were held with government stakeholders to verify technical mapping and background information about transport, infrastructure, the environment and settlement networks, as well as to seek input to the draft Hume Regional Rural Land Use Study. A workshop was also held in June to integrate technical information to form the basis of the plan.

The third phase of consultation (August to September 2012) was held during the preparation of a preliminary plan. This included targeted consultation with government agencies such as the Department of Human Services, Department of Health and the Department of Education and Early Childhood Development to discuss specific information needs. Interviews were also held with business and industry leaders across the Hume Region to seek advice about large-scale regional initiatives and possible future strategies.

During the fourth phase of consultation the content of the plan was discussed with stakeholders and this process informed the development of a draft plan which was released for public consultation in June 2013.

Feedback received during this public consultation period was then taken into consideration and informed the preparation of the current version of the plan.

PART B: CONTEXT

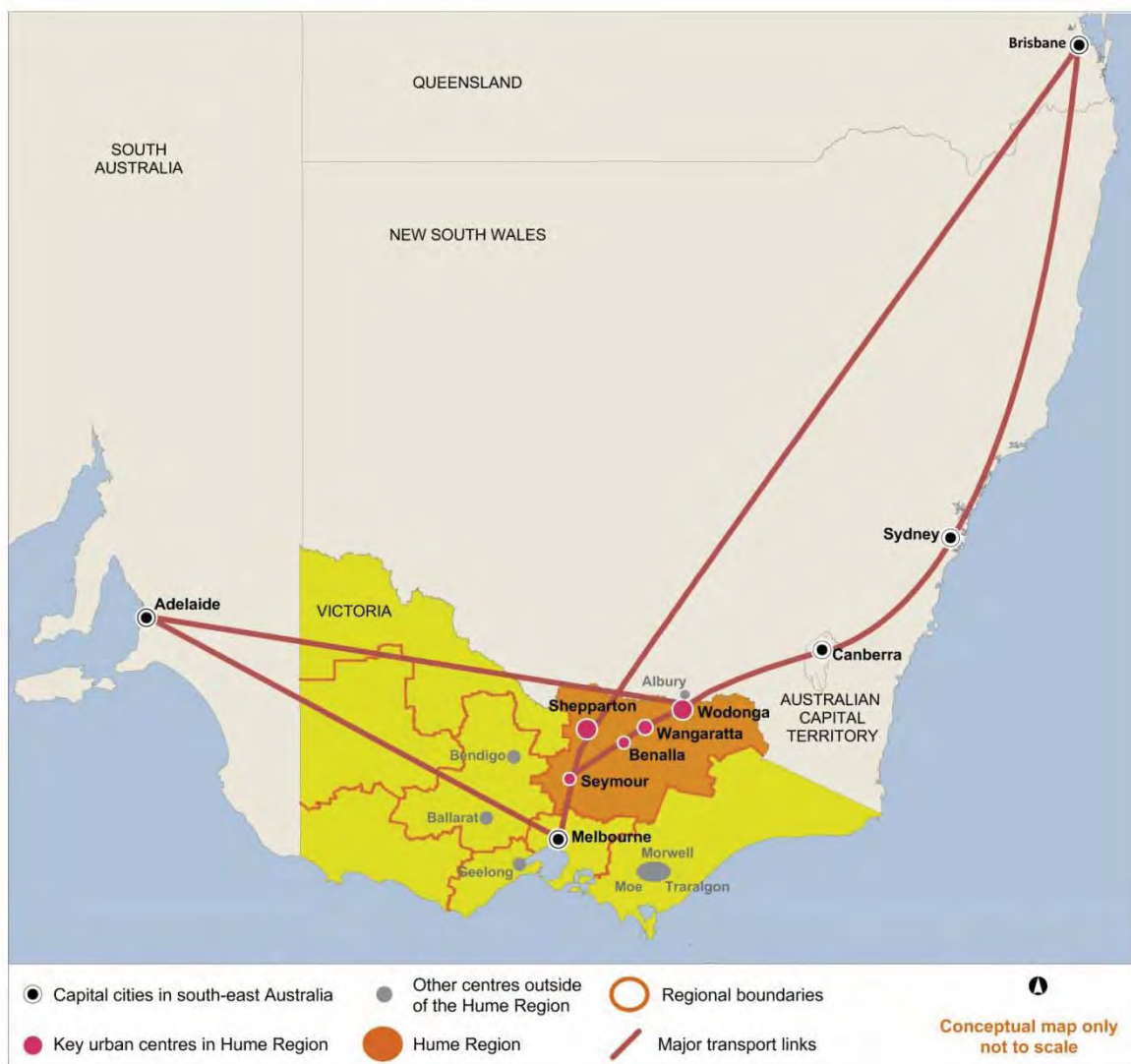
4. Overview

This section describes the current characteristics of the Hume Region, focussing on those that are significant in planning for future growth and change.

The Hume Region extends over 40,000 km² of north-east Victoria and the Goulburn Valley and constitutes approximately 18 per cent of Victoria's total land area. The population of the region was approximately 276,300 in 2011 (Victoria in Future 2012) and has been growing at an average of 0.6 per cent per year for the past decade¹.

The region is strategically located from a national perspective, with key interstate road and rail transport routes traversing the region (Figure 2).

Figure 2: National context



Source: Department of Transport, Planning and Local Infrastructure

¹ The average annual growth rate of 0.6% for the region is calculated by using ABS population estimates for 2001 and 2011. It should be noted, however, that the ABS used different methodologies to calculate the 2001 and 2011 estimates and advises that the 2011 estimates are not directly comparable with the 2001 or 2006 estimates. The 2001-2011 average annual growth using the ABS preliminary 2011 estimates is 1.0%. In making regional population projections, the Department of Transport, Planning and Local Infrastructure uses assumptions on the components of population change, rather than the published 2001, 2006 and 2011 estimates.

The region is bounded to the north by the New South Wales border, to the west by the Loddon Mallee North and South regions and to the south and east by the Western, Northern and Eastern Metropolitan regions and Gippsland.

The Hume Strategy recognises the region is made up of four distinct and inter-connected sub-regions: Central Hume, Goulburn Valley, Lower Hume and Upper Hume (Figure 3). Together, they cover the municipalities of Alpine, Benalla, Greater Shepparton, Indigo, Mansfield, Mitchell, Moira, Murrindindi, Strathbogie, Towong, Wangaratta and Wodonga.

Figure 3: Hume Region and sub-regions



Source: Department of Transport, Planning and Local Infrastructure

The region encompasses a variety of terrain, with the Great Dividing Range and foothills to the east, river plains stretching westwards, and extending north to the Murray River. Land use in the region is dominated by rural activities (56.5 per cent by area) and public land (42.5 per cent). Less than one per cent of land is zoned for urban purposes.

Local government areas in the region have differing characteristics. They include future metropolitan growth areas, large regional cities and centres, smaller settlements and relatively isolated rural communities, as well as areas of distinctive natural beauty and environmental significance, and large agricultural areas.

4.1 Demographics and community

- Between 2006 and 2011, the Hume Region's annual average rate of population growth was the sixth highest of all regions in Victoria. The highest growth rates in Hume were in Mitchell Shire followed by growth in and around Shepparton, Wodonga and Wangaratta and in areas such as the Mansfield and Moira shires.
- The average age of people living in the region is increasing. This is most apparent in smaller rural settlements, but it is also occurring in most regional cities and centres.

Table 1: Aboriginal persons as a percentage of population 2011

Local Government Area: Alpine

- Total population 2011 – 11,881
- Number of Aboriginal persons 2011 – 85
- Percentage Aboriginal persons – 0.72

Local Government Area: Benalla

- Total population 2011 – 13,647
- Number of Aboriginal persons 2011 – 165
- Percentage Aboriginal persons – 1.21

Local Government Area: Greater Shepparton

- Total population 2011 – 60,449
- Number of Aboriginal persons 2011 – 2082
- Percentage Aboriginal persons – 3.44

Local Government Area: Indigo

- Total population 2011 – 15,178
- Number of Aboriginal persons 2011 – 143
- Percentage Aboriginal persons – 0.94

Local Government Area: Mansfield

- Total population 2011 – 7893
- Number of Aboriginal persons 2011 – 58
- Percentage Aboriginal persons – 0.73

Local Government Area: Mitchell

- Total population 2011 – 34,637
- Number of Aboriginal persons 2011 – 403
- Percentage Aboriginal persons – 1.16

Local Government Area: Moira

- Total population 2011 – 28,124
- Number of Aboriginal persons 2011 – 394
- Percentage Aboriginal persons – 1.40

Local Government Area: Murrindindi

- Total population 2011 – 13,058
- Number of Aboriginal persons 2011 – 98
- Percentage Aboriginal persons – 0.75

Local Government Area: Strathbogie

- Total population 2011 – 9486
- Number of Aboriginal persons 2011 – 89
- Percentage Aboriginal persons – 0.94

Local Government Area: Towong

- Total population 2011 – 5891
- Number of Aboriginal persons 2011 – 84
- Percentage Aboriginal persons – 1.43

Local Government Area: Wangaratta

- Total population 2011 – 26,815

- Number of Aboriginal persons 2011 – 260
- Percentage Aboriginal persons – 0.97

Local Government Area: Wodonga

- Total population 2011 – 35,519
- Number of Aboriginal persons 2011 – 706
- Percentage Aboriginal persons – 1.99

Hume Region

- Total population 2011 – 262,578
- Number of Aboriginal persons 2011 – 4567
- Percentage Aboriginal persons – 1.74

Melbourne

- Total population 2011 – 3,940,806
- Number of Aboriginal persons 2011 – 17,587
- Percentage Aboriginal persons – 0.45

Regional Victoria

- Total population 2011 – 1,413,233
- Number of Aboriginal persons 2011 – 20,405
- Percentage Aboriginal persons – 1.44

Victoria

- Total population 2011 – 5,354,039
- Number of Aboriginal persons 2011 – 37,992
- Percentage Aboriginal persons – 0.71

Source: Australian Bureau of Statistics Census 2011, table B01

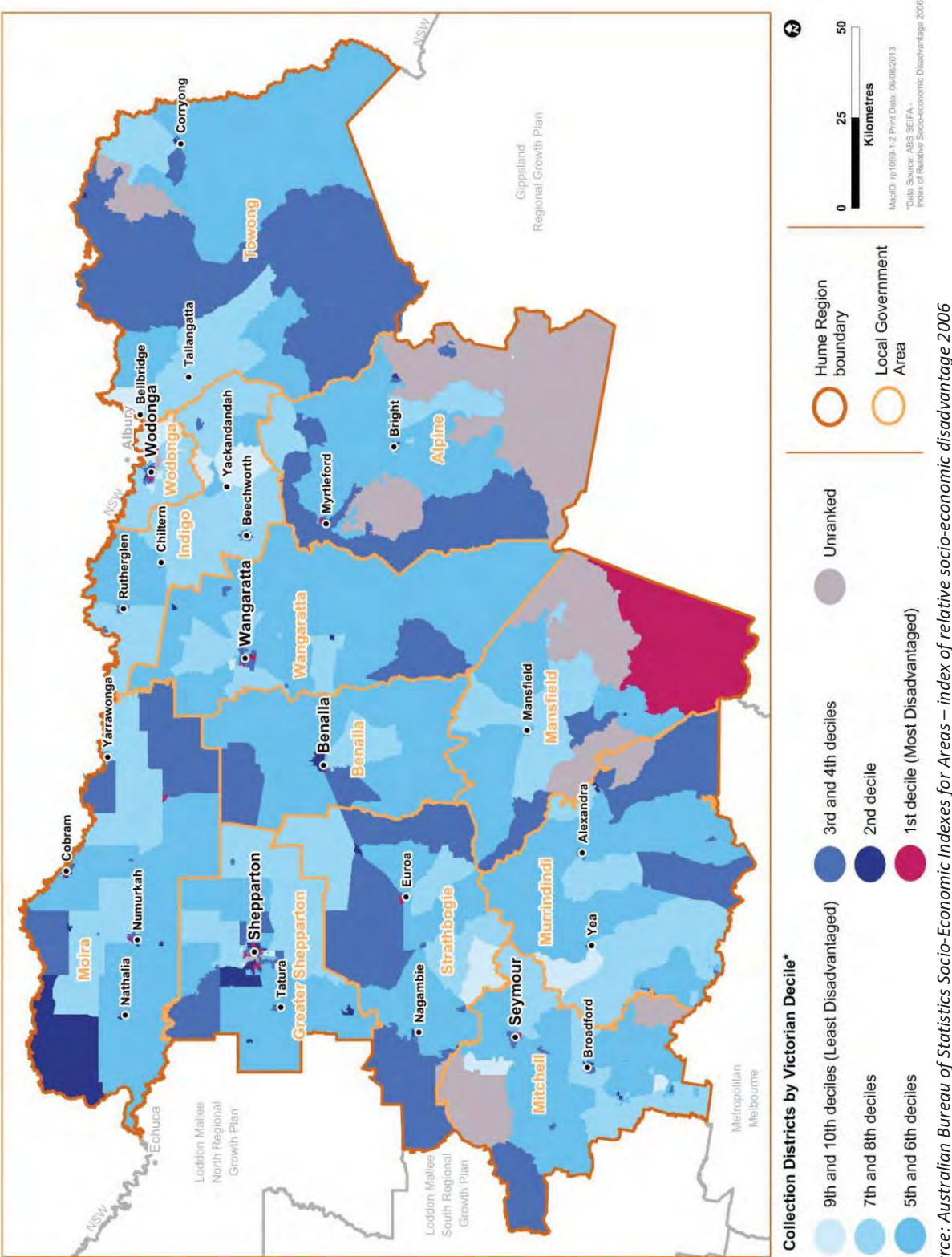
- The region has a high proportion of Aboriginal² residents compared with other parts of regional Victoria and the state as a whole (Table 1). Aboriginal peoples made up a particularly high percentage of the population of the City of Greater Shepparton and the City of Wodonga.
- The region is more culturally diverse than the rest of regional Victoria and is home to people from over 50 different cultural groups. More than 12 per cent of the region's population in 2011 was born overseas, with the highest proportions of people born overseas located in the City of Greater Shepparton and Alpine, Mansfield, Murrindindi and Mitchell shires.
- Seasonal population fluctuations occur in part of the region, particularly at popular holiday locations such as Bright and Yarrawonga.
- Despite the fact that the region contains a number of large urban centres that provide high level services to their catchments, many people in the region still have to travel long distances and rely on private vehicles to access employment and services.
- The region's educational outcomes are the lowest in regional Victoria on a number of measures, including tertiary entry by young people. This applies across early years, secondary and tertiary education.
- With the exception of Wodonga and the Lower Hume sub-region, where the proportion of younger people is growing, the region's population profile has a 'gap' in the number of young adults aged 20 to 29 years. Young people move from the area to seek education, employment and entertainment opportunities. This pattern is common across regional Victoria but recent

² Throughout this document the term "Aboriginal" is used to refer to both Aboriginal and Torres Strait Islander people. Use of the term "Indigenous" is retained in names of programs and initiatives, and, unless noted otherwise, is inclusive of both Aboriginal and Torres Strait Islander peoples.

analysis by the Department of Transport, Planning and Local Infrastructure indicates it is a particular problem in regions where the major cities are furthest from Melbourne.

- The most socio-economically disadvantaged communities in the region are located predominantly within regional centres or larger settlements but are also found in isolated rural areas Figure 4).

Figure 4: Index of relative socio-economic disadvantage – Hume Region (2006)



4.2 Settlement and rural land use

- Hume is a multi-centred region that is not dominated by one large city. The three largest population centres are Shepparton, Wodonga and Wangaratta.
- Larger settlements are spread across the region, supporting a network of smaller settlements, making services and facilities reasonably accessible to most communities.
- There is a wide variety of settlement types ranging from Melbourne's peri-urban areas to regional cities and centres such as Shepparton, Wodonga and Wangaratta and their hinterlands, through to medium sized towns, such as Benalla, to small and relatively isolated settlements.
- Established rural townships provide a diversity of residential and lifestyle options, support liveability, maximise use of existing community and physical infrastructure, protect cultural heritage, character and amenity, and build on locational strengths.
- There is no regional scale city or centre in the southern part of the region.
- Communities in the southern part of the region must travel long distances to access higher order services and facilities.
- 'Cross-border' settlements along the Murray River play an important role in providing services and facilities to communities on both sides of the border.
- Dispersed dwellings not related to agricultural or other rural uses are increasing in some rural areas. Substantial numbers of these dwellings are located in areas of high bushfire hazard, such as in the Alpine, Mitchell and Murrindindi shires.
- Some productive agricultural areas have been fragmented over time by subdivision into smaller parcels of land or affected by the introduction of uses that are not compatible with farming.
- In some areas, there has been a significant and sustained reduction in the rural population.

4.3 Transport and infrastructure

- Major road and rail transport networks of national significance play a dual role in the region – providing transport links to the rest of Australia and forming the backbone of connections between regional settlements.
- The Hume corridor provides the main interstate link between Melbourne and Sydney, connecting with the coastal route to Brisbane.
- The Goulburn Valley corridor is part of a major route to inland New South Wales and Queensland.
- The region's settlement pattern is strongly influenced by transport corridors.
- Apart from the north-south Hume and Goulburn Valley transport corridors, a number of other links form important parts of the transport network in the region, including key east-west routes such as the Midland and the Murray Valley highways, which link the region to Adelaide, New South Wales and the Snowy Mountains. However, east-west transport links in the Hume Region are not as well developed as north-south ones.
- There is limited public transport in parts of the region.
- Freight and logistics play an important role in the region.

- Protecting the current and future operation of significant airports in the region is essential for economic and social development.
- There are no landfills in the Upper Hume sub-region and some municipalities are 'exporting' their waste to New South Wales.
- Many settlements in the region are well serviced with reticulated water and sewerage systems.
- A number of small communities are unsewered and provision of conventional sewerage services is generally prohibitively expensive.
- Access to information and communications technology across the region becomes problematic with increasing distance from major centres.
- The regional community is a high user of energy due to wide temperature variations, but only limited areas of the region have reticulated natural gas (Figure 5). The remainder of the region depends on electricity or firewood for heating.

Figure 5: Natural gas and electricity infrastructure – Hume Region



Source: Vicmap data, 2013

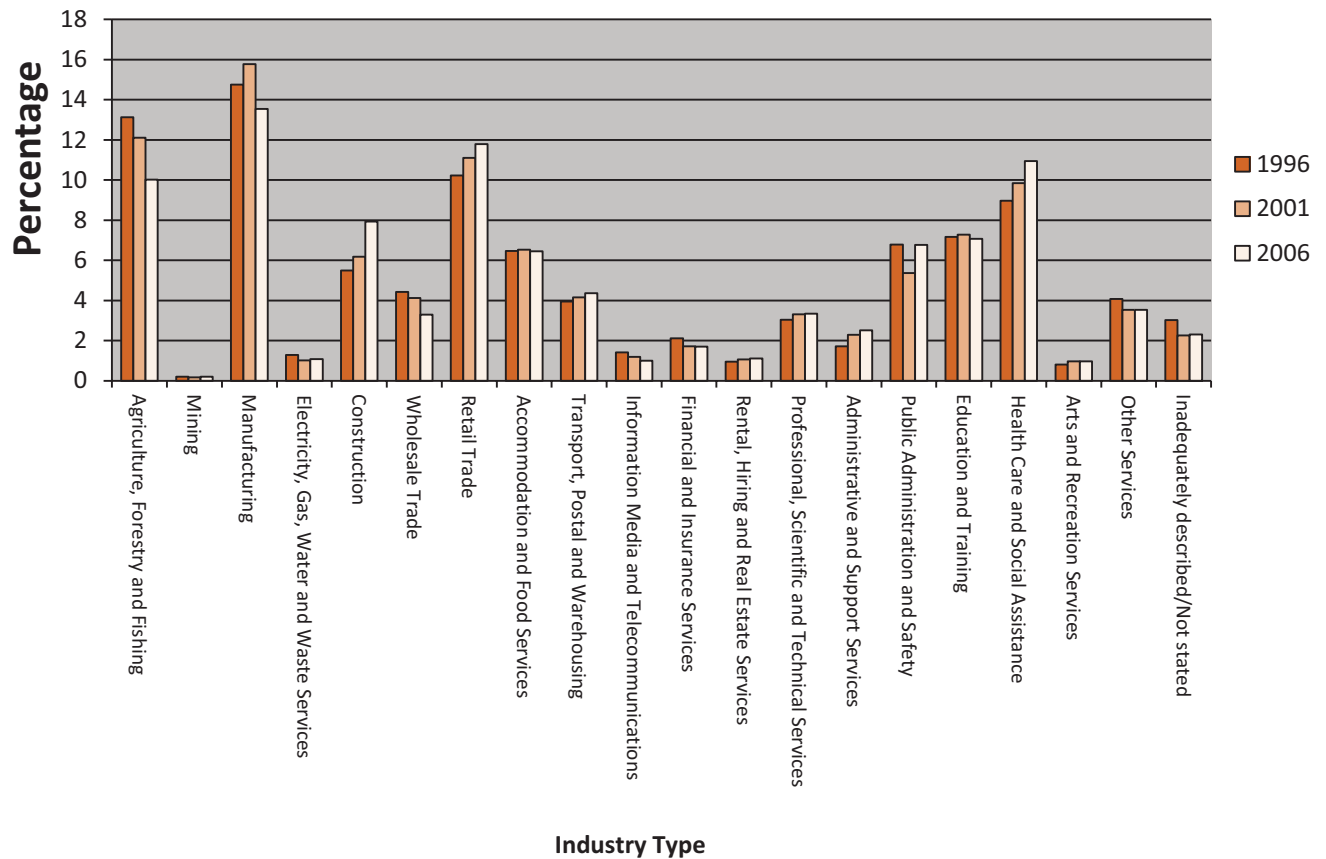
4.4 Environment

- The Hume Region has a diversity of landscapes and environments, including snow-covered mountains, forests and woodlands, river red gum floodplains, mixed farms, irrigated pastures and orchards. It contains many threatened species and communities.
- Average rainfall varies from 1600 millimetres in the high country in the south-east to 400 millimetres in the irrigated and dry land farming areas in the north-west.
- The water resources of the region are critical to the region's position as the major food producing area of the state, and its waterways play a central role in its appeal for tourism.
- The region contributes close to half of the total water inflows to the Murray-Darling Basin. The Ovens, Kiewa and Upper Murray River basins supply 38 per cent of inflows and the Goulburn and Broken rivers provide a further 11 per cent.
- Around 40 per cent of land in the region has been cleared of native vegetation. This compares to approximately 65 per cent for the whole of Victoria. More native vegetation remains in the eastern and southern parts of the region than in the north and west. Much of the intact, forested land in the region is protected in national parks and other reserves. There has been significant loss of native vegetation on private land, particularly in productive landscapes such as those in the north-west of the region, but there are still pockets of significant remnant vegetation within these areas.
- There are a number of declared water supply catchments in the region that are used to supply drinking water to urban and rural consumers.
- Expanding settlements have contributed to reductions in native vegetation cover, through direct clearing and associated infrastructure such as roads and powerlines.
- The region contains significant wetlands and wetland complexes, including the Barmah Forest which is listed on the international Ramsar convention, numerous wetlands that are recognised as nationally significant through listing on the Directory of Important Wetlands in Australia, and many additional wetlands that are identified as regionally significant by catchment management authorities.
- The region contains many significant rivers and tributaries, some of which are recognised for their significance by being listed as Heritage Rivers in Victoria.
- Approximately 60 per cent of the rivers in the region are in moderate to poor condition and there have been significant impacts on natural waterways and wetlands from channelisation, water storage, and runoff of untreated stormwater and wastewater.
- The region is subject to natural hazards such as bushfire and flood and extreme climatic conditions, including drought.

4.5 The economy

- The region's economy is driven by its access to natural resources including water and productive agricultural land, significant areas of natural beauty and its strategic location in the Melbourne-Canberra-Sydney-Brisbane national freight corridors.
- The Goulburn Valley area earns over \$1.6 billion per annum from primary production and the manufacture of food and beverages.
- Major employment sectors in the region include agriculture, manufacturing, construction, retail, healthcare and social services (Figure 6).

Figure 6: Percentage of employed persons per sector (1996, 2001, 2006) – Hume Region



Source: Australian Bureau of Statistics

- The regional economy is heavily reliant on manufacturing and agriculture.
- Manufacturing is the largest economic sector in terms of employment, accounting for over 15 per cent of the workforce. While the manufacturing sector is under pressure and declining in some areas, it has shown recent growth in other areas, such as Wodonga.
- The agricultural sector is a key economic force in the region and accounted for almost 10 per cent of employment over the last five years.
- The defence industry (included in the Public Administration and Safety sector in Figure 6) is a significant contributor to the regional economy, particularly in areas such as Wodonga and Seymour that are close to large military bases.
- Tourism is an important industry and employer in the region.
- Five of Victoria's six alpine resorts are located in the region. They play a significant role in the regional economy, as well as providing tourism and recreational services and facilities to local communities.

5. Strategic assets

The Hume Region has a number of strategic assets that are of regional, and in some cases, national significance:

- Network of settlements

The region contains four distinct and inter-connected sub-regions and a number of high functioning regional cities and centres located along major transport routes. These centres support and are supported by networks of smaller settlements. There is no dominant major regional city in the region. Settlements have distinctive characteristics that make them attractive places to live and work.

- Accessibility

The region has high performance, nationally significant interstate road and rail transport routes that support regional connectivity and provide access to markets. These routes provide strong linkages to Melbourne, Sydney and Brisbane. Key transport linkages also provide access to infrastructure and services such as health, education, entertainment and commercial airports in large urban centres outside the region, including Albury and Melbourne. Access to Albury Airport is particularly important for regional connectivity, as it offers multiple daily flights to Melbourne and Sydney.

- Water

High quality water resources including groundwater, catchments, rivers and water storages of national significance are located in the region. Access to these resources provides a competitive advantage that is likely to become more important in the future. The current \$2 billion Food Bowl Modernisation Project is the largest irrigation upgrade in Australia's history. Other projects are underway to explore deep aquifers and the potential to use water from them for production.

- Environment and heritage

The region's highly valued environments and landscapes, including large areas of public land, not only attract new residents and visitors but also provide important environmental values. These include ecosystem services that provide pollination, clean air and water. Key regional environmental assets include the Barmah–Millewa Forest, the largest river red gum forest in Australia which is internationally recognised by the Ramsar Convention, as well as the nation's largest wetland rehabilitation site at the Winton Wetlands. Tourism in the region is based largely around the quality of the natural environment and the region's cultural heritage assets.

- Rural production

Natural resources such as productive agricultural land and water, as well as associated infrastructure, are available in the region to underpin rural production and contribute to the economy.

- Social infrastructure

The region is home to major health and learning facilities including schools and libraries. Education is available at all levels of the learning spectrum and at key locations across the region.

- Diverse economic base

Compared to other regions, the Hume Region has a relatively diverse economy based on manufacturing, agriculture and food processing, human and health services and facilities, defence, tourism, haulage and logistics industries.

- Social capital

The region has a growing, culturally diverse population. Communities in Hume Region are characterised as engaged, connected, inclusive, safe and diverse.

6. Growth and change

The Hume Region is growing and changing, and will face challenges and opportunities that will affect its environment, economy and way of life.

The urban growth boundary for Melbourne was extended in 2012 to encompass Beveridge and Wallan in Mitchell Shire, in the southern part of the region. The substantial growth expected in these areas will be planned for through the new metropolitan planning strategy, *Plan Melbourne*, rather than through the regional growth plan.

6.1 Population growth and demographic change

The rate of population growth in the Hume Region (excluding towns within Melbourne's urban growth boundary) is expected to increase from 0.6 per cent per year to approximately 0.88 per cent per year for the period 2011 to 2031. This will result in population growth of approximately 58,000 people by 2031 (Table 2). The regional population is expected to grow by a further 20,000 people between 2031 and 2041, to a total of 354,000 (based on Department of Planning and Community Development unpublished population projections 2012). This is a 30 per cent increase over the period from 2011.

Growth is likely to be distributed unevenly across the region, with the majority of population increases concentrated in the City of Greater Shepparton, the City of Wodonga and the shires of Mitchell and Moira.

Table 2: Population growth projections for municipalities to 2031

Local Government Area: Alpine

- Estimated Resident Population (ERP): 2011 – 12,900
- Estimated Resident Population (ERP): 2021 – 13,200
- Estimated Resident Population (ERP): 2031 – 13,600
- Land area (km²) – 5005

Local Government Area: Benalla

- Estimated Resident Population (ERP): 2011 – 14,300
- Estimated Resident Population (ERP): 2021 – 15,300
- Estimated Resident Population (ERP): 2031 – 16,000
- Land area (km²) – 2351

Local Government Area: Greater Shepparton

- Estimated Resident Population (ERP): 2011 – 63,900
- Estimated Resident Population (ERP): 2021 – 71,300
- Estimated Resident Population (ERP): 2031 – 77,800
- Land area (km²) – 2420

Local Government Area: Indigo

- Estimated Resident Population (ERP): 2011 – 16,200
- Estimated Resident Population (ERP): 2021 – 17,200
- Estimated Resident Population (ERP): 2031 – 18,200
- Land area (km²) – 2044

Local Government Area: Mansfield

- Estimated Resident Population (ERP): 2011 – 8000
- Estimated Resident Population (ERP): 2021 – 9000
- Estimated Resident Population (ERP): 2031 – 10,200

- Land area (km²) – 3892

Local Government Area: Mitchell *

- Estimated Resident Population (ERP): 2011 – 35,400
- Estimated Resident Population (ERP): 2021 – 42,500
- Estimated Resident Population (ERP): 2031 – 45,600
- Land area (km²) – 2862

Local Government Area: Moira

- Estimated Resident Population (ERP): 2011 – 29,500
- Estimated Resident Population (ERP): 2021 – 33,200
- Estimated Resident Population (ERP): 2031 – 36,900
- Land area (km²) – 4078

Local Government Area: Murrindindi

- Estimated Resident Population (ERP): 2011 – 13,600
- Estimated Resident Population (ERP): 2021 – 16,500
- Estimated Resident Population (ERP): 2031 – 17,900
- Land area (km²) – 3889

Local Government Area: Strathbogie

- Estimated Resident Population (ERP): 2011 – 10,100
- Estimated Resident Population (ERP): 2021 – 10,500
- Estimated Resident Population (ERP): 2031 – 11,100
- Land area (km²) – 3302

Local Government Area: Towong

- Estimated Resident Population (ERP): 2011 – 6300
- Estimated Resident Population (ERP): 2021 – 6400
- Estimated Resident Population (ERP): 2031 – 6600
- Land area (km²) – 6673

Local Government Area: Wangaratta

- Estimated Resident Population (ERP): 2011 – 29,000
- Estimated Resident Population (ERP): 2021 – 30,300
- Estimated Resident Population (ERP): 2031 – 31,600
- Land area (km²) – 3764

Local Government Area: Wodonga

- Estimated Resident Population (ERP): 2011 – 37,100
- Estimated Resident Population (ERP): 2021 – 43,000
- Estimated Resident Population (ERP): 2031 – 48,400
- Land area (km²) – 433

Total

- Estimated Resident Population (ERP): 2011 – 276,300
- Estimated Resident Population (ERP): 2021 – 308,400
- Estimated Resident Population (ERP): 2031 – 333,800
- Land area (km²) – **40,713**

Source: Victoria in Future 2012 (former Department of Planning and Community Development)

* Figures for Mitchell Shire excludes expected metropolitan growth in the southern part of the LGA

Note: Projected totals for LGAs beyond 20 years (2031) are not published as part of Victoria in Future

The population of a relatively small proportion of settlements in the region has decreased in the recent past and rural population has also generally decreased, particularly in those areas where employment is reliant on agriculture. Table 3 shows that rural balance population (Local Government Area population less all town populations within the Local Government Area) in the majority of municipalities in the region has declined between 2001 and 2011.

Table 3: Rural balance population change 2001 -2011

Local Government Area: Alpine

- Rural balance population change 2001-2011: -5964

Local Government Area: Benalla

- Rural balance population change 2001-2011: -247

Local Government Area: Greater Shepparton

- Rural balance population change 2001-2011: -3464

Local Government Area: Indigo

- Rural balance population change 2001-2011: -36

Local Government Area: Mansfield

- Rural balance population change 2001-2011: -696

Local Government Area: Mitchell

- Rural balance population change 2001-2011: 214

Local Government Area: Moira

- Rural balance population change 2001-2011: -1245

Local Government Area: Murrindindi

- Rural balance population change 2001-2011: 382

Local Government Area: Strathbogie

- Rural balance population change 2001-2011: -234

Local Government Area: Towong

- Rural balance population change 2001-2011: -145

Local Government Area: Wangaratta

- Rural balance population change 2001-2011: -476

Local Government Area: Wodonga

- Rural balance population change 2001-2011: 94

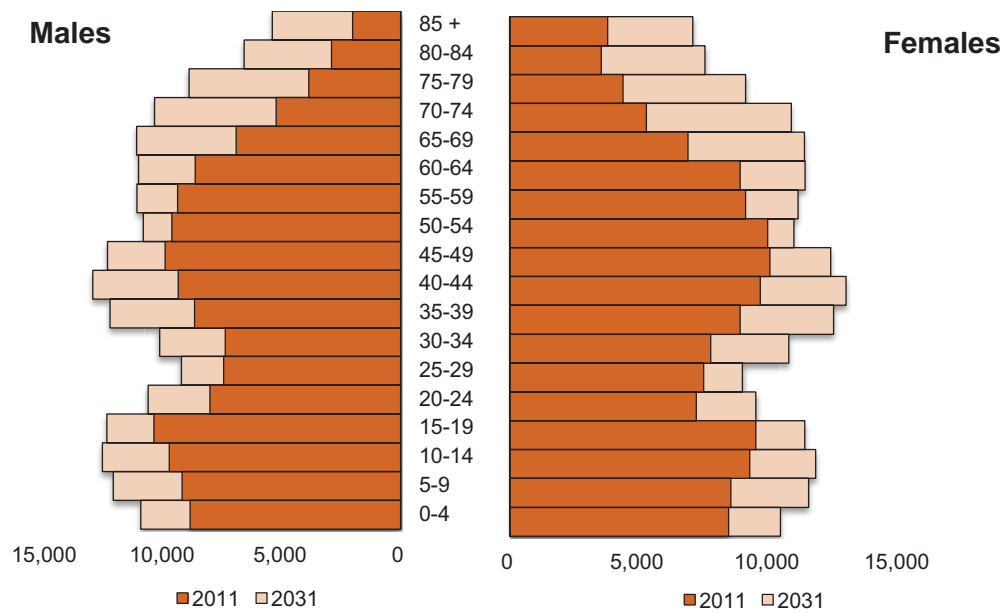
Source: Towns in Time 2011, Department of Planning and Community Development

Note: Rural balance population refers to Local Government Area population less all town populations within the Local Government Area

The demographic structure of the region is predicted to change significantly (Figure 7). Projections to 2031 indicate changes are likely to include a substantial increase in the number of people aged 55 years and over, making this group a much larger proportion of the population than it is at present. The number of people aged 24 to 54 years is expected to remain stable but this group will decline as a proportion of the population.

There will generally be less children and young people aged 24 years and under in the region in the future. However, a number of specific areas in the region are expected to experience an increase in the numbers of young people between 2011 and 2031, most notably in the municipalities of Greater Shepparton, Mitchell, Murrindindi and Wodonga (refer to Table 4).

Figure 7: Age structure (2011 and 2031) – Hume Region



Source: Victoria in Future 2012

Table 4: Population by age group – projected change between 2011 and 2031

Estimated Resident Population (ERP) by age group - change 2011 to 2031

Local Government Area: Alpine

- Persons 0-4 – -70
- Persons 5-14 – -275
- Persons 15-24 – -166
- Persons 25-34 – 20
- Persons 35-44 – -283
- Persons 45-54 – -697
- Persons 55-64 – -80
- Persons 65 and over – 2289
- Total – 738

Local Government Area: Benalla

- Persons 0-4 – 9
- Persons 5-14 – -124
- Persons 15-24 – -437
- Persons 25-34 – 28
- Persons 35-44 – 218
- Persons 45-54 – -462
- Persons 55-64 – -76
- Persons 65 and over – 2543
- Total – 1699

Local Government Area: Greater Shepparton

- Persons 0-4 – 354
- Persons 5-14 – 1028

- Persons 15-24 – 1093
- Persons 25-34 – 1606
- Persons 35-44 – 847
- Persons 45-54 – 308
- Persons 55-64 – 1312
- Persons 65 and over – 8013
- Total – 13,943

Local Government Area: Indigo

- Persons 0-4 – 152
- Persons 5-14 – 109
- Persons 15-24 – 405
- Persons 25-34 – 364
- Persons 35-44 – 89
- Persons 45-54 – 100
- Persons 55-64 – 312
- Persons 65 and over – 2715
- Total – 1985

Local Government Area: Mansfield

- Persons 0-4 – 137
- Persons 5-14 – 162
- Persons 15-24 – 72
- Persons 25-34 – 310
- Persons 35-44 – 229
- Persons 45-54 – 246
- Persons 55-64 – 289
- Persons 65 and over – 1749
- Total – 2155

Local Government Area: Mitchell*

- Persons 0-4 – 527
- Persons 5-14 – 279
- Persons 15-24 – 617
- Persons 25-34 – 665
- Persons 35-44 – 1918
- Persons 45-54 – 1861
- Persons 55-64 – 1681
- Persons 65 and over – 5075
- Total – 10,240

Local Government Area: Moira

- Persons 0-4 – 58
- Persons 5-14 – 149
- Persons 15-24 – 5
- Persons 25-34 – 158
- Persons 35-44 – 794

- Persons 45-54 – 774
- Persons 55-64 – 969
- Persons 65 and over – 4615
- Total – 7395

Local Government Area: Murrindindi

- Persons 0-4 – 63
- Persons 5-14 – 210
- Persons 15-24 – 214
- Persons 25-34 – 346
- Persons 35-44 – 241
- Persons 45-54 – 25
- Persons 55-64 – 459
- Persons 65 and over – 2760
- Total – 4268

Local Government Area: Strathbogie

- Persons 0-4 – 94
- Persons 5-14 – 45
- Persons 15-24 – 155
- Persons 25-34 – 145
- Persons 35-44 – 55
- Persons 45-54 – 101
- Persons 55-64 – 49
- Persons 65 and over – 1559
- Total – 1025

Local Government Area: Towong

- Persons 0-4 – 18
- Persons 5-14 – 65
- Persons 15-24 – 160
- Persons 25-34 – 80
- Persons 35-44 – 111
- Persons 45-54 – 353
- Persons 55-64 – 75
- Persons 65 and over – 943
- Total – 276

Local Government Area: Wangaratta

- Persons 0-4 – 134
- Persons 5-14 – 45
- Persons 15-24 – 311
- Persons 25-34 – 516
- Persons 35-44 – 85
- Persons 45-54 – 89
- Persons 55-64 – 357
- Persons 65 and over – 3272

- Total – 2538

Local Government Area: Wodonga

- Persons 0-4 – 260
- Persons 5-14 – 639
- Persons 15-24 – 930
- Persons 25-34 – 1491
- Persons 35-44 – 1379
- Persons 45-54 – 749
- Persons 55-64 – 983
- Persons 65 and over – 4873
- Total – 11,304

Local Government Area: Total

- Persons 0-4 – 468
- Persons 5-14 – 1894
- Persons 15-24 – 1143
- Persons 25-34 – 1729
- Persons 35-44 – 5291
- Persons 45-54 – 1495
- Persons 55-64 – 6082
- Persons 65 and over – 40,406
- Total – 57,566

Source: Victoria in Future 2012

* Figures for Mitchell Shire excludes expected metropolitan growth in the southern part of the Local Government Area

Note: Projections are based on the Estimated Resident Population at time of publication (Estimated Resident Population for 30 June 2011, current as at 31 March 2012).

6.2 Housing

Changing population characteristics and social preferences are expected to influence the demand for new dwellings in the Hume Region. Average household sizes are decreasing as families get smaller and many single people prefer to live alone. These trends are expected to continue and be reinforced as the average age of the population increases, leading to more one or two person households. As a result, more dwellings will be needed in the future to house a given population.

Housing projections for the region (not including areas within the metropolitan urban growth boundary) indicate that almost 53,000 new dwellings will be needed to accommodate the expected population growth of around 80,000 people to 2041 (Table 5). The greatest number of new dwellings will be required in the municipalities of Greater Shepparton, Wodonga, Mitchell and Moira.

Table 5: Projected requirements for new private dwellings

Local Government Area: Alpine

- Structural private dwellings: 2011** - 7000
- Structural private dwellings: 2021** - 7500
- Structural private dwellings: 2031** - 8100
- Structural private dwellings: 2041*** - n/a

Local Government Area: Benalla

- Structural private dwellings: 2011** - 6600
- Structural private dwellings: 2021** - 7400
- Structural private dwellings: 2031** - 8100
- Structural private dwellings: 2041*** - n/a

Local Government Area: Greater Shepparton

- Structural private dwellings: 2011** - 25,400
- Structural private dwellings: 2021** - 29,700
- Structural private dwellings: 2031** - 33,900
- Structural private dwellings: 2041*** - n/a

Local Government Area: Indigo

- Structural private dwellings: 2011** - 6600
- Structural private dwellings: 2021** - 7400
- Structural private dwellings: 2031** - 8200
- Structural private dwellings: 2041*** - n/a

Local Government Area: Mansfield

- Structural private dwellings: 2011** - 5600
- Structural private dwellings: 2021** - 6600
- Structural private dwellings: 2031** - 7700
- Structural private dwellings: 2041*** - n/a

Local Government Area: Mitchell

- Structural private dwellings: 2011** - 13,400
- Structural private dwellings: 2021** - 16,900
- Structural private dwellings: 2031** - 19,400
- Structural private dwellings: 2041*** - n/a

Local Government Area: Moira

- Structural private dwellings: 2011** - 13,400
- Structural private dwellings: 2021** - 15,800
- Structural private dwellings: 2031** - 18,500
- Structural private dwellings: 2041*** - n/a

Local Government Area: Murrindindi

- Structural private dwellings: 2011** - 7200
- Structural private dwellings: 2021** - 8700
- Structural private dwellings: 2031** - 9900
- Structural private dwellings: 2041*** - n/a

Local Government Area: Strathbogie

- Structural private dwellings: 2011** - 5200

- Structural private dwellings: 2021** - 5700
- Structural private dwellings: 2031** - 6200
- Structural private dwellings: 2041*** - n/a

Local Government Area: Towong

- Structural private dwellings: 2011** - 3100
- Structural private dwellings: 2021** - 3300
- Structural private dwellings: 2031** - 3500
- Structural private dwellings: 2041*** - n/a

Local Government Area: Wangaratta

- Structural private dwellings: 2011** - 12,400
- Structural private dwellings: 2021** - 13,600
- Structural private dwellings: 2031** - 14,800
- Structural private dwellings: 2041*** - n/a

Local Government Area: Wodonga

- Structural private dwellings: 2011** - 14,700
- Structural private dwellings: 2021** - 18,000
- Structural private dwellings: 2031** - 21,200
- Structural private dwellings: 2041*** - n/a

Total

- Structural private dwellings: 2011** - 120,600
- Structural private dwellings: 2021** - 140,600
- Structural private dwellings: 2031** - 159,500
- Structural private dwellings: 2041*** - 173,400

* Figures for Mitchell Shire excludes expected metropolitan growth in the southern part of the LGA

** Source: Victoria in Future 2012 (former Department of Planning and Community Development)

*** Source: Department of Planning and Community Development unpublished population projections 2012

Note: Projected totals for LGAs beyond 20 years (2031) are not published as part of Victoria in Future

6.3 Economy and employment

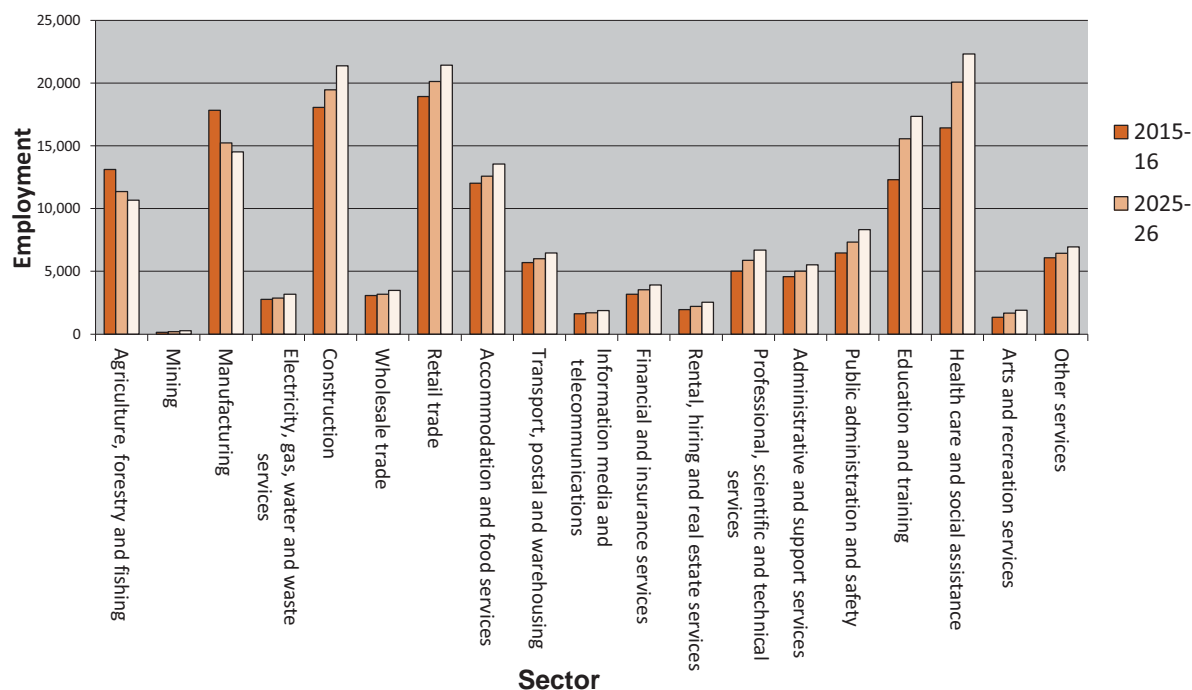
Manufacturing employment in the Hume Region is projected to decrease by 2018–19 to around 11 per cent of the workforce (Figure 8). Employment in the agricultural sector is also likely to decline over the next decade to 8 per cent of the workforce. The number of people employed in the construction, retail, education and training, and healthcare and social service sectors is expected to grow in the future.

While the number of jobs in the region's agricultural and manufacturing sectors is expected to decline in the future, these sectors will still employ significant numbers of people and be key economic forces in the region.

There is expected to be a growing need for skilled workers in the region, as the nature of its economic base changes in the future.

The National Broadband Network rollout is expected to provide faster and more reliable internet connections to prioritised townships in the short to medium term.

Figure 8: Employment forecasts per sector – Hume Region



Source: Access Economics, Victorian Regional Economic Outlook, February 2011

6.4 Climate change

Climate change has the potential to affect many aspects of the Hume Region's environment, economy and communities. These potential impacts are expected to start to emerge in the next 30 years, becoming more pronounced beyond this timeframe.

Possible impacts on the environment include:

- increased severity and frequency of natural hazards and extreme events, such as bushfire, flood, drought and storms
- decreased snow cover
- reduced water for the environment and consumptive uses
- negative effects on the distribution and viability of native vegetation and fauna populations
- increases in the prevalence and diversity of weed species.

Potential social issues linked to climate change include:

- impacts on health and wellbeing from heat stress, particularly affecting young and elderly people
- possible reductions in the liveability of urban environments as a result of reduced water availability
- increases in the number and severity of events requiring emergency responses and the resulting social impacts on communities
- increased prevalence of some diseases, including asthma and respiratory disease, vector-borne and water-borne diseases and food-related illnesses
- increased mental health issues among particular population groups due to the impacts of severe weather events on homes and livelihoods

- potential increased demand on local health services
- reduced availability and higher cost of safe drinking water supply.

Potential impacts of climate change on the region's economy include:

- effects on agriculture and other industries from increased severity and frequency of bushfires, floods and storms, extended periods of drought and possible reductions in water availability
- diversification in agricultural commodities as the industry adapts to changing climates
- declining revenue from tourism linked to water-based, snow and outdoor (summer) activities
- higher infrastructure costs due to the need to design for rising temperatures and more intense storms, as well as increased maintenance costs and costs of recovery from hazardous events
- rising input costs for industry
- increasing energy costs
- impacts on business investment in the region.

7. Challenges for growth

There are a number of key challenges that are critical to the Hume Region's future. Not all of these can be resolved by strategic land use planning, but they have been taken into account in the preparation of the plan. Challenges are summarised below according to themes. Climate change, of all the challenges, is expected to cut across all themes.

- **Supporting communities**

The increasing average age of the population, combined with population growth, will increase pressures on health and other social services. Youth out-migration and low levels of educational attainment may hinder social and economic diversity and growth. Communities will need assistance to adapt to and be prepared for the potential impacts of climate change, such as possible increases in hazardous events. Implementation of the Murray-Darling Basin Plan and subsequent structural adjustments in agriculture and other industries are likely to have significant effects on some communities.

Providing appropriate support services to culturally diverse communities and a significant Aboriginal population in specific areas, such as Shepparton, remains a challenge for the region. Other key issues include, reducing social disadvantage, particularly where people with fewer resources and opportunities are concentrated in particular geographical areas. Most settlements would benefit from an increase in the diversity of housing they provide.

Improved public or community transport options need to be developed. They can provide alternatives to private vehicle travel and reduce cost burdens on individuals and households, particularly those on low incomes. Creative ways need to be found to provide appropriate services and support to rural communities where populations are likely to decline, such as those in areas reliant on agricultural employment.

- **Settlement**

There is a dispersed pattern of dwellings in rural areas and many are not related to agricultural or other rural uses of the land. Efficiencies in the use of infrastructure could be achieved by directing residential growth to existing settlements. Meeting future housing demands related to increased migration to parts of the region, such as the Goulburn Valley and Wodonga, will require innovative

solutions. The unique character of some settlements may be at risk due to unsympathetic development. There is a need for urban renewal to revitalise central business districts and other urban areas that are ageing and attracting public and private investment for such purposes is challenging.

There are dwellings located in areas at high risk from natural hazards, generally on steeper vegetated slopes and floodplains, and demand for development in these areas is continuing. There is pressure for development in the southern parts of the region as a result of the extension of Melbourne's urban growth boundary to encompass towns in the southern part of the Mitchell Shire. Peri-urban areas surrounding regional cities are experiencing demands for rural residential uses. The extent of declared water supply catchments in the region represents a constraint on development in some areas. Decreasing rural and urban populations in some locations presents a challenge for growth.

▪ Rural land use

Changing global and national economic conditions, government policy such as the Murray-Darling Basin Plan and the need to adapt to irrigation modernisation are some of the factors leading to the restructuring of some rural industries. The potential impacts of climate change could alter the geographic footprint of some agricultural industries in the longer term, though this is likely to be more evident beyond the 30-year timeframe of the plan.

There is community concern about food security as a result of an irreversible loss of productive farmland. Fragmentation of rural land associated with non-agricultural uses is occurring across the region, but is particularly noticeable in high amenity landscapes. It could have an impact on farm viability, landscape amenity and biodiversity resilience. Providing sufficient flexibility in the planning system to accommodate a variety of rural land uses remains a challenge.

▪ Transport and infrastructure

The provision of effective and affordable public transport is a challenge in many parts of the region due to the dispersed settlement pattern. Passenger rail services are limited between Melbourne and key settlements, such as Shepparton and Wodonga. As residents age, they may no longer be able to drive and their personal mobility may decline unless suitable alternatives are available.

Identifying and safeguarding routes for future major transport links will be important to ensure efficient and cost-effective movement of freight. East-west transport routes linking settlements within and outside the region, such as the links to Gippsland, are indirect and inefficient. Planning for and managing the impacts of increasing risks from natural hazards on transport and infrastructure is expected to be an ongoing challenge for the region.

The dispersed settlement pattern also presents challenges for the efficient provision of roads and other infrastructure, such as reticulated water supplies, schools and hospitals. Where possible, developer contributions should be applied to help deliver infrastructure in new growth areas, but negotiating these agreements is a complex process. Maintenance and renewal of ageing infrastructure also needs attention.

Some roads in the region need more frequent maintenance or upgrades as a result of increased volumes of heavy vehicle traffic, for example those associated with transport of softwood timber. Management of water and sewerage treatment plants and waste management facilities within the land use planning system is a further challenge, requiring separation distances between these facilities and residential growth areas or other sensitive land uses to be established and enforced.

Other challenges associated with regional infrastructure include:

- meeting the future energy needs of residents and industry, in view of high levels of demand resulting from wide temperature variations, and limited access to reticulated natural gas
- providing high quality information and communications technology to areas outside major centres

- developing cost-effective waste management services and facilities, particularly in the northern parts of the region.
- Environmental assets and natural hazards

There has been a significant loss of native vegetation on private land and the remaining terrestrial habitat in these areas is generally in poor condition. However, some small areas of high quality habitat remain on freehold land. Revegetation is occurring to achieve better connected landscapes, but there will continue to be challenges for protecting terrestrial habitat on private land, increasing its extent and improving its quality and resilience. Additional opportunities are emerging in this field as the region responds to initiatives that support national and global action to reduce greenhouse gas emissions.

There have been significant impacts on natural waterways and wetlands from changes to land use and water infrastructure. Land use planning can help minimise the effects of future changes on rivers, streams and wetlands. There is a likelihood of increased demand on groundwater supplies, potentially depleting this resource, increasing the risk of salinisation and impacting on groundwater-dependent ecosystems.

Preparing for the potential impacts of climate change and supporting communities to adapt are key considerations in planning for growth. Some economic sectors will need to respond to and seek new opportunities in a drier, warmer climate with reduced water availability and snow cover. Minimising future risks to life and property from natural hazards (in particular bushfire and flooding) could constrain development in some areas and impact on existing rural and urban settlements.

- Economy

The region's economy is relatively diverse when compared to other Victorian regions. Some areas such as Wodonga have particularly diverse local economies. However, there is still a strong reliance in many parts of the region on specific economic sectors such as agriculture and manufacturing. When these sectors experience downturns, communities are at risk of income fluctuations and economic vulnerability. Further diversification of the economy is a key challenge for the future.

Additional appropriately zoned and serviced land for industrial use may need to be provided in some locations. Workforce sustainability is a concern to many employers, given the ageing of the existing workforce and the difficulty of finding appropriate replacements. This is exacerbated by the growing need for skilled workers. There are social and economic costs associated with long distance commuting.

Additional challenges for the regional economy include:

- the impact of the changing retail environment, with the growing preference for online shopping; and the effect of out-of-centre retail activity on central business districts and town centres
- water security
- the consequences for agricultural industries of the implementation of the Murray-Darling Basin Plan and irrigation modernisation projects
- renewing ageing infrastructure
- increasing access to high quality information and communications technology
- overcoming constraints to establish renewable energy supplies.

PART C: THEMATIC OVERVIEW AND FUTURE CONSIDERATIONS

8. Urban settlement

8.1 Overview

In the Hume Region, the distribution of settlements is influenced by varying patterns of geography, history, water availability and climate. In the 1840s the location of population centres was determined by the expansion of agricultural activity, with settlements established at convenient points along transport routes to service extensive hinterlands. The discovery of gold in the mid-19th century fuelled rapid growth in both the population and the economy. Much of today's settlement pattern, including townships, roads and allotment boundaries was in place by 1900.

The urban settlement pattern in the region was an important consideration in developing the Hume Strategy. The characteristics of 115 settlements were assessed against a number of social, economic and environmental criteria in order to measure the relative ability of each settlement to accommodate future growth and development in a sustainable manner. The results are reflected in the Hume Strategy, in the following comments:

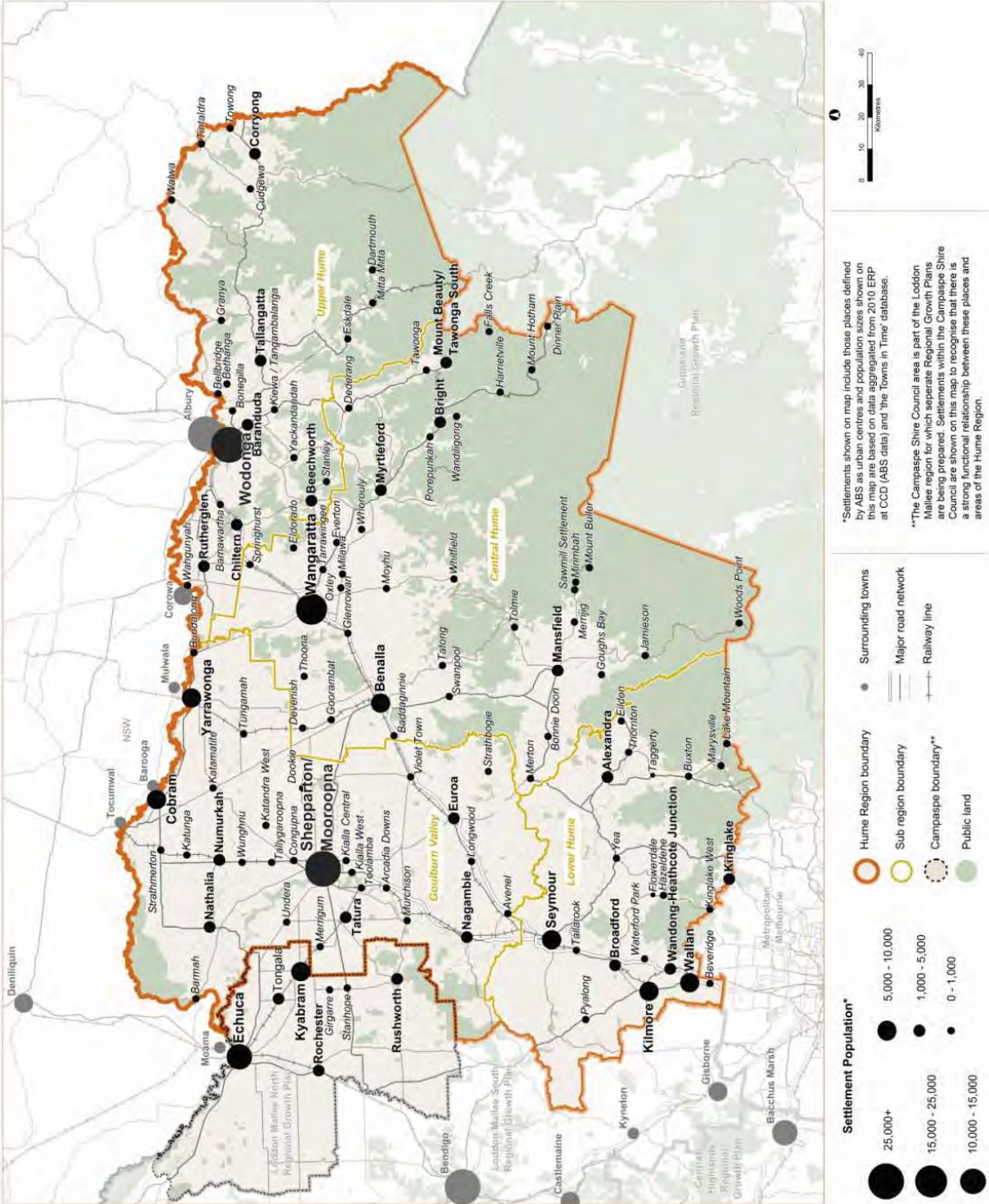
"The Hume Region is comprised of four distinct and inter-connected sub-regions. The region is characterised by a network of high functioning regional cities and centres located along major transport routes which support and are supported by a network of district towns, towns and villages. Unlike other regions in provincial Victoria there is no single dominant major regional city in the Hume Region."

The Hume Strategy aims for sustainable growth and development of the region and underlines the importance of making the best use of the region's existing assets, such as physical and social infrastructure and services. Shepparton, Wodonga, Wangaratta and Benalla, as the largest settlements, have the widest range of services and facilities and act as focal points for surrounding communities. The settlement pattern is a major strength of the region as are the four relatively self-contained sub-regions of Central Hume, Goulburn Valley, Lower Hume and Upper Hume (Figure 9).

The state government provides leadership in delivering place-based and integrated approaches to government investment, planning and policy, focusing on 10 regional cities across the state. These include Shepparton, Wodonga and Wangaratta. The Melbourne metropolitan area is expected to grow into the region to include towns such as Beveridge and Wallan. Planning for this growth is being undertaken as part of the ongoing metropolitan planning process. This extended metropolitan area will have an impact on the region, possibly leading to pressure for development in urban and rural locations in Mitchell Shire but outside Melbourne's urban growth boundary.

A recent national study considered the likely impacts of climate change on Australia's country towns to the year 2050. It identified challenges for a few specific settlements in the region but also contained some encouraging news for rural production.

Figure 9: Existing urban settlement network – Hume region



Source: Department of Transport, Planning and Local Infrastructure

Australia's Country Towns 2050: what will a climate adapted settlement pattern look like? – Preliminary Report (2012)

This report considered the impact of climate change on Australia's country towns out to the year 2050 and the capacity of this component of Australia's settlement system to adapt. Its findings included:

- climate change will have mixed impacts on rural and regional industries and some industries that might be considered at risk are likely to thrive, at least in the short term. Adverse events, including major weather events, may have an impact on the viability of these industries but in many instances new technologies and management strategies will assist the adjustment process
- remote inland settlements, such as Aboriginal communities, are most at risk in a climate-change affected Australia
- many parts of the established cropping lands in the south-east of Australia appear to face a relatively muted risk
- the least vulnerable inland centres tend to be located close to the capitals or larger settlements with diverse economies, such as Bendigo
- Corryong, Dinner Plain and Tawonga were identified as being amongst the 20 most vulnerable settlements in Victoria, on the basis of projected increases in mean temperatures and reductions in annual average rainfall.

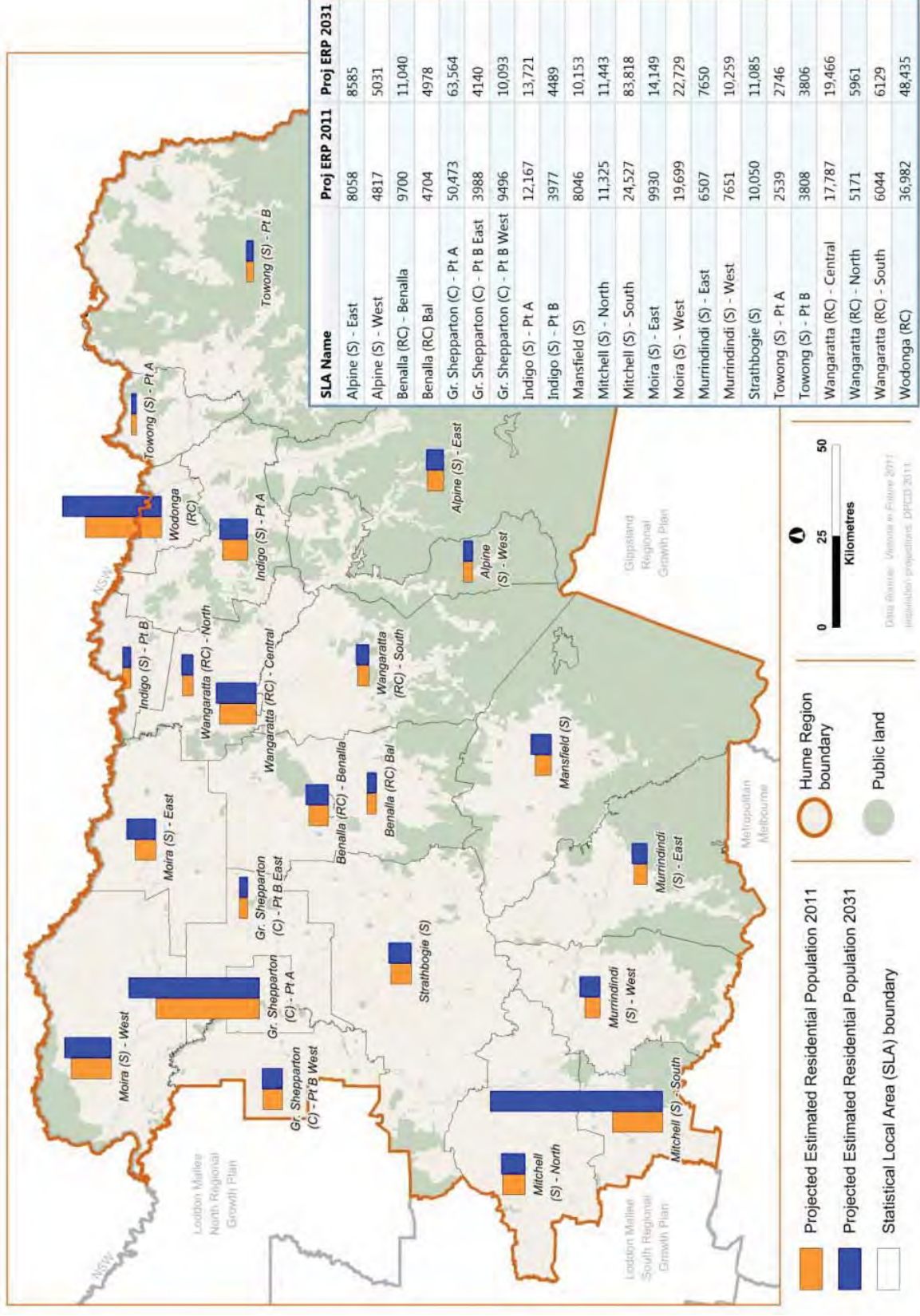
8.2 Guiding future urban settlement in the region

Planning for future urban growth in the Hume Region will build on the strengths of existing settlement by supporting and developing the network of settlements. The plan adopts an approach that:

- aligns with the strategic intent of the Hume Strategy
- helps ensure existing infrastructure and services are used efficiently
- recognises the capacity of particular urban locations to accommodate growth
- accommodates expected future population growth in a sustainable and efficient manner
- enables consideration of potential natural hazards when expansion and growth is proposed.

Projections of population growth between 2011 and 2031 have been prepared on the basis of Statistical Local Areas, which are geographical areas of a scale below local government areas (Figure 10). The projections indicate that most of the growth is expected to occur in Statistical Local Areas that have large urban centres and in those where land has been included in Melbourne's urban growth boundary.

Figure 10: Estimated resident population growth by Statistical Local Area, 2011 to 2031



Source: Victoria in Future 2012

Future urban settlement in the region has been considered at two levels: firstly, as an overall approach to the entire region, identifying the key locations for growth and change; and secondly, by considering the network of settlements in each sub-region that are needed to support communities throughout the region. The plan sets out the results of this assessment and provides key directions for development for the next 30 years.

Further detailed structure planning will be required in some instances to plan for growth and change in identified growth locations. For instance, some parts of the settlements identified for growth may be subject to natural hazards such as bushfire and flood. Such hazards should be considered in further detail when planning for growth at a local level.

The plan directs that planning for growth and development in settlements should provide a diversity of housing options, including a range of densities and affordability. In centres identified for major growth, medium to high growth or significant change, higher residential densities will be promoted in close proximity to central activity areas and in other suitable locations. Infill development and urban renewal will also be encouraged. The plan provides for rural residential growth in appropriate areas close to existing urban locations to maximise the use of existing infrastructure, minimise the need to travel to services and facilities, and reduce impacts on rural production and environmental assets or exposure to natural hazards. Criteria for identifying appropriate areas for future rural residential development are discussed below in section 9.2.2.

8.2.1 Regional perspective

The plan seeks to ensure that the future development of urban settlements in the Hume Region enhances their character and amenity, minimises environmental impacts, makes efficient use of available infrastructure and services and supports the regional economy. The plan identifies strategic urban growth and change opportunities from a regional perspective, including:

- Supporting the ability to build on and strengthen the existing settlement network by focusing growth and change in strategic urban locations, whilst supporting lesser levels of growth in other settlements. Based on the settlement assessment completed for the Hume Strategy, and considering stakeholder views, five key strategic urban centres have been identified. These are Shepparton³, Wodonga, Wangaratta, Benalla and Seymour. Residential, industrial and commercial development will be consolidated in these settlements, which have the greatest capacity to accommodate growth. These key urban centres will continue as the foundations of the settlement network in each of the four sub-regions.
- Focusing growth and change in key locations provides a level of certainty that enhances the region's ability to plan for and facilitate strategic investment in new physical and social infrastructure.
- Fostering the sustainability of smaller towns or urban localities will build on existing assets such as cultural heritage, liveability, amenity, environmental significance or provision of specialised services and products to enhance their distinctive characters. Small settlements can also support rural communities, improving their access to services and responding to their changing needs.
- Reinforcing connectivity between settlements in the region and enhancing the role of Hume's settlement network as part of a larger statewide and national network, by strengthening links to settlements such as Albury in New South Wales, Bendigo, Echuca and Melbourne.

A sufficient supply of residential, commercial and industrial land will be needed in urban centres to accommodate growth. Developing the plan included a broad assessment of residential land supply, both zoned

³ In this section reference to Shepparton includes Mooroopna and Kialla.

land and designated expansion areas, to identify current provision for population growth. This assessment was based on available residential land supply information provided by councils and gathered as part of the former Department of Transport, Planning and Local Infrastructure's Urban Development Program. Overall, councils have zoned or identified sufficient land to accommodate well in excess of the projected population growth for the region of 80,000 additional people by 2041.

The plan strongly encourages an integrated approach to planning and developing growth areas, including coordinated provision of physical and social infrastructure. It also recognises that land use planning for future growth areas should consider environmental assets and natural hazards as well as provision of emergency services, including in unique situations such as alpine resorts.

There would be benefits to the region in the development and implementation of a regional program to monitor residential, commercial and industrial land supply and demand to support local government decision-making related to land rezoning and to assist with planning by infrastructure and service agencies.

8.2.2 Sub-regional perspectives

The settlement network in each of the four Hume sub-regions, Central Hume, Goulburn Valley, Lower Hume and Upper Hume, was considered using the settlement assessment process discussed above. This served as a starting point for discussions with stakeholders to identify key settlements that could support the five strategic urban centres in providing services to regional communities. Urban growth locations identified for each sub-region were selected on the basis of physical and social infrastructure, access to economic opportunities and employment, the need to protect environmental assets, and their vulnerability to natural hazards.

a) Central Hume

The plan provides that future urban growth and development in the Central Hume sub-region will be focused in Wangaratta and Benalla, to make the most efficient use of infrastructure and services already available at these locations. These centres are already strongly linked to surrounding communities, particularly in the Ovens, King and Broken river valleys and provide access to employment and higher order services for a large population. This is expected to continue into the future.

Locations for population growth in Benalla and Wangaratta have already been identified through local planning processes. Supporting these growth areas with investment in physical and social infrastructure and expanding employment opportunities will make these places and their hinterlands attractive for further development.

Both Benalla and Wangaratta have potential for some urban infill, which could contribute to enhanced urban efficiencies. Other urban renewal opportunities for residential, commercial and industrial uses also exist in each centre, which could provide new economic opportunities and enhance liveability.

In 2011, the Urban Development Program for regional Victoria was extended to include the Rural City of Wangaratta. This program provides an analysis of supply and demand for residential and industrial land. Results for the Rural City of Wangaratta area are summarised below:

Rural City of Wangaratta

Residential land:

- There is sufficient zoned residential land available within the municipality to produce approximately 871 lots and satisfy 6 to 9 years of future residential demands.
- A further 7170 lots could be created on land designated for future residential use, providing sufficient land to satisfy more than 15 additional years of projected demand.
- Approximately 50 infill lots were also available.

Industrial land:

- Around 147 hectares of zoned industrial land is available for development.
- Based on recent take-up rates of land for industrial purposes in Wangaratta, which has averaged 2.7 hectares per year, there is in excess of 15 years of industrial zoned land, distributed across the Rural City of Wangaratta.

A number of other urban locations in the Central Hume sub-region, including Bright, Mansfield and Myrtleford, have some capability to accommodate future urban growth. Growth will be supported, particularly in towns that have good access to either Benalla or Wangaratta, to maximise the use of existing infrastructure and services in these settlements and support smaller communities in the sub-region.

Opportunities exist to enhance the existing character of these towns and attract further tourism development. Growth in these localities should be managed to avoid encroaching on environmental assets and exposure to natural hazards, especially bushfire and flood.

b) Goulburn Valley

The plan confirms that urban growth and development in the Goulburn Valley sub-region will be focused in Shepparton to make the most efficient use of existing infrastructure and services. It recognises that future growth fronts have already been identified through local planning processes to accommodate expected population growth.

Shepparton is the fourth largest urban centre in regional Victoria and provides employment and services to a large catchment extending beyond its immediate hinterland. This role will be enhanced to further support communities within Hume and in the adjoining Campaspe Shire. Investment will be required in new and upgraded social infrastructure, including health and education facilities, to support future population growth in Shepparton and surrounding areas. Some infill and urban renewal opportunities exist in Shepparton, which could help to enhance urban efficiency and liveability.

Shepparton is strategically located on the main transport corridor linking Melbourne and Brisbane via the Goulburn Valley corridor. Opportunities exist to continue to capitalise on this strategic location and strengthen Shepparton's position as an important regional logistical node. Development of transport related opportunities will be an important part of the economic development of this sub-region.

In 2011, the Urban Development Program for regional Victoria was extended to include the City of Greater Shepparton. This program provides an analysis of supply and demand for residential and industrial land. Results for the City of Greater Shepparton are summarised as follows:

City of Greater Shepparton

Residential land:

- There is sufficient zoned land residential land within the municipality to provide approximately 3966 lots and to satisfy 10 years of future residential demand.
- A further 7434 lots could be created on land designated for future residential use, providing sufficient land to satisfy over 15 years of projected demand.
- Approximately 100 infill lots are also available.

Industrial land:

- Around 188 hectares of zoned industrial land is available for development.
- Based on recent take-up rates of land for industrial purposes, which have averaged 4.6 hectares per year, there is in excess of 15 years of industrial zoned land within the City of Greater Shepparton.

The plan recognises that a number of other towns in the Goulburn Valley sub-region including Cobram, Euroa, Nagambie, Numurkah, Tatura and Yarrawonga are likely to attract some growth. Growth will be supported, particularly in towns that have good access to Shepparton, to maximise the use of existing infrastructure and services in these settlements. Surrounding rural communities depend on these urban locations for services and for transport links to access services in larger centres. Cobram and Yarrawonga, on the Murray River (the Victoria-New South Wales border), provide services to communities in both states. Cobram is strategically located near the intersection of key transport routes linking Melbourne and Brisbane and Albury-Wodonga and Adelaide.

Opportunities may exist in some locations to take advantage of natural attractions and lifestyle opportunities such as rural settings and access to significant water bodies. However, growth should be managed to avoid negative impacts on environmental assets and exposure to natural hazards, especially bushfire and flood.

c) Lower Hume

A key characteristic of the Lower Hume sub-region is its close proximity to the Melbourne metropolitan area. Northern metropolitan growth has been strengthened recently by the extension of Melbourne's urban growth boundary to encompass Beveridge and Wallan in the Mitchell Shire. Strong transport links to Melbourne, relatively affordable land and attractive living environments have translated into significant growth pressures in this sub-region, particularly in those places closer to Melbourne on the Hume corridor.

Planning for significant growth and development in areas now included within the urban growth boundary is being undertaken as part of metropolitan planning processes, including growth area planning and *Plan Melbourne*. Significant growth in Beveridge and Wallan may present future employment opportunities to communities in the Lower Hume sub-region outside the metropolitan area.

In 2011, the Urban Development Program for regional Victoria was extended to include the Mitchell Shire. This program provides an analysis of supply and demand for residential and industrial land. Results for the Mitchell Shire Council area are summarised below:

Mitchell Shire Council

Residential land:

- Based on a potential supply of 9190 lots on zoned broad area residential land or on major infill sites, there is sufficient land stock available within the municipality to satisfy more than 15 years of projected residential demand in the Mitchell Shire – North Statistical Local Area (SLA) and nine years in the Mitchell Shire – South SLA. Around 85 per cent of these lots are located in Wallan, Beveridge and Kilmore.
- A further 36,899 lots could be created on land designated for future residential use, providing sufficient land to satisfy at least a further 15 years of projected demand across the Mitchell Shire – South SLA. There is no future residential land stock designated within the Mitchell Shire – North SLA.

Industrial land:

- Around 111 hectares⁴ of zoned industrial land is available for development in Mitchell Shire (72 hectares in the Mitchell Shire – South SLA and 39 hectares the Mitchell Shire – North SLA).
- Based on recent take-up rates of land for industrial purposes, which have averaged 1.8 hectares per year, there is in excess of 15 years of industrial zoned land across the whole of the Mitchell Shire.

The Urban Development Program's findings about the absence of designated residential expansion areas in the northern part of Lower Hume sub-region around Seymour are surprising in light of the opportunities that exist in this area. Seymour is located at the junction of the Hume and the Goulburn Valley transport corridors and has regular passenger train services to and from Melbourne and interstate. It is located close to Mangalore Airport, which is a potential key regional transport asset for the future. The town has significant community and physical infrastructure available to accommodate growth. As a result, the plan identifies Seymour as a town that has the potential to grow into a key employment and population centre over the next 30 years. Further development opportunities may arise after 2020, with the completion of a levee system designed to make central Seymour 'flood risk free'.

The plan confirms that Seymour's role as a transit gateway between Melbourne and the Hume Region will be reinforced and significant growth will be encouraged to provide an economic and employment hub in the southern part of the region. A detailed framework plan is needed for Seymour and its surrounds to determine the appropriate locations for different land uses and the optimum timing of development. Seymour will continue to provide higher order services to nearby communities. Investment in some new or upgraded physical and social infrastructure and services will be needed to support increased demand. Some infill and urban renewal opportunities also exist in Seymour.

Other non-metropolitan urban locations identified in the plan as suitable to accommodate growth in the Lower Hume sub-region include Alexandra, Broadford, Kilmore and Yea. These places are attractive for growth due to their proximity and accessibility to Melbourne and Seymour and their capacity to expand, including the availability of developable land and existing infrastructure.

The surrounding communities in the Lower Hume sub-region depend on Seymour for access to services and employment and the plan recognises this relationship is likely to become more important in the future. This is particularly relevant for Yea and Alexandra as Seymour will be a public transport access point to Melbourne for these communities.

⁴ This figure excludes future industrial land identified in the North Growth Corridor Plan which is located within the Melbourne urban growth boundary

The recent extension of Melbourne's urban growth boundary is likely to create further pressures on urban and rural locations outside this boundary, such as in and around Broadford and Kilmore. These communities will have access to higher order services in Melbourne and Seymour and have the potential to support surrounding rural communities by providing services and transport links to larger urban centres.

The plan seeks to take advantage of the strategic opportunity that Seymour's growth would provide for the region and to support this by encouraging growth in Alexandra, Broadford, Kilmore and Yea. Some of these localities offer unique growth opportunities related to environmental assets, but development must be managed to protect these values and avoid exposure to natural hazards, especially bushfire and flood.

d) Upper Hume

Wodonga has significant capacity to accommodate future growth and extensive local strategic planning has already been undertaken to identify specific future growth fronts. Such planning aims to ensure that Wodonga has the capacity to accommodate significant growth trends, with large areas of serviced land ready for residential, commercial and industrial development. The plan recognises that urban growth and development in the Upper Hume sub-region will be focused in Wodonga.

Infill and urban renewal opportunities exist in Wodonga, particularly in the central business district and on vacant former railway land in and around it. The plan encourages infill and redevelopment that will enhance liveability and improve urban efficiency by maximising the use of existing infrastructure.

Wodonga is an economic leader in the region and is strategically located at the junction of two major transport routes, the Hume corridor linking Melbourne and Sydney and the Murray Valley Highway to Adelaide. Opportunities exist to capitalise further on this strategic advantage, including at the LOGIC freight activity centre. Wodonga is the major employment centre for the Upper Hume sub-region and this role will be enhanced in the future as the city grows.

The plan recognises Wodonga has major industrial and commercial development opportunities that can further enhance its role in the Upper Hume sub-region. Investment in physical and social infrastructure will be needed to maintain and enhance the effectiveness of Wodonga as a hub for education, health, professional services and retailing. The city also has the potential to be a significant location for sporting events.

The Urban Development Program for regional Victoria provides an analysis of supply and demand for residential and industrial land across parts of regional Victoria and includes the City of Wodonga. Results from 2009 (the most recent information available for Wodonga) are summarised below:

City of Wodonga

Residential land:

- Based on a potential supply of 7419 lots on zoned residential land in the municipality, there was sufficient land to satisfy well over 15 years of future residential demand.
- A further 23,608 lots could be created on land designated for future residential use.
- Approximately 1200 infill lots were also available.

Industrial land:

- Around 498 hectares of zoned industrial land was available for development.
- Based on recent take-up rates for land for industrial purposes, which have averaged 4.9 hectares per year, there was in excess of 15 years of supply of industrial zoned land within the municipality in 2009.

The Australian Government recognises the combined urban area of Albury-Wodonga as one of the nation's 18 major cities. The plan recognises the influence of Albury-Wodonga in the Upper Hume sub-region and the Hume Region more broadly and embraces the advantages that flow from it. Both Albury and Wodonga are expected to grow significantly in the future and both councils are planning for large residential expansion, including growth fronts such as the Leneva-Baranduda Growth Area. Albury-Wodonga offers a range of higher order services to communities within its catchment, such as universities, hospitals, transport facilities and an airport with commercial flights to Melbourne and Sydney.

The plan recognises that a number of settlements in the Upper Hume sub-region including Barnawartha, Beechworth, Bellbridge, Chiltern, Rutherglen, Tallangatta, Tangambalanga, Wahgunyah and Yackandandah can potentially support future urban growth. These places provide lifestyle opportunities that supplement those available in Wodonga's urban and suburban neighbourhoods.

In localities surrounding Wodonga, opportunities are linked to pleasant settings in rural areas, near water bodies, in attractive landscapes or in heritage towns. The relatively low cost of properties in these areas, compared with Wodonga, is also a consideration. Albury-Wodonga provides employment and higher order services to these communities. Corryong offers some growth opportunities as it provides a range of infrastructure and services to a relatively large catchment extending into New South Wales. Development in these locations must be managed to avoid detriment to environmental values and exposure to natural hazards, especially bushfire and flood.

8.3 Small settlements

The Hume Region contains many smaller settlements not specifically nominated in the plan as targeted growth locations. These settlements form part of the regional settlement network and their role and function within this network is recognised and supported.

The majority of these locations are expected to experience some population growth especially in areas of high rural amenity or natural beauty and within the peri-urban areas of Melbourne and regional cities. Small townships and settlements provide diversity and choice of lifestyles and residential environments.

Settlements in areas dependent on agriculture are more likely to experience population decline and the plan recognises that economic growth in these areas will not necessarily translate to population growth for smaller settlements. Measures to increase agricultural productivity, such as mechanisation, have resulted in declines in employment on farms and the population of farmers as a whole has reduced as farms have become larger. A recent trend for agricultural service industries to concentrate in major regional centres has also led to a decline in employment opportunities in small towns. Younger people are tending to migrate to regional centres and metropolitan areas, resulting in declining population and increasing average age levels in small towns in rural Victoria.

The plan points out that in some instances, townships will need further support, by mechanisms other than the planning system, to remain economically viable and increase their sustainability, especially where populations have declined. Communities will need to be resilient to ensure they can adapt to economic trends, the impacts of climate change, population movements and a changing demographic profile.

Understanding Small Settlements in Victoria (Planisphere, 2012)

The report, Understanding Small Settlements in Victoria, recognises that the drivers for change affecting smaller settlements are diverse. This report identifies some of the key factors that will influence the capacity of these settlements to adapt to change and recover from negative events as follows:

- *Social capital* – high community participation is a contributing factor to the self-reliance of some settlements, particularly those at greater distances from larger urban centres.

- *Community services* – access to community services heavily influences the self-sufficiency of settlements and clusters of settlements and can influence the location choices of residents (particularly retirees). In settlements where populations are stable or decreasing, the ongoing viability of established services is a key issue. Economies of scale may be lacking in these areas and, absent of major population growth, communities will mostly rely on innovative service delivery models to address needs. Access to higher level services is important to sustain and support smaller settlements.
- *Physical infrastructure* – the presence or absence of physical infrastructure significantly influences the quality of life and economic opportunities in smaller settlements. Infrastructure investment promotes greater economic activity and greater employment diversity is a strong indicator of town resilience.
- *Economic diversification* – the diversification of local economies is a key objective to support the adaptation of small towns. Diversification provides a wider range of employment opportunities and reduces risks associated with over reliance on individual sectors. Access to diverse economic opportunities should not detract from amenity, environmental values and agricultural productivity. While many smaller settlements offer inexpensive land and key infrastructure, these do not overcome the barriers to investment such as distance from markets, high operating costs and lack of suitably skilled workers. Economic diversity will help communities to adapt to the implications of climate change. Diversified farming (responding to carbon trading) may result in a need for new supporting and processing industries.

The report focuses on land use planning responses that support the adaptation and resilience of smaller settlements. Strategies recommended in the report include:

- managing growth and change through:
 - land use planning processes at a network scale, rather than by individual settlement
 - structure planning including community infrastructure assessments and initiatives to develop a sense of place
- providing infrastructure including:
 - assessing infrastructure needs at a network scale
 - developing new models for the use of existing and proposed community facilities and services such as multi-functional and multi-purpose hubs
- accessing services, jobs and social opportunities, including:
 - identifying opportunities to strengthen links between smaller settlements and larger urban centres
 - analysing the connectivity to services and facilities
 - undertaking a transport vulnerability assessment
 - investigating opportunities to provide community transport services.
 -
- supporting agricultural and rural production reform, including:
 - identifying priority production and agricultural landscapes at a regional scale
 - investigating opportunities for farm land aggregation to facilitate production
 - further reflecting on the importance of existing irrigation infrastructure in planning policy

- identifying, maintaining and protecting strategic sites and areas for future infrastructure needs
- facilitating localised responses, including:
 - planning services on a network basis
 - supporting more environmentally sustainable development standards in regional locations
 - identifying opportunities to support smaller, less resourced councils to undertake key strategic planning projects
 - diversifying economies
 - addressing natural hazards (such as bushfire and flood)
 - benefiting from new technology and global changes
- strengthening communities, including:
 - exploring opportunities for community planning at a network scale
 - developing initiatives to identify and preserve community assets.

Smaller urban localities will continue to play an important agricultural, tourism and lifestyle role and incremental growth in these locations will support the sustainability of their communities. The plan suggests that councils should plan for growth and change in and around these smaller settlements by considering opportunities at a network scale, rather than by individual settlement.

8.4 Cross-border settlements

A number of 'cross-border' settlements are located along the Murray River in the north of the Hume Region including Albury-Wodonga, Cobram-Barooga, Corowa-Wahgunyah and Yarrawonga-Mulwala. These combined settlements have significant populations and play an important role in providing services and facilities to communities on both sides of the border.

These settlements do not function in isolation from each other and they have larger, relatively diverse economies, when considered as combined settlements. Duplication of services may be an issue in some areas.

The Murray River Settlement Strategy is being prepared to address challenges and opportunities for settlements along the Murray River corridor in Victoria. It will provide a 30-year view within which governments, councils, industry, business and the community can plan and take action to achieve a preferred future for these settlements. The strategy examines the issues that impact on settlement planning and provides directions to manage growth and change.

The draft Murray River Settlement Strategy will provide input to:

- strategic planning by government agencies and the private sector
- regional growth plans
- state and local sections of planning schemes
- statutory planning processes, such as planning scheme amendments
- complementary strategic planning with New South Wales.

The Murray River Settlement Strategy will articulate a preferred future and identify areas where action could be taken to influence growth and change to achieve this outcome. The strategy will set out strategic directions relating to settlement planning and development. The directions will be designed to support a coordinated approach to common issues and opportunities relating to settlement, natural and cultural heritage, economy and cross-border coordination.

8.5 Peri-urban areas

Melbourne's peri-urban region can be defined as the area within 100 kilometres from the centre of metropolitan Melbourne, excluding land within the urban growth boundary. Most of the Lower Hume sub-region lies within the peri-urban influence of Melbourne.

Understanding the role of settlements and rural communities in these areas, and their relationship to Melbourne, is an important part of planning for metropolitan Melbourne and the region. In preparing the plan, the broader opportunities, challenges and trends occurring across the peri-urban region were considered. These issues are relevant to the new metropolitan planning strategy, *Plan Melbourne*.

Peri-urban areas are valuable to the short and long-term economic success, liveability and sustainability of modern cities. Melbourne's peri-urban areas are diverse and productive and provide important water, food and other natural resources. They contain significant environmental, cultural and recreational assets as well as strategically important infrastructure corridors. Some of these areas are exposed to significant natural hazards, including bushfire and flood.

The networks of settlements across Melbourne's peri-urban hinterland have strong community and economic relationships with the metropolitan area and other parts of their own regions. They provide a mix of living and working environments as well as providing goods and services. Metropolitan peri-urban areas contain important transport infrastructure that provides good access to and from Melbourne.

The peri-urban areas in the region, including townships and rural areas, are under significant pressure for development due to their relatively close proximity to Melbourne and good transport links to the city. The extension of Melbourne's urban growth boundary to include Beveridge and Wallan is likely to further intensify this pressure. The plan calls attention to the need to manage such development pressures by ensuring growth is focused in strategic urban locations. It also recognises there could be benefits in working cooperatively with other regions to develop a clear and consistent approach to planning for growth and change in Melbourne's peri-urban areas.

Some of the larger urban settlements in the region, including Shepparton, Wodonga and Wangaratta, also have a peri-urban influence on their own hinterlands and the plan recognises the need to protect environmental assets, landscape values and significant land uses in these areas. The principles derived from the proposed coordinated approach to planning for Melbourne's peri-urban areas could be applicable to the hinterlands of major regional centres.

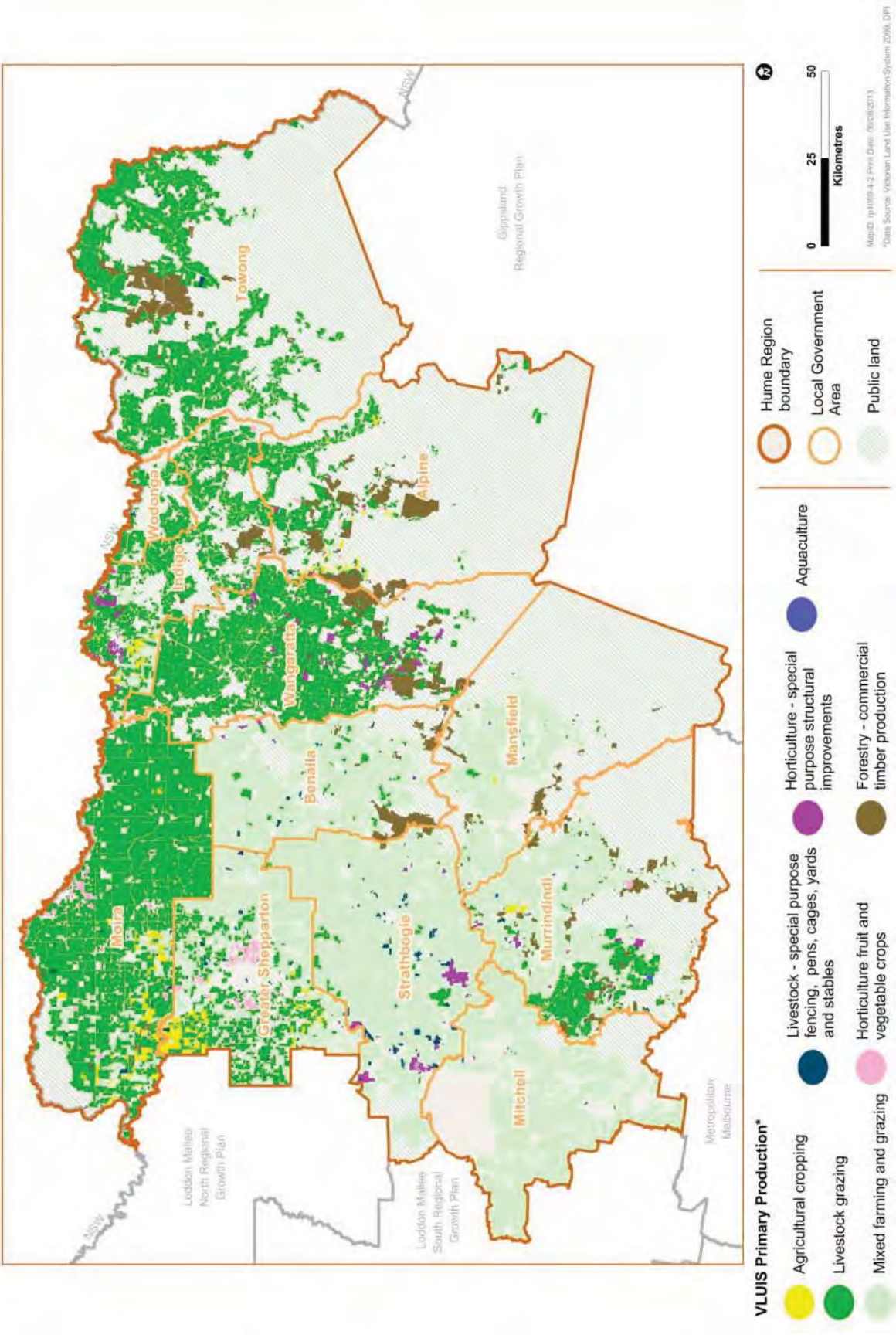
9. Rural land use

9.1 Overview

Significant changes are occurring in the Hume Region's rural landscape, including pressure from other uses on traditional agricultural land. In order to better understand these pressures, and identify areas of strategic agricultural land that may warrant protection, the Project Steering Committee for the plan prioritised preparation of the Hume Region Rural Land Use Study (2012). This section draws on the research and findings from that study.

A range of land uses are accommodated in non-urban areas in the region, including agriculture, forestry, rural residential living, tourism activities, minerals and extractive industries. Large parts of the region are highly productive, which makes it an important agricultural region for Victoria and Australia. The region supports broad hectare beef and sheep grazing, dairying, cropping, horticulture, viticulture, equine industries, poultry production and commercial timber production (Figure 11). The Goulburn Valley is of particular importance, contributing 50 per cent of Victoria's total fruit production and contributing substantially to Victoria's dairy industry.

Figure 11: Agricultural land use – Hume Region



Source: Victorian Land Use Information System 2009, Department of Primary Industries

The region also has significant industries carrying out further processing of agricultural and forestry products. The towns of Cobram, Shepparton and Tatura are important locations for fruit and milk processing. Processing of meat, timber and grapes occurs throughout the region, particularly in the east, drawing on key commodities in the alpine valleys and high country. Overall, agriculture and processing of agricultural outputs together form the most significant industry in the region, accounting for 20 per cent of all jobs.

The region has a number of large wine processing facilities. Overall, the region contributes 27 per cent of Victoria's wine production revenue, estimated to be worth around \$400 million per year. There are a number of wine sub-regions, which have unique soils and climatic conditions including Beechworth, King Valley, Milawa, Rutherglen and the tableland of the Strathbogie Ranges.

The equine industry is experiencing strong growth in the region, with major thoroughbred horse studs and training facilities moving into the area. The potential exists for the region to become a nationally significant horse breeding area.

Parts of the region are attractive for rural residential (or 'rural lifestyle settlement') development. Areas of higher amenity, such as those close to lakes and waterways, in undulating countryside, or with views and vistas, have been particularly popular. The tourism products of Hume, including ski fields, lakes, rivers, food and wine, outdoor recreation, national touring routes and cultural heritage, provide a strong motivation to relocate or establish a holiday home in the region.

Tourism is a key industry sector for the region and is an important land use for providing service sector employment in rural areas to supplement employment related to agriculture. Tourism strengths in rural areas include nature-based tourism, Aboriginal cultural heritage and historic heritage attractions, outdoor activities and food and wine tourism.

Minerals and extractive industries located in the region's rural areas include mining activities and sand and stone extraction. Management of rural land use will become increasingly important as the regional economy diversifies and development pressures on rural areas increase.

Climate change may have a significant impact on rural land uses in the region. Apart from an increase in the severity of extreme weather events, the combination of increased average temperatures and a reduction in rainfall will affect both the agricultural sector and the tourism industry. Climate change may also provide opportunities for the diversification of rural land uses, such as other agricultural products and rural industries.

9.2 Guiding future rural land use

9.2.1 Agriculture

The plan acknowledges that agricultural production will continue to be an important contributor to the region's economy and seeks to secure the future of the industry, as well as to accommodate new opportunities for 'downstream' processing and intensive agriculture. It provides direction to help plan for future farming uses, based on the factors discussed below.

a) Productive, versatile and strategic farm land

High quality agricultural land is a finite resource and an essential basis for many forms of agriculture. There are wide-ranging pressures on productive and strategic agricultural land in the region, such as climate change, land degradation, economic viability, urban encroachment and fragmentation of farmland. A possible response is to ensure that productive and strategic farmland is protected to preserve options for the future.

The reference in the Victoria Planning Provisions (Clause 14.01-1) to protecting 'productive farm land that is of strategic significance in the local or regional context' is an important precept in rural land use planning. It

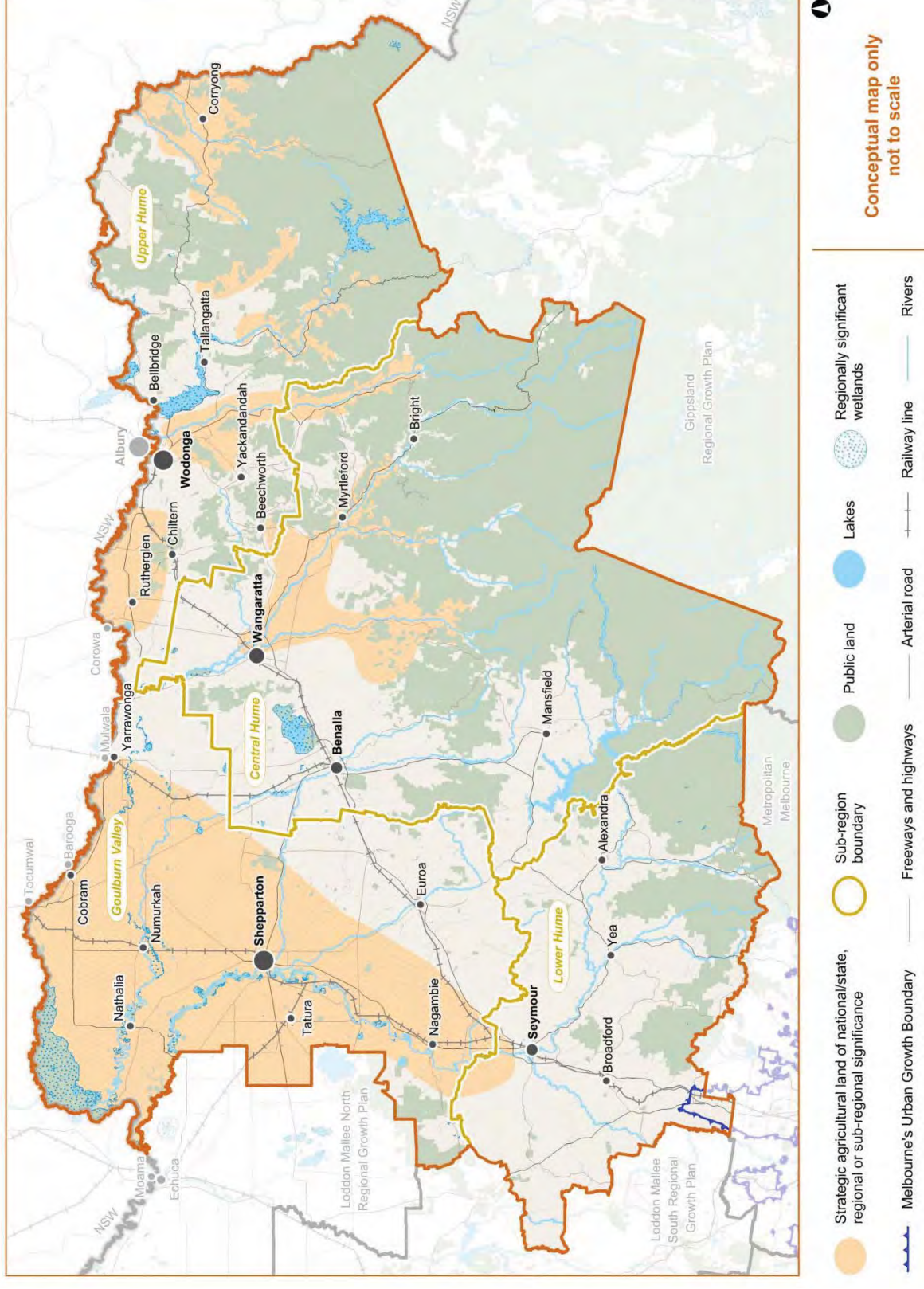
implies a selective approach, the identification of land of better productivity and versatility that has a long-term and strategic role in the production of food and fibre.

Combining the concepts of productivity and versatility enables each discrete area of agricultural land to be identified and mapped in terms of its agricultural land quality. Some areas of productive and versatile land may be considered of strategic importance where they are associated with other resources such as irrigation infrastructure or value-adding industries that provide significant economic benefit to local or regional communities.

In the region, high quality agricultural land is generally limited to river valleys in the north-east and parts of the Kinglake Ranges. Irrigation infrastructure in the Goulburn Valley area in the City of Greater Shepparton and Moira Shire has created a highly productive node, which is versatile and suitable for a range of agricultural purposes, including fruit production, dairying and intensive horticulture.

Strategic agricultural areas in the region have been defined according to the following criteria: versatility in production; significant scale; proximity to 'downstream' value-adding processing facilities; and access to secure water supply (Figure 12).

Figure 12: Strategic agricultural land



Source: Department of Transport, Planning and Local Infrastructure

The Goulburn Valley irrigation district is considered to be of strategic state and national significance. The Goulburn Valley is critically important for the supply of fruit and dairy products in Victoria and Australia and is also the home of major downstream processing enterprises.

The King and Ovens valleys are defined as areas of regional strategic significance for their production of wine, dairy products and the long-term opportunity for further intensive horticulture.

The Kiewa, Mitta Mitta and Tallangatta valleys, Corryong district and Rutherglen, due to their smaller scale, are all considered to be of sub-regional strategic significance for their current and potential production value. Their agricultural quality and access to water make them important in the sub-regional context.

Smaller wine-producing areas may not meet the definitions of high quality soils or strategic agricultural land, but are significant for their unique and complex growing conditions, often leading to lower yield grapes but higher quality wine. They are also important for their contribution to tourism in the region.

The plan directs that areas identified as being of strategic significance should have the highest policy protection, to ensure agriculture remains a viable industry for the future, including providing certainty for investors, as versatile land could be subject to structural change. It also recognises that councils should continue to plan for rural land use through local planning processes, which may identify other important agricultural areas from a local perspective.

b) Intensive agricultural production

Intensive animal industries such as broiler farms, piggeries and cattle feedlots can contribute to food production and potential food security. These industries generate large outputs on small areas of land and are usually not dependent on high quality soils as the driver for location. Other criteria that can be important indicators or drivers for identifying the productive potential of farmland include, access to roads, power, water, processing and feed supply. The small footprint of these intensive animal industries, coupled with the buffers required from sensitive land uses, provide an opportunity for other forms of agriculture to coexist and operate concurrently within or around the buffer areas.

Community acceptance of some of these more intensive forms of agriculture, incompatible land use and protection of the environment can present challenges. These factors could make it more difficult to establish and expand intensive agriculture in some parts of the region. Compliance with the relevant Codes of Practice and appropriate buffers will help to reduce the potential for conflict. Parts of the region could accommodate these types of agricultural activities in areas that can minimise adverse impacts on other land uses and that have access to key infrastructure, such as transport. As a result, the plan suggests that future planning should identify suitable areas and promote clustering of intensive agricultural production in these locations. However, it recognises that other locations throughout the region may also be appropriate for intensive agriculture.

c) Changing farm sizes, methods and strategies

Increases in productivity of agricultural land have led to a general decline in the sale price of farm produce, or terms of trade, over the last 10 years. Therefore, farmers seeking to maintain a consistent level of real income must increase the size of farms and levels of production. The consolidation of farmed land, particularly for broad acre cropping, has led to larger farm sizes and fewer establishments within rural Victoria. This trend is expected to continue in the future.

Despite competition from amenity purchasers, farm businesses are able to expand production, albeit with limitations. Farmers have undertaken expansion in one of two ways: by purchasing high priced land and diversifying income streams, such as by adding tourism products and mixed agricultural uses; or by retaining their existing farm size and intensifying production methods, for example, by improving grazing management or introducing or expanding irrigation. Attractive rural landscapes may also offer opportunities for niche farming and associated tourism.

The plan suggests ways in which the planning system can continue to support the need to increase farm sizes and provide sufficient flexibility to allow farmers to change agricultural methods and strategies.

d) Changing agricultural land use

Examples of agricultural industries that have declined over the past two decades are wool and tobacco farming. While tobacco production declined as a result of legislative change, wool production and other industries have declined due to a range of factors including drought conditions, changing markets, policy changes and difficulties in increasing productivity in labour-intensive industries. Some areas used by these industries could transition towards other uses such as different agricultural activities, forestry, renewable energy generation, carbon farming and conservation activities.

e) Future of irrigation

State and federal government water policy reform is attempting to address the balance of water supply and likely future impacts of climate change, while achieving an increase in water security and ensuring there is an adequate water supply available for the environment. Measures already being undertaken include water buy-backs, irrigation infrastructure upgrades and a reduction of the total area under permanent irrigation.

The likely decrease in available water for farming is set to increase competition within water-intensive agricultural activities. In particular, this is expected to accelerate the decline in the mixed farming sector, which will continue to transition towards dry land farming activities, with existing water allocations likely to be sold to support the dairy and horticultural industries.

Opportunities that may assist in adapting to the effects of climate change are to strengthen the role of the alpine valleys of the north-east for intensive horticulture, and linking this product to the processing areas of the Goulburn Valley.

f) Climate change and agriculture

As well as reduced availability of water for production, climate change may have other specific impacts on agriculture across the region.

Extreme weather events and natural hazards are expected to increase in frequency and intensity over the next century. This includes more frequent droughts, less frequent frosts, increased incidence of hail and damaging storms and increased intensity and severity of bushfires and floods although floods may be less frequent. These events and expected changes to seasonal rainfall patterns could impact on agricultural production.

The Victorian Climate Change Adaptation Plan recognises that the areas of cropping and intensive agriculture (for example orchards) may shift as the climate changes, leading to changes in average temperatures and rainfall, seasonal patterns, increased extreme weather events and potential reductions in the reliability of irrigation water. This could influence production costs and access to key overseas markets due to reduced reliability of supply.

The Hume Region Rural Land Use Study 2012 found that temperature increases as a result of climate change may have the following effects on agriculture:

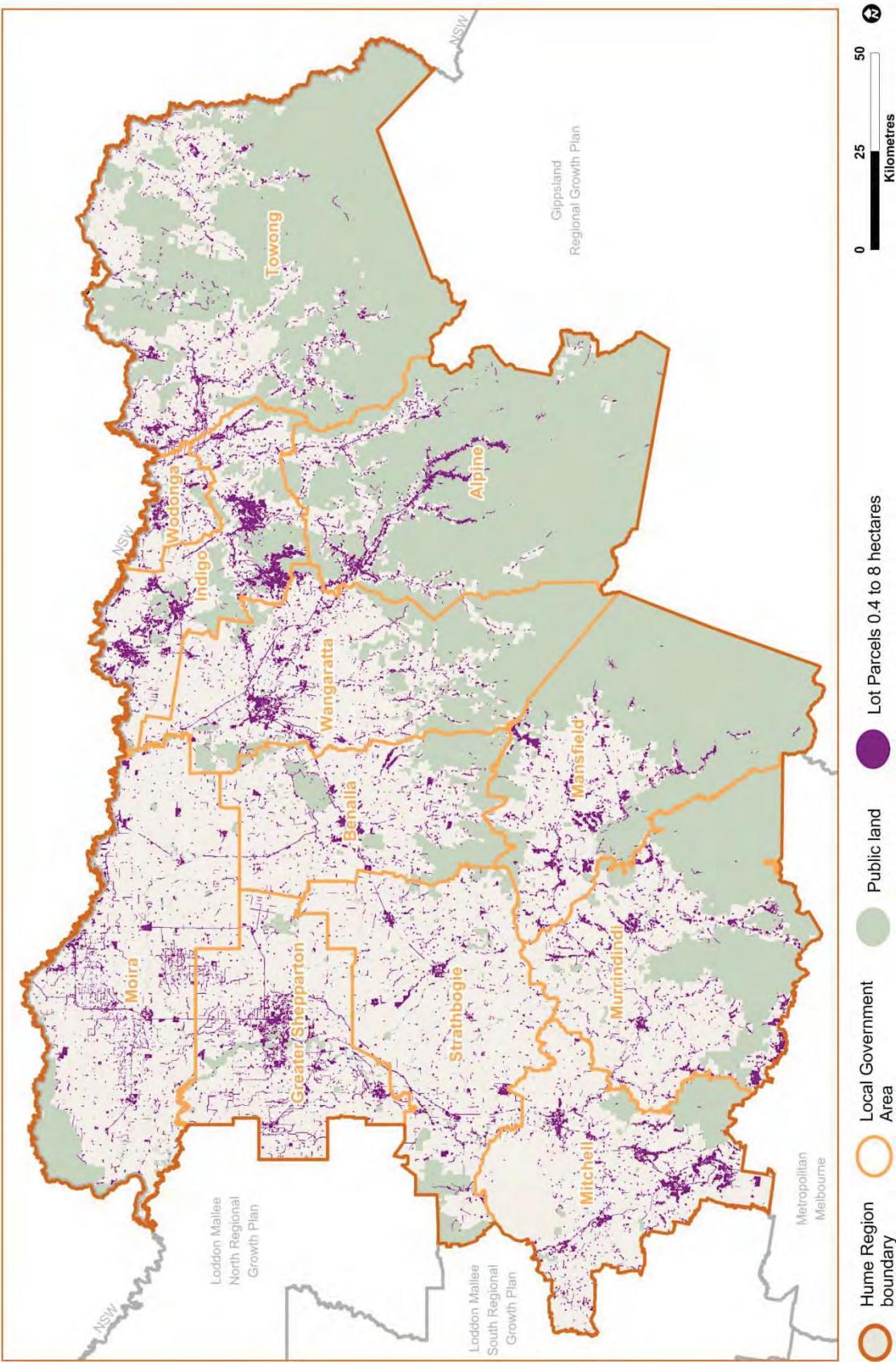
- crop yields benefiting from warmer conditions and higher carbon dioxide levels, but vulnerable to reduced rainfall
- greater exposure of stock and crops to heat-related stress and disease
- earlier ripening and reduced grape quality
- less winter chilling for fruit and nuts
- potential increase in the distribution and abundance of some exotic weeds.

9.2.2 Accommodating other rural land uses

a) Fragmentation of agricultural land

Fragmentation of farmland can occur when traditional farming areas are broken up by the introduction of alternative, incompatible uses such as small-lot subdivision, tourism ventures, boutique industries and dwellings unrelated to farming. These changes may limit agricultural intensification, diversification or expansion. They can restrict current farming practices or even make them untenable and therefore, may result in irreversible land use change. Fragmentation is particularly prevalent where land has high landscape amenity value, is relatively inexpensive, is near sealed roads and has a historical pattern of small-sized lots (Figure 13).

Figure 13: Lot parcels 0.4 to 8.0 hectares – Hume Region



Source: Department of Transport, Planning and Local Infrastructure

In the Hume Region, this form of development appears to be occurring:

- in a linear formation along roads and valleys, such as along the Ovens and King rivers corridors, where there is high quality soil and associated (historical) existing small lots
- where land has an uncertain agricultural future, such as in the former irrigation areas around Shepparton and the previous gold tenements, where there are high proportions of small and sub-commercial farms
- in peri-urban areas where reduced travel times have created greater accessibility beyond the limits of metropolitan and other urban centres
- in high amenity areas, particularly in undulating and hilly country, east of the Hume Freeway.

The plan recognises that pressure on areas with rural amenity is likely to increase due to overall population growth and incoming 'tree changers', as well as a growing proportion of people of retirement age, many of whom may choose to retire in the region but outside established settlements. It provides for strategic planning for these non-farming uses to consider their potential impact on farming activities.

The Hume Region Rural Land Use Study 2012 developed criteria for identifying appropriate locations for future rural residential development. Local planning should seek to ensure that these areas:

- are located within regular commuting distance to a major regional centre
- are capable of safe and easy access
- consolidate existing rural settlement patterns
- protect and provide visual and physical links to areas with high amenity, such as lakes, rivers, national and state parks
- avoid areas of strategic agricultural importance
- avoid areas of high landscape significance, such as important views and vistas, or environmental significance
- are in close proximity to infrastructure, such as power and water
- avoid areas subject to natural hazard, such as bushfire and flood.

b) Conflicting land uses and activities

Introduction of sensitive land uses, such as housing, can compromise opportunities for growth and investment in highly productive rural areas. Conflicts can arise as a result of noise, dust, spray drift and odours from farming activities. The plan provides direction on the location of future rural residential settlement, to minimise conflict between sensitive land uses and agriculture in rural areas.

Processing activities associated with agricultural and forestry products can also result in land use conflicts in urban areas, such as intrusive noise, odours or light. This is a broader issue relating to industrial uses and the plan stresses the need to identify industrial land in areas where appropriate separation distances from housing and other sensitive urban uses can be maintained. The plan also recognises that the transport of goods to and from farms and forestry plantations to processing and manufacturing plants, warehouses and markets can create amenity and safety issues in both rural and urban areas, as well as negative impacts on road infrastructure.

Maintaining biosecurity in productive rural areas is important to support ongoing agricultural production. Non-agricultural uses in productive rural areas need to be managed to minimise biosecurity risks.

c) Natural resources

Earth resources in the form of minerals and quarry products make a valuable economic and social contribution to the region. Quarry products such as sand, gravel and stone are necessary inputs for construction of houses, commercial buildings, roads, railways and pipelines while mineral resources generate valuable income. Having quarry products available locally within the region has benefits for the growth of the region, as it keeps construction costs manageable.

Mineral resources in the region could include gold, base metals, brown coal and molybdenum, which provide potential opportunities for the region's economy. The vast majority of current minerals mining operations in the region are on Crown land.

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, greenfields⁵ 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 and to be the link between investors and the state government
- actions to reduce regulatory burden imposed by legislation
- actions to build community confidence through greater engagement and clearer communication of information
- additional funding for geosciences research and greater investment attraction
- steps to improve mechanisms to maintain appropriate access to extractive resources while supporting ongoing development and optimum land use.

While it is important to acknowledge these and other aspects of the response, it is beyond the scope of the regional growth plans to deal with the majority of the commitments and they will need to be addressed through other suitable government initiatives. The response did include a commitment to incorporate existing extractive industry interest areas into regional growth plans. The plan recognises these areas accordingly. Current minerals and extractive industry tenements and licences within the region are shown in Figure 14.

Although the locations of quarries and mines are determined by geology, the plan acknowledges that potential conflicts with other land uses such as agriculture need to be considered, as well as environmental assets, community values and access to markets. It is important that earth resources are not sterilised by inappropriate planning decisions that may reduce the ability to exploit them for the benefit of the community.

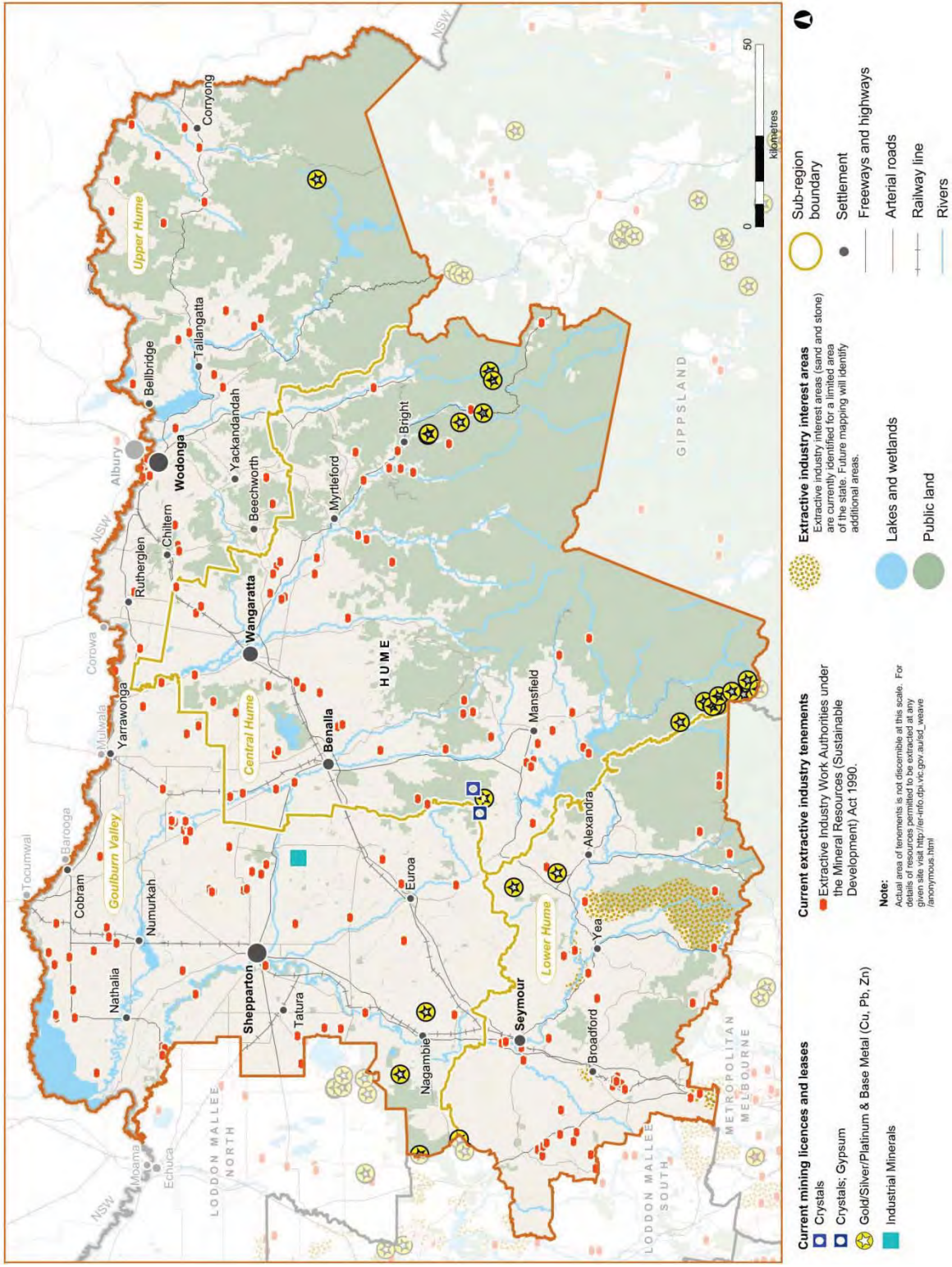
The plan identifies renewable energy generation as an important future rural land use taking into account the existence of significant energy resources in the region including:

- wind energy opportunities in the Strathbogie Ranges
- solar energy potential in the west of Moira Shire
- other opportunities for local power generation and distribution.

The plan encourages further exploration of the opportunities for sustainable development of natural resources in the region. Forestry for firewood production is an opportunity for further consideration. Any increase in tree cover in the region, including for forestry developments, will need to consider any potential increase in natural hazards as a result of such activities. This is particularly relevant to any changes in landscape fire and flood risks that may result from the increasing treed vegetation cover, especially where occurring in close proximity to settlements.

⁵ Greenfields sites are those areas without known mineral deposits.

Figure 14: Mining and extractive industries, tenements and licences



d) Lifestyle properties/rural residential

Two precincts within the region have attracted a large proportion of rural settlement, due to their amenity and proximity to tourism product:

- Goulburn River High Country precinct, including Mansfield, Murrindindi and Strathbogie shires
- North East precinct, including Alpine and Indigo shires.

Most of this rural residential activity has occurred on relatively low quality agricultural land. However, there are key areas of conflict between strategic agriculture and rural residential activity and demand, including the Ovens and King valleys and Nagambie.

While demand has been consistently strong for rural lifestyle property in these areas, there is an inconsistent approach to planning for rural lifestyle settlement across the region. Some municipalities have set aside significant areas of land for rural settlement and others have provided very little.

Practice Note 37: Rural Residential Development provides broad statewide guidance when planning for or assessing proposals for rural residential use and development. The plan encourages a consistent regional approach to planning for rural residential uses to ensure their location is chosen with due consideration of:

- regional assets such as agricultural land, natural resources and environmental assets
- sustainable settlement patterns, including the cost of providing and maintaining services and infrastructure
- exposure to natural hazards such as bushfire and flood.

The plan directs that sufficient areas of appropriately zoned land should be available in strategic locations to help reduce development pressure on agriculture and provide a range of lot sizes to suit the different needs of purchasers.

A number of municipalities in the region have areas of land declared as catchments that provide water supplies for human consumption. Government guidelines for open, potable water supply catchment areas apply limits to some forms of agricultural use and specify a maximum density of dwellings in areas not connected to sewerage. Recent changes to the guidelines provide that local governments can vary these standards through their Domestic Wastewater Management Plans.

e) Tourism

In many instances tourism has become a critical component of agricultural enterprises, providing additional income through cellar door or farm gate sales or accommodation.

Rural tourism activities occur in some areas of strategic agriculture, such as the Ovens, King and Kiewa valleys and Nagambie. The plan suggests that large commercial tourism uses in these areas should be directed to urban settlements to avoid land use conflicts. However, it recognises that some areas of lower quality agricultural land may be needed to support tourism uses that require significant tracts of land and cannot be accommodated in urban environments. Such uses may include nature-based accommodation, large conference centres, caravan parks and outdoor education.

Adapting to the potential impacts of climate change on the tourism industry will mean diversification of the tourism products offered away from snow-related activities to other nature-based activities and outdoor recreation. This could include private sector investment in sensitive tourism infrastructure within national parks. The food and wine sectors also offer potential for further development. Climate change may lead, at least periodically, to decreased availability of water in lakes and rivers, which may have an impact on tourism that depends on water-based activities. An increase in hazardous events may also affect tourism.

f) Infrastructure

The region has significant infrastructure that supports rural industry and is essential for creating sustainable and productive agricultural enterprises. Highlights include:

- the network of irrigation infrastructure in the Goulburn–Broken Valley including Lake Eildon, Nagambie Weir, Lake Nillacootie and the channel systems
- the Hume Freeway and the Goulburn Valley Highway, which provide uninterrupted dual carriage roadways linking the major regional centres of the Hume Region with Melbourne, Sydney, Brisbane and the ports
- hydroelectric generators, such as the Eildon power station, the Kiewa Hydroelectric Scheme (including the Bogong power station) and the Dartmouth power station, which are linked to the electricity transmission system of the region
- major water storages including Lake Hume, the key operating storage of the Murray River system, which provides irrigation, domestic and stock and urban water supplies to Victoria and New South Wales; and Dartmouth Dam, the largest water storage in the state, which also forms part of the River Murray supply system
- the natural gas network, which may present opportunities for industry growth.

The plan stresses the importance of continued maintenance and enhancement of this infrastructure, which also includes key logistics precincts, to contribute to securing the future of agricultural production and economic diversification in the region.

10. Economic development

Economic development and employment growth must accompany increased population if the Hume Region is to have a sustainable future. The Hume Strategy recognised that future growth of the region will depend on a thriving, diversified and dynamic economy.

Hume Strategy for Sustainable Communities 2010–2020

The Hume Strategy aims for the Hume Region to have a thriving and dynamic economy into the future by capitalising on the region's competitive advantages, opportunities and strengths to continue to provide prosperity and vitality. These competitive advantages are identified as:

- four sub-regions with distinct and varied identities serviced by regional cities and centres and supported by other settlements forming the building blocks for the future prosperity of the region
- high performance, nationally significant, interstate road and rail transport routes that support regional connectivity
- high quality water resources that are nationally significant
- pristine environments and landscapes
- the availability of education at all levels of the learning spectrum and at key locations across the Hume Region
- a diverse economic base built on manufacturing, agriculture and food processing, human and health services networks and facilities, tourism, haulage and logistics industries
- tourism products based largely around the quality of the natural environment and the region's heritage assets
- a genuine commitment to leadership and participation in civic life at many levels.

10.1 Overview – Regional economy

Draft (unpublished) Regional Economic Profile – Hume (2013)

A recent economic profile (unpublished) prepared by Regional Development Victoria states that:

Hume is one of the most diverse of Victoria's regions because of:

- its strong connection to the growth of Melbourne in the southern part of the region
- the strength of its transport and logistics infrastructure and services, linking supply chains and national and international markets
- the role of the Goulburn Valley – the food bowl of the Murray-Darling Basin
- its unique tourism infrastructure and experiences, for example, ski fields, wineries, the Murray River
- its relationship to New South Wales, led primarily through the twin cities relationship.

The Hume and Goulburn Valley transport corridors carry a volume of freight unequalled in any other part of Australia. This has encouraged the development of significant population centres with manufacturing, agriculture, tourism, haulage and logistics industries in proximity to these highways and railways.

Structural drivers of growth in the Hume economy are listed below.

- Hume's population growth rate over the last decade (0.6 per cent) was less than the state average (1.6 per cent).
- Labour force participation has risen in line with the state trend (60.6 per cent compared to 60.4 per cent for Victoria).
- Productivity grew at an average annual rate of 1.1 per cent which was below the state average of 1.5 per cent but significantly above the average rate for regional Victoria (0.6 per cent).
- The region's Gross Regional Product growth rate of 2.2 per cent was equal to the rate for regional Victoria but below the state average of 3.5 per cent.

The report also includes the following key facts about the regional economy.

- Hume's share of Regional Victoria's Gross Regional Product declined marginally but still remained above 18 per cent for the period 2001 to 2011. As a proportion of state output, Hume's share dropped from 4 per cent to 3.5 per cent.
- Over the past decade, the regional economy grew at an annual average rate of 2.2 per cent.
- Employment growth in Hume between 2001 and 2011 was 13.5 per cent compared to 20 per cent for regional Victoria and 26 per cent for the state.
- Manufacturing and agriculture, forestry and fishing are the two most significant economic sectors in the region, making up 18 per cent and 16.5 per cent of the region's Gross Value Added. In 2011, this was equivalent to \$3.1 billion of the region's \$9 billion Gross Value Added. In contrast, at the state level, manufacturing contributes 12 per cent of value added and agriculture, forestry and fishing only 3 per cent.
- Agriculture, forestry and fishing employs only 2.6 per cent of the state's workforce but 13 per cent of Hume's workforce, and professional, scientific and technical services employs 8 per cent at a state level but only 2.5 per cent in the region.
- The region's exports are dominated by two sectors – manufacturing and agriculture,

forestry and fishing. Together, they provide three quarters of the region's exports. Manufacturing exports alone were approximately \$4.5 billion in 2011. Significantly, Hume's agricultural, forestry and fishing exports make up almost 20 per cent of the state's exports in this sector.

- In 2011, the region's key inter-regional imports were from manufacturing and agriculture, forestry and fishing. Manufacturing comprised 57 per cent of the total inter-regional imports while 20 per cent of inter-regional imports were from the agriculture sector. Almost half (47 per cent) of the manufacturing imports were from the food product manufacturing subsector.

The region's economy is varied in the make up of its industry and employment. The regional economy is driven by the needs of a changing population, access to natural resources including water and productive agricultural land, iconic tourism assets such as alpine areas and the Murray River, and the region's strategic location in the Melbourne-Canberra-Sydney-Brisbane national freight corridor. In recent times there has been significant government investment in irrigation modernisation, rail standardisation, bushfire and flood recovery and infrastructure in country towns.

In its 2013 economic statement, *Securing Victoria's Economy – Planning, Building, Delivering*, the State Government adopts a goal of doubling agricultural food and fibre production in Victoria by 2030. It aims to make the state the food bowl to Asia. The region will be expected to play a major role in achieving this objective.

The region is acknowledged as a major Australian centre for food production. The Goulburn Valley food bowl is one of Victoria's largest areas of primary production, earning \$1.6 billion from agricultural products and processing of foods and beverages. Manufacturing is a significant economic contributor in the region, especially around Shepparton, Wodonga, Wangaratta and Benalla. The region has a larger proportion of people employed in manufacturing than Melbourne. In some areas, the influence of the regional economy extends beyond the region into areas such as southern New South Wales and Campaspe Shire to the west.

The two major interstate transport corridors are significant assets for the region. They accommodate national transport movements, link major population centres and act as conduits for tourism in the region. Access to south-east Australia's population, industry, services and tourist destinations is a broad locational advantage of the region, which continues to attract investment. These corridors offer opportunities to develop key logistics precincts and warehousing, as well as freight movement through and within the region.

The region includes more regional cities and centres than any other Victorian region. Shepparton, Wodonga, Wangaratta and Benalla all have associated infrastructure and economic spheres of influence. The growth prospects of towns in locations relatively close to these cities and centres are enhanced by their proximity.

The region's environmental and cultural heritage assets support a significant tourism industry, which will continue to be important to create regional wealth and interest from investors. The region contains many popular tourist destinations.

The economy of the region is becoming more sophisticated and diverse but there remains a high reliance on manufacturing and agriculture. This is likely to provide economic challenges, particularly due to changing climatic conditions and the high Australian dollar. How businesses respond to these challenges, while at the same time endeavouring to improve productivity, will be of paramount importance to the regional economy.

The Murray-Darling Basin Plan is likely to have a major impact on the region's economic output and employment prospects for agriculture and food processing, particularly in the Goulburn Valley. The plan recognises that these impacts will emerge over time and land use planning needs to be adaptable to support the region's economy through restructuring and other changes.

Murray-Darling Basin Explanatory Statement – Basin Plan 2012

The Basin Plan provides a high level framework that sets standards for the Australian Government. The Basin states and the Murray-Darling Basin Authority are required to manage the Murray-Darling Basin's water resources in a coordinated and sustainable way in collaboration with the community. It is based on managing Basin water resources in the national interest rather than on jurisdictional or sectoral views.

The purpose of the Basin Plan is to provide for the integrated management of Basin water resources in a way that promotes the objectives of the *Water Act 2007*, in particular by:

- giving effect to relevant international agreements, including the Biodiversity Convention and the Ramsar Convention, to the extent they relate to the use and management of Basin water resources
- establishment and enforcement of environmentally sustainable limits on the quantities of surface water and groundwater that may be taken from Basin water resources
- Basin-wide environmental objectives for water dependent ecosystems, and water quality and salinity objectives
- use and management of Basin water resources in a way that optimises social, economic and environmental outcomes
- water to meet its most productive use through the development of an efficient water trading regime across the Murray-Darling Basin
- requirements that must be met by water resource plans
- improved water security for all uses of Basin water resources.

The management outcome for the Basin Plan as a whole is a healthy and working Murray-Darling Basin that includes:

- communities with sufficient and reliable water supplies that are fit for a range of intended purposes, including domestic, recreational and cultural use
- productive and resilient water dependent industries, and communities with confidence in their long-term future
- healthy and resilient ecosystems with rivers and creeks regularly connected to their floodplains and, ultimately, the ocean (section 5.02 of the Basin Plan).

The region has been challenged by a decade of drought followed by flooding in recent years. Severe bushfires have also affected different parts of the region. The 2009 bushfires had a devastating impact in the Mitchell and Murrindindi shires.

Research commissioned by the former Department of Planning and Community Development (Street Ryan, 2012) suggests that employment creation in the region will depend substantially on local enterprise and initiatives.

Hume Region Economic Profile and Outlook – Street Ryan (2012)

- The economic climate of the 2010s, and during the aftermath of the Global Financial Crisis, suggests that growth will continue in small to medium enterprises, and in micro-enterprises.
- Economic development strategies and the techniques employed to analyse and implement them, must reflect the requirement of local communities to develop business initiatives and local employment to meet the needs of existing and expected population, rather than to assume that the attraction of development from outside will create the necessary flow-on effects.
- Economic development in the 21st century will be about ‘creating a climate for innovation’ rather than the traditional objective of the past ‘to create a climate for investment’.

The research also found that new issues such as climate change, increases in the average age of the population, and globalisation of production and knowledge industries were changing the economic landscape. It predicted the 21st century would bring about the integration of economic, environmental and community development policy and practice.

10.2 Employment

The role of regional urban centres in providing employment and services is essential to the economy of the Hume Region. The major centres of Shepparton, Wodonga, Wangaratta and Benalla will continue to provide employment and services to a wider regional catchment. Employment growth will need to match population growth in and around these centres. Seymour, due to its location and accessibility, has the potential to develop into an employment centre for the part of the Lower Hume sub-region that is outside Melbourne’s urban growth boundary.

A key challenge for the region is providing sufficient employment opportunities to support the projected regional population growth of around 80,000 people by 2041, not including expected growth in the southern part of the region around Beveridge and Wallan. Some of these jobs will be located in metropolitan Melbourne as it expands into the region, but the majority will need to be located elsewhere in the region. The plan recognises there are already challenges in attracting skilled workers and retaining the current workforce, so expanding the job market will require integrated and innovative approaches.

The economic output from agriculture is likely to grow, especially as the size of farms increases or consolidation achieves economies of scale. Significant agricultural and manufacturing sectors will continue to have positive benefits for support industries, such as packaging, warehousing and transport.

Agricultural activities and associated processing for dairy products, wine and other foods will continue to be an important contributor to the region’s economy. How these industries adjust to the challenges of climate change, a high exchange rate, the cost of production pressures and the threat of cheaper imports will have a major impact on the future of the regional economy. Forestry and timber processing, both softwood and hardwood, are significant industries, particularly in the Alpine, Murrindindi and Towong shires.

Providing sufficient amounts of serviced industrial land in key urban locations will be critical to the region’s economy. Investment in renewal or development of physical infrastructure and services will further support economic growth and employment in existing and emerging manufacturing enterprises.

Tourism has grown to become an important industry and employer for the region, driven by its proximity to Melbourne and its natural attractions. Tourism activities related to the alpine resorts, the Murray River corridor, cycling and food and wine will continue to be significant contributors to the regional economy. As a result of tourism, the accommodation and food services sector will continue to be a growing employer in the region.

Climate change is predicted to reduce the extent of significant snow cover in the region, which could affect snow-based tourism in alpine areas. Alternative and 'off season' attractions may provide other sources of revenue for this sector of the tourism industry.

New industries will need support to facilitate diversification of employment opportunities in the region. Key enterprises in the Hume Region are shown in Figure 15.

10.3 Guiding future economic growth

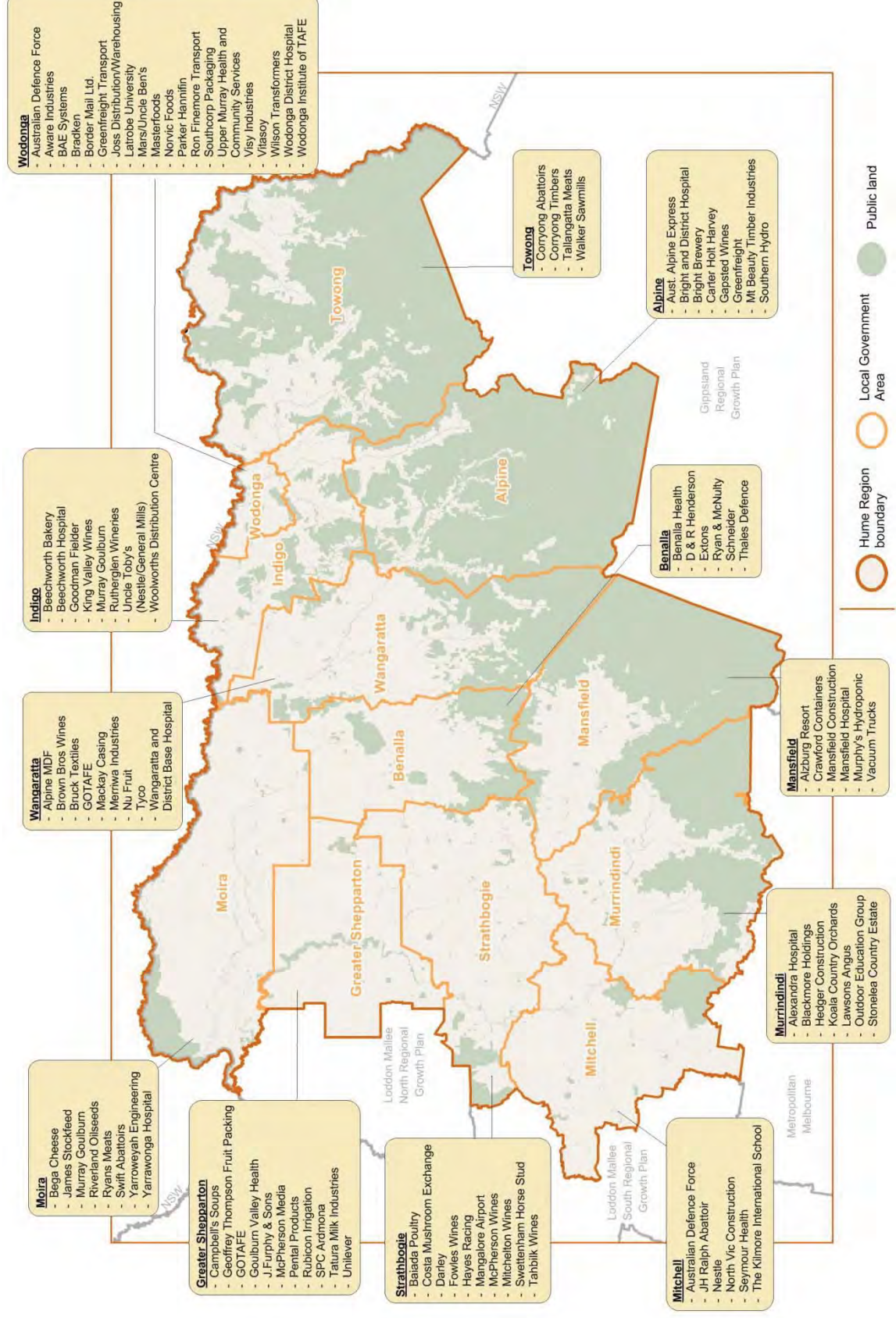
A diverse economy will support future regional population growth and employment. The plan seeks to promote diversification by supporting existing economic activity and encouraging appropriate new and developing forms of industry, agriculture, tourism and alternative energy production. It recognises that an expanded, diverse regional economic base will provide greater resilience to global changes and provides directions to build on the strengths and opportunities of the regional economy.

10.3.1 Urban growth

The plan encourages urban growth, development and change where it is supported by and supports employment, transport services and commerce. The availability of industrial and commercial development opportunities within key locations identified for urban growth and change will play an important role in creating or expanding employment. Physical infrastructure needs to be provided to ensure industrial areas are 'market ready'. Recreation facilities, health and education services, and housing supply also contribute to attracting and retaining a workforce.

The growth of online shopping is expected to affect the region's retail sector, particularly the demand for future retail floor space in urban locations. The plan recommends these trends should be monitored and their impact on land use assessed. Recent changes to the commercial (business) and industrial zones that allow a wider locational choice for large floor area retailers, small supermarkets and offices may also affect the distribution of land uses and could impact on the viability of central business districts in some urban centres.

Figure 15: Key enterprises – Hume Region



Source: Department of Transport, Planning and Local Infrastructure

10.3.2 Employment

The plan seeks to ensure there are appropriately located and serviced employment locations sited to take advantage of water, infrastructure, transport and energy connections. It identifies that key urban employment locations for the future are Shepparton, Wodonga, Wangaratta, Benalla and Seymour. The plan recognises the location of government functions in regional areas can support employment and economic diversity and that some residents will continue to access jobs outside the region in places such as Albury (in New South Wales) and Melbourne.

The plan also acknowledges that a capable and available workforce is critical to the regional economy. Such a workforce will help to retain and expand the existing economic base and improve the capacity of the region to adjust to changing economic circumstances and embrace new opportunities. The plan notes that implementation of the Hume Strategy will include preparing a Workforce Development Strategy for the region.

10.3.3 Investment

The plan lists factors that will help attract new investment and increased economic development to the region as: an adequate supply of land and water; physical and social infrastructure; technology; transport; a skilled workforce; quality education; and affordable housing. This will help build public and private investor confidence. It considers the region will be an attractive option for a wider workforce due to its liveability and planned investments in educational facilities, information and communications technology, and improved transport links.

The plan recognises improved communications will attract new enterprises and facilitate alternative working arrangements, such as 'telecommuting' or home-based businesses. Additional infrastructure may be needed to support new opportunities such as generating renewable energy from waste, including green waste from agricultural and timber production. Opportunities may exist in the region to co-locate industries to maximise resource use efficiency and minimise waste generation and treatment costs.

Part of the implementation of the Hume Strategy, Digital Hume – a strategy for a smart region is identifying supply gaps and potential ways to fill them.

10.3.4 Tourism and environmental assets

The plan recognises that tourism has significant growth potential in the Hume Region. The region will continue to offer tourist attractions such as food and wine, snow and other nature-based experiences, long distance cycling, unique cultural heritage and national touring routes; including the Sydney Melbourne Heritage Drive and Touring the Murray route. Other major tourist routes in the region include the Great Alpine Road and Yarra Valley to High Country Touring Route.

Environmental assets such as alpine areas, public land, water bodies and landscapes contribute to the economy of the region by attracting visitors and new residents. The plan states these will continue to be recognised as important economic contributors, as well as for their intrinsic values. Protecting, maintaining and enhancing these assets will help build a more diverse economy.

The plan supports nature-based and cultural heritage tourism that takes advantage of environmental and heritage assets without compromising their values. This includes appropriate private sector investment on public land, considering the new Victorian Government guidelines relating to tourism development in National Parks, which could contribute to diversifying the tourism products offered in alpine areas where snow-related tourism may be affected by climate change. The five alpine resorts located in the region are focusing on 'all season' strategies to strengthen economic growth. Falls Creek is working towards developing world class altitude training facilities, which will provide international, national, state and regional benefits. Cycling has

been identified as a core platform for growth in the region and will contribute to the range of summer activities offered. Locations in close proximity to alpine resorts, such as those at the base of snowfields, in areas such as Alpine, Mansfield and Murrindindi shires, support tourism activities at resorts by offering accommodation and alternative activities.

Lakes such as Hume, Eildon and Dartmouth have potential for further development as visitor destinations, particularly for water-based activities including recreational fishing. Opportunities also exist to enhance nature-based tourism associated with rivers and wetlands, including the Barmah Forest, the lower Ovens River and the restoration of the Winton Wetlands.

There could be benefits in undertaking an accommodation study, building on previous work in the region. This project could identify gaps in the regional accommodation market, recommend how these gaps might be filled and identify locations that are potentially suitable for development of new accommodation options.

Tracks and trails, including rail trails, will continue to offer recreation and tourism experiences in the region that encourage visitors to extend their stay, thereby delivering social and economic benefits to the region. The proposed Hume Region Significant Tracks and Trails Strategy aims to establish a detailed strategic plan for the further development of existing and proposed regionally significant tracks and trails. It will consider development of land uses supporting these tracks and trails, such as accommodation, complementary infrastructure and services, such as tourism precincts, facilities and transport.

The plan acknowledges it is desirable to increase the range of high quality and diverse accommodation, both at destinations and at gateways or stop-over locations such as in Mansfield and Murrindindi shires. Different types of accommodation may be needed in urban and rural localities.

Directions included in the plan state that decisions on regional economic growth and diversification should consider the natural environment and liveability of the region.

10.3.5 Agriculture

The plan aims to position the Hume Region to continue to be one of Australia's major food production areas by protecting and enhancing key agricultural assets, such as land and water resources. These strategic resources underpin production of a diverse range of agricultural commodities that will contribute substantially to the region's economic future. They will support a resilient agricultural sector and enhance its capacity to adapt to future economic and climatic changes.

Strategic farmland has been identified (see section 9 of this Paper) and the plan contains measures to protect it. Irrigation modernisation and increased on-farm efficiency will help make the best use of valuable water resources. Agricultural production is expected to become more intensive in the future. The plan encourages investigation of new opportunities to establish intensive agricultural clusters in strategic locations, supported by ancillary infrastructure. It also recognises that new agricultural opportunities may emerge in the region over time including new commodities, technological changes and emerging industries, such as carbon markets.

10.3.6 Transport

The plan seeks to assist the region to capitalise on its national transport links and optimise passenger and freight transport to support the regional economy. A key part of ensuring the best use is made of strategic transport assets is to continue to develop the existing LOGIC freight activity centre in Wodonga, establish a consolidated freight and logistics precinct south of Mooroopna (GV Link) and explore opportunities to develop the Mangalore Airport as a future freight logistics precinct linking road, rail and air transport and providing pilot training facilities.

10.3.7 New industry and mining

The plan encourages exploration and take-up of opportunities to develop new industries, including renewable energy generation and carbon sequestration that respond to initiatives that support action to reduce greenhouse gas emissions, such as a price or a tax on carbon. Such developments will assist in meeting the Hume Region's future energy demands, which are driven by hot summers and cold winters, long distance commuting and the energy needs of large industries. Rising electricity costs, the high price of bottled liquefied petroleum gas and the limited extent of reticulated gas supplies are all factors expected to influence future energy consumption.

Developing alternative energy sources, such as solar, wind, geothermal, bioenergy and biofuels will contribute to securing a sustainable energy future for the region. The plan recognises that opportunities have been identified for sustainable electricity generation in close proximity to existing electricity distribution infrastructure, but that the economic viability of these proposals is still to be tested.

In the waste management and resource recovery sector, the plan supports development of alternative technologies for treatment of solid waste, including composting, recycling and reuse. These can provide opportunities for new businesses as well as local solutions for waste disposal. This is particularly relevant in areas where solid waste is generated, specifically around towns with significant industries and near clusters of intensive animal industries.

The plan recognises that mining and extractive industries contribute to a more diverse regional economy and that there are opportunities to develop new mines and quarries. In the region these include the proposed molybdenum mine near Corryong. Exploration activities in parts of the region, for example, for iron ore in the Goulburn Valley, may lead to future mining opportunities. However, the plan also acknowledges that past mining activities in the region have degraded substantial areas of alluvial soils. It stresses that evaluation of proposals for future mining activities will need to consider their impacts on agricultural productivity and the region's environmental assets in line with planning policy and legislation.

A locally available supply of earth resources, including heavy construction materials, will support settlement growth, economic development and the provision of cost effective infrastructure. The plan recognises that further support may be needed to consider measures to facilitate and manage their extraction.

11. Environment and heritage

11.1 Overview

The Hume Region's high value environmental assets include snow covered alpine areas, lush river valleys, forests and woodlands, granite outcrops, and river red gum floodplains. The region has significant landscapes such as the Australian Alps, Great Dividing Range and Murray River corridor. Cultural landscapes are important for their aesthetic (including scenic), historic, scientific, social, archaeological and environmental values. They contribute to the character of places and to the economic success of the region, improving liveability for its residents and attracting visitors and tourists.

The headwaters and catchments of many of Victoria's major rivers are located in the region and are environmental assets of state and national importance. These include the Broken, Goulburn, Kiewa, King, Mitta Mitta, Murray and Ovens rivers. Together, they contribute nearly 50 per cent of the total inflows to the Murray- Darling Basin. The Ovens and King river systems remain the only essentially un-regulated Victorian tributaries to the Murray River, providing important natural floods to the Murray system as well as to the Barmah Forest.

It is estimated there are over 3000 wetlands in the region and many of these are on the floodplains of the Broken, Goulburn and lower Ovens rivers. Many are of national significance, while the Barmah Forest is listed

under the Ramsar convention as a wetland of international significance. The Barmah-Millewa Forest and the Murray River channel are among the six priority 'icon' sites identified by the Murray-Darling Basin Ministerial Council that will benefit from improved water management regimes delivered by the Living Murray program.

The region has high biodiversity values and contains large numbers of endemic species. Unfortunately, it also has the greatest number of threatened flora and fauna species of any region in the state. Much of the northern part of the region has been cleared for agriculture and settlement, but significant areas of remnant vegetation can still be found along waterways, roadsides, unused road reserves and on private land.

Nearly 43 per cent of the region is public land, with most located in the eastern and south-eastern parts of the region. This includes a large part of the Alpine National Park, which is included on the National Heritage List and is also recognised as a National Landscape by Tourism Australia and Parks Australia. There are eight other national parks, including Barmah Forest, Burrowa-Pine Mountain, Chiltern-Mt Pilot, Kinglake, Lower Goulburn River, Mount Buffalo and the Warby-Ovens national parks. Public land also includes state forests managed for multiple activities including timber production and nature-based recreation.

The region's unique cultural heritage encompasses Aboriginal cultural heritage and historic heritage places and objects. Its values encompass more than 40,000 years of occupation, land use and management by many generations of Aboriginal peoples.

The region is subject to natural hazards and extreme climatic events such as bushfire, flood and drought. Recent significant events have included:

- extensive bushfires in 2003, 2006–07 and 2009, impacting on parts of the region including settlements
- widespread floods during 2010, 2011 and 2012, impacting on parts of the region including settlements
- drought between 2001 and 2010, impacting on the entire region.

These natural hazards are predicted to increase in terms of severity and frequency as a result of climate change.

11.2 Guiding the future protection of environmental and heritage assets

The Goulburn Broken and North East Catchment Management Authorities play a pivotal role in natural resource management in the Hume Region, with strategic direction provided by their integrated regional catchment strategies. The catchment management authorities have recently released regional catchment strategies for 2013-2018 and aim to prioritise protection of environmental assets while enhancing the resilience of catchments to withstand future pressures, such as the potential impacts of climate change.

Regional catchment strategies and their sub-strategies, such as regional waterway strategies identify priorities for investment in protecting and enhancing high value environmental assets. Each catchment management authority uses different methods to identify their high value environmental assets. The regional growth plans across the state use a consistent approach to mapping environmental assets. These assets align with those identified by catchment management authorities, though they may be mapped to a different scale.

The data collected and analysed for the new regional catchment strategies includes information on environmental assets and natural hazards that will form a valuable resource for local government in updating its planning strategies and planning schemes.

Key environmental issues that are addressed in the plan include:

- adapting to the potential impacts of climate change
- protecting significant cultural landscapes

- protecting, expanding and connecting terrestrial habitat, and the biodiversity it supports
- protecting waterways and wetlands.

Registered Aboriginal Parties have an important role in planning place-based activity and development. Currently the Yorta Yorta Nation Aboriginal Corporation, Taungurung Clans Aboriginal Corporation, Wurundjeri Tribe Land and Compensation Cultural Heritage Council and Gunaikurnai Land and Waters Aboriginal Corporation have legislated responsibilities relating to the management of Aboriginal cultural heritage places in the region.

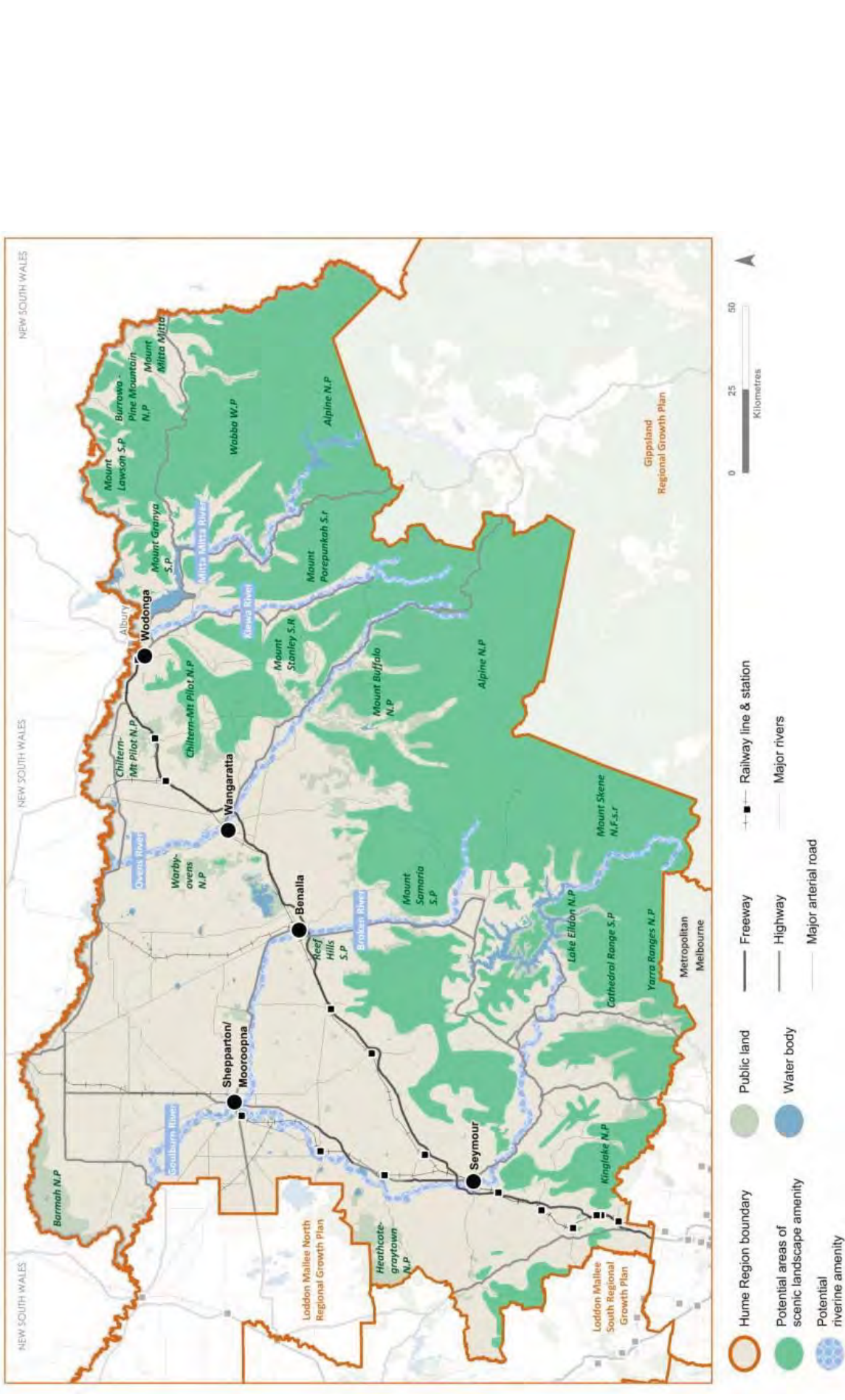
11.2.1 Regional landscape

The Hume Region's cultural landscapes are highly valued by the community, tourists and visitors for their scenic amenity and heritage values. The Department of Environment and Primary Industries has some mechanisms in place to manage visual amenity and heritage values on public land, but a consistent, whole-of-region view of landscapes, across public and private land, has not been developed. Landscapes need to be identified, described and classified in a consistent way so that those with significant values (including aesthetic or heritage values) can be protected and maintained.

Scenic amenity values play an important role in the beauty and liveability of an area. Although no scenic amenity studies have been conducted in the region, it is highly likely the region contains areas of national, state and regional significance for these values. A preliminary assessment has identified areas that may have significant scenic values, including elevated areas above 4000 metres and areas visible from strategic vantage points to foothills and mountains or down to the valleys, rivers and water bodies (Figure 16). Key locations include the Australian Alps, Great Dividing Range, Murray River, other river corridors and ribbons of roadside vegetation. Threats to amenity could include loss of native vegetation and incremental and inappropriate land use change and development.

Scenic amenity is a strong drawcard for visitors and new residents. Increased awareness and appreciation of landscapes can also increase awareness of and respect for the natural environment. Scenic amenity can be a strong contributor to the character of a place and needs to be managed and maintained into the future.

In the region, a comprehensive regional cultural landscape study is necessary to identify significant landscapes and consider their value to the local community, tourists and visitors.



Landscapes may also have heritage significance due to their aesthetic, cultural heritage, scientific, environmental or social values to past, present or future generations. In the region, such areas are likely to include:

- recognised National Heritage areas, including the Australian Alps National Parks and Reserves, the Glenrowan Heritage Precinct, the Flora Fossil site at Yea and Bonegilla Migrant Camp
- sites on the Commonwealth Heritage List, including the Puckapunyal Military Area
- the lower Goulburn, Big and Howqua rivers as well as parts of the Ovens and Upper Murray basins, which are identified as Heritage Rivers
- landscapes on the National Trust of Victoria Heritage Register including the Cathedral Range, Trawool Valley, Howqua River and the Buckland and Mitta Mitta valleys.

To date, broad-scale heritage identification has generally focused on individual cultural heritage places. Little work has been done on assessing the broader cultural landscape. There has not been a systematic identification, classification and recording of broader heritage landscapes across the region. Neither has there been a comprehensive response by local government to identifying and protecting cultural landscape heritage. Preserving landscape heritage helps to protect the unique character of an area, and can help to secure irreplaceable sites for future generations. Protection and promotion of landscape heritage can also expand tourism and associated economic activity.

The plan recognises the need for an integrated regional cultural landscape study to contribute to identifying and preserving significant cultural landscapes. This includes consideration of both scenic amenity and heritage values and identifying suitable planning mechanisms for their protection.

11.2.2 Cultural heritage

The Hume Region's unique cultural heritage, both Aboriginal cultural heritage and historic heritage, is important to contemporary communities. This includes the region's heritage estate, the places that demonstrate key phases or events in the history of the region, as well as the stories and ongoing cultural practices that are associated with them. Heritage places are integral elements of creating a sense of place for communities.

In the region, Aboriginal peoples continue to have strong relationships with, custodianship of, and decision-making roles about cultural heritage places and objects. The cultural obligation of Aboriginal peoples (and all Victorians) to manage and sustain heritage places is an important aspect of expressing, strengthening and maintaining relationships with these places.

The region's historic cultural heritage includes a wealth of sites and areas, ranging from those representing early European exploration and settlement, sites linked to bushrangers, through to important towns, buildings, structures, parks, gardens, landscapes and other places associated with the historic and cultural development of the state. In the region, important historical themes are pastoral expansion, gold mining, industrial development and economic expansion and growth. Heritage assets include significant Aboriginal heritage sites, historic towns and nationally significant sites related to the Ned Kelly story.

Cultural heritage is an asset, in community, economic and social terms and needs to be considered when planning for growth and future land use change. Many tourists seek heritage tourism experiences, such as in historic towns including Beechworth, Chiltern, Yackandandah and Glenrowan or the Barmah National Park. Aboriginal and historic heritage attractions and services contribute to regional economies and employment. Building a comprehensive sense of place around heritage places and cultural values is important for developing resilient and sustainable communities.

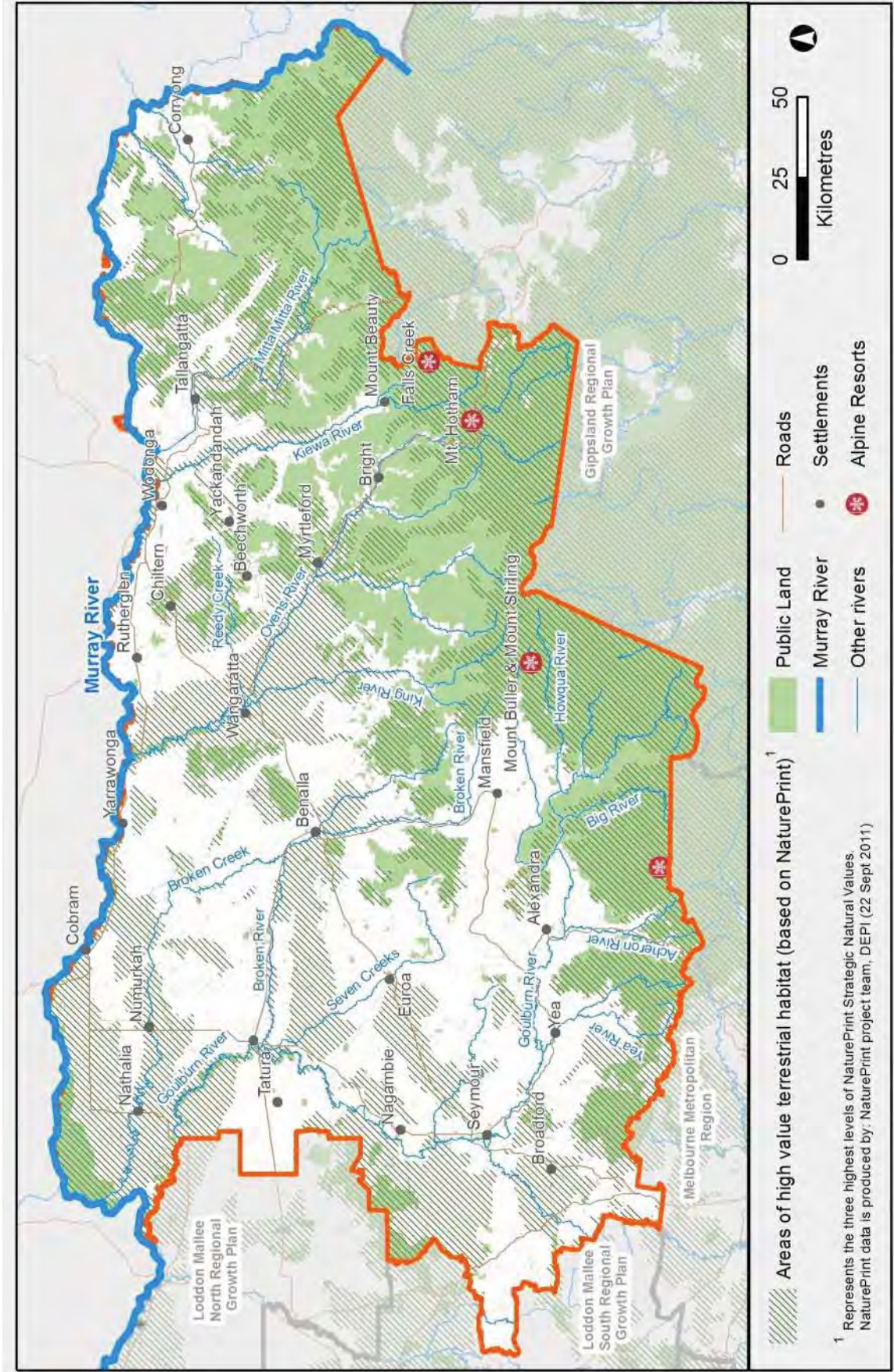
11.2.3 Terrestrial habitat

Terrestrial habitat incorporates native vegetation as well as other elements of the landscape, such as rocks, fallen timber and soil. Terrestrial habitat supports biodiversity within the region. Biodiversity encompasses a range of living things and ecosystems, which evolve and adapt to environmental change over time. Highly significant biodiversity values are found across the Hume Region including many species of plants and animals. The focus of many environmental management programs is to increase the coverage of native vegetation and connections across the landscape, which in turn provides benefits for other biodiversity values.

The regional growth plans across the state use the highest three levels of the Department of Environment and Primary Industries' NaturePrint⁶ Strategic Natural Values mapping tool to identify significant clusters of terrestrial habitat across the state (Figure 17).

⁶ 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>

Figure 17: Areas of high value terrestrial habitat



Source: Department of Transport, Planning and Local Infrastructure

Originally the region was covered with grasslands, woodland and forests. The region has undergone extensive modification over time and is now a diverse landscape with a mosaic of intensive areas of agricultural production in the Goulburn and Ovens valleys, extensive grazing in the upland regions, cropping on the riverine plains and forested areas on the higher slopes, particularly on public land.

In the irrigated agricultural areas of the north-west of the region, up to 97 per cent of the vegetation has been cleared. Most of the remaining native vegetation is now found on roadsides and private land and is of poor quality due to limited diversity and lack of an understorey, as a result of grazing pressures. In this part of the region, many species of plants and animals are threatened and some species may not survive without action to improve the size and condition of available habitat.

Outside the irrigation districts and the large national parks to the south, there are various smaller public parks and stands of native vegetation on private land or on public roadsides. However, there is generally a lack of connectivity between vegetated areas. Connectivity is important to sustain the productivity of landscapes and to enhance environmental assets across the landscape.

The plan suggests that environmental initiatives in the region should aim to enhance the resilience of remnant vegetation by increasing patch sizes and re-establishing connectivity between areas of vegetation and along waterways.

The plan recognises that actions aimed at increasing landscape connectivity will require careful planning to ensure due regard is given to ecological considerations, bushfire management and implications for nearby settlements. Opportunities exist to locate offset planting associated with clearing of vegetation to enhance vegetation corridors within the landscape. Economic opportunities such as payments for providing ecosystem services, including clean water, clean air and biodiversity, firewood plantations and carbon farming could help to protect and enhance terrestrial habitat in the region. Establishing private conservation reserves through Trust for Nature covenants and similar mechanisms could also make a useful contribution.

The plan seeks to use strategic planning processes to facilitate the establishment of vegetation networks at a local and regional level, in order to help maintain and enhance the region's terrestrial habitat and links to waterways and wetlands. It encourages approaches such as that used by the Wodonga Retained Environmental Network, which has created new public reserves to provide permanent protection to native vegetation, as well as giving strategic direction for conservation of significant areas and acceptable clearing for new development.

Pressures for urban and rural residential development in areas of high amenity or natural values, such as in the peri-urban hills, present a threat to environmental assets. However, they also provide opportunities for tourism and other economic diversification in the region. A key challenge for regional and local planning is balancing these pressures along with natural hazards and other risks, such as increases in pest plants and animals. The costs of infrastructure provision in these areas may also be a constraint on development.

Removal of vegetation, combined with the expected effects of climate change, may have significant impacts on native species. Land use planning decisions will need to consider indirect consequences, such as the effect of loss of terrestrial habitat on the viability of species in particular areas. The plan recognises the impacts of land use change and development could be minimised to protect and enhance environmental assets and their economic contribution. This could be achieved by:

- directing growth towards areas identified as having lower environmental values
- avoiding development in areas with regionally significant terrestrial habitat
- protecting significant vegetation assets through appropriate land use controls
- improving regional vegetation connectivity by enhancing corridors between existing areas of native vegetation.

The plan notes, however, that the potential impacts of land use planning decisions on specific threatened flora and fauna species needs to be considered through local planning mechanisms, rather than at the regional scale.

Future decisions need to consider the strategic directions of the regional catchment strategies and sub-strategies as well as other relevant documents, such as state and local government strategies and policies, including planning schemes. Equally, revisions to natural resource management strategies should consider the directions of the plan. Alignment of processes and strategies will contribute to the protection and enhancement of regional biodiversity assets.

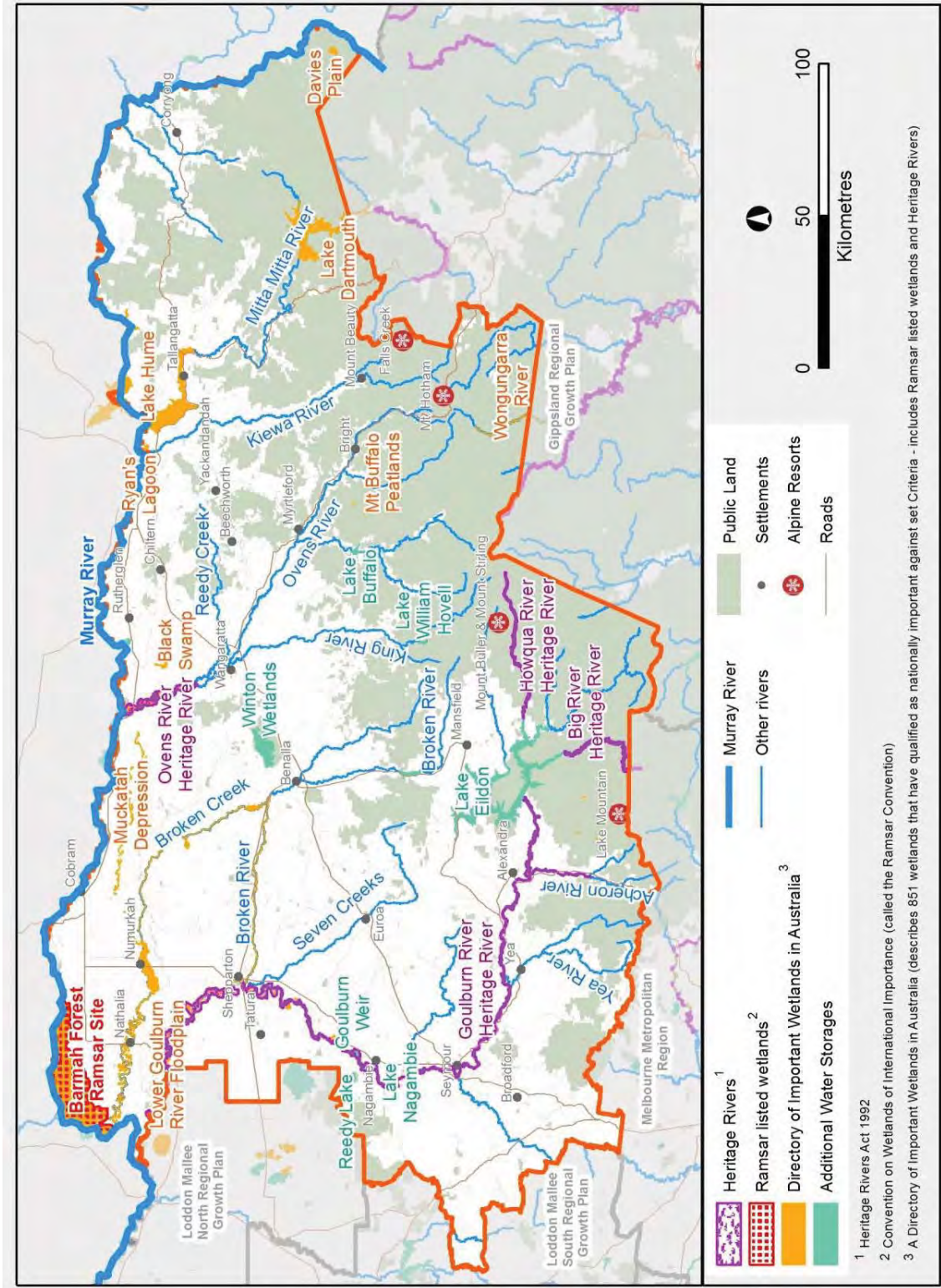
11.2.4 Water and land use

The waterways (rivers and wetlands) of the Hume Region are highly significant environmental and economic assets. Significant rivers and creeks in the region include those linked to the Upper Murray, Kiewa, Ovens, Broken and Goulburn River catchments, all which flow to the Murray River. The south of the region also includes the upper catchments of some rivers which flow to the south of the Great Dividing Range, including the Mitchell and Thomson River catchments. Catchment management authorities are reviewing their current regional river health strategies to develop regional waterway strategies. These strategies identify priority river reaches for protection and enhancement works. The region contains four Victorian Heritage Rivers⁷ (refer to Figure 18).

There are thousands of wetlands within the region that range from small shallow depressions in paddocks to deep water storages, as well as peatbog wetlands in alpine areas. Some wetlands in the region are recognised for their significance at international and national levels, through listing on the Ramsar Convention and in the Directory of Important Wetlands in Australia. Note, listings on the Directory include Ramsar listed wetlands and Victorian Heritage Rivers, as well as other nationally significant wetlands (refer to Figure 18).

⁷ The Heritage Rivers Act 1992 makes provision for Victorian heritage rivers by providing for the protection of public land in certain parts of rivers and river catchment areas in Victoria which have significant nature conservation, recreation, scenic or cultural heritage attributes.

Figure 18: Regionally significant waterways of the Hume Region



The waterways of the region provide water for the environment and feed major water storages including Lake Hume, Lake Eildon and Dartmouth Dam. The region's significant irrigation infrastructure supplies water for one of Australia's major food-producing areas, including the food bowl area, settlements and farms. In other parts of the region, such as the Kiewa Valley, irrigation water is extracted direct from the source to support agricultural production. Water supply infrastructure is discussed in more detail in section 12.

Approximately 60 per cent of the rivers and wetlands in the region are in moderate to poor condition. There have been significant impacts on rivers, streams and wetlands from river regulation and flow diversion, urban and agricultural development, catchment clearing and run-off of untreated stormwater and wastewater. Wetlands on private land are particularly at risk and work is needed to identify appropriate tools, including planning provisions, to protect and enhance them.

In addition to their environmental function, waterways and significant wetland complexes provide a variety of opportunities for nature-based and cultural heritage tourism throughout the region, and add to the amenity values of the landscape. Many urban settlements in the region are located adjacent to rivers that can be used as a centrepiece or design focus within the urban landscape, to enhance liveability and connections with environmental assets.

Catchment management authorities are responsible for planning and implementing strategic actions to improve the health of waterways and wetlands in the region. The plan recognises that supporting measures need to be integrated into local and regional land use planning. The highly dynamic nature of some regional waterways needs to be considered as part of land use planning processes. Decisions regarding the use and development of land along major waterways, on floodplains and around key water bodies should be consistent across the region to manage potential impacts.

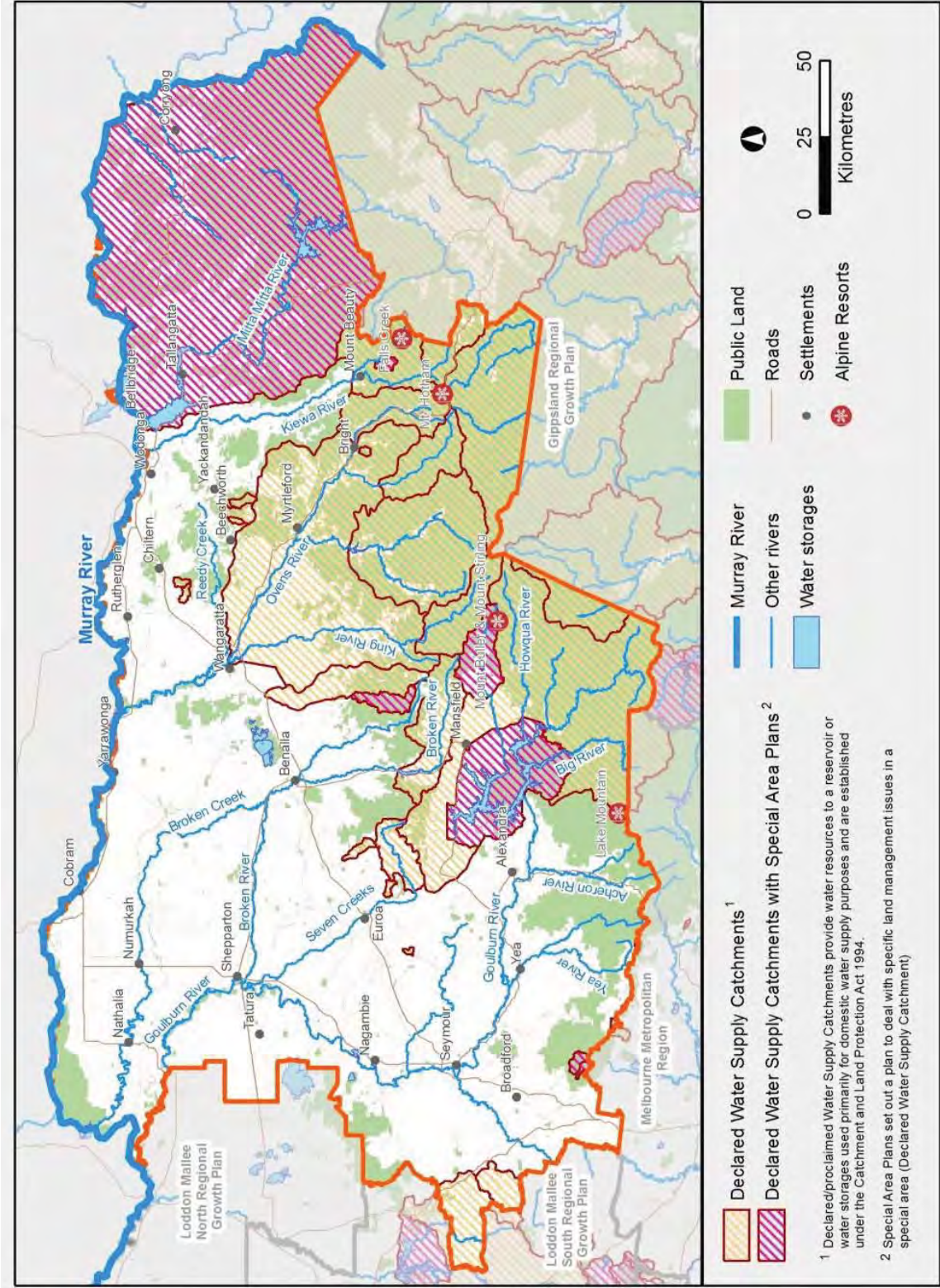
Groundwater is a significant but variable resource within the region. Groundwater supplies in some areas may not be suitable for potable use and this could become an issue if groundwater is required to meet future water supply needs for settlements. This water is often still a viable resource for agriculture and industry and some opportunities may exist to increase its use for these purposes. However, due to the links between rainfall, groundwater levels and salinity, groundwater resources will continue to be managed carefully.

The Murray-Darling Basin Plan is likely to have an impact on both surface and groundwater allocations. Groundwater is also being considered as a contribution to municipal water supplies. Possibilities include managed aquifer recharge, as a storage option, and use of groundwater as a drought response. The plan seeks to complement these actions and support economic activity associated with these values through appropriate land use planning mechanisms.

Land use challenges arise due to the extent of declared water supply catchments, used to collect water for human consumption, within the region (refer to Figure 19). These areas are under varying pressure for development. If not managed appropriately, unsewered residential development and some types of agriculture have the potential to impact adversely on water quality. Land use planning decisions in these areas need to consider the management of risks relating to wastewater disposal and the cumulative impacts of development on groundwater and surface water resources, assisted by tools such as the guidelines for planning permit applications in open, potable water supply catchment areas.

Councils may need to review their domestic wastewater management plans to enable effective management of settlement growth and economic development in these areas while protecting catchment health. Catchment management authorities, water authorities and councils could work together to develop and implement Special Area Plans to provide appropriate direction on land uses and development in catchments.

Figure 19: Declared water supply catchments of the Hume Region



11.2.5 Air quality

In the region, impacts on air quality arise from factors such as bushfire smoke, traffic and industrial emissions. The State Planning Policy Framework contained in the Victoria Planning Provisions provides objectives and strategies to guide the protection and improvement of air quality, such as the improved integration of transport and land use planning.

11.2.6 Soils

In the Hume Region, the diversity of soil types reflects differences in parent material, topography, climate, organic activity and the extent of weathering. In general, the regional soils are highly weathered and often very shallow, with the exception of alluvial soils in river valleys and on floodplains. Appropriate use and management of these soils is necessary to conserve them and to avoid adverse effects on other assets from soil degradation. Infrastructure, including roads, buildings and bridges, productive agricultural land and waterways can all be affected by soil acidity, erosion or salinity. Human activity has increased the rate of soil loss several hundred fold above the rates prior to European settlement.

The plan recognises that environmental values provided by land and soil, including ecosystem services such as carbon sequestration, are fundamental to sustainable land use and ecological processes. Soils house 90 per cent of the biodiversity of the catchment and need to be managed to retain that diversity, to underpin the resilience of ecological and economic systems of the region. Healthy soil is critical to the growth and diversification of the region's economy, particularly in agriculture.

The former Department of Sustainability and Environment's Soil Health Strategy 2012 outlines a vision for the health of Victoria's soils. The plan stresses that land use planning can assist in protecting the region's soil resource by considering potential risks associated with disturbing soils. These include deterioration of the soil assets in the region and pollution of waterways. A range of planning tools, such as overlays and policies, can be used to enhance the protection of soils.

11.2.7 Public land

Public land, particularly in the mountains and foothills, plays a major role in the economy of the Hume Region by providing water and timber, as well as a wide range of tourism and recreational opportunities. The plan acknowledges that the substantial public land estate is a significant asset of the region. It will continue to be recognised and managed to protect environmental assets and ecosystem services, such as pollination, water and air generation and purification, as well as to produce timber and firewood and provide recreation and nature-based tourism experiences. Public land will continue to be valued for its role in carbon storage.

Most public land in the region occurs in large blocks and is protected in parks, reserves or state forests. In largely cleared agricultural landscapes, narrow strips of public land adjoining roads or streams and small bushland reserves are frequently critical in preserving remnant native vegetation, protecting water quality and providing recreational opportunities. In the future, these areas of public land may be vulnerable to increased pressure due to land use change or development in surrounding areas.

With the prospect of a drier climate over the next 30 years, buffering public land and environmental values from built development, especially residential development, will be a key consideration. The plan provides that in planning for land uses and development on and adjacent to public land, particularly where it consists of linear corridors or small pockets of land, consideration needs to be given to managing the risks to these assets and finding opportunities to enhance their viability and resilience.

11.3 Planning for natural hazards

The plan considers risks to life and property from natural hazards and identifies appropriate strategic responses.

11.3.1 Climate

As described in section 6.4 of this background paper, climate change could potentially have wide ranging impacts on the region. The plan directs that future land use planning decisions be based on the best available information relating to the potential impacts of climate change and should implement measures to adapt to unavoidable changes.

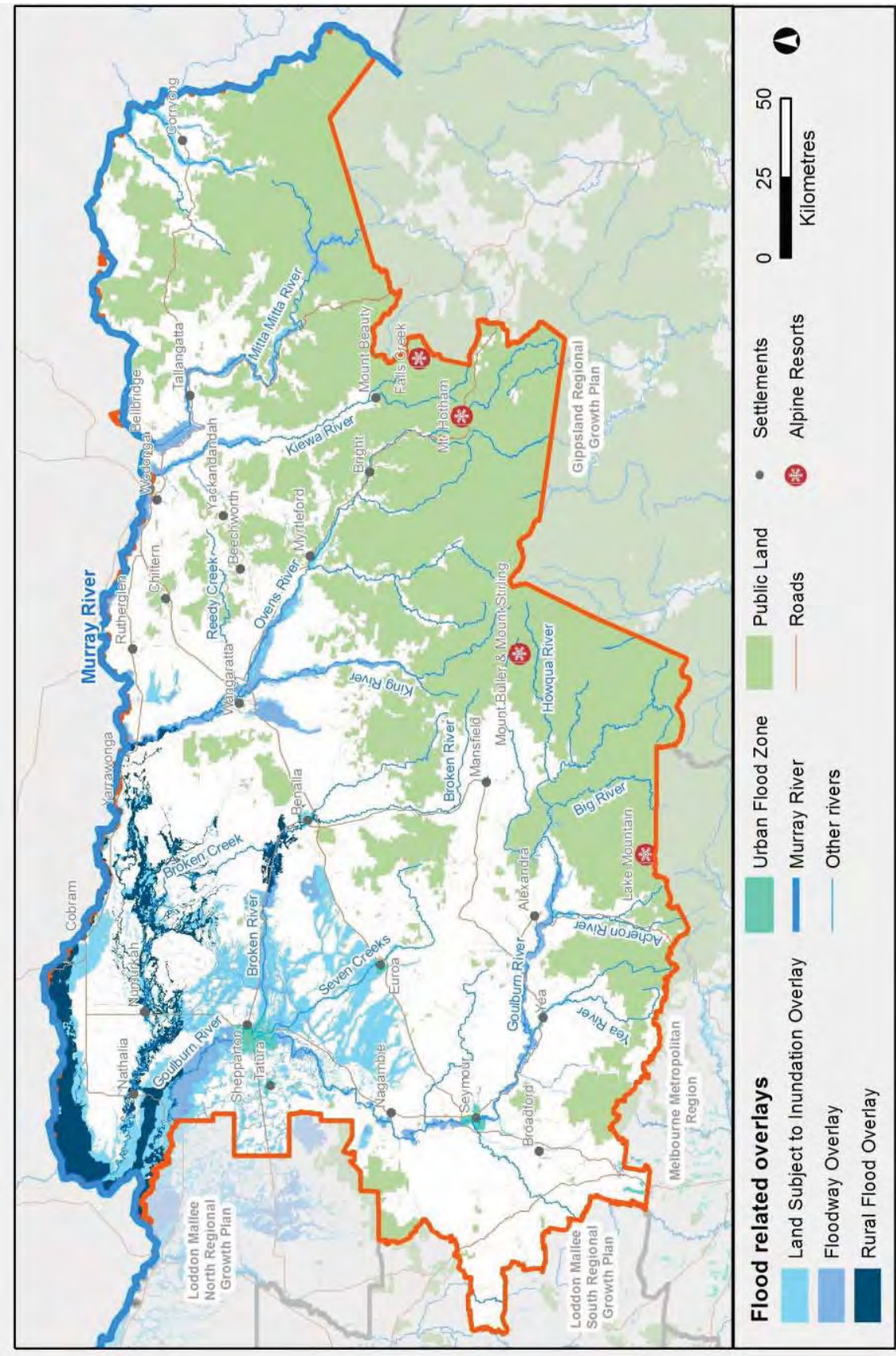
11.3.2 Flooding

Flooding and floodplains are important ecological functions and features of the environment, but flooding can be highly disruptive to the community and the economy. Many of the Hume Region's urban centres are located on and around floodplains, including Benalla on the Broken River, Seymour and Shepparton on the Goulburn River and Wangaratta on the Ovens and King rivers. In times of major floods, parts of these urban centres may be inundated and regional transport links cut.

The potential impacts of climate change on the severity and frequency of flood events is not yet fully understood. Future climate projections indicate that more extreme flood events may occur, although they may be less frequent. The catchment management authorities, as floodplain managers, have commissioned new flood studies to better understand floodplain behaviour.

Land at risk of flooding is recognised in local government planning schemes through the use of zones and overlays that apply different levels of planning control, corresponding with the degree of flood risk. The current flood related overlays and zones in the region are shown in Figure 20. These planning tools have been applied in the region to varying extents, but do not necessarily cover all areas at risk of flooding. There are often time delays in updating planning schemes to reflect new flood modelling. Most flood mapping undertaken for the region to date does not make allowances for the impacts of climate change.

Figure 20: Current flood related overlays and zones in the Hume Region



Source: Department of Transport, Planning and Local Infrastructure

The Review of the 2010–11 Flood Warnings and Response – Final Report identified the importance of flood mapping and modelling to manage the risk to life and property. This report found that managing flood risk proactively through the application of land use planning controls is less costly than reducing flood risk using mitigation measures such as levees to protect established areas. In response to this report, the state government developed the Improving Flood Warning Systems Implementation Plan 2012, which includes actions to improve flood mapping and ensure that all relevant planning schemes include up-to-date flood information and maps.

In the region, there are still areas where flood behaviour is not well understood and additional flood modelling is required to support future planning. Action is also required to implement the recommendations of some previous studies, such as the Lower Goulburn Floodplain Management Strategy.

The plan stresses that the risks presented to land use from flooding must be considered in planning decisions, particularly where the threat to life and property may be increased as a result of such decisions. New development should be located away from active floodplains and should not be supported if it requires protection measures that are likely to increase the flood risk for other sensitive areas or existing development.

Urban and rural drainage systems in the region are also important for the future. Rural drainage helps protect irrigated agricultural areas from the threats of water logging and salinity. Urban drainage can assist with the prevention of flooding in extreme rainfall events. However, design standards may need to be reviewed and capacity increased to cope with more intense storms, particularly for urban stormwater drainage.

11.3.3 Bushfire

Many of the landscapes most attractive to residents and visitors are in areas of high bushfire hazard. These include the extensive network of national and state parks, state forests, vegetated river corridors and privately owned land on steep vegetated slopes. Pressure for development within or adjacent to these areas presents a significant challenge to land use planning authorities and responsible authorities, and careful management is required to minimise risk to life and property.

Future climate projections indicate that bushfire frequency is likely to increase, with a greater number of very high fire index days occurring each year. The plan recognises this increase in potential bushfire hazard needs to be considered in future planning.

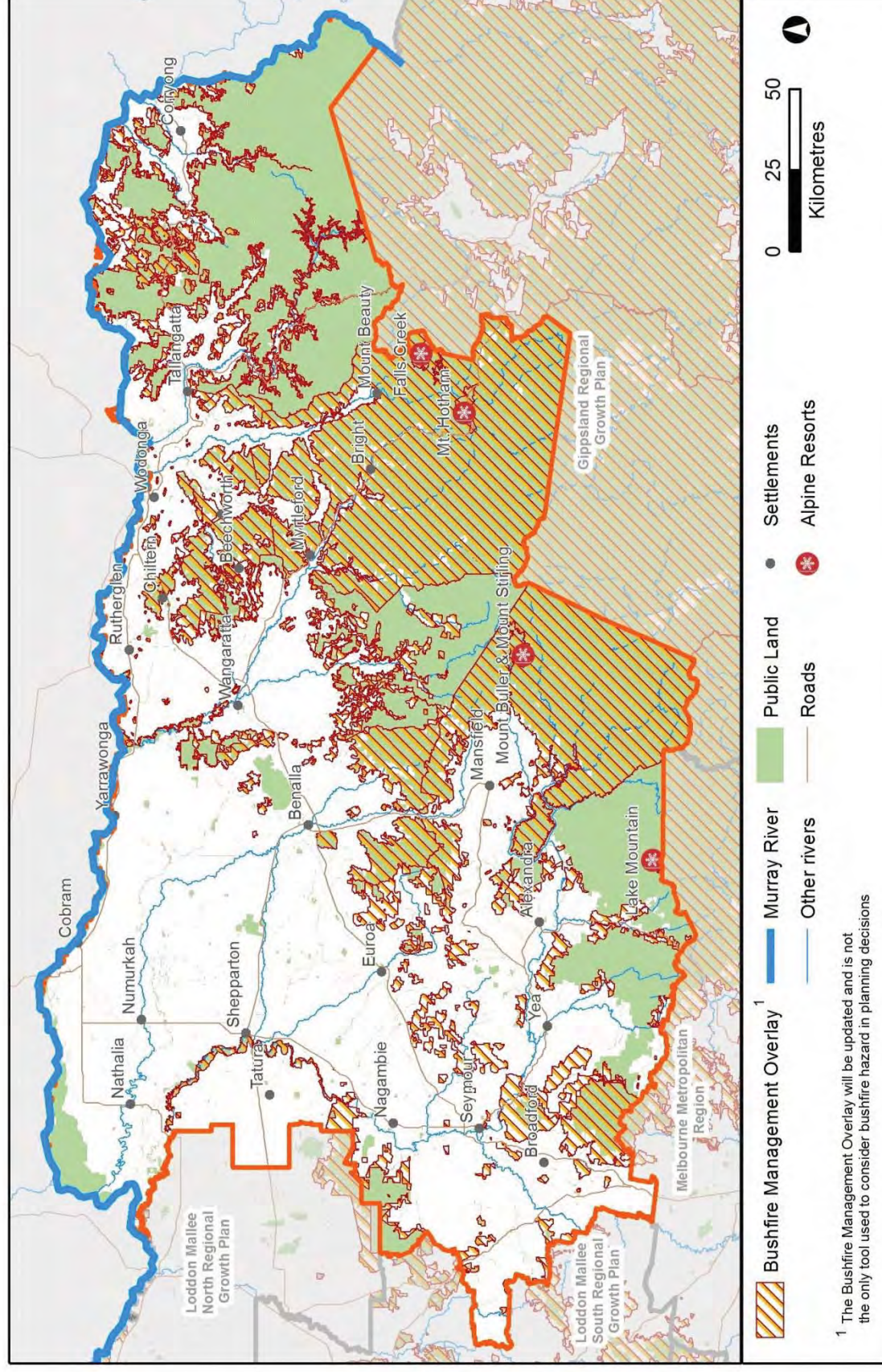
In response to recommendations from the Victorian Bushfires Royal Commission into the 2009 fires, regional settlement policy discourages fragmented development on rural lots. It also includes a process for responding to bushfire risk at the planning stage for new urban developments in regional cities, similar to that used to assess new developments in Melbourne's Urban Growth Zone. The Victoria Planning Provisions and planning schemes have been amended to ensure bushfire provisions give priority to the protection of human life.

Implementation of the Royal Commission's recommendations also includes development of regional bushfire planning assessments, which will indicate where a significant bushfire hazard may affect land use planning. They are intended to be a resource to assist councils to support community resilience to bushfire and to contribute to strategic planning, such as planning scheme amendments. Although not exhaustive, the areas identified provide a starting point for investigation of bushfire hazard should further development be considered in such locations.

The Bushfire Management Overlay has been applied to local government planning schemes to recognise areas where bushfire hazard is an important land use planning consideration. The current Bushfire Management Overlay for the region is shown in Figure 21. New Bushfire Management Overlay mapping is being prepared and will more accurately reflect areas where bushfire hazard requires specified protection measures and where planning decisions should explicitly consider risk to life and property from bushfire hazard.

Other tools and information that can assist in responsible planning decisions in relation to bushfire hazards include Regional Bushfire Planning Assessments, mapping of bushfire prone areas, information in Integrated Fire Management Plans, and advice from agencies such as the Country Fire Authority. This information can provide valuable additional understanding of bushfire hazards and planning considerations. For example, the Regional Bushfire Planning Assessments include information on limited access and egress to specific towns.

The plan directs that identification of future growth areas and other strategic land use planning decisions must prioritise the protection of human life above all other policy considerations. Planning also needs to consider the potential environmental impacts of measures that may be required to minimise bushfire hazard. Development should not be supported if it could increase the risk to life, property or community infrastructure or assets from bushfires.



11.3.4 Salinity

Settlement of the Hume Region for agricultural and pastoral uses has replaced native vegetation with crops, introduced exotic grasses and brought large areas of land under irrigation. These developments have resulted in significant changes to the water balance, with localised effects including increasingly saline groundwater, raised water tables or groundwater discharge. Discharge areas may become saline, are often waterlogged, support only salt-tolerant vegetation, and suffer from soil erosion. Rising groundwater is as much an environmental problem as an issue for agriculture and urban areas.

Salinity issues in rural areas and for waterways are addressed through the land and water management activities of the catchment management authorities. Dry land salinity in the Goulburn Broken and North East Catchment Management Authority regions affects over 7000 hectares of land⁸. This figure does not include dry land areas that are at risk of becoming saline in the future, or areas that are saline as a result of irrigation activities.

Urban salinity is an emerging problem across Victoria and can cause significant damage to structures, such as pavements, road base, bricks and mortar, and can corrode and damage underground pipes and wires. It can also result in dying gardens, bare soil or soils that can only grow salt-tolerant species. Assets at risk include roads, buildings, bridges, cemeteries, parks and gardens, lakes and waterways. The plan recognises that salinity issues need to be considered for some settlements within the region.

The severity of salinity in both urban and rural areas decreased during the recent extended drought, but the problem appears to have been halted only temporarily. Recent wet years have seen a re-emergence of many salinity related problems. There is extensive monitoring and mapping of salinity and watertable levels in the irrigation areas of the region. Such monitoring and mapping may need to be extended to other areas.

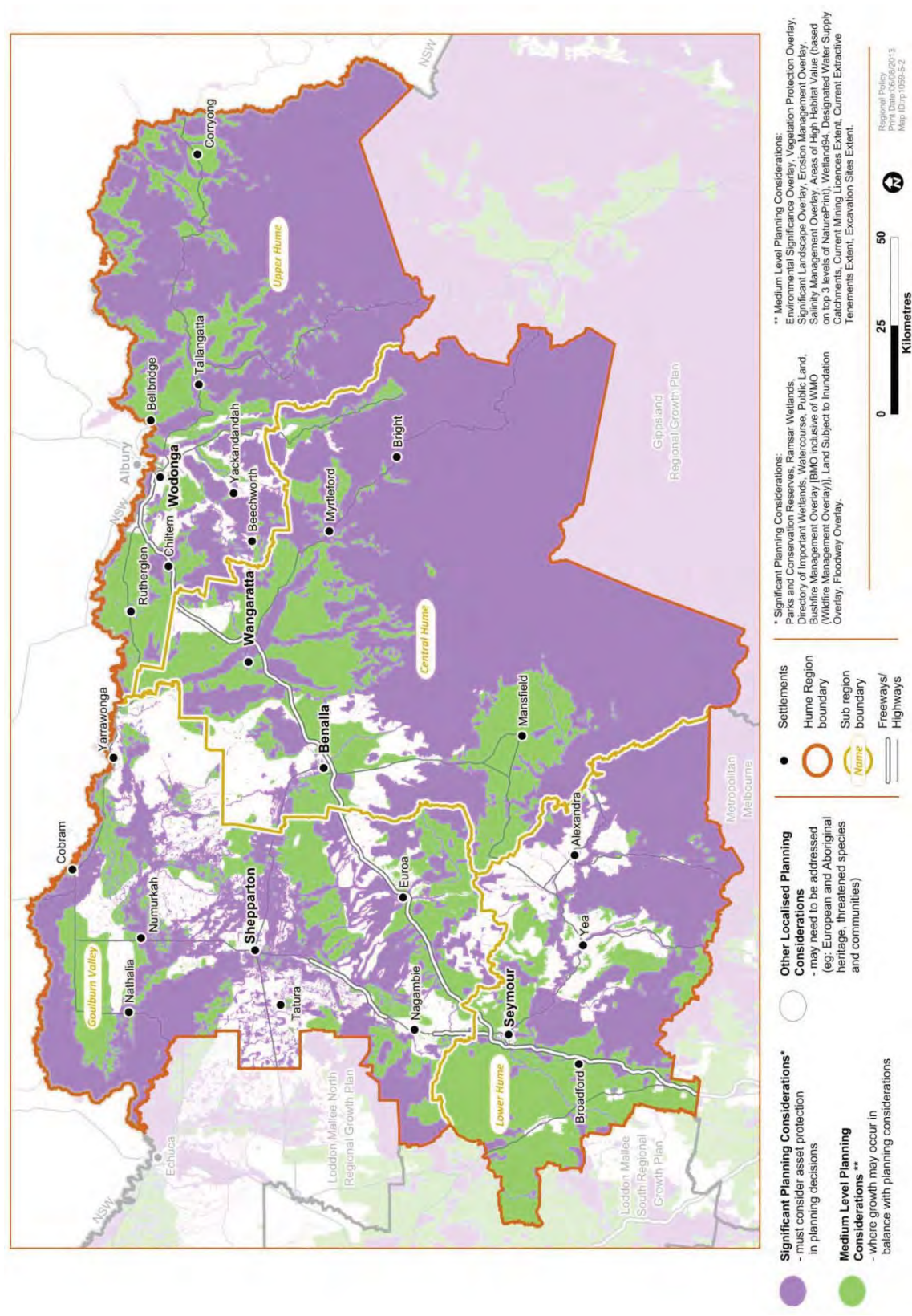
The Salinity Management Overlay has been applied in some planning schemes in the region to highlight salinity issues. The overlay generally identifies areas subject to saline groundwater discharge or high groundwater recharge. The plan suggests the Salinity Management Overlay should be applied consistently across the region and more use should be made of the overlay to inform planning decisions in urban areas and areas of potential rural residential development. It could also be used to manage land use, particularly vegetation removal in aquifer recharge areas on higher land, where this is potentially contributing to dry land salinity in other parts of the landscape.

11.4 Considerations for planning

Collectively, the array of environmental assets and natural hazards in the region, combined with areas of economic value for earth resources extraction, mean that most areas have some significant values or potential constraints that need to be considered in planning (Figure 22). These have been taken into account in preparation of the plan.

⁸ <http://www.depi.vic.gov.au/land-management/land/salinity/dryland-salinity/dryland-salinity-the-extent-of-dryland-salinity> - accessed 21 January 2013

Figure 22: Planning considerations



Source: Department of Transport, Planning and Local Infrastructure

12. Transport and infrastructure

This part of the background paper supports the directions provided in the regional infrastructure section of the plan by:

- considering changes to the policy environment since the preparation of the Hume Strategy and early work on the plan
- providing an overview of infrastructure in the region generally
- providing a justification for the inputs to the plan concerning transport and infrastructure.

12.1 Overview – transport

12.1.1 Policy context

There have been several recent changes to the policy context for transport and infrastructure.

a) Victorian Freight and Logistics Plan

A Victorian Freight and Logistics Plan has been developed and released in August 2013. The freight and logistics plan examines long-term freight forecasts for Victoria to the year 2050. It uses these forecasts to model a wide range of freight network scenarios to inform decision-making for future projects and initiatives. The Victorian Freight and Logistics Plan incorporates previous policy work such as Growing Freight on Rail and the Transport Solutions Framework.

b) Victoria's submission to Infrastructure Australia (2012)

In 2011, the state government submitted a number of projects to Infrastructure Australia. Victoria's 2012 submission revises the 2011 submission and includes a number of projects to advance the state government's strategic framework arising out of the development of *Plan Melbourne*, regional growth plans and the Victorian Freight and Logistics Plan. Projects submitted to Infrastructure Australia that are relevant to the region include:

- managed motorways
- Shepparton Bypass
- high productivity freight vehicles upgrade package
- Hume Freeway
- Goulburn Valley Highway
- transport solutions
- Murray River crossings.

c) The National Airports Safeguarding Framework (2012)

The Australian Government's 2009 Aviation White Paper proposed to develop a national land use planning framework that would:

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

In 2012 the National Airports Safeguarding Advisory Group commenced development of the National Airports Safeguarding Framework. This framework has a number of guidance notes including:

- the principles of the framework
- measures for managing the impacts of aircraft noise
- managing the risk of windshear and turbulence generated by buildings at airports
- managing the 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 development.

State and territory governments will implement the framework through their respective planning systems.

12.1.2 Transport in the Hume Region

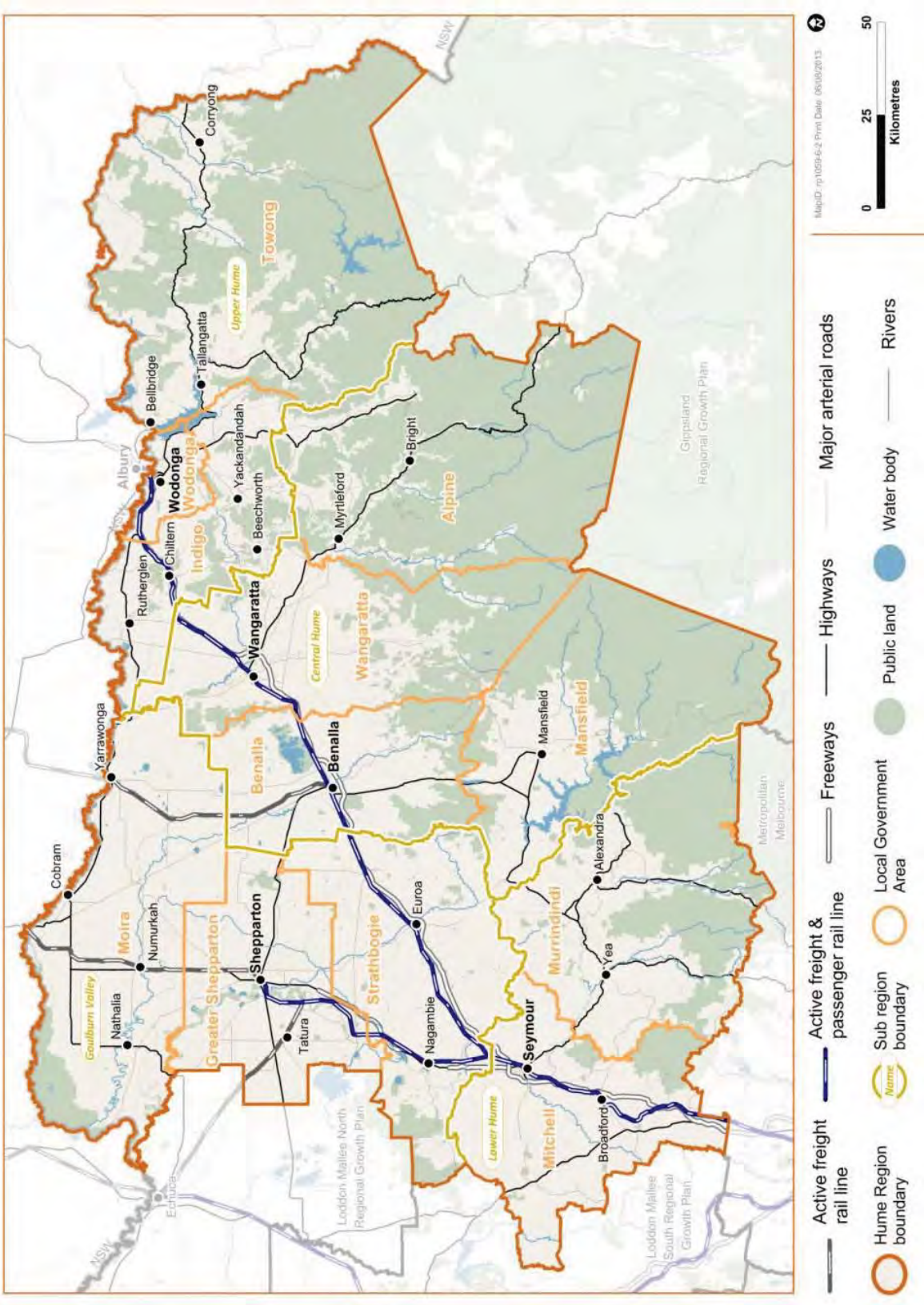
The Hume and Goulburn Valley corridors form the backbone of the transport network in the region (Figure 23). These major interstate transport routes form part of the National Land Transport Network designated by the Australian Government and include major highways and railway lines that run in parallel and provide for passenger and freight movement. Shepparton and Wodonga, the largest urban centres in the region, are located adjacent to these corridors while other large towns such as Benalla and Wangaratta have grown around them. These two transport corridors have shaped the settlement pattern and the economy of the region and this is likely to continue into the future.

The Hume and Goulburn Valley corridors are very different. The Hume corridor, including the Hume Freeway and the railway, provides the main interstate linkage between Melbourne and Sydney and also connects with coastal road and rail routes to Brisbane. The Goulburn Valley corridor, including the Goulburn Valley Highway and the railway to Shepparton, is part of a major interstate route linking Melbourne to Brisbane through inland New South Wales and Queensland. It also provides the transport base for a more localised economy.

Apart from the Hume and Goulburn Valley transport corridors, a number of other important road links form part of the transport network in the region, including:

- The Midland Highway-Maroonah Highway-Melba Highway corridor is a key regional strategic transport route linking the eastern suburbs of Melbourne to the region via Mansfield, Benalla and Shepparton. To the west, this corridor also links the region to Geelong via Stanhope, Bendigo and Ballarat
- The Murray Valley Highway is the key regional strategic transport route that supports the Murray River corridor. The Murray Valley Highway links Wodonga to towns such as Yarrawonga and Echuca and beyond to Mildura and South Australia. It is an important route for freight but does not carry as much traffic as the Hume or Goulburn Valley corridors. The Murray Valley Highway provides access to southern New South Wales and is the only major arterial route for a number of isolated communities, including those east of Wodonga in the Shire of Towong
- The Great Alpine Road, running south-west from Wangaratta across Mount Hotham to Bairnsdale (in East Gippsland Shire)
- The Omeo Highway, running south from Tallangatta to Omeo (in East Gippsland Shire).

Figure 23: Transport network – Hume Region



Source: Department of Transport, Planning and Local Infrastructure

a) Freight movements in the region

Business and the regional economy rely on an effective freight system including Victoria's connectivity to the Australia-wide system. Regional connections to port facilities in Melbourne and other hubs such as Portland, Geelong and Hastings are essential. Airport facilities include those at Melbourne Airport, Avalon Airport and regional airports.

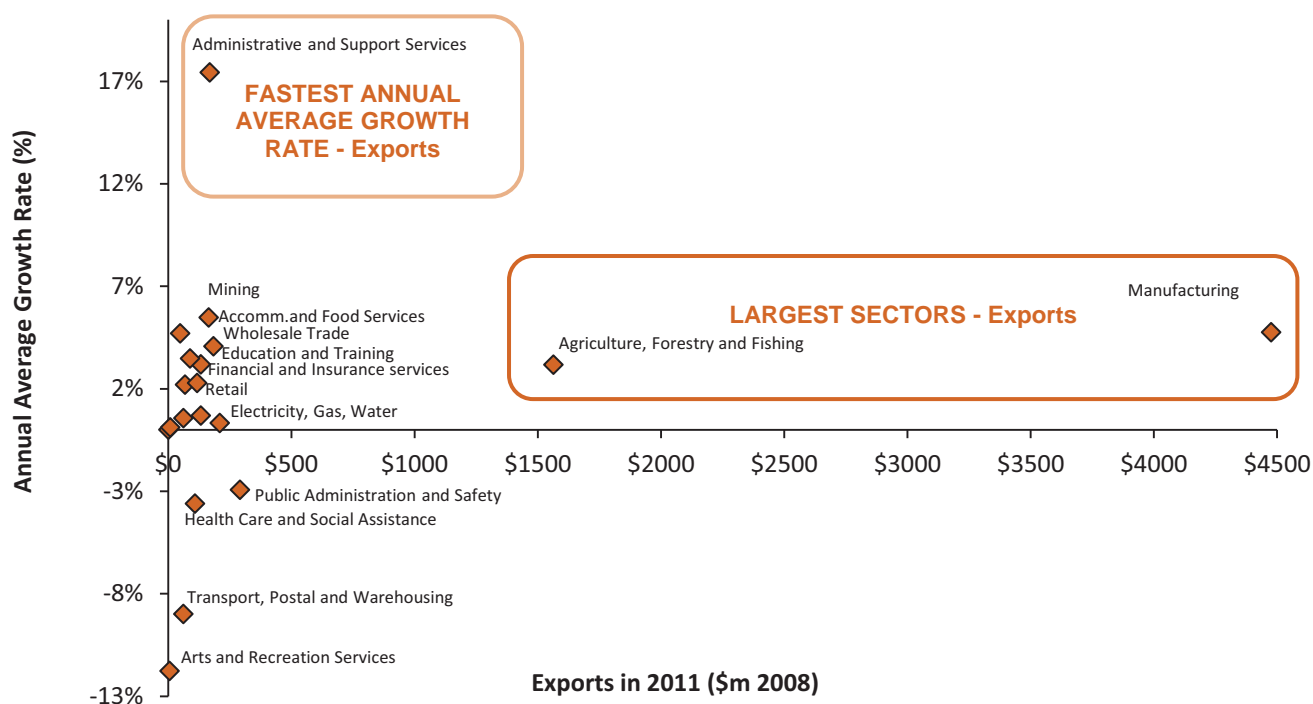
Exports

The region's exports are dominated by two sectors – manufacturing and agriculture, forestry and fishing. Together they provide three quarters of the region's exports. Manufacturing exports alone were worth approximately \$4.5 billion in 2011 (Figure 24). Significantly, Hume's agricultural, forestry and fishing exports make up almost 20 per cent of the state's exports in this sector.

The freight industry itself is a contributor to the economy with road freight businesses and associated warehousing generating employment and income.

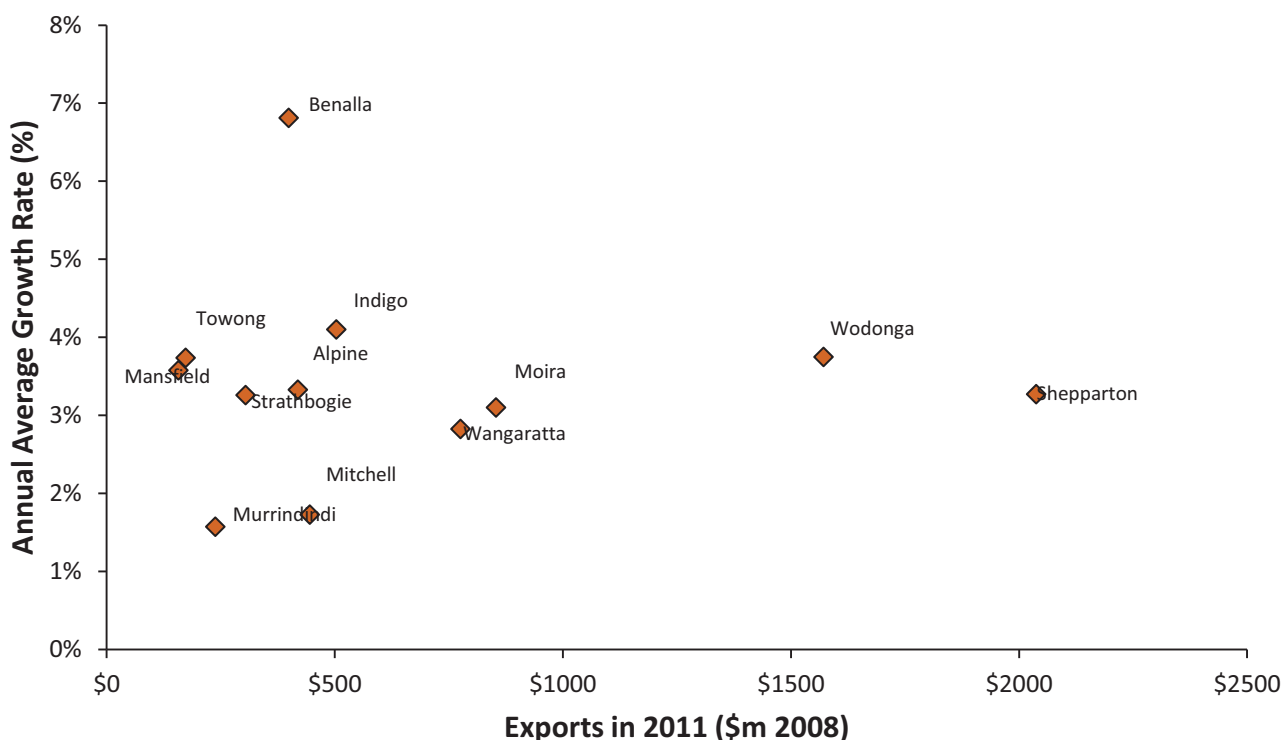
Most of the region's exports are estimated to come from Greater Shepparton and Wodonga, approximately 26 per cent and 20 per cent respectively (Figure 25). Benalla experienced the largest growth in exports during the period 2001-2011 at an average of 6.8 per cent per year.

Figure 24: Hume exports 2011, and annual average growth rate 2001 to 2011



Source: National Institute of Economic and Industry Research (taken from unpublished draft Hume Regional Economic Profile 2012)

Figure 25: LGA exports 2011, and annual average growth rate 2001 to 2011



Source: National Institute of Economic and Industry Research (taken from unpublished draft Hume Regional Economic Profile 2012)

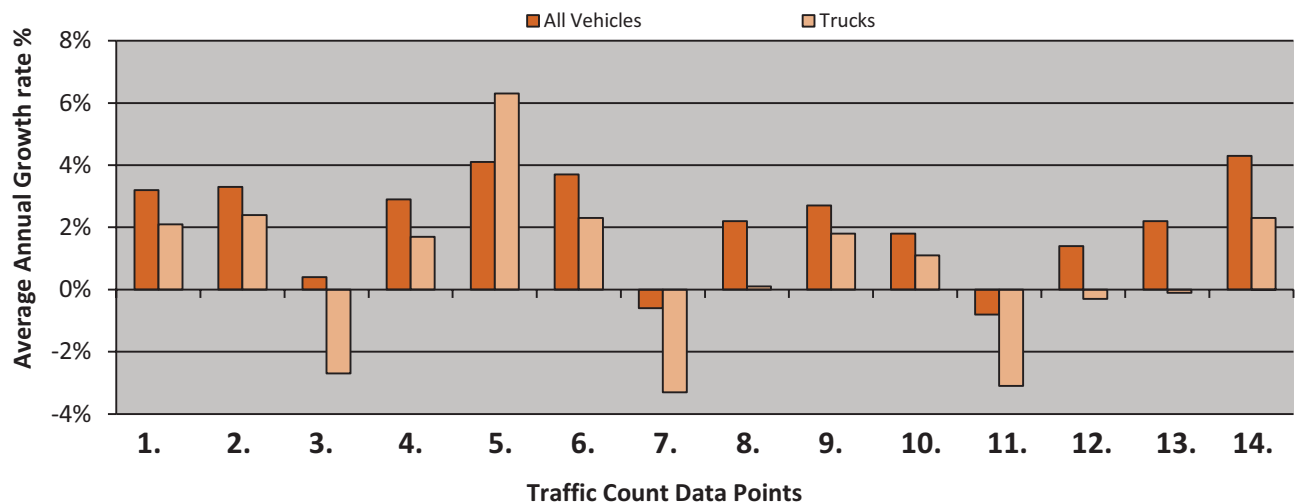
Road traffic flows

The region is strategically located along Victoria's key interstate road corridor. This road infrastructure is critical to the export performance of the region, and the efficiency of its labour market. The Hume Freeway is one of the Victoria's top 10 routes with the highest annual average daily traffic in 2010 for all vehicles and trucks⁹. This clearly illustrates its importance as the regional link to Melbourne, as well as Melbourne's link to the region.

The other five major road thoroughfares (listed at the start of this section) link the region to neighbouring Victorian regions, such as Loddon Mallee North, Loddon Mallee South and Gippsland and also to areas across the border in New South Wales. Although the Hume Freeway has the highest average daily traffic, the Melba Highway, running between Yarra Glen and Yea, experienced the highest average annual growth in traffic between 2006 and 2010 (Figure 26). This was largely due to an increase in truck traffic, possibly as a result of construction during this period of the Sugarloaf Pipeline, which essentially runs the length of the Melba Highway.

⁹ Across 51 Regional Victoria data points with 2010 data out of 62 Regional Victoria traffic data points

Figure 26: Compound growth rates, two-way, 2006 to 2010 – Hume traffic count data points



1. Northern Hwy – South of Wallan
2. Hume Hwy – South of Beveridge
3. Northern Hwy – South of Pyalong
4. Hume Fwy – South of Broadford
5. Melba Hwy – North of Glenburn
6. Maroondah Highway – West of Bonnie Doon
7. Midland Hwy – East of Stanhope
8. Goulburn Valley Hwy
9. Hume Fwy 1.5km – North of Bam Lane
10. Gt Alpine Rd – South of Gapstead
11. Goulburn Valley Highway – South of Numurkah
12. Benalla Tocomwal Rd
13. Murray Valley Hwy – East of Cobram
14. Hume Fwy - Southwest of Murray Valley Hwy

Source: VicRoads (2012)

b) People movements in the region

Train passenger traffic

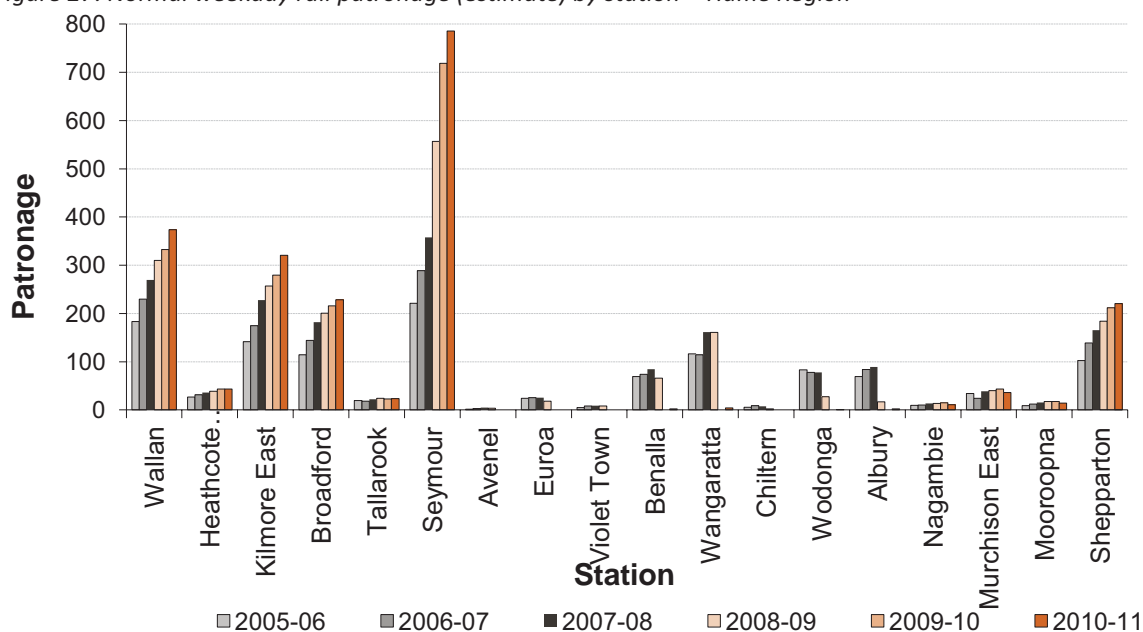
Passenger rail services to and from Melbourne enable daily or regular commuting for business. The region has 19 railway stations, seven of which are in Mitchell Shire in the Lower Hume sub-region. This area is served by the Seymour line, which branches off north via the Shepparton line and north-east via the Albury-Wodonga line. The region also contains an interstate railway line served by the express passenger train travelling between Melbourne and Sydney, via Albury-Wodonga.

Since improvements in regional rail services were completed, there has been an overall increase in V/Line patronage at major railway stations in the region (Figure 27). This is especially noticeable for those stations closest to Melbourne, indicating an increase in commuters to the metropolitan area. The importance of Seymour as a junction station with frequent train services is highlighted by the large amount of patronage at this station compared to others in the region.

Table 6 compares train services in the region with those in other major centres across Victoria.

Outside the major rail corridors, bus services provide public transport within the region and links to centres in neighbouring regions, including Bendigo and Melbourne (Figure 28). There are no regular public transport services connecting the region with Gippsland.

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



Note: Services on the Albury-Wodonga line were replaced with rail replacement bus services for the period 2009–2011 due to the North East Revitalisation Project, so no conductor tallies were recorded between Seymour and Albury-Wodonga during that time.

Source: Public Transport Division, former Department of Transport

Table 6: Number of train services across Victoria

Route: Traralgon to Melbourne

- Peak (Approximate number of train services during this time Mon-Fri) – 4
- Off peak (Approximate number of train services during this time Mon-Fri) – 14

Route: Melbourne to Traralgon

- Peak (Approximate number of train services during this time Mon-Fri) – 3
- Off peak (Approximate number of train services during this time Mon-Fri) – 14

Route: Bairnsdale to Melbourne

- Peak (Approximate number of train services during this time Mon-Fri) – 0
- Off peak (Approximate number of train services during this time Mon-Fri) – 3

Route: Melbourne to Bairnsdale

- Peak (Approximate number of train services during this time Mon-Fri) – 0
- Off peak (Approximate number of train services during this time Mon-Fri) – 3

Route: Ballarat to Melbourne

- Peak (Approximate number of train services during this time Mon-Fri) – 4
- Off peak (Approximate number of train services during this time Mon-Fri) – 14

Route: Melbourne to Ballarat

- Peak (Approximate number of train services during this time Mon-Fri) – 9
- Off peak (Approximate number of train services during this time Mon-Fri) – 18

Route: Ararat to Melbourne

- Peak (Approximate number of train services during this time Mon-Fri) – 0
- Off peak (Approximate number of train services during this time Mon-Fri) – 4 including overland

Route: Melbourne to Ararat

- Peak (Approximate number of train services during this time Mon-Fri) – 0
- Off peak (Approximate number of train services during this time Mon-Fri) – 4 including overland

Route: Geelong to Melbourne

- Peak (Approximate number of train services during this time Mon-Fri) – 11
- Off peak (Approximate number of train services during this time Mon-Fri) – 19

Route: Melbourne to Geelong

- Peak (Approximate number of train services during this time Mon-Fri) – 8
- Off peak (Approximate number of train services during this time Mon-Fri) – 23

Route: Warrnambool to Melbourne

- Peak (Approximate number of train services during this time Mon-Fri) – 0
- Off peak (Approximate number of train services during this time Mon-Fri) – 3

Route: Melbourne to Warrnambool

- Peak (Approximate number of train services during this time Mon-Fri) – 0
- Off peak (Approximate number of train services during this time Mon-Fri) – 3

Route: Bendigo to Melbourne

- Peak (Approximate number of train services during this time Mon-Fri) – 5
- Off peak (Approximate number of train services during this time Mon-Fri) – 13

Route: Melbourne to Bendigo

- Peak (Approximate number of train services during this time Mon-Fri) – 7
- Off peak (Approximate number of train services during this time Mon-Fri) – 20

Route: Swan Hill to Melbourne

- Peak (Approximate number of train services during this time Mon-Fri) – 0
- Off peak (Approximate number of train services during this time Mon-Fri) – 2

Route: Melbourne to Swan Hill

- Peak (Approximate number of train services during this time Mon-Fri) – 0
- Off peak (Approximate number of train services during this time Mon-Fri) – 2

Route: Seymour to Melbourne

- Peak (Approximate number of train services during this time Mon-Fri) – 4
- Off peak (Approximate number of train services during this time Mon-Fri) – 16

Route: Melbourne to Seymour

- Peak (Approximate number of train services during this time Mon-Fri) – 3
- Off peak (Approximate number of train services during this time Mon-Fri) – 17

Route: Shepparton to Melbourne

- Peak (Approximate number of train services during this time Mon-Fri) – 0
- Off peak (Approximate number of train services during this time Mon-Fri) – 2

Route: Melbourne to Shepparton

- Peak (Approximate number of train services during this time Mon-Fri) – 0
- Off peak (Approximate number of train services during this time Mon-Fri) – 3

Route: Wodonga to Melbourne

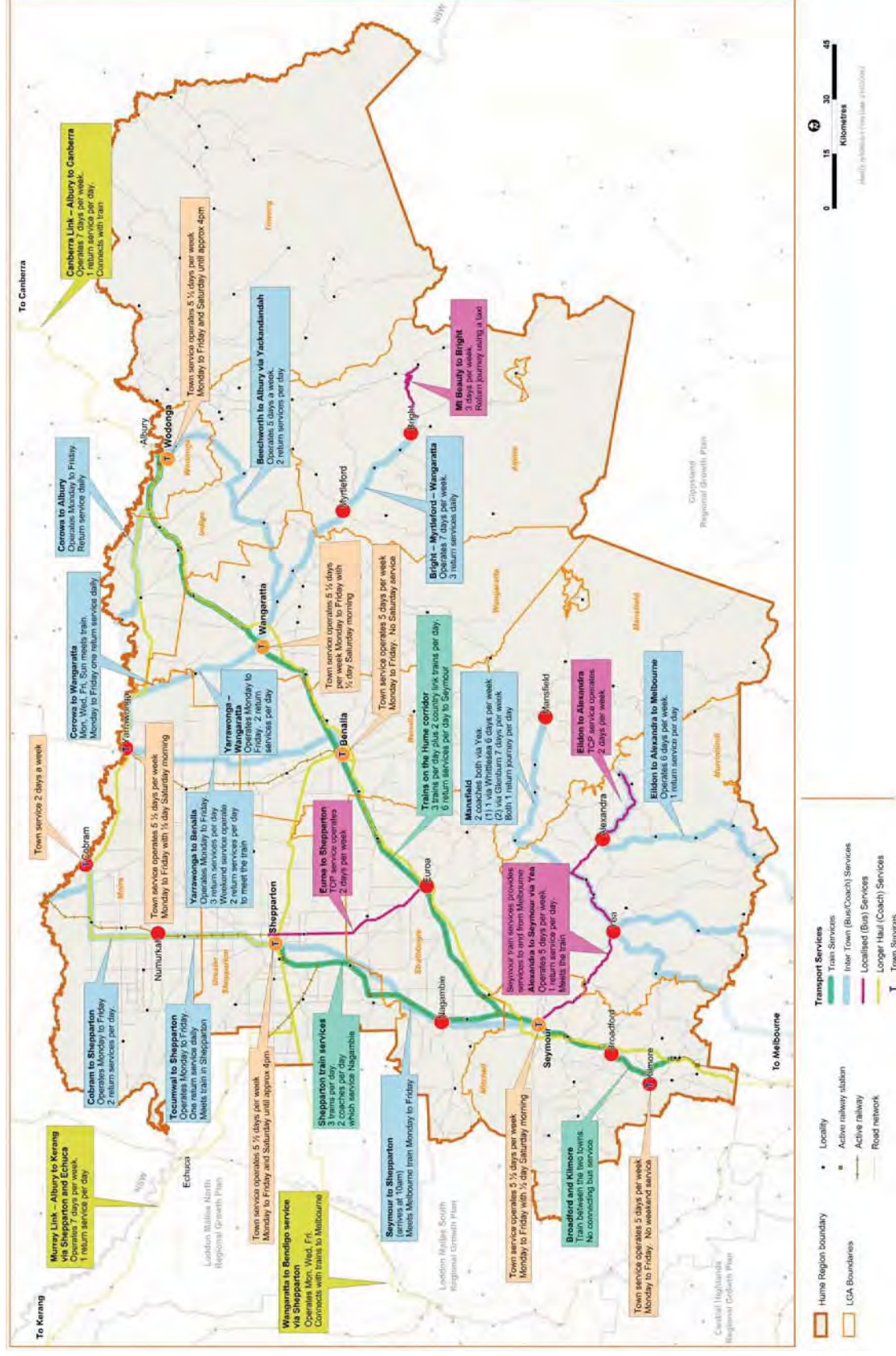
- Peak (Approximate number of train services during this time Mon-Fri) – 2
- Off peak (Approximate number of train services during this time Mon-Fri) – 3 (including XPT)

Route: Melbourne to Wodonga

- Peak (Approximate number of train services during this time Mon-Fri) – 0
- Off peak (Approximate number of train services during this time Mon-Fri) – 5 (including XPT)

Source: Public Transport Division, former Department of Transport

Figure 28: Public transport routes and services – Hume Region



12.2 Other transport considerations

Other transport considerations that are relevant to regional land use planning are discussed below.

a) High speed rail

The Australian Government is undertaking a strategic study regarding the implementation of high speed rail on the east coast of Australia. Once fully operational, express journey times of less than three hours between Melbourne and Sydney could be achievable. Phase 2 of the study depicts a preferred alignment for the high speed rail system between Melbourne, Canberra, Sydney and Brisbane. In the Hume Region the preferred high speed rail alignment from Wodonga deviates west from the Hume Highway corridor, heads toward Shepparton, past Seymour and broadly follows the Hume Freeway corridor toward Craigieburn.

The study also proposes a total of twenty stations along the entire route between Brisbane and Melbourne, comprising four capital city stations, four city-peripheral stations, and 12 regional stations. Within the Hume Region, regional stations would be located west of Albury-Wodonga (north of the Hume Freeway/Murray Valley Highway interchange), and east of Shepparton (along the Midland Highway). Key stakeholders in the region, such as the Hume Regional Development Australia Committee and the Hume Regional Management Forum, support a route alignment through the region and associated stations.

b) Local roads

Local roads in the region are part of the regional transport network, providing connectivity within and between settlements.

c) Airports

Several airports serve the region but only Albury Airport in New South Wales has regular commercial flights to Melbourne and Sydney, through providers such as Rex, QantasLink and Virgin. Mangalore Airport, which has dual all-weather runways, modern navigation facilities and lighting, is used for general aviation and pilot training. Shepparton and Wangaratta airports have resident flying clubs and Benalla is the headquarters of the Gliding Club of Victoria.

Mount Hotham Airport is used for charter flights bringing visitors to the snowfields. It is located 20 kilometres from Hotham Heights and 10 kilometres from Dinner Plain and is the closest airport to a major snow resort in Australia. QantasLink provides services to and from Sydney during the ski season and a number of companies offer executive charter flights from Melbourne. The airport is open all year round.

Towong Shire is currently developing a strategic plan for Corryong Airport, in an effort to attract aviation-related developments. Other airports include Mount Beauty, Porepunkah, Puckapunyal, Yarrawonga and the additional private airports of Locksley Field and Mansfield. Each airport falls under the national airports safeguarding framework outlined above.

12.3 Guiding future transport opportunities

The transport requirements for movement of freight and people are different. Enhancing and building on existing infrastructure is important to ensure access and connectivity for both people and freight. The plan includes future directions for transport, which are supported by the information below.

12.3.1 Network capacity

As key settlements such as Shepparton and Wodonga grow, traffic congestion may need to be mitigated. Good walking and cycling networks will provide alternatives to car use, providing access to and from developments

into key employment nodes. Improved public transport access within urban centres could also play a role in reducing car dependency and mitigating traffic impacts.

The Hume road and rail freight corridors provide opportunities to capitalise on the region's locational advantages to increase economic development and employment. Benalla Rural City Council has zoned land close to the corridor for an employment hub. The location of Seymour at the junction of road and rail transport corridors makes it an ideal place to develop a new freight and logistics precinct.

While the region's two key transport corridors are critical for north-south orientation there is a lack of regional east-west links. The key east-west link along the Murray Valley Highway has opportunities for improvements, such as the proposed Strathmerton deviation, to enhance its freight-carrying capacity.

12.3.2 Access and connectivity

Future transport planning needs to ensure freight access for commodities currently produced in the region, as well as potential new commodities. Creating a network of logistics precincts, such as LOGIC freight activity centre in Wodonga, would increase opportunities for the carriage and distribution of freight along the Hume corridor. Linkages to the Goulburn Valley corridor from new concentrations of economic activity, such as GV Link, will provide access for commodities in the future. Freight and logistics precincts in the region form part of a national network including existing precincts at Ettamogah and Tocumwal in New South Wales which also serve the region.

The region's transport network provides for accessible cross-border connections to New South Wales. These connections will be crucial in the future as they will provide access to employment and a range of services and facilities for people in both states, such as health and education. The strength of these cross-border relationships is demonstrated by a reciprocal agreement between Wodonga and Albury to share services such as health.

Services in adjoining regions, such as the soon to be re-developed Bendigo Hospital, may provide a future opportunity for people to travel from Hume to the Loddon Mallee region to access these services. Inter-regional connections will be critical as the population changes and larger centres, such as Shepparton and Wodonga, enhance their current services and facilities, attracting people from within and outside the region.

The region has a number of smaller settlements that provide services and facilities for rural communities. Larger urban centres such as Shepparton, Wodonga, Wangaratta and Benalla provide these smaller settlements with access to high-order services and facilities including transport, for example, train services to Melbourne or Sydney. Smaller settlements in New South Wales, such as Deniliquin, rely on the services and facilities that Victoria offers and will require access and connectivity across the border. Some smaller towns are not earmarked in the plan to experience significant growth and some may even decline into the future. Efficient and well maintained transport links between the region's small towns and larger centres will be important to ensure access to a full range of services.

12.3.3 A safe, reliable and resilient network

Ensuring access to places such as Albury and Melbourne airports will be essential for people travelling interstate and further afield. Connections into Melbourne will also provide business opportunities.

Ease of access, allowing for the development of a thriving tourism industry, will contribute to economic development. Enhancing and further developing the cycling network will increase the region's attraction to a growing tourist segment.

The region's rural areas contain a wide range of businesses that depend on the local road network to collect and distribute their products. Heavy vehicles already cause problems for the maintenance of local roads. With the advent of larger, heavier trucks and increasing farm output per unit, use of the local road network may

need to be reviewed in order to provide for continued freight access. The Municipal Association of Victoria is piloting a project in the region that is examining the issue of heavy vehicle access to local roads and developing guidelines for freight carried on these networks.

Transport safety is a key consideration, particularly given the number of accidents that took place in late 2012. The transport network will need to be well maintained and other safety initiatives will need to be developed and implemented.

12.3.4 Freight and logistics precincts

There are freight and logistics precincts in Shepparton and Wodonga and a further precinct could be developed in the future at the southern end of the region. Beveridge–Donnybrook could be a potential location for a new freight and logistics precinct.

Mangalore Airport is relatively close to Beveridge-Donnybrook at the convergence of the Goulburn Valley Highway and Hume Freeway. It is also close to the intersection of the broad gauge and standard gauge railway tracks. Mangalore Airport could accommodate aircraft the size of a Boeing 737 and has the potential to be a gateway to and from Melbourne, providing distribution facilities for freight. The airport's existing facilities are under-utilised and have capacity for expansion. It has a long bitumen sealed runway and a shorter cross-wind runway that could accommodate large military, freight transport and passenger aircraft. It provides facilities for an operational flying school, general aviation and helicopters.

The Mangalore Airport was once used as a backup to Essendon Airport when passenger aircraft had to be diverted due to weather or operational conditions. Wider opportunities exist at Mangalore Airport to provide a gateway into the region and links to interstate locations such as Sydney. The airport is privately owned but opportunities could be explored for a public–private partnership for potential future development.

12.3.5 Technological advancements

Information and communications technology will improve in the future, particularly with the rollout of the National Broadband Network that will provide access to faster, more reliable internet connections. The health and education sectors are leading the way by allowing people to access services and facilities that were once provided in a fixed location, such as online education or monitoring of rehabilitation in the health sector. As the average age of the population increases the provision of outreach or distance services will become critical, particularly in rural and remote areas. This should be aided by the population's increasing familiarity with computers and smart devices.

Improved information and communications technology may also mean that people do not need or want to travel as far or as frequently for work or to access services and entertainment. The National Broadband Network may provide for a 'mix and match' style of travel and communication, such as travelling on some days and using the internet for work or for shopping on other days.

12.3.6 Amenity and useability

The region has a comparatively large network of rail trails. There are also numerous boutique food and wine establishments adjacent to the rail trail network or in nearby areas. These facilities could provide services and incentives to attract additional tourists. The plan recognises that planning for recreation in the region needs to consider facilities that tourists require as they travel to or through the region. Enhancing these facilities may help persuade more long-distance travellers to stop and enjoy what the region has to offer. Attractions such as the alpine areas and snowfields would benefit from improved and more integrated transport services to ensure their tourism function continues and thrives into the future.

12.3.7 Supply chains

Developing and integrating supply chains will provide access not only to major centres, such as Melbourne, Sydney and Albury, and within the region itself, but also to freight terminals such as ports and airports. It will be important to understand the nature of the future freight task in order to ensure that connections to the region are protected and enhanced.

12.4 Guiding the provision of other infrastructure

12.4.1 Reticulated water and sewerage

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

The Living Victoria program recognises that:

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

Implementing the Living Victoria program will involve developing and coordinating integrated urban and water planning frameworks. New tools will apply across Victoria, including changes to the Victoria Planning Provisions. The potential for rapidly changing conditions, as well as more frequent extreme weather events, means that a range of approaches, such as use of stormwater, greywater and recycled water, will be required to ensure availability of water supplies for the future.

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

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

Future water supply at a regional scale is planned for strategically through the Northern Region Sustainable Water Strategy to secure the water for urban, industrial, agricultural and environmental water users in the long term. The Northern Region Sustainable Water Strategy identifies threats to the reliability of water supply and to water quality and proposes measures to improve the quantity and quality of water for existing and future users. It also identifies ways to improve, protect and increase environmental water reserves. Most of the actions in the Northern Region Sustainable Water Strategy have been completed or are being refined and pursued in line with the Murray-Darling Basin Plan.

North East Water and Goulburn Valley Water are responsible for providing water and sewerage services. North East Water provides water to 95,000 people in the eastern part of the region and Goulburn Valley Water supplies 120,000 people in western and southern areas. Both corporations have water supply demand

strategies considering a 50-year time span, reviewed on a five-yearly cycle. Current strategies forecast there will be adequate water for both supply areas for the next 50 years, with provision for some improvement works.

The plan recognises that reticulated water and sewerage systems do not only support growth in towns, but can also deliver environmental benefits, such as within declared water supply catchments.

The water supply demand strategies will be replaced by integrated water cycle strategies by 2017. These new strategies will need to respond to the directions and scale of growth proposed in the plan. Other key considerations include the link between urban and rural water cycles and the potential implications of climate change, including a possible decrease in water availability. 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 matching the quality of water supplied to the intended use (fit-for-purpose) and implementing improved planning and adaptive management that takes account of risk and uncertainty.

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

Key urban locations earmarked for growth in the plan are all serviced by reticulated water and sewerage systems. Many smaller urban locations are also fully serviced and new systems are under construction or planned in others, such as Oxley. Distribution master plans have been developed for the region, with associated 20-year infrastructure programs to provide for growth and expansion of residential and commercial uses. As well as catering for increases in growth, these plans need to consider maintenance and renewal of existing infrastructure. It will be important to understand how much growth is expected in order for infrastructure to keep pace and be coordinated with growth.

12.4.2 Irrigation infrastructure

A major upgrade to northern Victoria's out-dated and inefficient irrigation infrastructure is currently being undertaken. The \$2 billion Goulburn-Murray Water Connections Project (formerly known as the Northern Victoria Irrigation Renewal Project) will improve water delivery management and irrigation services, and recover much of the water now being lost through system inefficiencies.

The Goulburn Valley is a significant part of the Goulburn Murray Irrigation District which produces around 25% of Victoria's agricultural production. The Goulburn-Murray Water Connections Project will support the region's economic development by helping to secure the future of agriculture in the region, as well as the industries that support and benefit from that sector.

The Farm Water Program is upgrading irrigation technology across those parts of northern Victoria with access to the modernised distribution system created by the Goulburn-Murray Water Connections Project. The on-farm water program, implemented with \$106 million Australian and Victorian government funding assistance, is about achieving on-farm water savings through improved irrigation systems. One of the key planning tools to achieve this is through certified whole farm plans that are approved by local government.

The water savings are shared between farmers and the environment, with at least half the water savings transferred to the Victorian or Commonwealth environmental water holders. Environment benefits will come from improving salinity, water quality and river health. Rounds 1 and 2 of the program returned a total of 26 gigalitres of water to the environment.

In addition to allowing farmers to achieve substantial productivity increases, the program has significant flow-on effects (estimated at \$28 million per year) for local and regional economies, creating over 350 new jobs, boosting industry confidence and maintaining rural communities.

12.4.3 Energy, telecommunications and solid waste

a) Energy

All towns in the Hume Region have access to electricity, mostly generated outside the region and therefore subject to substantial transmission losses due to the distances involved. Opportunities exist within the region to generate more electricity, particularly from renewable sources. The potential of more localised energy generation and distribution should also be investigated, to improve resilience of energy networks to natural disasters and extreme climatic events.

Many parts of the region do not have access to natural gas. Expansion of the reticulated natural gas network will help to support economic growth, reduce energy costs and help make growth areas attractive for settlement and investment. Funding has been allocated for extension of the natural gas network, but rollout has been slow due to the lack of interest from commercial providers. Alternative delivery methods are being considered.

The State Government's 2013 economic statement includes a commitment to invest \$100 million in a variety of delivery systems to expand natural gas to communities across regional and rural Victoria, including Wandong-Heathcote Junction in the southern region. The program will also include a feasibility study of providing natural gas to communities along the Murray River.

In areas outside the major population centres energy needs for cooking, hot water and heating are met from a combination of bottled gas, electricity and firewood. Firewood is a common form of heating and its use could increase in response to rising prices for electricity and bottled gas. Developing accessible, sustainable firewood resources, such as plantations specifically for firewood production, provides an opportunity for diversification, particularly for the agricultural sector.

b) Telecommunications

Provision of high quality information and communications technology in the region will help drive economic competitiveness. The full impacts of the National Broadband Network on regional growth are unclear as yet, but technology installed to date has had a major impact on the way we live our lives and conduct business. The National Broadband Network is a 10-year rolling program and will be carried out in three-year blocks across Australia. Each three-year block includes both large and small areas with installation of cable, fixed wireless and satellite. As part of this rollout program, construction of the network has commenced in parts of the region, including Shepparton and Wodonga.

Health and education providers in the region are already using technology to provide remote patient care and educational courses. This is likely to expand into the future as technology and access to technology improves, providing opportunities to enhance and broaden service delivery. The availability of improved information and communications technology may also make it more attractive for people to relocate to the region. The potential uneven distribution of quality access to the internet may be a challenge for regional growth and ongoing review of such access, through the roll-out of the National Broadband Network, will help support regional service delivery.

Mobile phone coverage in key urban locations is good. However, in smaller communities and more remote areas coverage can be unreliable or sometimes not available. Services need to be reviewed to improve connectivity and access. The National Broadband Network may assist in this regard, with technological advancements such as Voice Over Internet Protocol.

Reliable telecommunication services are important for the provision of warnings and reports prior to, and during emergency events, particularly considering the history of emergency events in the region and the likelihood of such events reoccurring. All communities should have access to such reliable communication services including small, isolated communities exposed to natural hazards such as bushfire and flood.

c) Solid waste

Effective waste and resource recovery management is an essential service that protects the environment 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 covering households, commercial and industrial uses, municipal services and construction and demolition. Victoria's waste generation is expected to increase by about 4 per cent per year¹⁰.

The state government is responsible for policy development and regulation concerning waste management and for promoting environmental sustainability through minimising the quantity of waste. Local governments are responsible for providing waste collection, transport and reprocessing services and disposal to landfill. Regional waste management groups prepare waste management plans that provide direction for local governments within their regions, as well as helping municipalities to reduce waste, maximise recovery and reduce environmental harm.

There are many existing and emerging industries in the waste management field. There are opportunities to promote the recovery of waste to recycle it for use in other production processes, either as recycled waste for re-manufacturing, or as new products created from recycled materials, including generating energy from waste. Promoting these opportunities within the region would help to reduce the amount of waste going to landfill. The plan supports efforts by business and industry within the region to realise the economic benefits of boosting resource productivity through waste recovery and reuse, including exchanging waste materials for reuse and mutual benefit.

The capacity of current landfill operations in the region varies from 10 to 25 years. Much of the solid waste produced in the northern parts of the region is exported to landfills in New South Wales. The viability of this arrangement for the future will need to be assessed, including the sustainability of transporting waste through the region, fuel costs and transport risks. There are a number of inactive landfills that may require rehabilitation, which could also provide opportunities for energy generation.

The plan recognises that a strategic planning approach will help to develop sustainable waste management practices and identify future needs for waste facilities in the region. The requirement for more landfills can be minimised by diverting waste from disposal facilities. Regional opportunities to reduce, recover, reuse and recycle waste will be supported. For waste management and resource recovery, planning needs to identify and protect suitable sites and implement buffers around them, to ensure they are not compromised by incompatible development and do not impact on nearby sensitive land uses.

¹⁰ Victorian Government (2013) Getting Full Value – The Victorian Waste and Resource Recovery Policy

13. Communities

13.1 Overview

Social infrastructure is broadly available across the region with higher order facilities and services concentrated in regional cities and centres and some higher order services provided in Melbourne. The region is well supplied with health services, with 17 public hospitals and three private hospitals. Most towns with a population of 2000 or more have a hospital or rural health service.

The region has the same proportion of general practitioners and pharmacies per head of population as the Victorian average. However, there is a high hospital admission rate for patients with conditions such as diabetes that can generally be managed in the community if appropriate primary care is available and accessible. There is also a high rate of presentations to hospital emergency departments by people seeking primary care and, conversely, a low rate for general practitioner attendances per 1000 of population. These factors suggest that accessibility of services may be an issue overall. Factors that affect service access may include the low level of public transport, lack of after-hours services and/or affordability of services.

A range of social determinants can also influence health and wellbeing outcomes. The region has the second highest levels of all regions in Victoria for alcohol consumption, smoking and obesity. It also has very low rates of consumption of fruit and vegetables, especially for males.

The region experiences relatively high unemployment rates (the highest of all regions in the state), low rates of completion of Year 12 (second lowest in state) and low incomes. Over 36 per cent of households had an income of less than \$650 per week in 2011. There is a slightly lower than average life expectancy for both males and females.

Government secondary schools are provided in all settlements with populations of 2000 or more. There are also private schools in most of the larger settlements, such as in Kilmore, Shepparton, Wangaratta and Wodonga. The University of Melbourne and La Trobe University have campuses in Shepparton and La Trobe University has a Wodonga campus. Tertiary students in the region can also access the Charles Sturt University campus in Albury.

Funding has been allocated for Charles Sturt University to offer some agricultural courses in Wangaratta, in conjunction with GoTAFE, one of the TAFE providers in the region. GoTAFE has main campuses in Benalla, Seymour, Shepparton and Wangaratta. Wodonga TAFE, based in Wodonga, also provides services to New South Wales. Across the region there are 32 adult community and further education providers, many operating from neighbourhood houses.

Many of the larger townships including Shepparton, Wodonga, Wangaratta and Benalla have regional scale performance venues and galleries.

13.2 Planning for communities

13.2.1 Service access and delivery

For many communities outside cities and centres, accessing services or having them delivered requires long distance travel. For those travelling to services, there is a heavy reliance on private vehicles. Other ongoing challenges for the region include the need to improve the responsiveness in the location, design and appropriateness of facilities and services, particularly for the elderly, young people, Aboriginal communities and for immigrants.

The plan seeks to maximise future access to services by ensuring social infrastructure is provided in an integrated fashion and constructed in the most accessible locations. Co-location of services offers opportunities to improve availability and reduce overheads. Technological improvements may provide for more effective 'outreach' or delivery of services such as e-medicine. Greater access to services will support people who wish to 'age in place'.

The plan also encourages collaborative arrangements between community service providers to deliver infrastructure that maximises synergies and efficiencies. Current examples include Albury Wodonga Health and the High Country Library.

In addition to planning for the location of healthcare facilities, access to healthcare in the region will be improved by:

- preparing a Regional Health Plan to make recommendations on improved integration and access to all levels of healthcare
- providing general practitioner super clinics in Wallan and Wodonga
- expanding the coverage of tele-health linked to the introduction of the National Broadband Network
- increasing the focus on community-based care to support people to remain connected to their own communities.

13.2.2 Ageing population

In 2011, people aged 55 years or over comprised 29.3 per cent of the total population of the region, but by 2031 this is projected to increase to 34.8 per cent. Overall, the population in this age group is forecast to grow strongly at 2.5 per cent per year. The number of retirees moving into the region, including those on a low income, is also predicted to increase. Ageing communities are most apparent in smaller rural settlements but are also found in most regional cities and centres.

The plan recognises the need for planning to consider future demands for facilities and services for increasing numbers of elderly people, including those who wish to remain living at home and those who live in more remote parts of the region. Detailed planning for settlements also needs to provide for an appropriate mix of housing types that are located close to public transport and with access to commercial centres, community facilities and entertainment.

13.2.3 Youth out-migration

Based on current trends, it is expected that young people, particularly those aged between 20 and 29, will continue to be significantly under represented in the region. Large numbers of young people move to major centres, often outside the region, for education, employment and lifestyle reasons (see Table 7). This can impact on the long-term availability of labour, including skilled labour, affect the sustainability of communities and lead to a reduction in overall economic activity. Exceptions to this overall trend are Wodonga, which has a growing youth population, and the Lower Hume sub-region, which has experienced an increase in younger people moving to Melbourne's peri-urban area.

The plan encourages adoption of various measures to address youth out-migration, such as improved access to a range of employment, education and other community facilities.

Table 7: Implied net migration of youth (2006 to 2011) – Victorian regions percentage change

Region: Hume

- **Age:**
 - 13 in 2006 becoming 18 in 2011 – -8%
 - 14 in 2006 becoming 19 in 2011 – -23%
 - 15 in 2006 becoming 20 in 2011 – -29%
 - 16 in 2006 becoming 21 in 2011 – -31%
 - 17 in 2006 becoming 22 in 2011 – -28%
 - 18 in 2006 becoming 23 in 2011 – -26%
 - 19 in 2006 becoming 24 in 2011 – -12%
 - 20 in 2006 becoming 25 in 2011 – -3%
 - 13 to 20 in 2006 becoming 18 to 25 in 2011 – **-21%**

Region: Barwon

- **Age:**
 - 13 in 2006 becoming 18 in 2011 – -2%
 - 14 in 2006 becoming 19 in 2011 – -4%
 - 15 in 2006 becoming 20 in 2011 – -6%
 - 16 in 2006 becoming 21 in 2011 – -7%
 - 17 in 2006 becoming 22 in 2011 – -7%
 - 18 in 2006 becoming 23 in 2011 – -5%
 - 19 in 2006 becoming 24 in 2011 – -2%
 - 20 in 2006 becoming 25 in 2011 – -3%
 - 13 to 20 in 2006 becoming 18 to 25 in 2011 – **-5%**

Region: Great South Coast

- **Age:**
 - 13 in 2006 becoming 18 in 2011 – -12%
 - 14 in 2006 becoming 19 in 2011 – -21%
 - 15 in 2006 becoming 20 in 2011 – -31%
 - 16 in 2006 becoming 21 in 2011 – -33%
 - 17 in 2006 becoming 22 in 2011 – -33%
 - 18 in 2006 becoming 23 in 2011 – -28%
 - 19 in 2006 becoming 24 in 2011 – -17%
 - 20 in 2006 becoming 25 in 2011 – -17%
 - 13 to 20 in 2006 becoming 18 to 25 in 2011 – **-24%**

Region: Central Highlands

- **Age:**
 - 13 in 2006 becoming 18 in 2011 – +1%
 - 14 in 2006 becoming 19 in 2011 – +3%
 - 15 in 2006 becoming 20 in 2011 – +1%
 - 16 in 2006 becoming 21 in 2011 – +1%
 - 17 in 2006 becoming 22 in 2011 – -7%
 - 18 in 2006 becoming 23 in 2011 – -10%
 - 19 in 2006 becoming 24 in 2011 – -14%

- 20 in 2006 becoming 25 in 2011 – -9%
- 13 to 20 in 2006 becoming 18 to 25 in 2011 – -4%

Region: Wimmera South Mallee

- **Age:**
 - 13 in 2006 becoming 18 in 2011 – -18%
 - 14 in 2006 becoming 19 in 2011 – -30%
 - 15 in 2006 becoming 20 in 2011 – -35%
 - 16 in 2006 becoming 21 in 2011 – -39%
 - 17 in 2006 becoming 22 in 2011 – -28%
 - 18 in 2006 becoming 23 in 2011 – -18%
 - 19 in 2006 becoming 24 in 2011 – -1%
 - 20 in 2006 becoming 25 in 2011 – +4%
 - 13 to 20 in 2006 becoming 18 to 25 in 2011 – -23%

Region: Loddon Mallee North

- **Age:**
 - 13 in 2006 becoming 18 in 2011 – -17%
 - 14 in 2006 becoming 19 in 2011 – -30%
 - 15 in 2006 becoming 20 in 2011 – -34%
 - 16 in 2006 becoming 21 in 2011 – -34%
 - 17 in 2006 becoming 22 in 2011 – -33%
 - 18 in 2006 becoming 23 in 2011 – -17%
 - 19 in 2006 becoming 24 in 2011 – -8%
 - 20 in 2006 becoming 25 in 2011 – +2%
 - 13 to 20 in 2006 becoming 18 to 25 in 2011 – -24%

Region: Loddon Mallee South

- **Age:**
 - 13 in 2006 becoming 18 in 2011 – -6%
 - 14 in 2006 becoming 19 in 2011 – -11%
 - 15 in 2006 becoming 20 in 2011 – -12%
 - 16 in 2006 becoming 21 in 2011 – -16%
 - 17 in 2006 becoming 22 in 2011 – -17%
 - 18 in 2006 becoming 23 in 2011 – -18%
 - 19 in 2006 becoming 24 in 2011 – -13%
 - 20 in 2006 becoming 25 in 2011 – -16%
 - 13 to 20 in 2006 becoming 18 to 25 in 2011 – -14%

Region: Gippsland

- **Age:**
 - 13 in 2006 becoming 18 in 2011 – -11%
 - 14 in 2006 becoming 19 in 2011 – -21%
 - 15 in 2006 becoming 20 in 2011 – -28%
 - 16 in 2006 becoming 21 in 2011 – -28%
 - 17 in 2006 becoming 22 in 2011 – -24%
 - 18 in 2006 becoming 23 in 2011 – -14%

- 19 in 2006 becoming 24 in 2011 – +1%
- 20 in 2006 becoming 25 in 2011 – +2%
- 13 to 20 in 2006 becoming 18 to 25 in 2011 – **-17%**

Region: Melbourne

- **Age:**
 - 13 in 2006 becoming 18 in 2011 – +9%
 - 14 in 2006 becoming 19 in 2011 – +15%
 - 15 in 2006 becoming 20 in 2011 – +20%
 - 16 in 2006 becoming 21 in 2011 – +25%
 - 17 in 2006 becoming 22 in 2011 – +25%
 - 18 in 2006 becoming 23 in 2011 – +24%
 - 19 in 2006 becoming 24 in 2011 – +19%
 - 20 in 2006 becoming 25 in 2011 – +17%
 - 13 to 20 in 2006 becoming 18 to 25 in 2011 – **+20%**

Source: Australian Bureau of Statistics – Census data Disadvantage

There is considerable variation in income distribution across the region. Each municipality has pockets of high and low income areas. Rural areas have a slightly less wealthy income profile because wealth is held in land assets rather than income. Peri-urban areas near Melbourne and around the larger settlements rate lowest on measures of disadvantage, as do some rural areas.

In the region, disadvantage can be linked to a range of factors, including:

- significant restructuring of the region's industries, particularly manufacturing and agriculture, with consequent reductions in employment
- rising house prices, which have resulted in lower income people becoming concentrated in less costly areas that also provide a low level of service and economic opportunities
- poor education retention rates.

The plan encourages strategic measures such as the diversification of the economy and provision of improved access to employment and services, especially in large urban centres, to help address disadvantage in the region.

13.2.4 Disability

One million Victorians have a disability. This translates to over 18 per cent of the population or one in five people living in any community¹¹.

The Victorian State Disability Plan 2013–2016 came into effect in January 2013. Its vision is for an inclusive Victorian society that enables people with a disability, their families and carers to fulfil their potential as equal citizens and to participate in their communities. An action plan will be developed to implement this vision.

The National Disability Insurance Scheme, DisabilityCare, is currently being rolled out in Victoria and other states. It aims to support people with a disability to live 'an ordinary life' and is inclusive in terms of the range of groups covered. Clients will be assessed individually and allocated funding to enable them to purchase the services they need from their preferred provider.

Both the Victorian State Disability Plan and DisabilityCare depend for their success on a number of factors: inclusive communities; engagement by mainstream and specialist services; recognition of families and caring

¹¹Victorian State Disability Plan 2013-2016, p.5

relationships; and design of community assets and services to ensure that everyone has equal access. Service providers will need to respond to changes in state and national systems for supporting people with a disability and implement innovations at the local level. It is likely that the region will experience an increase in demand for services and potentially also an increase in the expectations of clients and their families.

13.2.5 Aboriginal population

Aboriginal community organisations in the region provide a range of services, such as community services, health, housing, justice and youth services. These organisations are often large and bring significant funds into regional communities as well as employing regional residents. Aboriginal peoples and organisations have visions and aspirations for the areas in which they live and are keen to be engaged at an early stage in discussions about promoting growth and employment in the localities in which they live.

The Goulburn Valley and Upper Hume sub-regions have comparatively large Aboriginal communities. Aboriginal services organisations centred on Shepparton and Wodonga provide services for these communities. The Central Hume and Lower Hume sub-regions have a more dispersed Aboriginal population.

In the region, the Aboriginal community has a comparatively higher proportion of unemployed people when compared with the broader regional community. It also has a higher rate of population growth, a much greater proportion of people under 25 years of age and a lower average life expectancy.

Regional strategies such as Closing the Indigenous Health Gap have been established to address some of the service needs and shortfalls that impact on the health and related socio-economic challenges faced by Aboriginal communities.

13.2.6 Cultural diversity

The region is more culturally diverse than the rest of regional Victoria. It has a relatively high proportion of people born overseas and is home to a wide range of cultural groups. Shepparton in particular has supported Australia's intake of humanitarian entrants and refugees from Africa, the Middle East and Afghanistan and is now the leading Victorian place for new arrival community settlement outside Melbourne.

Responding effectively to the needs of culturally and linguistically diverse groups may require new skills and additional resources for community service providers in the region.

13.2.7 Housing

In the Hume Region, detached dwellings make up the predominant housing stock and there is a lack of housing diversity. Parts of the region are experiencing a shortage of rental supply and seasonal accommodation, particularly in areas requiring seasonal workers in agriculture and in alpine resorts. The housing needs of overseas migrants and of professionals seeking both short-term and permanent accommodation are other segments of the market that are not met adequately at present.

While housing is generally less costly in regional areas than in Melbourne, people may suffer housing stress if their incomes do not keep pace with house prices or rents or if other household expenses, such as transport and energy costs, consume more of their available financial resources. Welfare recipients and underfunded retirees can often be attracted to low service areas because of cheap housing. If their service requirements increase through disability or they need to seek new employment, they are unable to move to better-served localities, which are usually more expensive. Low-income households living in or attracted to more remote regional areas may become trapped in a very low value housing market, restricting their future options.

To help address these issues, the plan recognises that a significant proportion of new housing, particularly in the major centres, must include a mix of housing types including affordable housing. A number of agencies will need to work together to maximise opportunities to increase the supply of appropriate and affordable

housing. There could be benefits in forming a regional partnership to prepare a regional housing strategy to build on existing work and:

- takes into account future projections of population growth and demographic change and identifies gaps in the regional housing market, including affordable housing and housing that meets a range of needs over time
- examines how these gaps can be filled, including through redevelopment of public housing stock, development of urban renewal sites or by encouraging increased densities in urban centres
- makes recommendations on the provision of affordable and accessible housing and identifies opportunities such as joint programs with Places Victoria, the Office of Housing, local councils and the not-for-profit sector.

13.2.8 Education

The Hume Region has some large areas of disadvantage. The occupation of parents is a key determinant of success in education, so children from disadvantaged families are likely to need additional support to make the most of educational opportunities. Overall, the region's education outcomes are the lowest in regional Victoria on a number of measures, including tertiary entry by young people. There are also a number of young people not resuming studies after taking what was intended to be a 'gap' year. Anecdotal evidence indicates this may be related to lack of employment opportunities and poor pay rates, which can result in potential students not earning enough income during the 'gap' year to qualify for a living away from home allowance. Other reasons that contribute to failure to take up tertiary study options include lack of transport, limited family finances and the need to live away from home.

In the region, 22 per cent of young people do not stay in school through years 10 to 12 compared to 15 per cent in metropolitan Melbourne. However, other data shows the percentage of students doing apprenticeships and traineeships and moving directly from school into employment in the region is the highest in the state, so this might account for some of the difference.

Almost all personal, social and economic benefits such as income, employment, longevity and health correlate strongly with education attainment levels. Lifelong learning, education and skills development is important to individuals at all ages and is also critical in building a diverse and resilient community and economy.

The plan includes strategies seeking to improve provision of, and access to, a range of educational opportunities to enhance the region's educational outcomes.

13.2.9 Non-resident ratepayers

There are a significant number of non-resident ratepayers in many of the municipalities in the region. In Mansfield Shire, for example, 50 per cent of all properties are owned by people whose primary residence is outside the municipality. The equivalent figure for Murrindindi Shire is 30 per cent, 29 per cent for Alpine Shire, 27 per cent for Strathbogie Shire and 21 per cent for Mitchell Shire. Towong Shire also has a significant proportion of absentee landholders (21 per cent), many of them based in New South Wales.

Anecdotal evidence indicates that a high proportion of non-resident ratepayers plan to become residents in regional areas after they retire. This demographic movement of retirees contributes to the ageing population in regional Victoria and is likely to bring an increased demand for services, particularly aged care. Mobility is often affected as people age and this may lead to increased demand for accessible public transport and flexible service delivery models. Current trends suggest that some people moving into the region may be interested in working in the region and this could potentially contribute to the workforce and help address local skills shortages.

13.2.10 Health and wellbeing

The quality of the built environment has a strong influence on individual wellbeing and community participation. Well-planned, designed and managed urban places and spaces can deliver social and environmental benefits to individuals and communities. Opportunities for physical activity can improve community life and provide substantial economic benefits through events, recreation activities and tourism. The plan encourages consideration of community health and wellbeing in the early stages of planning for urban growth.

Access to sport and recreation facilities at a community level is an integral part of maintaining a healthy lifestyle. Sport and recreation plays an important part in the lives of individuals and helps shape community identity. Sport and recreation opportunities provide settings for social interaction, sharing common interests and enhancing a sense of community.

Well-designed open spaces are an important element of the built environment and can be defined as any land and water setting that is maintained and managed for a range of environmental purposes and used and valued by the community. Such spaces can include small neighbourhood parks, trails, sporting and leisure services, tracks and regional environmental parks. They can be either publicly or privately-owned and service the community at a local, sub-regional or regional level.

It is mandatory for councils to have health and wellbeing plans. Some councils also have open space and or recreation strategies. However, in the absence of a regional health and wellbeing or an open space and recreation strategy, there is some inconsistency in standards of provision across areas and a slow response to emerging regional needs. The plan recommends preparation of a regional wellbeing study, including open space and recreation, to inform detailed planning for regional growth and development.

13.2.11 Assisting communities to adapt to climate change

Climate change is predicted to bring hotter and drier conditions, with an increased severity of severe storm events. Communities will require support to adapt their housing and lifestyles to the new conditions and to cope with the impacts of change on their farms or other businesses and on their environment.

The costs of heating may decrease as winters become warmer but this is likely to be cancelled out by increased cooling costs as summers become hotter. This will apply particularly to poorly designed buildings and urban environments. All councils are required to prepare heatwave plans to consider potential risks to their communities and measures to mitigate or avoid future risks. Council planning needs to consider the appropriate design of urban environments to address potential impacts of climate change on local communities.

There is potential for migration into the region from both within Australia and from overseas as a result of climate change impacts in other areas. It is likely that Australia as a whole will need to take in climate change refugees, some of whom may come to live in the region.

The plan has taken into consideration the potential impact of climate change on the urban and rural environment. It encourages implementation of measures to adapt to climate change, including: building social and community resilience; avoiding urban growth in areas exposed to severe natural hazards; consolidating urban growth in key centres to maximise use of existing infrastructure and limit demand for vehicle trips; encouraging sustainable planning for water; and maximising use of information and communications technology to reduce the need to use private vehicles.

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- Department of Sustainability, Environment, Water, Population and Communities - National Heritage List – <http://www.environment.gov.au/heritage/places/national/index.html>
- Department of Sustainability, Environment, Water, Population and Communities - Commonwealth Heritage List – <http://www.environment.gov.au/heritage/places/commonwealth/index.html>

- Department of Sustainability and Environment Victoria – dryland salinity – <http://www.dse.vic.gov.au/land-management/land/salinity/dryland-salinity/dryland-salinity-the-extent-of-dryland-salinity>
- Department of Sustainability and Environment Victoria – ecomarkets – <http://www.dse.vic.gov.au/conservation-and-environment/ecomarkets>
- Department of Transport Victoria – <http://www.transport.vic.gov.au/freight/freight-projects-and-initiatives/victorian-freight-and-logistics-plan>
- Department of Transport and Infrastructure Australia – National Airports Safeguarding Framework – http://www.infrastructure.gov.au/aviation/environmental/airport_safeguarding/nasf/
- Goulburn-Murray Water – <http://www.g-mwater.com.au/water-resources/storages/humedam>
- Goulburn-Murray Water – Goulburn-Murray Water Connections Project (formerly Northern Victoria Irrigation Renewal Project) – <http://www.g-mwater.com.au/connections/the-project>
- Murray-Darling Basin Authority – Living Murray Program – <http://www.mdba.gov.au/programs/tlm>
- Regional Development Victoria –Digital Hume – a strategy for a smart region (being prepared by Arup Pty Ltd for the Hume Regional Development Australia Committee) - <http://www.rdv.vic.gov.au/regional-development-australia/committees/hume/ict/ict-strategy-development>
- Victorian Government – Atlas of Regional Victoria 2005 - <http://www.dpcd.vic.gov.au/home/publications-and-research/urban-and-regional-research/Regional-Victoria/regional-matters-an-atlas-of-regional-victoria-2005>
- Victorian Government – Hume Region, Victoria, Australia. An ideal investment destination - <http://www.rdv.vic.gov.au>
- V/Line – Public transport information - <http://www.vline.com.au>

APPENDIX B: TECHNICAL WORKING GROUP MEMBERS

The Hume Regional Growth Plan Technical Working Group consists of representatives from the following organisations:

Government Agencies and Authorities:

- Office of Aboriginal Affairs Victoria
- Alpine Resorts Management Boards
- Country Fire Authority
- Department of Education and Early Childhood Development
- Department of Health
- Department of Human Services
- Department of Environment and Primary Industries (former Department of Primary Industries and Department of Sustainability and Environment)
- Department of State Development, Business and Innovation (former Department of Planning and Community Development)
- Department of Transport, Planning and Local Infrastructure (former Department of Planning and Community Development, and Department of Transport)
- Environment Protection Authority Victoria
- Goulburn Broken Catchment Management Authority
- Goulburn Murray Water
- Goulburn Valley Water
- North East Catchment Management Authority
- North East Water
- Regional Development Victoria
- Regional Waste Management Groups
- State Emergency Services
- VicRoads

Local Government:

- Alpine Shire Council
- Benalla Rural City Council
- Greater Shepparton City Council
- Indigo Shire Council
- Mansfield Shire Council
- Mitchell Shire Council
- Moira Shire Council
- Murrindindi Shire Council
- Strathbogie Shire Council
- Towong Shire Council
- Wangaratta Rural City Council
- Wodonga City Council