

REPORT TO
INFRASTRUCTURE VICTORIA

22 JULY 2019

WIMMERA SOUTHERN MALLEE



INDUSTRY PROFILE
FINAL





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EXECUTIVE SUMMARY

Overview of region

The Wimmera Southern Mallee region is situated in Western Victoria, bounded by the regions of Mallee to the north, Loddon Campaspe to the east and Central Highlands and Great South Coast to the south.

The Wimmera Southern Mallee region is a small agricultural economy based on dryland farming – especially the production of wheat, a major export for the region. Health services and manufacturing make up the next largest sectors of the economy with several key health facilities located in Horsham (the region's largest urban centre). Future growth will rely upon agriculture, further development of service-based industries and emerging industries such as renewable energy.

Several major roads and rail lines link the Wimmera Southern Mallee region with adjoining regions including South Australia and key ports in Melbourne and Geelong. The region has several small airports such as Horsham and Stawell. Transportation is primarily by road and rail – with requirements for improved public transportation between rural/remote communities and Horsham.

Revealed comparative advantage (RCA) index methodology

Using the theories and approaches of revealed comparative advantage (RCA) outlined in the accompanying assessment framework report, an analysis of the comparative advantage of the Wimmera Southern Mallee region is provided below.

A revealed comparative advantage index (CAI) assumes that the historical economic performance of a region can serve as a good indicator of the industries which have a comparative advantage in that region. The revealed CAI measures the concentration of industries in a particular region compared to the Victorian or Australian economy (that is, it compares the proportion of an industry's contribution to the region's gross value added (GVA), relative to the proportion at the State and National level). Specifically, industries with a CAI above 1 have a higher proportion of GVA in that region compared to the state or national economy and can indicate a potential strength and comparative advantage within the region.

Additional explanation about the RCA and CAI approach used in this profile (including the limitations of the approach) are provided in the body of the report at Chapter 2.

Top 20 highest RCA industries

Table ES1 summarises the highest revealed comparative advantage industries (Level 2 ANZSIC) for the local government areas (LGAs) within the Wimmera Southern Mallee using the Victorian CAI comparison. The economic performance of the Wimmera Southern Mallee is highly dependent on the primary production industries, particularly grains (such as wheat, barley and canola), lamb, wool, beef

and pigs.¹ This is evident in the strong comparative advantage of agriculture in the LGAs of the region: West Wimmera (21.1 Victorian CAI, -2 per cent decline and 66 per cent GVA), Yarriambiack (14.6 Victorian CAI, 6 per cent growth and 45 per cent GVA), Hindmarsh (13.7 Victorian CAI, 2 per cent growth and 43 per cent), Northern Grampians (6.7 Victorian CAI, 34 per cent growth and 21 per cent GVA) and Horsham (4.2 Victorian CAI, 25 per cent growth and 13 per cent GVA). Agriculture is the largest industry and has the largest comparative advantage for four of five LGAs. The past decade has been challenging for Agriculture, with extensive periods of drought and unfavourable conditions severely impacting the region's grain production. This demonstrates the high exposure the region has to climatic conditions, which are predicted to become more variable under projected climate change scenarios for the region.

Agriculture, Forestry and Fisheries Support Services also demonstrate strong comparative advantage and growth across all five rural LGAs. Although typically representing 1-2 per cent gross value add, this sector complements the primary production industry and will continue to become more important into the future as farm businesses apply more inputs and modern technologies. This industry may also capture the decline in workers employed in Agriculture, as the number of farms consolidate and farm businesses source more labour and contract services, which is particularly relevant for typically large-scale businesses in the region.

Mining industries in the Northern Grampians LGA including Metal Ore Mining (38.7 Victorian CAI, minus 58 per cent growth and 1 per cent GVA) and Coal Mining (6.4 Victorian CAI, minus 16 per cent growth and 2 per cent GVA) and Exploration and Other Mining Support Services (5 Victorian CAI, minus 74 per cent growth and less than 1 per cent GVA) all demonstrate strong comparative advantages. However, these industries have either experienced very little growth or significant declines in the past decade. The Northern Grampians has greater economic diversity, with agriculture, tourism and food manufacturing driving comparative advantages and steady growth for the LGA. This is not the case for western rural LGAs, with their economic activity concentrated on grain and livestock production.

TABLE ES 1 TOP 20 HIGHEST REVEALED COMPARATIVE ADVANTAGE BY LGA, WIMMERA SOUTHERN MALLEE

Industry (Level 2 ANZSIC)	LGA	CAI (Victorian comparison)	CAI (National comparison)	10 year growth	% of LGA GVA	Quadrant
8. Metal Ore Mining	Northern Grampians (S)	38.7	0.2	-58%	1%	Top left
1. Agriculture (appears: 5 times)	West Wimmera (S)	21.1	26.3	-2%	66%	Top left
1. Agriculture (appears: 5 times)	Yarriambiack (S)	14.6	18.4	6%	45%	Top right
1. Agriculture (appears: 5 times)	Hindmarsh (S)	13.7	17.4	2%	43%	Top right
5. Agriculture, Forestry and Fishing Support Services (appears: 5 times)	Hindmarsh (S)	10.0	9.0	151%	2%	Top right
3. Forestry and Logging	West Wimmera (S)	9.0	4.9	336%	1%	Top right
5. Agriculture, Forestry and Fishing Support Services (appears: 5 times)	Northern Grampians (S)	7.3	6.4	195%	2%	Top right
5. Agriculture, Forestry and Fishing Support Services (appears: 5 times)	Yarriambiack (S)	6.8	6.0	46%	2%	Top right
1. Agriculture (appears: 5 times)	Northern Grampians (S)	6.7	8.4	34%	21%	Top right
6. Coal Mining	Northern Grampians (S)	6.4	0.7	-16%	2%	Top left
47. Rail Transport	Hindmarsh (S)	6.1	3.9	-38%	2%	Top left
5. Agriculture, Forestry and Fishing Support Services (appears: 5 times)	West Wimmera (S)	6.1	5.3	-11%	1%	Top left

¹ ABARES (2019) Victoria regional profile: North West Region. Accessed 3 June 2019 (<http://www.agriculture.gov.au/abares/research-topics/aboutmyregion/vic-north-west#employment>)

Industry (Level 2 ANZSIC)	LGA	CAI (Victorian comparison)	CAI (National comparison)	10 year growth	% of LGA GVA	Quadrant
38. Commission-Based Wholesaling	Yarriambiack (S)	5.5	3.0	148%	1%	Top right
10. Exploration and Other Mining Support Services	Northern Grampians (S)	5.0	0.8	-74%	0%	Top left
11. Food Product Manufacturing	Northern Grampians (S)	4.4	5.7	91%	10%	Top right
5. Agriculture, Forestry and Fishing Support Services (appears: 5 times)	Horsham (RC)	4.3	3.9	89%	1%	Top right
1. Agriculture (appears: 5 times)	Horsham (RC)	4.2	5.4	25%	13%	Top right
44. Accommodation	Northern Grampians (S)	3.7	2.5	30%	2%	Top right
9. Non-Metallic Mineral Mining and Quarrying (appears: 2 times)	West Wimmera (S)	3.7	0.9	-84%	0%	Top left
9. Non-Metallic Mineral Mining and Quarrying (appears: 2 times)	Northern Grampians (S)	3.4	0.8	-87%	0%	Top left

Note: Revealed industries that appear in more than one LGA are identified "appears: x times.". LGAs are classified as follows: (C) Cities, (S) Shires, and (RC) Rural Cities.

SOURCE: ACIL ALLEN ESTIMATES BASED ON IV DATA

SWOT and needs analysis

To help understand what the infrastructure investment opportunities and constraints look like for Wimmera Southern Mallee, ACIL Allen undertook a Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis, as well as a needs analysis. The information underpinning the SWOT and needs analysis was derived from a desktop research process which examined publicly available data and information. Table ES2 provides the results of this analysis for the industries identified in Table ES1. That is, Table ES2 provides the results of the SWOT and needs analysis for those industries identified in Table ES1 that are deemed to have a high CAI and high share of GVA for the LGA they operate in. It identifies the potential investment opportunities and constraints that are important considerations for meeting the future infrastructure requirements of revealed sectors and other sectors important to the region's economy.

Revealed industries identified in Table ES1 are assessed for their RCA comparison to Victoria, the contribution to an LGA's GVA and consideration of an industry's performance over the past decade. This approach identifies the most important industries to the region. This guides the initial SWOT analysis process. However, due to some of the limitations of the RCA (see Section 2.1), it is important to review available industry, sector and regional development literature as well as consult with relevant regional stakeholders to identify industries that the region considers as important for future economic development. In Wimmera Southern Mallee's case, opportunities have been identified in Agriculture, Forestry and Fisheries; Manufacturing; Mining and Energy; and Tourism.

Due to the categorisation of industries in the ANZSIC codes, tourism does not have a demonstrated RCA. The data simply will not allow for this calculation to be undertaken. However, this sector demonstrates many economic development opportunities for Wimmera Southern Mallee. A further assessment of the priority industries considers service industries that may contribute to the performance of a primary or secondary industry – for Tourism, this may include Accommodation and Food and Beverage Services.

In order to include industries that could be considered emerging or have demonstrated growth but are starting from a low base, it is necessary to cross-check the opportunities identified in the literature with the emerging industries presented in Table ES1. Outside of Agriculture, Manufacturing, Energy and Mining and Tourism (Accommodation), there are no industries in the top 20 that are identified in the literature that either align with the small industries (<1% GVA) demonstrating high RCA or have demonstrated strong growth over the past decade. This may reflect the limitations of the revealed

industry categorisation at the ANZSIC code 2-digit level, which presents a high-level industry descriptor.

The SWOT analysis is then used to identify actionable or practical issues which are compared against the documented infrastructure needs of the region/industries. This comparison is then used to identify potential opportunities and constraints facing industries which could be addressed through future infrastructure investments.

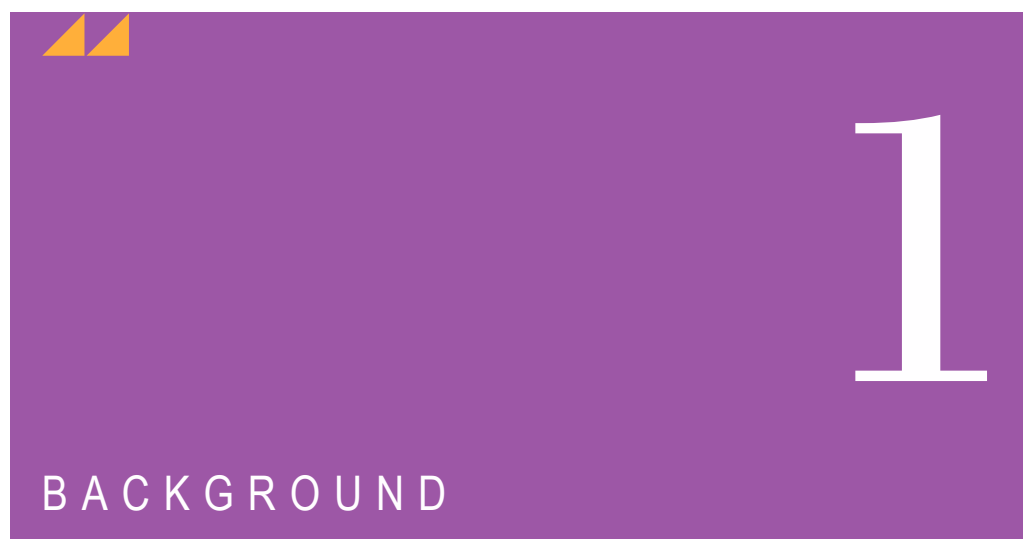
TABLE ES 2 WHAT ARE THE INFRASTRUCTURE INVESTMENT OPPORTUNITIES AND CONSTRAINTS FOR WIMMERA SOUTHERN MALLEE?

Industry	Revealed sectors	Relevant LGAs	Identified needs	Opportunities to address needs	Constraints to economic development of the sector
Agriculture, Forestry and Fisheries	Agriculture (cereals, pulses, intensive ag, lamb, wool)	Horsham	Road freight infrastructure upgrades and improvements necessary to handle increased freight travelling between grain producing LGA's and new feedlot and supply chain partners in all five LGAs.	Improve road freight infrastructure to enable supply chain efficiency gains in the cropping country LGAs	The current road infrastructure may be insufficient to manage increased tonnage of grains travelling along routes between producers and supply chain partners
		Northern Grampians, Yarriambiack			
		Horsham West Wimmera Hindmarsh			
	Agriculture	Horsham Northern Grampians, Yarriambiack Horsham West Wimmera Hindmarsh	Enhanced digital connectivity through fixed mobile towers	Enable uptake of AgTech (agriculture technology) and increased agricultural productivity	Lack of further investments addressing regional mobile black spots will hinder uptake of AgTech in the region
	Agriculture	Hindmarsh Yarriambiack	Upgrading grain handling and storage infrastructure along the rail network	Opportunity to establish lamb and beef feedlots in Hindmarsh and Yarriambiack LGAs due to accessibility to Wimmera Mallee Pipeline and local feed grain supply	Inadequate grain handling and storage facilities to handle increased throughput of grain being transported to local feedlots
Manufacturing	Food Product Manufacturing (Identified as emerging industry based on the future opportunities identified in the SWOT, however it does not have a RCA as such)	Horsham Northern Grampians, Yarriambiack Horsham West Wimmera Hindmarsh	Improvements in local road and rail linkages between farms, processors and markets, including Adelaide and Melbourne	Develop local road and rail linkages between processors and markets along priority corridors in the region Opportunities exist to further develop Food Product Manufacturing, like the Pulse Protein Extraction Project in Horsham, the first of its type in Australia and Nectar Farms in the Northern Grampians and Luv-a-duck in Nhill in Hindmarsh LGA	Inadequate road infrastructure to handle increased freight tonnage

Industry	Revealed sectors	Relevant LGAs	Identified needs	Opportunities to address needs	Constraints to economic development of the sector
Energy and mining	Sand and stone mining (Identified as emerging industry based on the future opportunities identified in the SWOT, however it does not have a RCA as such)	Horsham Northern Grampians, Yarriambiack Horsham West Wimmera Hindmarsh	Transport (road and rail) and energy infrastructure (utility connection) is important for transport of raw materials to processing and export ports. Quality road and rail infrastructure to transport heavy earth materials and equipment	Potential to develop sand and stone resource sector would require road and energy transmission infrastructure Facilitate co-investment into Inter-modal Freight Terminal precincts, to add value to local raw materials, alleviate damage and cost to the Regional Road Network and create employment.	Inadequate road, rail and energy utilities infrastructure to develop sand and stone mining assets.
		Hindmarsh West Wimmera	Reticulated gas networks	Potential to develop reticulated natural gas infrastructure in the future at Wimmera Intermodal Freight Terminal, Warracknabeal, Dimboola and Nhill	Economic development in some regional towns can be constrained by the lack of access to reticulated natural gas, which is only available in Horsham and Stawell
	Renewable energy power generation (Identified as emerging industry, based on the future opportunities identified in the SWOT however, it does not have a RCA as such)	Horsham Northern Grampians, Yarriambiack Horsham West Wimmera Hindmarsh	Need for electricity grid interconnector to enhance renewable energy sector Access to appropriate transport infrastructure	Opportunity to develop new interconnector in the electricity grid between Vic and SA which will open opportunities to renewable energy Facilitation of collocation for intensive energy users and renewable generators Enabling infrastructure such as connecting roads is essential to the efficient, cost-effective and safe operation of wind turbine infrastructure	Without access to the electricity grid the renewable energy sectors development will be constrained New wind turbine developments are located in remote rural areas on greenfield sites that require access to enabling infrastructure
Tourism	Accommodation, Food and Beverage Services (Identified as emerging industry based on the future opportunities identified in the SWOT, however it does not have a RCA as such)	All	Need to develop accommodation facilities and bush fire and flood mitigation infrastructure	Develop enabling infrastructure at key identified areas as specified in the region's Destination Management Plan	Inadequate nature-based tourism infrastructure such as basic accommodation will hinder visitation
			Enhanced digital connectivity across key visitation points including the Grampians National Park	Emergency management and enhance visitor experiences	Lack of further investment around improving digital connectivity will limit tourism growth potential

Industry	Revealed sectors	Relevant LGAs	Identified needs	Opportunities to address needs	Constraints to economic development of the sector
		All	Rest areas, public toilets, road upgrades, bridge upgrades, signage, viewing areas Safe and reliable country roads that connect tourist accommodation and locations Transport infrastructure, including public transport to access tourist destinations where appropriate	Develop nature-based tourism experiences at Grampians National Park, such as the Grampians Way Ring Road and the Grampians Peaks Trail and supporting visitor infrastructure including possible trail head development at Mount Zero Explore possible public transport options for key tourist destinations	Inadequate nature-based tourism infrastructure such as connecting roads, transport services, viewing areas, rest areas and public amenities such as toilets make parts of the Grampians National Park inaccessible
		All	Need for enabling infrastructure along Wimmera River, such as cycling-walking-camping including Dimboola to Lake Albacutya	Opportunities to develop amenities and enabling infrastructure around Wimmera River	Inadequate enabling infrastructure around the Wimmera River to encourage increases in tourist visitation

SOURCE: ACIL ALLEN



1.1 Overview of the Wimmera Southern Mallee region

The Wimmera Southern Mallee region is situated in Western Victoria, bounded by the regions of Mallee to the north, Loddon Campaspe to the east and Central Highlands and Great South Coast to the south.

The Wimmera Southern Mallee region accounts for 15 per cent of Victoria's land area, with a total land size of 33,955 square kilometres. As at 2018, the Wimmera Southern Mallee region had an estimated resident population (ERP) of 47,471 persons or 0.7 per cent of Victoria's population. The region's population and land size by local government area (LGA) are shown in Table 1.1 below:

TABLE 1.1 POPULATION AND AREA, LGA AND SUB-REGION, WIMMERA SOUTHERN MALLEE REGION, 2018

Local Government Area and (sub-region)	ERP	Share of region ERP	Area (km ²)	Share of region area
Horsham Rural City (Horsham regional hub)	19,875	42%	4,267	13%
West Wimmera Shire (Rural cropping areas)	3,862	8%	9,108	27%
Hindmarsh Shire (Rural cropping areas)	5,645	12%	7,524	22%
Yarriambiack Shire (Rural cropping areas)	6,658	14%	7,326	22%
Northern Grampians Shire (South east areas)	11,431	24%	5,730	17%
Wimmera Southern Mallee region⁽¹⁾	47,471	100%	33,955	100%

Note: (1) totals may not sum to 100 per cent due to rounding.

SOURCE: ABS CAT NO. 3218.0, REGIONAL POPULATION GROWTH, AUSTRALIA.

The sub-regions of the Wimmera Southern Mallee region have been aggregated from LGAs based on common economic, social and environmental characteristics. A list of sub-regions and map (see Figure 1.1) are provided below:

- Rural cropping areas (orange)
- Horsham regional hub (yellow)
- South east areas (blue)

FIGURE 1.1 SUB-REGION MAP, WIMMERA SOUTHERN MALLEE REGION, 2019



SOURCE: WIMMERA SOUTHERN MALLEE REGIONAL PROFILE 2018.

The Wimmera Southern Mallee region is a small agricultural economy based on dryland farming – especially the production of wheat, a major export for the region. Health services and manufacturing make up the next largest sectors of the economy with several key health facilities located in Horsham (the region's largest urban centre). Future growth will rely upon agriculture and further development of service-based industries and emerging industries such as renewable energy. This will require investment in inputs into production such as skilling/educating workers, building supporting infrastructure and managing the negative impacts of climate change.

Further details of the key natural and environmental attributes, infrastructure and sub-regions are provided in the following sections.

1.1.1 Key natural and environmental attributes

Key attributes of the Wimmera Southern Mallee region in terms of natural resources and environmental features are described below.

Natural resources include:

- gold
- mineral sands
- sand
- limestone
- scoria
- tuff
- basalt
- gypsum.

Key environmental assets include:

- Murray-Darling basin
- farmland.

1.1.2 Key infrastructure

Several major roads and rail lines link the Wimmera Southern Mallee region with adjoining regions, South Australia and key ports in Melbourne and Geelong. The region has several small airports. Transportation is therefore primarily by road and rail - with requirements for improved public transportation between rural/remote communities and Horsham. Given the limited freshwater storage capacity, drinking water is therefore sourced from underground and from storages outside of the region. A summary of key transport, water and power infrastructure is provided in Box 1.1.

BOX 1.1 KEY INFRASTRUCTURE, WIMMERA SOUTHERN MALLEE REGION, 2019

Roads

- Western Highway (418 kms): Adelaide - Melbourne (services western Victoria and links to South Australia).
- Sunraysia Highway (344 kms): Ouyen - Ballarat (services western Victoria).
- Henty Highway (360 kms): Portland - Lascelles (services western Victoria).
- Wimmera Highway (345 kms): Bendigo - Horsham (services western Victoria and links to South Australia)

Rail

- Limited passenger rail services to Melbourne and Adelaide from a number of regional centres.
- Freight rail routes from Yaapeet and Hopetoun connecting to ports in Geelong, Portland and Melbourne.
- Interstate freight line between Melbourne and Adelaide via Geelong.

Water

- Some of the important water storages in the region include Rocklands Reservoir, Taylors Lake, Lake Wartook, Moora Moora Reservoir and Lake Bellfield.
- Groundwater (used in western parts of the Region).
- Wimmera Mallee Pipeline.

Power

- Some power generation using renewables (e.g. Kiata, Murra Warra, Bulgana, Great Western wind farm)

Airports

- Several small aerodromes service the Region (e.g. Horsham, Warracknabeal, Nhill, and Stawell).

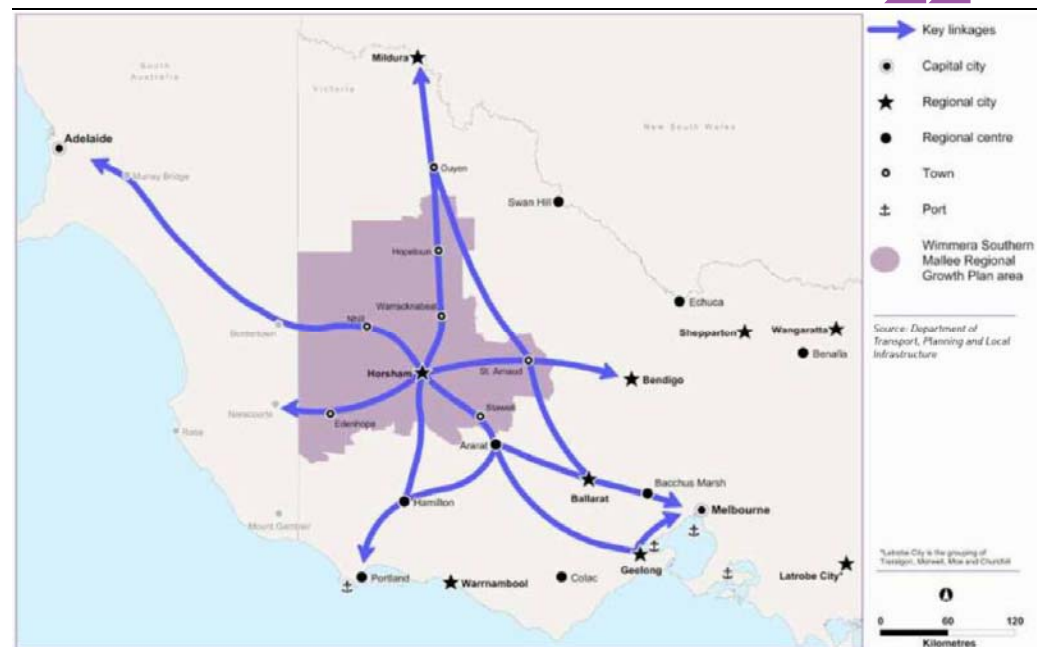
Seaports

- Landlocked region with no seaports.
- Rail and road access via the Wimmera Intermodal Freight Terminal to Port Melbourne, Port Geelong and Portland and Port Adelaide.

SOURCE: WIMMERA SOUTHERN MALLEE REGIONAL PROFILE 2018 AND RDV WIMMERA SOUTHERN MALLEE CONSULTATION, 2019.

Locations of major transport routes and airports for the region are shown in Figure 1.2.

FIGURE 1.2 TRANSPORT INFRASTRUCTURE, WIMMERA SOUTHERN MALLEE REGION, 2019



SOURCE: WIMMERA SOUTHERN MALLEE REGIONAL PROFILE 2018.

1.1.3 Other regional attributes

The Wimmera Southern Mallee region has a sizable agricultural sector and growing services sectors. Horsham (the region's largest urban area) is the biggest regional employer and will be the centre of future growth in the health services sector, centred on Horsham Base Hospital. Agriculture (most notably the production of cereal and legume crops) will remain the dominant sector and income earner. It is expected employment in lower skilled employment in agriculture will fall, while employment growth will occur in higher skilled service sector occupations. Education and training will be important for the labour force to adapt to changing industry demands and skill requirements. A summary of these other attributes is provided in Box 1.2.

BOX 1.2 OTHER REGIONAL ATTRIBUTES, WIMMERA SOUTHERN MALLEE REGION, 2019
Agriculture

- Dryland agriculture.
- Major producer and exporter of cereals and legumes.

Economy

- Service sector employment is growing i.e. health, tourism and food services.
- Construction sector employment is growing.
- Increasing demand for skilled labour.
- Potential for further investment and employment growth in renewable energy industries i.e., wind and solar.
- Potential for further investment and employment growth in extractive industries i.e. gold, mineral sands

Horsham

- Regional hub and source of employment, major service centre for smaller regional centres and surrounding farming communities.
- Regional centre for health services (Wimmera Health Care Group).

Land

- Large areas of farmland suitable for cereal and legume production.
- Suitable conditions for renewable energy generation.
- Extensive extractive resources identified

SOURCE: WIMMERA SOUTHERN MALLEE REGIONAL PROFILE 2018 AND RDV WIMMERA SOUTHERN MALLEE CONSULTATION, 2019

1.2 Sub-regions of Wimmera Southern Mallee region

Differences exist within the Wimmera Southern Mallee region at the LGA level in terms of attributes, and infrastructure. As an example, some LGAs contain a mixture of industries and several major regional/urban centres while others are largely rural based. By dividing the Wimmera Southern Mallee region into smaller sub-regions, some of the differences in economic, environmental and social characteristics within the region are described below.

Horsham Regional Hub (Horsham Rural City)

Comprised of the council of Horsham Rural City, the “Horsham Regional Hub” sub-region (highlighted in yellow in Figure 1.1) contains 42 per cent and 13 per cent of Wimmera Southern Mallee region’s ERP and area respectively. Key facts about the Horsham Regional Hub sub-region include:

- contains the major urban centre of Horsham
- largest industry is agriculture (Gross Value Added (GVA))
- growing population
- diverse industry base (major provider of health and education services)
- agglomeration and relocation of services in Horsham away from rural areas
- major centre of employment for the surrounding area
- projected increase in the working age population out to 2030.

South East Regions (Northern Grampians Shire Council)

Comprising the Northern Grampians Shire Council, the “South East Regions” sub-region (highlighted in blue in Figure 1.1) contains 24 per cent and 17 per cent of Wimmera Southern Mallee region’s ERP and area respectively. Key facts about the South East Regions sub-region include:

- contains the small townships of Stawell and St Arnaud
- largest industry is agriculture (based on GVA)
- high levels of labour mobility, residents commute to the town of Ararat and Central Highlands for work
- population ageing and declining working age population

- higher levels of social disadvantage relative to the rest of Victoria
- high school completion rates below the Victorian average.

Rural cropping areas (West Wimmera, Hindmarsh and Yarriambiack Shire Councils)

Comprising the West Wimmera, Hindmarsh and Yarriambiack Shire Councils, the “Rural Cropping Areas” sub-region (highlighted in orange in Figure 1.1) contains 34 per cent and 71 per cent of Wimmera Southern Mallee region’s ERP and area respectively. Key facts about the Rural Cropping Areas sub-region include:

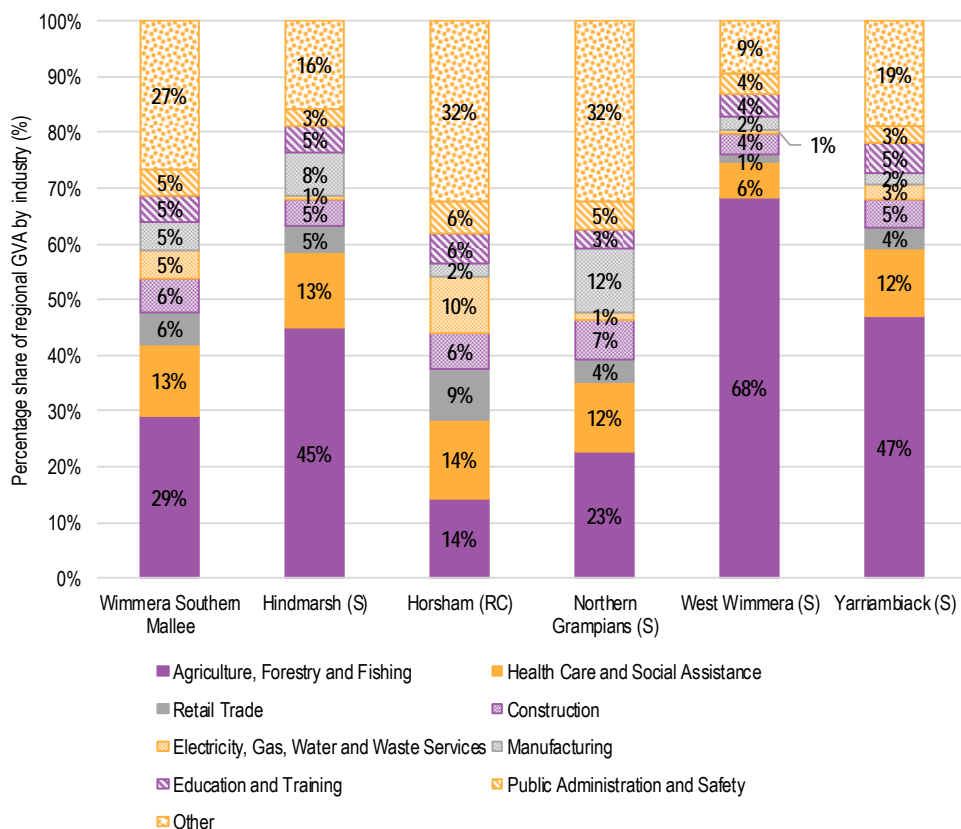
- contains the townships of Nhill, Edenhope, Warracknabeal and Hopetoun
- largest industry is agriculture (by GVA)
- comparatively high incomes with other LGAs
- relatively high levels of disadvantage (compared with other LGAs in Victoria)
- high proportion of early school leavers
- high proportion of 15-19-year olds engaged in full-time employment as opposed to study or training.

1.3 Industry composition

The Gross Regional Product (GRP) of the Wimmera Southern Mallee region is the sum of industrial GVA. Figure 1.3 shows the 2017-18 distribution of GVA across the largest industries for the Wimmera Southern Mallee region and its five LGAs. The biggest industries by GVA in the Wimmera Southern Mallee region are: Agriculture, Forestry and Fishing (29 per cent), Health Care and Social Assistance (13 per cent), Retail Trade (6.0 per cent), Construction (5 per cent) and Electricity, Gas, Water and Waste Services (5.2 per cent). These five industries outlined above comprise over half of the Wimmera Southern Mallee region’s GVA.

Horsham has a relatively diversified economy with a relatively even spread across multiple sectors. There is noticeable variation in the biggest industries across the LGAs of the Wimmera Southern Mallee region. Some noticeable differences include the size of the Agriculture, Forestry and Fishing industry, which accounts for a very large proportion of the GVA in West Wimmera (68 per cent), Yarriambiack (47 per cent) and Hindmarsh (45 per cent), and to a lesser extent, Northern Grampians (23 per cent). Both the Northern Grampians and Hindmarsh each have a relatively large Manufacturing industry at 12 per cent and 8 per cent respectively.

FIGURE 1.3 GVA SHARE OF KEY INDUSTRIES IN THE WIMMERA SOUTHERN MALLEE REGION, 2017-18



Note: Other includes industries with less than 4 per cent of Wimmera Southern Mallee GVA: Wholesale Trade; Financial and Insurance Services; Accommodation and Food Services; Professional, Scientific and Technical Services; Other Services; Rental, Hiring and Real Estate Services; Arts and Recreation Services; Mining; and Information Media and Telecommunications.

LGAs are classified as follows: (C) Cities, (S) Shires and (RC) Rural Cities.

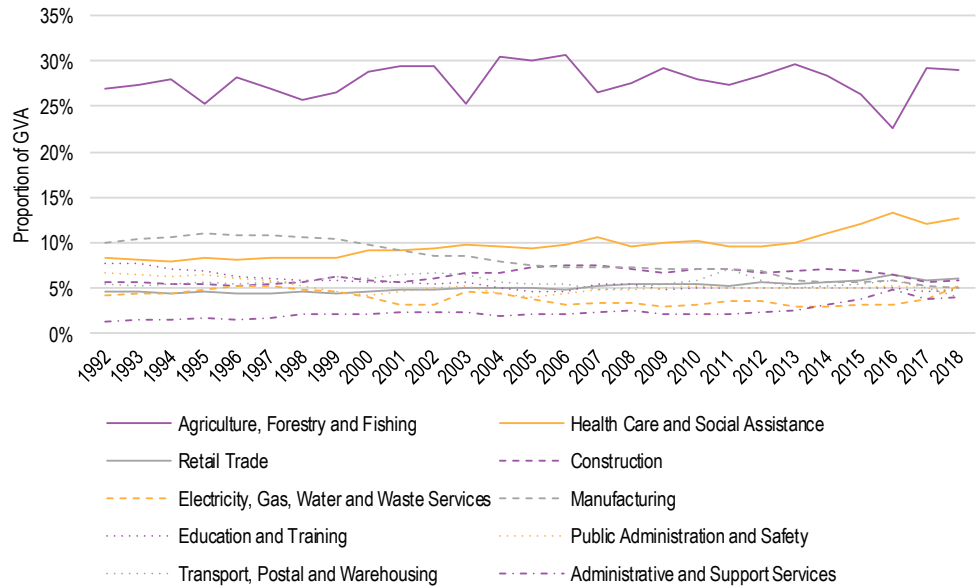
SOURCE: IV DATA 2019

Figure 1.4 shows the GVA of key industries in the Wimmera Southern Mallee region from 1991-92 to 2017-18. The share of GVA from Public Administration and Safety has declined from 7.4 per cent in 2007-08 to 5.0 per cent in 2017-18; similarly, Financial and Insurance Services has seen a large decline over the past decade, falling from 5.1 per cent in 2008 to 4.0 per cent in 2018.

Since 2007-08 there has been an increase in the share of GVA from Transport, Postal and Warehousing, increasing from 2.5 per cent to 4.0 per cent (57 per cent increase); and Health Care and Social Assistance, increasing from 9.5 per cent to 12.7 per cent (34 per cent increase).

This is somewhat consistent with trends occurring across Victoria, such as an increase in service-based industries, in particular Health care.

FIGURE 1.4 GVA SHARE OF KEY INDUSTRIES IN THE WIMMERA SOUTHERN MALLEE REGIONS 1991-92 TO 2017-18



SOURCE: IV DATA 2019



2.1 Revealed comparative advantage index

Using the theories and approaches of revealed comparative advantage (RCA) outlined in the accompanying assessment framework report, an analysis of Wimmera Southern Mallee's comparative advantage is provided in this section.

A revealed comparative advantage index (CAI) assumes that the historical economic performance of a region can serve as a good indicator of the industries which have a comparative advantage in that region. The strength of an RCA approach is that it enables the identification of significant industries in each region while using a relatively simple and consistent methodology. In other words, with RCA, the results are truly comparative across regions because, for each region, the results are derived in a consistent way. Specifically, industries with a CAI above 1 have a higher proportion of GVA in that region compared to the state or national economy and can indicate a potential strength of a region.

The revealed CAI measures the concentration of industries in a particular region compared to the Victorian or Australian economy (that is, it compares the proportion of an industry contribution to the regions GVA, relative to the proportion at the State and National level). The reasons why both comparators are important are outlined in Box 2.1 below.

While both comparisons have been used for this analysis and reported in the sections below, the analysis of the top revealed industries focuses on industries assessed against the Victorian CAI. This has been done for two reasons. First, it is consistent with the focus of this study, which is on Victoria's regions. Second, there were some minor gaps in the Level 2 ANZSIC data used to undertake the LGA-level analysis which would have impacted the consistency in which national CAI comparisons can be reported.

Furthermore, the analysis in this chapter reports on rates of industry growth as it provides insight into industries that have grown rapidly over the past decade and hence could be expected to continue to grow in the future. It also identifies industries that have declined over the past decade.

BOX 2.1 EXPLANATION UNDERPINNING ACIL ALLEN'S USE OF VICTORIAN AND NATIONAL CAI COMPARISONS

The RCA approach was developed initially to calculate relative advantage or disadvantage of a country in certain goods and services as evidenced by trade flows. In recent years, the concept has been adopted to assess the comparative advantage of industries in a region.

When assessing regional RCA, there was a question of which denominator to use in the index.

A key reason for using a national denominator (in addition to a Victorian denominator) to calculate the CAI for various industries is that while a particular industry may be significant compared to the Victorian average, it may not be significant compared to the broader Australian economy. When the CAI for a particular industry, within a particular region, shows a similar strength compared to both the Victorian and the national averages, this is likely to indicate a stronger comparative advantage than one in which the two CAI's conflict.

Therefore, under this framework, two comparisons (Victorian and national) have been provided to assist in understanding a region's/industry's comparative advantage from multiple perspectives.

For example, the CAI of a mining commodity may be very strong in a particular region compared to Victoria because there happens to be an economic deposit within that region that is not available elsewhere in Victoria. When compared to Australia as a whole, however, a low CAI would indicate that there are more competitive mining provinces elsewhere in Australia. In contrast, a high CAI using both the Victorian and national denominators is likely to indicate that not only is there an economic deposit present, but that it is potentially a world class deposit.

SOURCE: ACIL ALLEN

Limitations of CAI

The RCA approach tells us how regions compare to the broader economy in terms of size. Where there is variation in size relative to the broader economy, RCA can be an indicator of an industry's strength and importance to the future of the economy. However, it is only one indicator and further analysis is needed to determine if the industry warrants future investment and attention by government. Furthermore, the RCA approach does not tell us if a high CAI industry is a driver or a consequence of growth. This is important because an industry may only exist as a consequence of government funding (as is the case for correctional facilities/prisons) and not because of the private market's demand for its goods and services. There may be policy or other reasons to support these industries, but these reasons may not be overtly economic in nature.

2.2 Wimmera Southern Mallee (Level 1 ANZSIC analysis)

Figure 2.1 shows the CAI and industry growth for Level 1 ANZSIC industries in the Wimmera Southern Mallee. The chart excludes Agriculture which has high CAI and growth to focus on the moderate CAI industries. As noted above, the CAI can be used as an indicator of possible regional strength, particularly when combined with a growing share of regional GVA. The quadrant framework can assist in mapping the growth potential of an industry with an RCA.

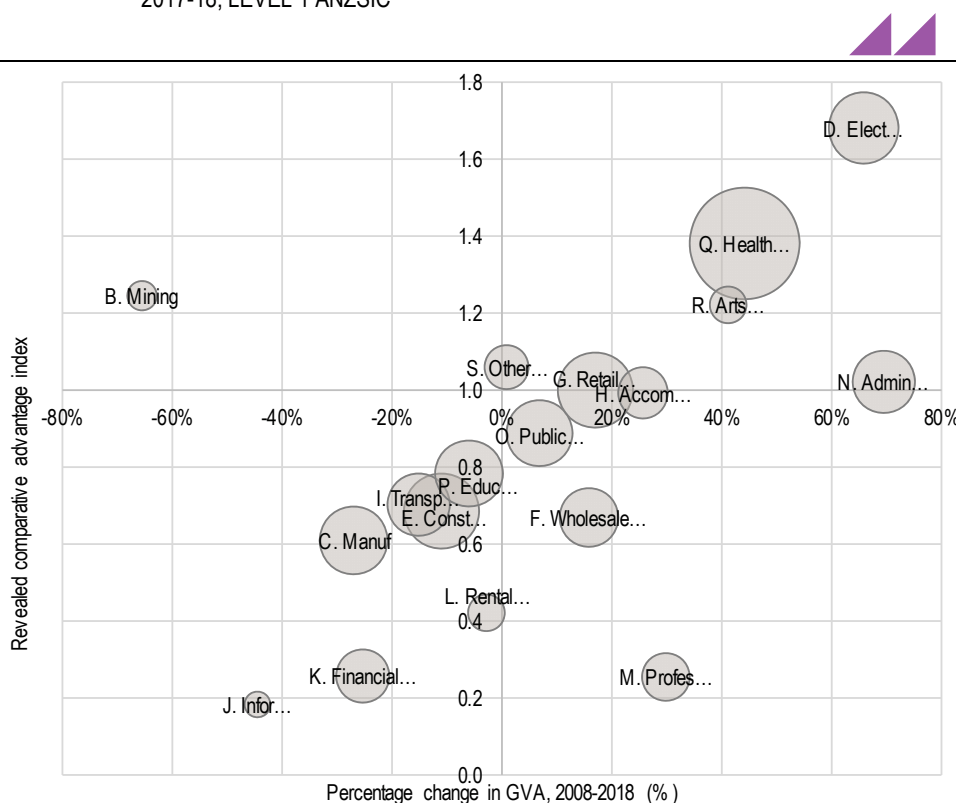
Top right, comparative advantage and growth: These are the industry sectors that should be looked upon as most likely to drive regional growth and development. These are sectors which a region most likely has comparative advantage in, and which have experienced growth over the past decade. Government policy should seek to *facilitate* growth in these sectors and attempt to leverage them by focussing on the economic linkages these sectors have to the region and the Victorian economy. Industries in the Wimmera Southern Mallee region which appear to have comparative advantage and potential growth characteristics include Agriculture, Forestry and Fishing; Electricity, Gas, Water and Waste Services; and Health Care and Social Assistance.

Top left, comparative advantage with no growth: These are the industry sectors which have a comparative advantage but have been in decline over the past decade. For the Wimmera Southern Mallee, this refers to the Mining industry. Government policy should seek to *identify and overcome constraints* to the growth of these industries caused by infrastructure provision.

Bottom right, growth but not yet comparative advantage: These are the industry sectors that have experienced growth over the past decade but do not have comparative advantage. Our analysis shows that for the Wimmera Southern Mallee region, these include the Professional, Scientific and Technical Services; Wholesale Trade and Public Administration and Safety. Government policy should look at this quadrant as identifying *potential emerging industries*.

Bottom left, no growth and no comparative advantage: These are the industry sectors for which there is no comparative advantage or growth – namely, the Information Media and Telecommunications; Financial and Insurance Services; and Manufacturing industry. Government policy might be warranted here to *manage decline* or assist regions to transition out of these industries. Government support for these industries may have less to do with infrastructure provision and other forms (i.e. welfare) of industry support or structural adjustment.

FIGURE 2.1 REVEALED COMPARATIVE ADVANTAGE INDEX – WIMMERA SOUTHERN MALLEE 2017-18, LEVEL 1 ANZSIC



Note: This includes the revealed comparative advantage index of the Wimmera Southern Mallee relative to the Victorian economy. This chart excludes Agriculture, Forestry and Fishing; (which has a very high CAI) to focus the chart on the cluster of moderate CAI industries.

SOURCE: ACIL ALLEN ESTIMATES BASED ON IV DATA

Table 2.1 summarises the highest RCA industries (Level 1 ANZSIC) for the Wimmera Southern Mallee.

TABLE 2.1 TOP 10 REVEALED COMPARATIVE ADVANTAGE INDUSTRIES FOR WIMMERA SOUTHERN MALLEE, LEVEL 1 ANZSIC

Industry (Level 1 ANZSIC)	CAI (Victorian comparison)	CAI (National comparison)	10 year growth	% of LGA GVA	Quadrant
A. Agriculture, Forestry and Fishing	8.3	9.8	13%	29.1%	Top right
D. Electricity, Gas, Water and Waste Services	1.7	1.8	66%	5.2%	Top right
Q. Health Care and Social Assistance	1.4	1.5	44%	12.7%	Top right

Industry (Level 1 ANZSIC)	CAI (Victorian comparison)	CAI (National comparison)	10 year growth	% of LGA GVA	Quadrant
B. Mining	1.2	0.1	-65%	1.0%	Top left
R. Arts and Recreation Services	1.2	1.6	41%	1.5%	Top right
S. Other Services	1.1	1.0	1%	2.1%	Top right
N. Administrative and Support Services	1.0	1.1	69%	4.0%	Top right
G. Retail Trade	1.0	1.2	17%	6.0%	Bottom right
H. Accommodation and Food Services	1.0	1.0	26%	2.7%	Bottom right
O. Public Administration and Safety	0.9	0.8	7%	4.7%	Bottom right

SOURCE: ACIL ALLEN ESTIMATES BASED ON IV DATA

2.3 Wimmera Southern Mallee LGA analysis (Level 2 ANZSIC analysis)

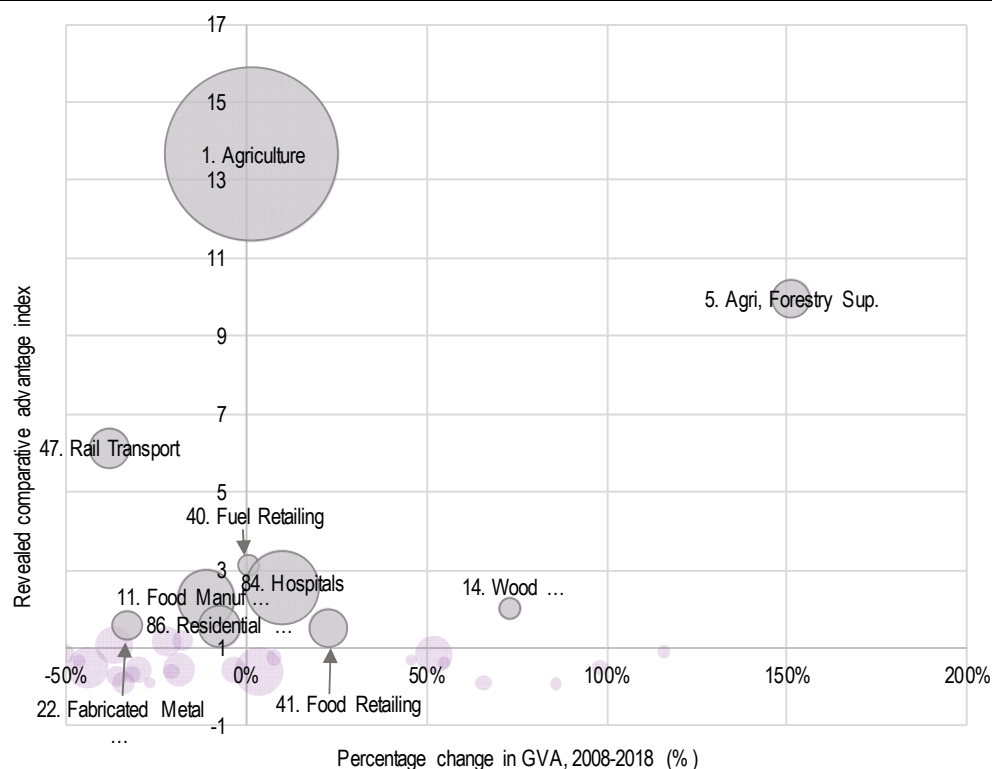
The following section includes revealed comparative advantage analysis by Level 2 ANZSIC industries for Wimmera Southern Mallee's five LGAs: Hindmarsh, Horsham, Northern Grampians, West Wimmera, and Yarriambiack.

The analysis focuses on identifying the key Level 2 ANZSIC industries which fall in the 'top right' and are found to have a likely comparative advantage and growth.

2.3.1 Hindmarsh

Figure 2.2 shows RCA analysis by ANZSIC Level 2 industries for the Hindmarsh LGA. Key industries of interest with a high CAI in the Hindmarsh LGA include Agriculture; Agriculture, Forestry and Fishing Support Services; Rail Transport; and Fuel Retailing (see Table 2.2).

FIGURE 2.2 COMPARATIVE ADVANTAGE INDEX FOR HINDMARSH, 2017-18, LEVEL 2 ANZSIC



Note: This includes the revealed comparative advantage relative to the Victorian economy.

SOURCE: ACIL ALLEN ESTIMATES BASED ON IV DATA

Table 2.2 summarises the highest comparative advantage industries (Level 2 ANZSIC) for the Hindmarsh LGA, using the Victorian CAI comparison. Important industries include Agriculture; Agriculture, Forestry and Fishing Support Services and Hospitals which each have large CAI, undergone growth over the past 10 years and constitute a relatively large proportion of the LGA's GVA. While Wood Product Manufacturing has seen growth over the past 10 years and has a high CAI, the sector currently accounts for a small proportion of Hindmarsh's GVA. There are several industries with high CAI which have had negative growth over the past 10 years: Rail Transport; Food Product Manufacturing and Fabricated Metal Product Manufacturing.

TABLE 2.2 TOP 10 REVEALED COMPARATIVE ADVANTAGE INDUSTRIES FOR HINDMARSH

Industry (Level 2 ANZSIC)	CAI (Victorian comparison)	CAI (National comparison)	10 year growth	% of LGA GVA	Quadrant
1. Agriculture	13.7	17.4	2%	42.7%	Top right
5. Agriculture, Forestry and Fishing Support Services	10.0	9.0	151%	2.2%	Top right
47. Rail Transport	6.1	3.9	-38%	2.3%	Top left
40. Fuel Retailing	3.1	2.9	1%	0.7%	Top right
84. Hospitals	2.6	8.7	10%	7.9%	Top right
11. Food Product Manufacturing	2.3	3.0	-11%	5.0%	Top left
14. Wood Product Manufacturing	2.0	2.2	73%	0.8%	Top right
22. Fabricated Metal Product Manufacturing	1.6	1.6	-33%	1.3%	Top left

Industry (Level 2 ANZSIC)	CAI (Victorian comparison)	CAI (National comparison)	10 year growth	% of LGA GVA	Quadrant
86. Residential Care Services	1.5	1.9	-7%	2.7%	Top left
41. Food Retailing	1.5	1.1	23%	2.2%	Top right

SOURCE: ACIL ALLEN ESTIMATES BASED ON IV DATA

Table 2.3 summarises the largest industries (Level 2 ANZSIC) for the Hindmarsh LGA.

TABLE 2.3 TOP 10 LARGEST INDUSTRIES FOR HINDMARSH

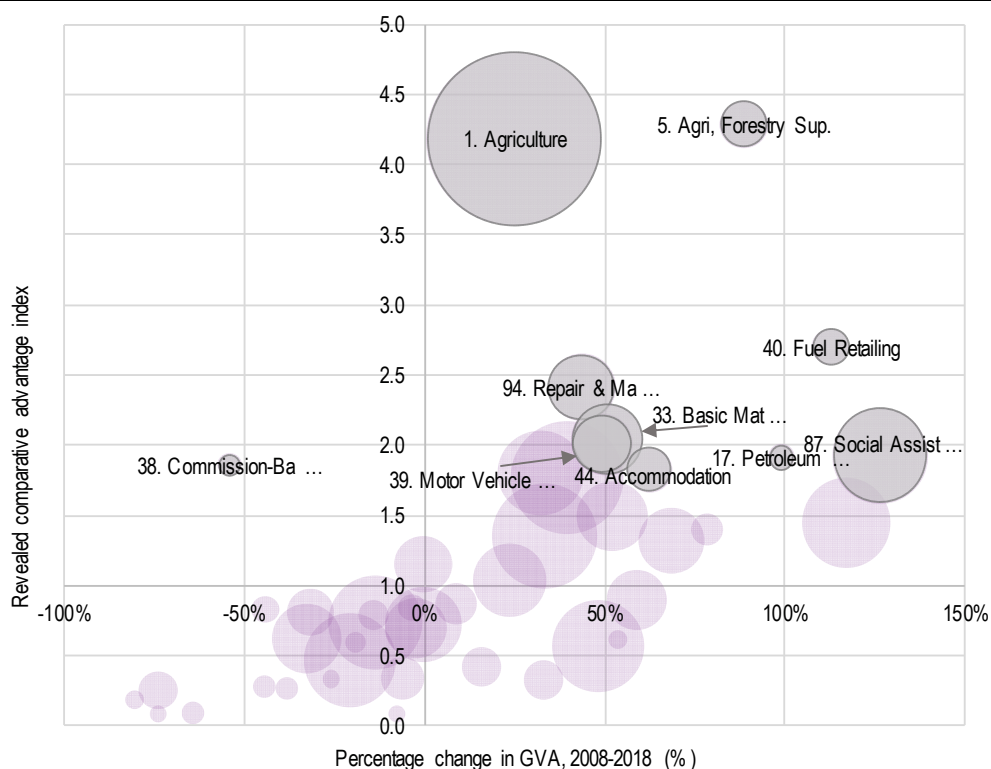
Industry (Level 2 ANZSIC)	CAI (Victorian comparison)	CAI (National comparison)	10 year growth	% of LGA GVA	Quadrant
1. Agriculture	13.7	17.4	2%	42.7%	Top right
84. Hospitals	2.6	8.7	10%	7.9%	Top right
11. Food Product Manufacturing	2.3	3.0	-11%	5.0%	Top left
62. Finance	0.4	-	3%	3.3%	Bottom right
86. Residential Care Services	1.5	1.9	-7%	2.7%	Top left
32. Construction Services	0.5	0.4	-44%	2.5%	Bottom left
47. Rail Transport	6.1	3.9	-38%	2.3%	Top left
5. Agriculture, Forestry and Fishing Support Services	10.0	9.0	151%	2.2%	Top right
41. Food Retailing	1.5	1.1	23%	2.2%	Top right
85. Medical and Other Health Care Services	0.8	0.6	52%	2.0%	Bottom right

SOURCE: ACIL ALLEN ESTIMATES BASED ON IV DATA

2.3.2 Horsham

Figure 2.3 shows RCA analysis by ANZSIC level 2 industries for the Horsham LGA. Key industries of interest with a high CAI in the Horsham LGA include Agriculture, Forestry and Fishing Support Services; Agriculture; Fuel Retailing; and Repair and Maintenance (see Table 2.4).

FIGURE 2.3 COMPARATIVE ADVANTAGE INDEX FOR HORSHAM, 2017-18, LEVEL 2 ANZSIC



Note: This includes the revealed comparative advantage relative to the Victorian economy.
 SOURCE: ACIL ALLEN ESTIMATES BASED ON IV DATA

Table 2.4 summarises the highest comparative advantage industries (Level 2 ANZSIC) for the Horsham LGA, using the Victorian CAI comparison. Important industries include Agriculture; Repair and Maintenance; Basic Material Wholesaling; Motor Vehicle and Motor Vehicle Parts Retailing; and Social Assistance Services which each have large CAI, undergone notable growth over the past 10 years and constitute a relatively large proportion of the LGA's GVA. Fuel Retailing has a high CAI and has seen growth but remains a small percentage of Horsham's GVA.

TABLE 2.4 TOP 10 REVEALED COMPARATIVE ADVANTAGE INDUSTRIES FOR HORSHAM

Industry (Level 2 ANZSIC)	CAI (Victorian comparison)	CAI (National comparison)	10 year growth	% of LGA GVA	Quadrant
5. Agriculture, Forestry and Fishing Support Services	4.3	3.9	89%	1.0%	Top right
1. Agriculture	4.2	5.4	25%	13.1%	Top right
40. Fuel Retailing	2.7	2.5	113%	0.6%	Top right
94. Repair and Maintenance	2.4	1.6	44%	1.9%	Top right
33. Basic Material Wholesaling	2.0	2.0	51%	2.2%	Top right
39. Motor Vehicle and Motor Vehicle Parts Retailing	2.0	1.8	49%	1.5%	Top right
87. Social Assistance Services	1.9	2.8	126%	3.9%	Top right
17. Petroleum and Coal Product Manufacturing	1.9	1.8	99%	0.3%	Top right

Industry (Level 2 ANZSIC)	CAI (Victorian comparison)	CAI (National comparison)	10 year growth	% of LGA GVA	Quadrant
38. Commission-Based Wholesaling	1.9	1.0	-54%	0.2%	Top left
44. Accommodation	1.8	1.3	62%	0.9%	Top right

SOURCE: ACIL ALLEN ESTIMATES BASED ON IV DATA

Table 2.5 summarises the largest industries (Level 2 ANZSIC) for the Horsham LGA.

TABLE 2.5 TOP 10 LARGEST INDUSTRIES FOR HORSHAM

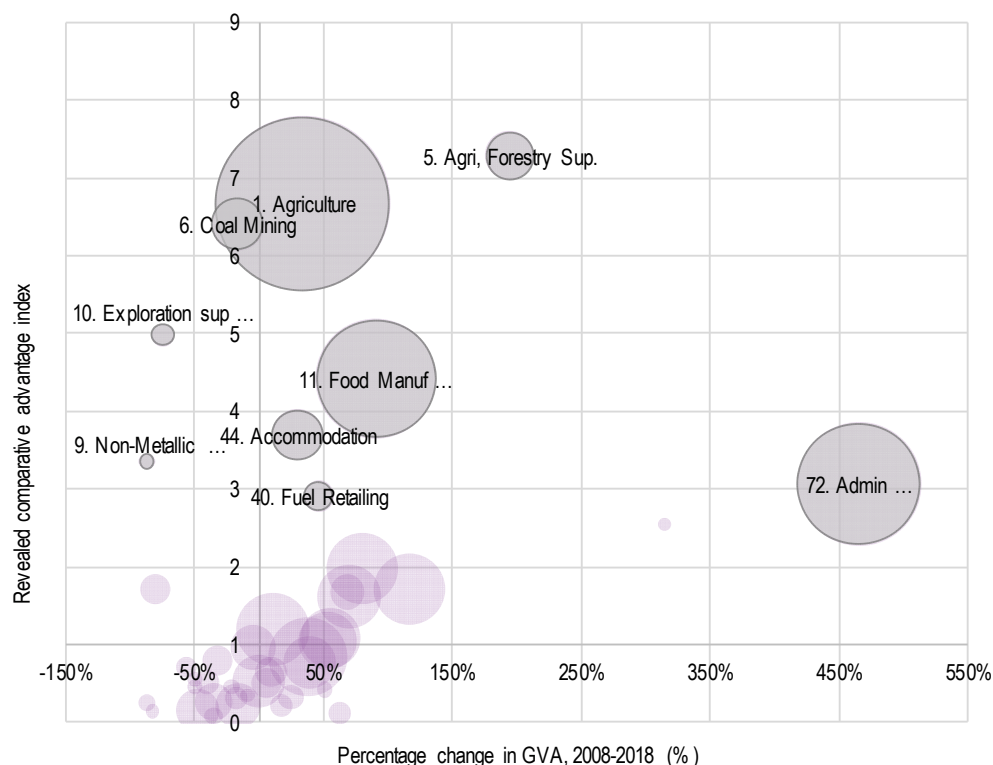
Industry (Level 2 ANZSIC)	CAI (Victorian comparison)	CAI (National comparison)	10 year growth	% of LGA GVA	Quadrant
1. Agriculture	4.2	5.4	25%	13.1%	Top right
84. Hospitals	1.8	6.1	39%	5.5%	Top right
42. Other Store-Based Retailing	1.3	1.5	33%	4.7%	Top right
87. Social Assistance Services	1.9	2.8	126%	3.9%	Top right
32. Construction Services	0.7	0.7	-14%	3.8%	Bottom left
62. Finance	0.5	-	-21%	3.7%	Bottom left
69. Professional, Scientific and Technical Services (Except Computer System Design and Related Services)	0.6	0.5	48%	3.7%	Bottom right
85. Medical and Other Health Care Services	1.4	1.0	117%	3.4%	Top right
46. Road Transport	1.8	1.5	32%	3.1%	Top right
67. Property Operators and Real Estate Services	0.7	0.4	0%	2.5%	Bottom left

SOURCE: ACIL ALLEN ESTIMATES BASED ON IV DATA

2.3.3 Northern Grampians

Figure 2.4 shows revealed comparative advantage analysis by Level 2 ANZSIC industries for the Northern Grampians LGA. Key industries of interest with a high CAI in the Northern Grampians LGA include Metal Ore Mining; Agriculture, Forestry and Fishing Support Services; Agriculture; Coal Mining; and Exploration and Other Mining Support Services (See Table 2.6).

FIGURE 2.4 COMPARATIVE ADVANTAGE INDEX FOR NORTHERN GRAMPIANS, 2017-18, LEVEL 2 ANZSIC



Note: This includes the revealed comparative advantage relative to the Victorian economy. The chart excludes 8. Metal Ore Mining to focus the chart on the key industries.

SOURCE: ACIL ALLEN ESTIMATES BASED ON IV DATA

Table 2.6 summarises the highest comparative advantage industries (Level 2 ANZSIC) for the Northern Grampians LGA, using the Victorian CAI comparison. Important industries include Agriculture, Forestry and Fishing Support Services; Agriculture; Food Product Manufacturing; and Accommodation which each have a high CAI, form a sizeable part of the economy and have seen growth over the past 10 years. Metal Ore Mining; Coal Mining; and Exploration and Other Mining Support Services each have a high CAI and negative growth over the past 10 years.

TABLE 2.6 TOP 10 REVEALED COMPARATIVE ADVANTAGE INDUSTRIES FOR NORTHERN GRAMPIANS

Industry (Level 2 ANZSIC)	CAI (Victorian comparison)	CAI (National comparison)	10 year growth	% of LGA GVA	Quadrant
8. Metal Ore Mining	38.7	0.2	-58%	1.2%	Top left
5. Agriculture, Forestry and Fishing Support Services	7.3	6.4	195%	1.6%	Top right
1. Agriculture	6.7	8.4	34%	20.8%	Top right
6. Coal Mining	6.4	0.7	-16%	1.9%	Top left
10. Exploration and Other Mining Support Services	5.0	0.8	-74%	0.4%	Top left
11. Food Product Manufacturing	4.4	5.7	91%	9.8%	Top right
44. Accommodation	3.7	2.5	30%	1.8%	Top right

Industry (Level 2 ANZSIC)	CAI (Victorian comparison)	CAI (National comparison)	10 year growth	% of LGA GVA	Quadrant
9. Non-Metallic Mineral Mining and Quarrying	3.4	0.8	-87%	0.2%	Top left
72. Administrative Services	3.1	2.5	465%	10.5%	Top right
40. Fuel Retailing	2.9	2.6	46%	0.6%	Top right

SOURCE: ACIL ALLEN ESTIMATES BASED ON IV DATA

Table 2.7 summarises the largest industries (Level 2 ANZSIC) for the Northern Grampians LGA.

TABLE 2.7 TOP 10 LARGEST INDUSTRIES FOR NORTHERN GRAMPIANS

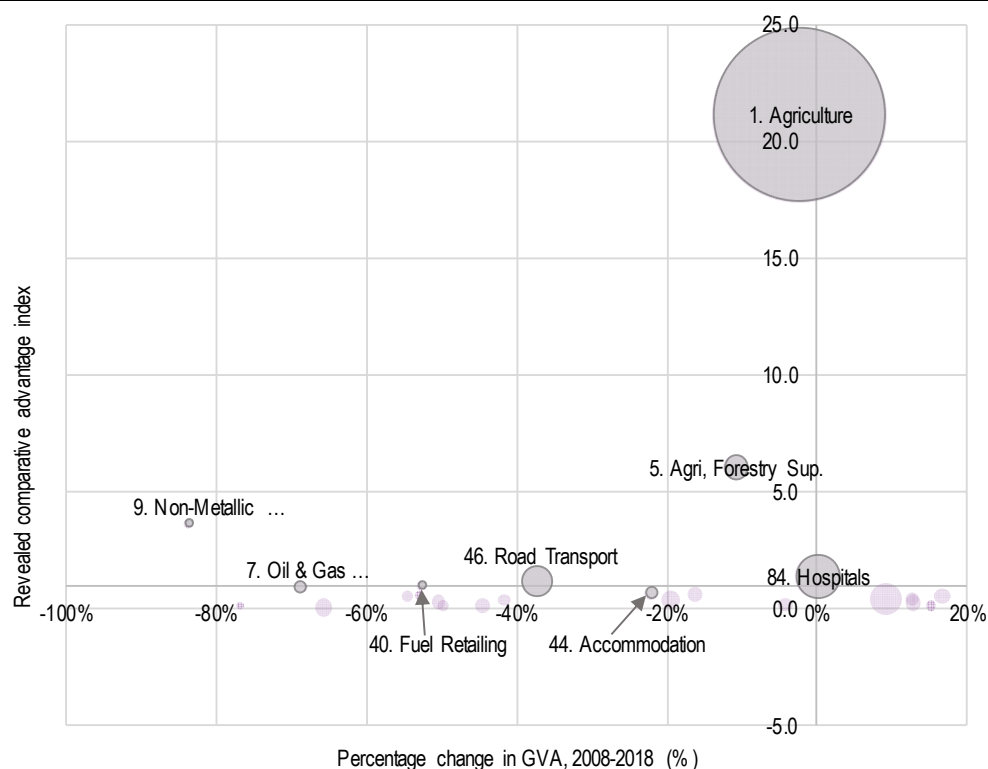
Industry (Level 2 ANZSIC)	CAI (Victorian comparison)	CAI (National comparison)	10-year growth	% of LGA GVA	Quadrant
1. Agriculture	6.7	8.4	34%	20.8%	Top right
72. Administrative Services	3.1	2.5	465%	10.5%	Top right
11. Food Product Manufacturing	4.4	5.7	91%	9.8%	Top right
32. Construction Services	0.8	0.7	38%	4.3%	Bottom right
84. Hospitals	1.2	4.0	11%	3.7%	Top right
87. Social Assistance Services	1.7	2.4	116%	3.5%	Top right
86. Residential Care Services	2.0	2.4	81%	3.4%	Top right
46. Road Transport	1.6	1.3	70%	2.8%	Top right
45. Food and Beverage Services	1.1	0.9	55%	2.4%	Top right
30. Building Construction	1.0	0.9	54%	2.3%	Top right

SOURCE: ACIL ALLEN ESTIMATES BASED ON IV DATA

2.3.4 West Wimmera

Figure 2.5 shows revealed comparative advantage analysis by Level 2 ANZSIC industries for the West Wimmera LGA. Key industries of interest with a high CAI in the West Wimmera LGA include Agriculture; Forestry and Logging; Agriculture, Forestry and Fishing Support Services; Non-Metallic Mineral Mining and Quarrying; and Adult, Community and Other Education (see Table 2.8).

FIGURE 2.5 COMPARATIVE ADVANTAGE INDEX FOR WEST WIMMERA, 2017-18, LEVEL 2 ANZSIC



Note: This includes the revealed comparative advantage relative to the Victorian economy. The chart excludes 3. Forestry and Logging; and 82. Adult, Community and Other Education to focus the chart on the key industries.

SOURCE: ACIL ALLEN ESTIMATES BASED ON IV DATA

Table 2.8 summarises the highest comparative advantage industries (Level 2 ANZSIC) for the West Wimmera LGA using the Victorian CAI comparison. While Forestry and Logging and Adult, Community and Other Education have a large CAI and undergone notable growth over the past 10 years, these sectors constitute a relatively small proportion of the West Wimmera's GVA. The remaining high CAI industries have had zero or negative growth over the past 10 years.

TABLE 2.8 TOP 10 REVEALED COMPARATIVE ADVANTAGE INDUSTRIES FOR WEST WIMMERA

Industry (Level 2 ANZSIC)	CAI (Victorian comparison)	CAI (National comparison)	10 year growth	% of LGA GVA	Quadrant
1. Agriculture	21.1	26.3	-2%	66.0%	Top left
3. Forestry and Logging	9.0	4.9	336%	0.9%	Top right
5. Agriculture, Forestry and Fishing Support Services	6.1	5.3	-11%	1.4%	Top left
9. Non-Metallic Mineral Mining and Quarrying	3.7	0.9	-84%	0.2%	Top left
82. Adult, Community and Other Education	2.1	2.5	458%	0.8%	Top right
84. Hospitals	1.4	4.6	0%	4.3%	Top right
46. Road Transport	1.2	1.0	-37%	2.1%	Top left
40. Fuel Retailing	1.0	0.9	-53%	0.2%	Top left

Industry (Level 2 ANZSIC)	CAI (Victorian comparison)	CAI (National comparison)	10 year growth	% of LGA GVA	Quadrant
7. Oil and Gas Extraction	1.0	0.2	-69%	0.3%	Bottom left
44. Accommodation	0.7	0.5	-22%	0.3%	Bottom left

SOURCE: ACIL ALLEN ESTIMATES BASED ON IV DATA

Table 2.9 summarises the largest industries (Level 2 ANZSIC) for the West Wimmera LGA.

TABLE 2.9 TOP 10 LARGEST INDUSTRIES FOR WEST WIMMERA

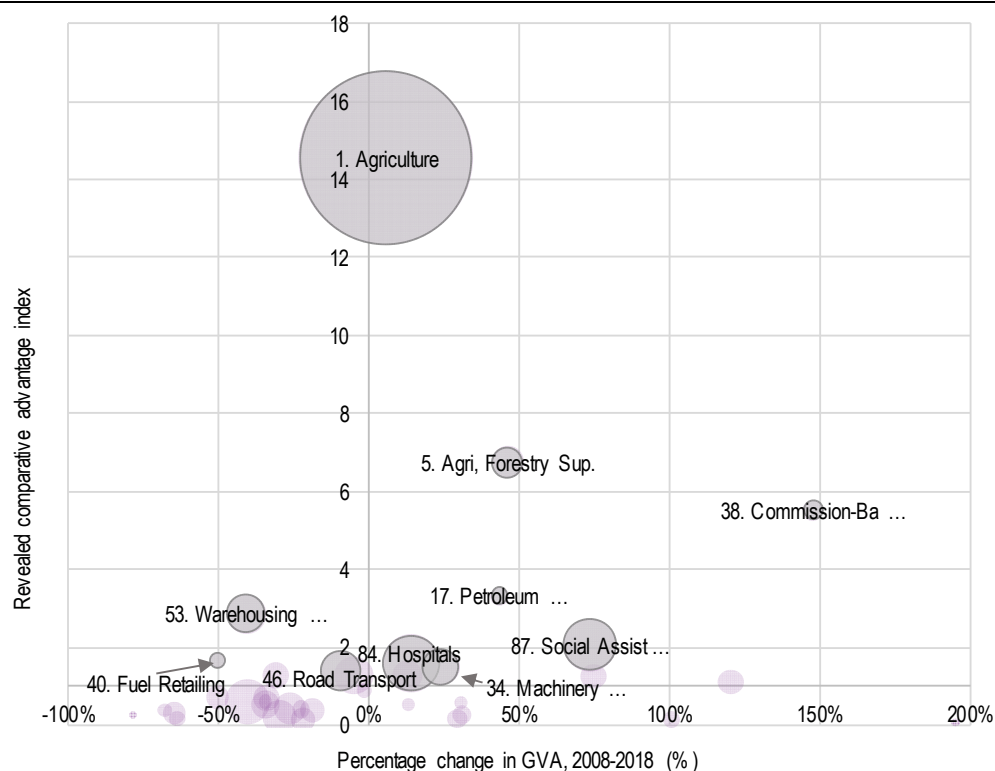
Industry (Level 2 ANZSIC)	CAI (Victorian comparison)	CAI (National comparison)	10 year growth	% of LGA GVA	Quadrant
1. Agriculture	21.1	26.3	-2%	66.0%	Top left
84. Hospitals	1.4	4.6	0%	4.3%	Top right
32. Construction Services	0.4	0.4	9%	2.2%	Bottom right
46. Road Transport	1.2	1.0	-37%	2.1%	Top left
11. Food Product Manufacturing	0.6	0.8	83%	1.4%	Bottom right
5. Agriculture, Forestry and Fishing Support Services	6.1	5.3	-11%	1.4%	Top left
85. Medical and Other Health Care Services	0.5	0.3	66%	1.1%	Bottom right
69. Professional, Scientific and Technical Services	0.2	0.1	60%	1.0%	Bottom right
3. Forestry and Logging	9.0	4.9	336%	0.9%	Top right
30. Building Construction	0.4	0.3	-19%	0.8%	Bottom left

SOURCE: ACIL ALLEN ESTIMATES BASED ON IV DATA

2.3.5 Yarriambiack

Table 2.6 shows revealed comparative advantage analysis by Level 2 ANZSIC industries for the Yarriambiack LGA. Key industries of interest with a high CAI in the Yarriambiack LGA include Agriculture; Agriculture, Forestry and Fishing Support Services; Commission-Based Wholesaling; Petroleum and Coal Product Manufacturing; and Warehousing and Storage Services (see Table 2.10).

FIGURE 2.6 COMPARATIVE ADVANTAGE INDEX FOR YARRIAMBIACK, 2017-18, LEVEL 2 ANZSIC



Note: This includes the revealed comparative advantage relative to the Victorian economy.

SOURCE: ACIL ALLEN ESTIMATES BASED ON IV DATA

Table 2.10 summarises the highest comparative advantage industries (Level 2 ANZSIC) for the Yarriambiack LGA using the Victorian CAI comparison. Important industries include Agriculture; Agriculture, Forestry and Fishing Support Services; Social Assistance Services; Hospitals; and Machinery and Equipment Wholesaling which each have a large CAI, undergone notable growth over the past 10 years and constitute a relatively large proportion of the LGA's GVA. Commission-Based Wholesaling; and Petroleum and Coal Product Manufacturing each have a high CAI and positive growth over the past 10 years but constitute a relatively small proportion of the LGAs GVA.

TABLE 2.10 TOP 10 REVEALED COMPARATIVE ADVANTAGE INDUSTRIES FOR YARRIAMBIACK

Industry (Level 2 ANZSIC)	CAI (Victorian comparison)	CAI (National comparison)	10-year growth	% of LGA GVA	Quadrant
1. Agriculture	14.6	18.4	6%	45.5%	Top right
5. Agriculture, Forestry and Fishing Support Services	6.8	6.0	46%	1.5%	Top right
38. Commission-Based Wholesaling	5.5	3.0	148%	0.7%	Top right
17. Petroleum and Coal Product Manufacturing	3.3	3.0	43%	0.5%	Top right
53. Warehousing and Storage Services	2.9	7.6	-41%	2.3%	Top left
87. Social Assistance Services	2.1	3.0	74%	4.2%	Top right
40. Fuel Retailing	1.7	1.5	-50%	0.4%	Top left
84. Hospitals	1.6	5.4	14%	5.0%	Top right

Industry (Level 2 ANZSIC)	CAI (Victorian comparison)	CAI (National comparison)	10-year growth	% of LGA GVA	Quadrant
34. Machinery and Equipment Wholesaling	1.5	1.1	24%	2.1%	Top right
46. Road Transport	1.4	1.2	-9%	2.4%	Top left

SOURCE: ACIL ALLEN ESTIMATES BASED ON IV DATA

Table 2.11 summarises the largest industries (Level 2 ANZSIC) for the Yarriambiack LGA.

TABLE 2.11 TOP 10 LARGEST INDUSTRIES FOR YARRIAMBIACK

Industry (Level 2 ANZSIC)	CAI (Victorian comparison)	CAI (National comparison)	10 year growth	% of LGA GVA	Quadrant
1. Agriculture	14.6	18.4	6%	45.5%	Top right
84. Hospitals	1.6	5.4	14%	5.0%	Top right
87. Social Assistance Services	2.1	3.0	74%	4.2%	Top right
32. Construction Services	0.6	0.5	-41%	3.1%	Bottom left
46. Road Transport	1.4	1.2	-9%	2.4%	Top left
53. Warehousing and Storage Services	2.9	7.6	-41%	2.3%	Top left
86. Residential Care Services	1.3	1.5	-5%	2.2%	Top left
34. Machinery and Equipment Wholesaling	1.5	1.1	24%	2.1%	Top right
62. Finance	0.2	-	-30%	1.8%	Bottom left
5. Agriculture, Forestry and Fishing Support Services	6.8	6.0	46%	1.5%	Top right

SOURCE: ACIL ALLEN ESTIMATES BASED ON IV DATA

2.4 Summary (Level 2 ANZSIC analysis)

Table 2.12 summarises the highest revealed comparative advantage industries (Level 2 ANZSIC) for the LGAs within the Wimmera Southern Mallee, using the Victorian CAI comparison. The economic performance of the Wimmera Southern Mallee is highly dependent on the primary production industries particularly grains (such as wheat, barley and canola), lamb, wool, beef and pigs.² This is evident in the strong comparative advantage of agriculture in the LGAs of the region: West Wimmera (21.1 Victorian CAI, -2 per cent decline and 66 per cent GVA), Yarriambiack (14.6 Victorian CAI, 6 per cent growth and 45 per cent GVA), Hindmarsh (13.7 Victorian CAI, 2 per cent growth and 43 per cent), Northern Grampians (6.7 Victorian CAI, 34 per cent growth and 21 per cent GVA) and Horsham (4.2 Victorian CAI, 25 per cent growth and 13 per cent GVA). Agriculture is the largest industry and has the largest comparative advantage for four of five LGAs.

The past decade has been challenging for Agriculture, with extensive periods of drought and unfavourable conditions severely impacting the region's grain production. This demonstrates the high exposure the region has to climatic conditions, which are predicted to become more variable under projected climate change scenarios for the region.

Agriculture, Forestry and Fisheries Support Services also demonstrate strong comparative advantage and growth across all five rural LGAs. Although typically representing 1-2 per cent gross value add, this sector complements the primary production industry and will continue to become more important into the future as farm businesses apply more inputs and modern technologies. This industry may also capture the decline in workers employed in Agriculture, as the number of farms consolidate and farm

² ABARES (2019) Victoria regional profile: North West Region. Accessed 3 June 2019 (<http://www.agriculture.gov.au/abares/research-topics/aboutmyregion/vic-north-west#employment>)

businesses source more labour and contract services, which is particularly relevant for typically large-scale businesses in the region.

Mining industries in the Northern Grampians LGA including Metal Ore Mining (38.7 Victorian CAI, minus 58 per cent growth and 1 per cent GVA) and Coal Mining (6.4 Victorian CAI, minus 16 per cent growth and 2 per cent GVA) and Exploration and Other Mining Support Services (5 Victorian CAI, minus 74 per cent growth and less than 1 per cent GVA) all demonstrate strong comparative advantages. However, these industries have either experienced very little growth or significant declines in the past decade. The Northern Grampians has greater economic diversity, with agriculture, tourism and food manufacturing driving comparative advantages and steady growth for the LGA. This is not the case for western rural LGAs, with their economic activity concentrated on grain and livestock production.

TABLE 2.12 TOP 20 HIGHEST REVEALED COMPARATIVE ADVANTAGE BY LGA, WIMMERA SOUTHERN MALLEE

Industry (Level 2 ANZSIC)	LGA	CAI (Victorian comparison)	CAI (National comparison)	10-year growth	% of LGA GVA	Quadrant
8. Metal Ore Mining	Northern Grampians (S)	38.7	0.2	-58%	1%	Top left
1. Agriculture (appears: 5 times)	West Wimmera (S)	21.1	26.3	-2%	66%	Top left
1. Agriculture (appears: 5 times)	Yarriambiack (S)	14.6	18.4	6%	45%	Top right
1. Agriculture (appears: 5 times)	Hindmarsh (S)	13.7	17.4	2%	43%	Top right
5. Agriculture, Forestry and Fishing Support Services (appears: 5 times)	Hindmarsh (S)	10.0	9.0	151%	2%	Top right
3. Forestry and Logging	West Wimmera (S)	9.0	4.9	336%	1%	Top right
5. Agriculture, Forestry and Fishing Support Services (appears: 5 times)	Northern Grampians (S)	7.3	6.4	195%	2%	Top right
5. Agriculture, Forestry and Fishing Support Services (appears: 5 times)	Yarriambiack (S)	6.8	6.0	46%	2%	Top right
1. Agriculture (appears: 5 times)	Northern Grampians (S)	6.7	8.4	34%	21%	Top right
6. Coal Mining	Northern Grampians (S)	6.4	0.7	-16%	2%	Top left
47. Rail Transport	Hindmarsh (S)	6.1	3.9	-38%	2%	Top left
5. Agriculture, Forestry and Fishing Support Services (appears: 5 times)	West Wimmera (S)	6.1	5.3	-11%	1%	Top left
38. Commission-Based Wholesaling	Yarriambiack (S)	5.5	3.0	148%	1%	Top right
10. Exploration and Other Mining Support Services	Northern Grampians (S)	5.0	0.8	-74%	0%	Top left
11. Food Product Manufacturing	Northern Grampians (S)	4.4	5.7	91%	10%	Top right
5. Agriculture, Forestry and Fishing Support Services (appears: 5 times)	Horsham (RC)	4.3	3.9	89%	1%	Top right
1. Agriculture (appears: 5 times)	Horsham (RC)	4.2	5.4	25%	13%	Top right
44. Accommodation	Northern Grampians (S)	3.7	2.5	30%	2%	Top right
9. Non-Metallic Mineral Mining and Quarrying (appears: 2 times)	West Wimmera (S)	3.7	0.9	-84%	0%	Top left
9. Non-Metallic Mineral Mining and Quarrying (appears: 2 times)	Northern Grampians (S)	3.4	0.8	-87%	0%	Top left

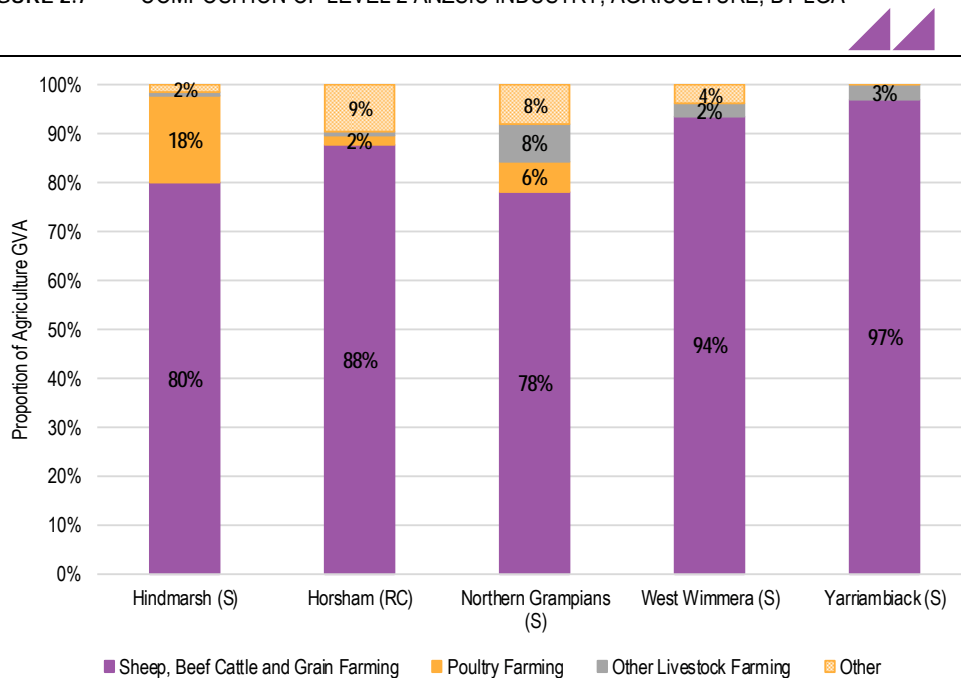
Industry (Level 2 ANZSIC)	LGA	CAI (Victorian comparison)	CAI (National comparison)	10-year growth	% of LGA GVA	Quadrant
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Note: Revealed industries that appear in more than one LGA are identified "appears: x times.". LGAs are classified as follows: (C) Cities, (S) Shires, (RC) Rural Cities.
 SOURCE: ACIL ALLEN ESTIMATES BASED ON IV DATA

2.4.1 Agricultural production by sector

The Level 2 ANZSIC industry, Agriculture, forms a large component of GVA for many of the LGAs within the Wimmera Southern Mallee. Table 2.7 shows the estimated GVA of each of the sub industries which form Agriculture. Across all regions, Agriculture is primarily Sheep, Beef Cattle and Grain Farming.

FIGURE 2.7 COMPOSITION OF LEVEL 2 ANZSIC INDUSTRY, AGRICULTURE, BY LGA



Note: Other includes: Nursery and Floriculture Production; Mushroom and Vegetable Growing; Fruit and Tree Nut Growing; Other Crop Growing; Dairy Cattle Farming; and Deer Farming. LGAs are classified as follows: (C) Cities, (S) Shires, (RC) Rural Cities.

SOURCE: ACIL ALLEN CONSULTING SHARES OF EMPLOYMENT BY INDUSTRY



3

ANALYSIS OF REVEALED INDUSTRIES

This section outlines the SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis and need assessment processes undertaken by ACIL Allen for Wimmera Southern Mallee. The analysis follows the process outlined in the assessment framework report which accompanies this profile. A SWOT examines the RCA industries identified in Chapter 2. The justification for inclusion of specific revealed industries in the SWOT is based on an assessment of several factors.

Firstly, revealed industries identified in Table 2.12 are assessed for their RCA comparison to Victoria, the contribution to an LGA's GVA and consideration of the past decade's performance. This approach identifies the most important industries to the region. This guides the initial SWOT analysis process. However, due to some of the limitations of the RCA (see Section 2.1), it is important to review available industry, sector and regional development literature as well as consult with relevant regional stakeholders to identify industries that the region considers as important for future economic development. In Wimmera Southern Mallee's case, opportunities have been identified in Agriculture, Forestry and Fisheries, Energy and Mining and Tourism.

Due to the categorisation of industries in the ANZSIC codes, tourism does not have a demonstrated RCA. The data simply will not allow for this calculation to be undertaken. However, this sector demonstrates many economic development opportunities for the region. A further assessment of the priority industries considers service industries that may contribute to the performance of a primary or secondary industry – for Tourism, this may include Accommodation and Food and Beverage Services.

In order to include industries that could be considered emerging or have demonstrated growth but are starting from a low base, it is necessary to cross-check the opportunities identified in the literature with the emerging industries presented in Table 2.12. Outside of Agriculture, Manufacturing and Tourism (Accommodation), there are no industries in the top 20 that are identified in the literature that either align with the small industries (<1% GVA) demonstrating high RCA or have demonstrated strong growth over the past decade. This may reflect the limitations of the revealed industry categorisation at the ANZSIC code 2-digit level, which presents a high-level industry descriptor.

The SWOT analysis is then used to identify actionable or practical issues which are compared against the documented infrastructure needs of the region/industries. This comparison is then used to identify potential opportunities and constraints facing industries which could be addressed through future infrastructure investments.

3.1 SWOT analysis of the region and revealed industries

A summary of the SWOT for the revealed industries of Wimmera Southern Mallee is provided in Table 3.1 below. Information for the SWOT has been derived from multiple sources (which are largely publicly available) including data held by IV, regional plans, stakeholder consultations and industry and sectoral strategies.

TABLE 3.1 SWOT ANALYSIS FOR THE REVEALED INDUSTRIES OF WIMMERA SOUTHERN MALLEE

Category	Strengths	Weaknesses	Opportunities	Threats
Cross Sector	<p>Horsham</p> <ul style="list-style-type: none"> Horsham is a regional hub for economic activity and services. Increases in service industries, population growth and automation of labour could generate greater economic growth for region <p>Northern Grampians</p> <ul style="list-style-type: none"> Less reliant on agriculture compared to rural cropping LGAs. Proximity to Grampians National Park provides greater demand for tourism Greater labour mobility, with access to Ararat and Central Highlands region for job opportunities 	<ul style="list-style-type: none"> Mobile and digital connectivity is inadequate and constrains productivity and business competitiveness Very limited access to public transport across region <p>Population</p> <ul style="list-style-type: none"> ageing population and decline in rural areas concentration of jobs and services in Horsham at the expense of surrounding areas <p>Employment & Training</p> <ul style="list-style-type: none"> meeting future demands for skilled labour in growing healthcare and construction sectors. declining employment in manufacturing and agriculture Lack of locally available higher education services 	<ul style="list-style-type: none"> Improve digital community connectivity through the Connecting Regional Communities Program and Mobile Blackspots Program. Funding and development of the Stawell Underground Physics Lab. Victoria's Climate Change Act 2017 establishes a long-term target of net zero greenhouse gas emissions by 2050, creating opportunities for low/zero emission sectors across the economy 	<ul style="list-style-type: none"> Climate change <ul style="list-style-type: none"> reduced yields of key cereal crops negative impacts on farming production biosecurity risks increased adverse weather events with negative impacts on water supply, infrastructure, health and social well-being Deindustrialisation and structural change <ul style="list-style-type: none"> Shift from manufacturing to service-based economy, changes demand for skills from low skilled to higher skilled workers
Agriculture, Forestry and Fisheries	<ul style="list-style-type: none"> Economies of scale of agricultural production Efficient rail freight network (including Murray Basin Rail Freight Network), which is currently being upgraded. This will reduce time required to access Port of Geelong and Melbourne Supported by R&D infrastructure including Grains Innovation Park at Horsham. Leaders in climate variability, pulse pre-breeding, remote sensing, and plant pathology Applied AgTech education and innovation at Longerenong College Wimmera Mallee pipeline is modern, secure water infrastructure Wimmera Intermodal Freight Terminal Horsham and St Arnaud feed mills can provide feed to region Stawell and Wycheproof are centres for livestock processing 	<ul style="list-style-type: none"> Impacts of climate change likely reduce expansion of cropping into parts of Wimmera Southern Mallee Mobile and digital connectivity is inadequate and constrains productivity and business competitiveness 	<ul style="list-style-type: none"> Investment opportunities exist in upgrading the grain handling and storage facilities along the Wimmera rail network. This would support current upgrades to the rail network and help improve supply chain efficiency and reduce freight costs. Opportunities exist to value-add agricultural products exported from the region, such as using local grain to feed intensive livestock such as poultry, lamb and beef feedlots Opportunities to expand intensive livestock production, particularly in Horsham and Northern Grampians LGA due to current infrastructure. These areas suit piggery and broiler (poultry) intensive farms <ul style="list-style-type: none"> St Arnaud for example would require transport and logistics infrastructure to manage increased production. Nhill for example could be a centre for intensive poultry farming Opportunity to establish lamb and beef feedlots in Hindmarsh and Yarriambiack LGAs due to accessibility to Wimmera Mallee Pipeline and local feed grain supply Opportunity to develop local renewable energy projects that use local energy sources such as agricultural or waste products Opportunity to encourage development of viticulture near Grampians, which requires supporting appropriate skills, infrastructure and transport Opportunity to develop grain processing facilities in Horsham. There is abundant supply of industrial land, transport access to Wimmera Intermodal Freight Terminal Victorian Grains Innovation Hub (VGIH): A cooperative 	<ul style="list-style-type: none"> Identified impact of climate change on agricultural production, water supply and water security Biosecurity risks associated with climate change: changed distribution of pests and diseases Increased bushfire risk from climate change to impact farm businesses Reduction in water security as a potential climate change impact

Category	Strengths	Weaknesses	Opportunities	Threats
			<ul style="list-style-type: none"> network (virtual centre) and a physical facility which participates in, and leverages; training, Agri technologies, research, niche and mainstream product development and tourism. – Cross-over (or downstream supply chain) opportunities are created, such as Agri experience tourism, bespoke bakery products, and craft brewing. – Leverage AgTIDE DATA Farm project – establishing a 1000 hectare digitally enabled demonstration farm at Longerenong – Leverage AgVic's Smart Farm Development, linked to research and development of Agtech. <p>West Wimmera</p> <ul style="list-style-type: none"> – Opportunity exists for small and micro producers to develop products for local consumption – Opportunity exists for development of intensive production facilities such as hydroponic glasshouse production through the proposed implementation of the West Wimmera Pipeline extension 	
Manufacturing	<ul style="list-style-type: none"> – Access to primary produce including wheat, lamb, wool and beef. – Access to water, future potential access to renewable energy 	<ul style="list-style-type: none"> – Declining employment due to structural shifts over 30 years 	<ul style="list-style-type: none"> – Facilitate the development of value added manufacturing aligned to grain production, e/g Pulse Protein extraction facility – Opportunities exist to value-add agricultural produce due to accessibility of grain, lamb and beef, road and rail linkages to markets and accessibility to Adelaide and Melbourne markets 	<ul style="list-style-type: none"> – Impact of climate change on agriculture given manufacturing rely on agricultural commodities as key inputs
Energy and Mining	<p>Energy</p> <ul style="list-style-type: none"> – Renewable energy sources include wind, solar, geothermal and bioenergy – Murra Warra Wind Farm (operational 2020) – farm will accommodate 116 turbines and terminal connection to grid – Extractive minerals including sand and stone – Secure water resources – Established and experienced service support industries – Access to high quality skilled workers and research and training institutions – Competitively priced power, reliable and accessible gas connections 	<ul style="list-style-type: none"> – Renewable energy cost competitiveness with traditional sources of energy such as coal fired power – Growth potential in renewable energy limited by grid capacity – Mobile and digital connectivity is inadequate and constrains productivity and business competitiveness – Transporting large and oversized stock via road and rail for major infrastructure projects such as wind farm builds and mining can be challenging in the region 	<p>Renewable energy</p> <ul style="list-style-type: none"> – Victoria's Climate Change Act 2017 establishes a long-term target of net zero greenhouse gas emissions by 2050. This increases viability of renewable energy investments into the future. – Release of new planning guidelines for large-scale solar farms – AEMO's recommendation of a planned upgrade to the transmission network in Victoria's west (AEMO 2019) will improve transmission network capacity to accommodate growth in new renewable generation in Western Victoria – Expected financial viability of renewable energy production in carbon-constrained economy – Small towns capable of small to medium renewable energy power generation such as solar or wind farms. – Bioenergy is potential in the region due to availability of agricultural waste <ul style="list-style-type: none"> – Potential to emerge near intensive livestock enterprises, grain milling and landfill 	<ul style="list-style-type: none"> – Uncertainty around government policy of renewables undermines or constrains investor confidence in the industry

Category	Strengths	Weaknesses	Opportunities	Threats
			<ul style="list-style-type: none"> – Wind generation may be an opportunity due to sparse open areas – opportunity to attract businesses around renewable energy development to establish behind the grid power connections, attracting high-energy users to be connected straight to the development. – Opportunity to co-locate energy intensive industries with renewable energy generators to guarantee delivery and costings, e.g. Nectar Farms – Grampians New Energy Task Force developing a roadmap to transition the region to a low-carbon economy by 2050 – Renewable energy increasingly becoming cost competitive compared to traditional energy sources and there are opportunities to develop new interconnector in the electricity grid between Vic and SA which will open opportunities to renewable energy <p>Mining</p> <ul style="list-style-type: none"> – Opportunity to develop significant sand deposits near Horsham and Donald (potential for 20 years of extraction and processing), currently four projects under development 	
Tourism (services including accommodation)	<ul style="list-style-type: none"> – Grampians National Park (Natural asset) – Mt Arapiles (climbing) – Lake Hindmarsh – Lake Albacutya – Wyperfeld – Wimmera River – Silo Art Trail <p>West Wimmera</p> <ul style="list-style-type: none"> – Natural and cultural attractions including Lake Charlegrark, Harrow Discovery Centre, Edenhope Red Tail Gallery, Little Desert National Park and Bailey's Rocks 	<ul style="list-style-type: none"> – Wimmera Southern Mallee distance from Melbourne – Strong competition for nature-based tourism experiences closer to Melbourne – Seasonality of tourism is restricted to weekends and holidays, compared with other areas which have year-round demand – Inadequate infrastructure in the North and West of the region is limiting opportunities and investment – Crown land lease arrangements limit private sector investment, (21-year lease agreement currently in place) 	<ul style="list-style-type: none"> – Opportunities to develop nature-based tourism experiences at Lake Hindmarsh, Lake Albacutya and the Wyperfeld and Little Desert national parks. <ul style="list-style-type: none"> – Develop accommodation infrastructure nearby – Opportunities exist to develop nature-based tourism facilities around the Grampians National Park including conference facilities and luxury accommodation. To increase visitation to other areas of the park: <ul style="list-style-type: none"> – The Grampians Way Ring Road – Grampians Peaks Trail – Opportunities to develop complementary tourism experience in Northern Grampians, such as the Wartook Valley, which could be a centre for wine tourism – Opportunities to develop amenities and enabling infrastructure around Wimmera River on the back of the popular Horsham Fishing Competition – Opportunities may emerge following development of the Wimmera River Discovery Trail and other cycle and walking track, identified in the 10 Year Grampians Cycling Trails Infrastructure Master Plan. – Opportunities exist to develop nature-based and indigenous tourism facilities/amenities around the Grampians National Park, including conference facilities, and accommodation, to increase visitation 	<ul style="list-style-type: none"> – Bushfire and floods threaten nature-based tourism sites

Category	Strengths	Weaknesses	Opportunities	Threats
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- Development of Indigenous cultural assets in partnership with BGLC, as identified in the Wimmera Grampians Indigenous Tourism Feasibility Study
- Opportunities exist to develop adventure activities, retail, wellbeing retreats and accommodation based around Lake Charlegrark, Harrow Discovery Centre, Edenhope Red Tail Gallery, Little Desert National Park and Bailey's Rocks

SOURCE: VARIOUS SOURCES

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HORSHAM RURAL CITY COUNCIL (2018) HORSHAM ECONOMIC DEVELOPMENT STRATEGY 2017-2021.

RDV (2019) ([HTTPS://WWW.RDV.VIC.GOV.AU/_DATA/ASSETS/PDF_FILE/0005/1733252/CENTRAL-HIGHLANDS-OUTCOMES-ROADMAP_MAY-19.PDF](https://www.rdv.vic.gov.au/_data/assets/pdf_file/0005/1733252/CENTRAL-HIGHLANDS-OUTCOMES-ROADMAP_MAY-19.PDF)) AND ([HTTPS://WEB1.ECONOMICDEVELOPMENT.VIC.GOV.AU/ECODEV/CONNECTING-VICTORIA/CONNECTING-REGIONAL-COMMUNITIES-PROGRAM](https://web1.economicdevelopment.vic.gov.au/ecodev/connecting-victoria/connecting-regional-communities-program))

OTHER SOURCES: ([HTTPS://WWW.RDV.VIC.GOV.AU/VICTORIAS-REGIONS/GRAMPIANS/WIMMERA-SOUTHERN-MALLEE/](https://www.rdv.vic.gov.au/victorias-regions/grampians/wimmera-southern-mallee/); [HTTPS://WWW.PREMIER.VIC.GOV.AU/FUNDING-BOOST-FOR-GRAINS-CENTRE-OF-EXCELLENCE/](https://www.premier.vic.gov.au/funding-boost-for-grains-centre-of-excellence/); [HTTPS://WWW.RDV.VIC.GOV.AU/REGIONAL-PARTNERSHIPS/WIMMERA-SOUTHERN-MALLEE/NEWS/NEW-AGTIDE-DATA-FARM-PROJECT-IS-GREAT-NEWS-FOR-THE-REGION/](https://www.rdv.vic.gov.au/regional-partnerships/wimmera-southern-mallee/news/new-agtide-data-farm-project-is-great-news-for-the-region/)); (REGIONAL ADAPTATION SNAPSHOT GRAMPIANS [HTTPS://WWW.CLIMATECHANGE.VIC.GOV.AU/_DATA/ASSETS/PDF_FILE/0028/392923/D18-001.REGCCASNAPSHOTREPORTS_GRAMPIANS_FALR.PDF](https://www.climatechange.vic.gov.au/_data/assets/pdf_file/0028/392923/D18-001.REGCCASNAPSHOTREPORTS_GRAMPIANS_FALR.PDF)); ([HTTPS://ENERGYLIVE.AEMO.COM.AU/NEWS/WESTERN-VICTORIA-TO-RECEIVE-CRITICAL-NETWORK-INVESTMENT/](https://energylive.aemo.com.au/news/western-victoria-to-receive-critical-network-investment/)); ([HTTPS://WWW.PREMIER.VIC.GOV.AU/GREEN-LIGHT-FOR-STAWELL-UNDERGROUND-PHYSICS-LAB/](https://www.premier.vic.gov.au/green-light-for-stawell-underground-physics-lab/)); ([HTTPS://WWW.PREMIER.VIC.GOV.AU/NEW-LARGE-SCALE-SOLAR-GUIDELINES-BOOST-SECTOR-CONFIDENCE/](https://www.premier.vic.gov.au/new-large-scale-solar-guidelines-boost-sector-confidence/)) AND ([HTTPS://WWW.CLIMATECHANGE.VIC.GOV.AU/REDUCING-EMISSIONS/EMISSIONS-TARGETS/](https://www.climatechange.vic.gov.au/reducing-emissions/emissions-targets/))

To ensure the SWOT can be translated into actionable strategies, ACIL Allen has used a technique which applies four fundamental questions to the information provided above. These questions are derived from combining elements of the SWOT. They help to identify the region's 'opportunities' and 'constraints' that could be progressed/addressed through future infrastructure investment.

3.1.1 Strengths – Opportunities assessment

This part of the SWOT considers: Which of the region's/sector's strengths can be used to maximise the opportunities identified?

Agriculture (cereals, legumes, intensive agriculture, lamb, wool)

Agricultural production is the main strength for the Wimmera Southern Mallee. The region has large scale cropping properties, which have economies of scale and are diversified into livestock production. The profitability of farm businesses in the region is a function of relatively inexpensive land, (as compared to urban land prices), application of latest R&D such as robotics and adoption of Ag Tech, which improve productivity and water use efficiency in a water limited dryland farming system. An efficient road and rail network enhance the agriculture industries' supply chain efficiencies. These factors considered, further incremental improvements in supply chain efficiency can reduce the region's cost of production. This may include upgrading grain handling and storage infrastructure along the rail network and, more specifically, developing grain processing facilities around Horsham, where supply of land is abundant and offers access to the new Wimmera Intermodal Freight Terminal.

There's an opportunity to develop the feedlot industry in the region, building on the region's strengths around producing commodity crops such as wheat, barley and canola, alongside cattle and sheep. There are opportunities to establish lamb and beef feedlots in Hindmarsh and Yarriambiack LGAs due to accessibility to Wimmera Mallee Pipeline and local feed grain supply and the Horsham and St Arnaud feed mills. Expansion of current piggery and poultry industries in Horsham, Hindmarsh, Northern Grampians and Yarriambiack LGAs could also leverage local grain supplies and access water resources.

Manufacturing (food product)

Food Product Manufacturing is an important industry and demonstrates a strong comparative advantage in North Grampians LGA. The council's economic development strategies identified value adding agricultural production as an opportunity due to the accessibility of grain, livestock, road and rail linkages to markets and accessibility to Adelaide and Melbourne markets. Such businesses could be established in regional centres such as Horsham, which would still demand the agricultural products from across the region. There are opportunities for value added manufacturing aligned to grain production, such as the protein powder plant project in Horsham.³

Mining and Energy (renewables)

Through the *Climate Change Act 2017*, the Victorian Government has set a long-term target of net zero emissions by 2050. This is a key opportunity for the renewable energy sector across the state.⁴

The availability of potential energy sources such as wind, solar, geothermal and bioenergy highlight potential to develop emerging industries into the future. This potential is supported by the approval for development of the Murra Warra Wind Farm which will be connected to the electricity grid. It is recognised that more opportunities to develop particularly wind and solar exist into the future.

In terms of minerals resources, the region's with sand and stone endowments could provide long-term economic development. Significant sand deposits near Horsham and Donald could provide 20 years' worth of extraction and processing activity in the region. As of 2019, there are four potential extractive projects under consideration, including the recommissioning of the Stawell Gold Mine, in the Northern Grampians LGA.

Tourism

³ <https://www.mailtimes.com.au/story/5916120/horsham-protein-extraction-plan-gathers-momentum/>

⁴ <https://www.climatechange.vic.gov.au/reducing-emissions/emissions-targets>

Several prospects exist to develop the tourism industry focused at both domestic and international visitors. The region features nature-based tourism sites including the northern side of the Grampians National Park, which is a major tourist destination. Opportunities to enhance the tourist experience at the Park exist, with significant developments for greater accessibility identified such as conference facilities and luxury accommodation.

Development of The Grampians Way Ring Road and Grampians Peaks Trail has been identified as an opportunity to increase visitation to the Park which would require significant investment in road, public amenities such as toilets and sites for accommodation and food and beverage services. This could also be complimented by development of wine tourism based experiences in the Wartook Valley, Great Western and regions surrounding the Grampians National Park.

The recent success of the Wimmera Mallee Silo Art Trail and high levels of international visitation to Lake Tyrell have increased visitation to the northern end of the region. This increase in visitation has driven demand for visitor service facilities such as road accessibility and public amenities such as toilets and signage. Stage 2 of the Silo art trail is currently underway.

Increased visitation to the region is also being driven through small scale bespoke events such as the Rainbow Enduro, Nati Frinj, Lake Charlegrark Country Music Festival, The Grampians Grape Escape and Yarriambiack Y Fest.

Current development of the Wimmera River Discovery Trail is expected to also increase visitation, promoting the region's strength in nature based tourism and complimenting interest in the Grampians Peaks Trail.

The region also has significant recreational water assets. These are used for boating, fishing and camping, generating significant economic value for smaller communities.

Other sites that could be further developed include Mt Arapiles (climbing), Lake Hindmarsh, Lake Albacutya, Wyperfeld and Little Desert National Parks, Wimmera River.

3.1.2 Strengths – Threats assessment

This part of the SWOT considers: How can the region's/sector's strengths be used to minimise the threats identified?

The Wimmera Southern Mallee is an established region of agricultural production that produces cereals and legumes aligned with climate variation and agricultural innovation, compared to 30 years ago. These improvements are a function of innovations in genetic technologies, farming practices and modern machinery and precision agriculture. The region is supported by world class grains RD&E capability at the Horsham Grains Innovation Park. This coupled with the regional agronomy trials, pathology expertise and recently upgraded Wimmera Mallee Pipeline, progress the region's ability to manage the projected impacts from climate change on agriculture. All of these regional strengths will help the agricultural industries manage the increased incidence of droughts, extreme weather events and expected reduction in average rainfall.

Another important consideration is the focus on development of the local tourism sector which is less dependent on seasonal and climatic conditions for success. This could potentially buffer the region's downside during droughts in particular.

The region also has a network of long term, trusted partnerships that are able to work collaboratively for the benefit of the region.

3.1.3 Weaknesses – Opportunities assessment

This part of the SWOT considers: How can the region's/sector's weaknesses be minimised by using the opportunities identified?

Insufficient access to accommodation or well-developed tourism services in the Grampians National Park and surrounding areas is constraining international visitation. If accommodation, road access and food and beverage service infrastructure was developed in the local area, the potential for more tourist staying overnight would increase. This could also address the issue of highly seasonal (weekend and holiday) tourism for the region.

3.1.4 Weaknesses – Threats assessment

This part of the SWOT considers: How can a region's/sector's weaknesses be minimised to avoid the threats it/they are facing?

Inadequate internet connectivity and telecommunication services are constraining the farm businesses' ability to adopt the latest technology. Through strategic upgrades and development of internet (NBN) and telecommunication infrastructure, farm businesses would have greater capacity to adopt the latest R&D to mitigate the risks from climate change. This includes using precision agriculture technology (variable rate, controlled traffic and precision seeding) to optimise available moisture and fertiliser inputs in a drying climate.

3.2 Needs analysis of the region and relevant industries

This section identifies the needs for industry sectors and at a two-digit ANZSIC level for the Hindmarsh, Horsham, Northern Grampians, West Wimmera, Yarriambiack LGAs. These needs have been developed based on the SWOT analytical processes.

3.2.1 What is important to the region?

Agriculture, Forestry and Fisheries

The Agriculture, Forestry and Fisheries industries are the largest source of GVA, demonstrate strong CAI and source of growth for the region in the last decade:

- West Wimmera (21.1 CAI Vic Comparison, -2 per cent decline and 66 per cent GVA)
- Yarriambiack (14.6 CAI Vic comparison, 6 per cent growth and 45 per cent GVA)
- Hindmarsh (13.7 CAI Vic comparison, 2 per cent growth and 43 per cent)
- Northern Grampians (6.7 CAI Vic comparison, 34 per cent growth and 21 per cent GVA)
- Horsham (4.2 CAI Vic comparison, 25 per cent growth and 13 per cent GVA).

The economic performance of the Wimmera Southern Mallee is highly dependent on the primary production industries particularly grains (such as wheat, barley and canola), lamb, wool, beef and pigs. Future growth of these sectors depend on productivity gains on-farm, developing existing or new markets to capture greater value and enhancing the supply chain infrastructure to reduce the cost of production.

What needs could be addressed by government?

- Enhanced digital connectivity to enable uptake of AgTech and increased agricultural productivity
- Road freight infrastructure upgrades and improvements necessary to handle increased freight travelling between grain producing LGA's and new feedlot and supply chain partners in all five LGAs. For example, St Arnaud would require transport and logistics infrastructure to manage increased production. This may include upgrading grain handling and storage infrastructure along the rail network.
- Increased investment in capability and coordination through the Victorian Grains Innovation Hub, which aims to bring public and private investment and innovation together.

Food Product Manufacturing

Food Product Manufacturing is an important industry and demonstrates a strong comparative advantage across the region. Opportunities exist to further develop Food Product Manufacturing, like the Pulse Protein Extraction Project in Horsham (which is the first of its type in Australia), Nectar Farms in the Northern Grampians and Luv-a-duck in Nhill, Hindmarsh LGA

What needs could be addressed by government?

Improvements in local road and rail linkages between farms, processors and markets, including Adelaide and Melbourne.

Mining and Energy

Through the *Climate Change Act 2017*, the Victorian Government has set a long-term target of net zero emissions by 2050. This is a key opportunity for the renewable energy sector across the state.⁵

The Murra Warra Wind Farm is currently under construction and is expected to be operational in 2020. The Farm will accommodate, when finished, 116 turbines and terminal connection to grid. Although the industry does not demonstrate a comparative advantage, it has been identified across many sources as a viable source of economic development long-term, due to the abundance of solar, wind, geothermal and bioenergy resources.

In terms of mining opportunities, significant declines in value of Coal and Metal Ore Mining could be offset by the potential for sand and stone extraction in the Wimmera Southern Mallee.

What needs could be addressed by government?

- Facilitation of collocation for intensive energy users and renewable generators.
- Quality road and rail infrastructure to transport heavy earth materials and equipment.
- Transport (road and rail) and energy infrastructure (utility connection) is important for transport of raw materials to processing and export ports.
- Electricity network connections.
- Facilitate and co-invest into Inter-modal Freight Terminal precincts, to add value to local raw materials, alleviate damage and cost to the Regional Road Network and create employment.

Tourism

Tourism is an important industry to the Wimmera Southern Mallee. Further development of the Grampians National Park, including the Grampians Ring Road, and Grampians Peaks Trail could generate significant overnight tourist demand. To capture this opportunity, development of enabling infrastructure such as public amenities, luxury accommodation and provision of food and beverage services would be essential. Other sites that could be further developed include Mt Arapiles (climbing), Lake Hindmarsh, Lake Albacutya, Wyperfeld and Little Desert national parks, Wimmera River, the Silo Art Trail and Murtoa Stick Shed. Similar to the other nature-based tourism experiences, road accessibility and public amenities such as toilets could enable increased visitation.

What needs could be addressed by government?

- Enhanced digital connectivity across key visitation points including the Grampians National Park for emergency management and enhance visitor experiences.
- Rest areas, public toilets, road upgrades, bridge upgrades, signage, viewing areas.
- Nature based tourism sites including National Parks require basic amenities and infrastructure to encourage investment in experiences, food and accommodation services.
- Transport infrastructure, including public transport to access tourist destinations where appropriate.
- Safe and reliable country roads that connect tourist accommodation and agritourism locations.

3.2.2 What opportunities and constraints does government face in addressing these needs?

Table 3.2 summarises the opportunities and constraints government could consider in addressing the infrastructure needs of the revealed industries of Wimmera Southern Mallee which have a high comparative advantage.

⁵ <https://www.climatechange.vic.gov.au/reducing-emissions/emissions-targets>

TABLE 3.2 WHAT ARE THE INFRASTRUCTURE INVESTMENT OPPORTUNITIES AND CONSTRAINTS FOR WIMMERA SOUTHERN MALLEE?

Industry	Revealed sectors	Relevant LGAs	Identified needs	Opportunities to address needs	Constraints to economic development of the sector
Agriculture, Forestry and Fisheries	Agriculture (cereals, pulses, intensive ag, lamb, wool)	Horsham Northern Grampians, Yarriambiack Horsham West Wimmera Hindmarsh	Road freight infrastructure upgrades and improvements necessary to handle increased freight travelling between grain producing LGA's and new feedlot and supply chain partners in all five LGAs.	Improve road freight infrastructure to enable supply chain efficiency gains in the cropping country LGAs	The current road infrastructure may be insufficient to manage increased tonnage of grains travelling along routes between producers and supply chain partners
	Agriculture	Horsham Northern Grampians, Yarriambiack Horsham West Wimmera Hindmarsh	Enhanced digital connectivity through fixed mobile towers	Enable uptake of AgTech and increased agricultural productivity	Lack of further investments addressing regional mobile black spots will hinder uptake of AgTech in the region
	Agriculture	Hindmarsh Yarriambiack	Upgrading grain handling and storage infrastructure along the rail network	Opportunity to establish lamb and beef feedlots in Hindmarsh and Yarriambiack LGAs due to accessibility to Wimmera Mallee Pipeline and local feed grain supply	Inadequate grain handling and storage facilities to handle increased throughput of grain being transported to local feedlots
Manufacturing	Food Product Manufacturing (Identified as emerging industry based on the future opportunities identified in the SWOT, however it does not have a RCA as such)	Horsham Northern Grampians, Yarriambiack Horsham West Wimmera Hindmarsh	Improvements in local road and rail linkages between farms, processors and markets, including Adelaide and Melbourne	Develop local road and rail linkages between processors and markets along priority corridors in the region Opportunities exist to further develop Food Product Manufacturing, like the Pulse Protein Extraction Project in Horsham, the first of its type in Australia and Nectar Farms in the Northern Grampians and Luv-a-duck in Nhill in Hindmarsh LGA	Inadequate road infrastructure to handle increased freight tonnage

Industry	Revealed sectors	Relevant LGAs	Identified needs	Opportunities to address needs	Constraints to economic development of the sector
Energy and mining	Sand and stone mining (Identified as emerging industry based on the future opportunities identified in the SWOT, however it does not have a RCA as such)	Horsham Northern Grampians, Yarriambiack Horsham West Wimmera Hindmarsh	Transport (road and rail) and energy infrastructure (utility connection) is important for transport of raw materials to processing and export ports. Quality road and rail infrastructure to transport heavy earth materials and equipment	Potential to develop sand and stone resource sector would require road and energy transmission infrastructure Facilitate co-investment into Inter-modal Freight Terminal precincts, to add value to local raw materials, alleviate damage and cost to the Regional Road Network and create employment.	Inadequate road, rail and energy utilities infrastructure to develop sand and stone mining assets.
		Hindmarsh West Wimmera	Reticulated gas networks	Potential to develop reticulated natural gas infrastructure in the future at Wimmera Intermodal Freight Terminal, Warracknabeal, Dimboola and Nhill	Economic development in some regional towns can be constrained by the lack of access to reticulated natural gas, which is only available in Horsham and Stawell
		Horsham Northern Grampians, Yarriambiack Horsham West Wimmera Hindmarsh	Need for electricity grid interconnector to enhance renewable energy sector	Opportunity to develop new interconnector in the electricity grid between Vic and SA which will open opportunities to renewable energy Facilitation of collocation for intensive energy users and renewable generators	Without access to the electricity grid the renewable energy sectors development will be constrained
			Access to appropriate transport infrastructure	Enabling infrastructure such as connecting roads is essential to the efficient, cost-effective and safe operation of wind turbine infrastructure	New wind turbine developments are located in remote rural areas on greenfield sites that require access to enabling infrastructure
Tourism	Accommodation, Food and Beverage Services (Identified as emerging industry based on the future opportunities identified in the SWOT, however it does not have a RCA as such)	All	Need to develop accommodation facilities and bush fire and flood mitigation infrastructure	Develop enabling infrastructure at key identified areas as specified in the region's Destination Management Plan	Inadequate nature-based tourism infrastructure such as basic accommodation will hinder visitation

Industry	Revealed sectors	Relevant LGAs	Identified needs	Opportunities to address needs	Constraints to economic development of the sector
			Enhanced digital connectivity across key visitation points including the Grampians National Park	Emergency management and enhance visitor experiences	Lack of further investment around improving digital connectivity will limit tourism growth potential
		All	Rest areas, public toilets, road upgrades, bridge upgrades, signage, viewing areas Safe and reliable country roads that connect tourist accommodation and locations Transport infrastructure, including public transport to access tourist destinations where appropriate	Develop nature-based tourism experiences at Grampians National Park, such as the Grampians Way Ring Road and the Grampians Peaks Trail and supporting visitor infrastructure including possible trail head development at Mount Zero Explore possible public transport options for key tourist destinations	Inadequate nature-based tourism infrastructure such as connecting roads, transport services, viewing areas, rest areas and public amenities such as toilets make parts of the Grampians National Park inaccessible
		All	Need for enabling infrastructure along Wimmera River, such as cycling-walking-camping including Dimboola to Lake Albacutya	Opportunities to develop amenities and enabling infrastructure around Wimmera River	Inadequate enabling infrastructure around the Wimmera River to encourage increases in tourist visitation

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