

Loddon  
Campaspe  
**Economic  
Growth  
Strategy**

**Technical Report**

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## Disclaimer

All figures and data presented in this document are based on data sourced from the Australia Bureau of Statistics (ABS), and other government agencies. Using ABS datasets, the regional economic modelling software REMPLAN, developed by REMPLAN has been applied to generate industrial economic data estimates. This document is provided in good faith with every effort made to provide accurate data and apply comprehensive knowledge. However, REMPLAN does not guarantee the accuracy of data nor the conclusions drawn from this information. A decision to pursue any suggestions mentioned in the report is wholly the responsibility of the party concerned. REMPLAN advises any party to conduct detailed feasibility studies and seek professional advice before proceeding with any action and accept no responsibility for the consequences of pursuing any of the findings or actions discussed in the document.

## Executive Summary

The Loddon Campaspe Regional Partnership (LCRP) have initiated the development of a Regional Economic Statement. To be prepared in two parts, the project will develop the next significant strategic economic development framework at a regional scale.

Development of a Regional Economic Statement (RES) is critical for the next phase of investment throughout the broader Loddon Mallee. The RES ultimately must provide a strategic basis and rationale for priority investment and projects throughout the region.

Stage 1 (the subject of this report) involves preparation of consolidated economic analysis that recognises the current situation based on the most recently available evidence (data & information) and targeted engagement to ensure regional insights and identify emerging priority areas for regional economic development.

The Loddon Campaspe is the most populous region within the Loddon Mallee. The projected population within the Loddon Campaspe is forecast to rise to represent 75% of the Loddon Mallee regions proportional population by 2031.

Between the last Census period, an additional 17,458 new jobs were created in the Loddon Campaspe. The key sectors to expand the local economic base were Health Care & Social Assistance, Construction, Accommodation & Food Services, Education & Training, Agriculture, Forestry & Fishing and Administrative services.

Fundamentally, the regional issues that drive the need for regional economic response are underpinned by the following trends:

- The region's population growth continues to demand infrastructure to underpin business investment, liveability and attraction of talent and visitors.
- Economically the region is diverse and as a result strong. Key sectors including Health, Financial Services, Professional services have all grown alongside regional population growth while the core sectors of manufacturing and agriculture remain important and resilient industry sectors.
- Significant opportunity for better understanding of the food industry supply chain and enhancement of our international engagement will be important for the future of the region.
- The demand for more sustainable forms of waste management and energy (gas and electricity) are high priorities for community and business alike throughout the region.
- Comparably the region has excellent connectivity, however the link to productivity and more prosperous regions is intrinsically linked to continual improvement of digital and transport infrastructure.
- The liveability of the region is linked to cultural heritage, accessible natural assets and the network of regional city, villages and towns. These provide great amenity for residents and have the potential to attract visitors and talent.
- Workforce demands for both an ageing population and growing economic base are forecast to remain throughout occupations (low to high order) in the regional workforce.

ES-1 provides a summary of the key directions for emerging priorities in the Loddon Campaspe region. It is likely that investment opportunities will require a partnership that unlock private investment and involves government support. Support from government may be realised through direct expenditure, policy review or new actions. These specific tasks will be identified during preparation of Part B and detailing of the final Loddon Campaspe Regional Economic Statement.

ES 1 Summary of Loddon Campaspe Regional Economic Statement: Emerging Priority Opportunities



## Connecting skills to future industries

### Targeted vocational training

- Targeted programs to support the largest employing industries of Health & Social Assistance, Construction, Manufacturing and Agriculture.
- Leverage 2018 – 2019 budget commitment for a four-year \$109 million career education reform program - career and pathway training decisions for student, focus on career exploration workshops and improving engagement with industry.

### Work integrated learning

- There is a need to better match business skill needs to training on offer – students are being trained for jobs that don't exist and not for the skills that are needed.
- There is strong sectoral learnings from the Bendigo Manufacturers Group who have demonstrated capability to support work integrated learning. Opportunities to expand this approach across other industries could be investigated for application throughout the region.



## Enhancing our strong regional food industry

### Agri tech investment

- Global momentum in Agri-tech that links research, data and increased levels of automation requires a co-ordinated strategy. The region is well positioned to pilot investment in networks, IoT and data sharing to grow the food industry. The pilot through Birchip Cropping Group in neighbouring Buloke Shire Council area should be monitored for application within the Loddon Campaspe.

### Leveraging regional infrastructure

- South West Loddon Pipeline is a significant regional infrastructure that requires regional investment to unlock potential for communities, households and the agricultural sector within the 2,900 km<sup>2</sup> supply area.
- Key issues relevant to the management land for farming, including protection of agricultural land, managing loss of productive agriculture enterprises and the impact of housing/hobby farm development on commercial operations remains a key regional issue. Demand for 'rural' lifestyle living is often at the nexus between planning for farming growth or planning for sale of land. The role of land use planning remains an important policy consideration for the sector.

### Export markets

- There is an identified \$16.1 million in the Victorian 2018-2019 budget that aims to help grow agricultural exports, improving market access to key international markets, establishing a premium artisanal food program and implement Victoria's Wine Strategy. The Loddon Campaspe region is well positioned to leverage this opportunity.
- Completing supply chain analysis to map food industry supply chains identifying economic opportunities for logistics, value-add and further economic benefit along the supply chain rather than limiting the view of supply (commodity) and demand (final market). Opportunities for local expenditure and regional economic benefit could exist between the primary activity and current final marketplace.

### Skills and Workforce

- The sector has strong relationship to the demand for skills and a stable workforce identified in Emerging Priority 1. Preliminary ideas for review include: review tax and immigration policy to understand Federal policy implications on the local 'food industry' workforce to better advocate change; develop business skill programs that target SME with high growth potential; and, enhance vocational training for the food industry that extends from career pathways in secondary levels, through tertiary training to on the farm training – strengthening the link between farmers and local training providers (TAFE & University).

### Regional branding

- Enhance the Loddon Campaspe regions productive food industries through co-ordinated branding strategies that identify the diversity of landscape, production and food product manufacturing occurring from Macedon through to Echuca.



## Establishing the Calder innovation corridor

### Regional Economic Policy

- Establish the Calder corridor as a unique economic region, through policy and regional strategic planning will support appropriate infrastructure and economic development investment. The policy context could support development of a Creative Corridor Industries Strategy to strengthen the creative industries ecosystem that is located throughout the corridor.

### Business Environment

- Build a culture of start-ups and regional entrepreneurship to foster the most innovative regional settlement corridor in Australia (eg. Innovation Think Tank's, Regional industry clusters, Identify key technology and industry sectors for region and design "mashups" to support networking, collaboration and innovation development) to tease out innovation opportunities, then support advancement of ideas through the innovation funnel.
- Job training – facilitate regional access to appropriate training and potential hires, i.e. coding school programs.

### Innovation infrastructure

- Invest in opportunities for research and development that leverage existing high value manufacturing, health facilities & universities.
- Develop a productivity measure for transport infrastructure recognising the need for both increased digital connection and physical mobility (eg. Faster regional trains).
- Build on the market led approaches (by Nokia and Vodafone) to the Victorian Government for Digital Train Radio Systems and extend a solution for expanded network capability on passenger rail between Melbourne and Bendigo.
- Expand investment in networks, IoT and data sharing through pilots and potential international level engagement to improve digital connectivity reliability that fosters private sector investment.

### Leverage art and creative industries

- Strengthen 'regional' links to arts, innovation, training – building on concentration of artisans, designers, technologists, and informers throughout the region.
- Define and estimate local value of creative industries recognising the role of makers and creative activities across areas of design, digital branding, gaming and manufacturing to identify creative clusters excellence.

### Great towns and villages

- Gear investment around visitors and residents. The heritage architecture of towns and villages from Maryborough to Kyneton, Castlemaine and Bendigo provide 'fine grain' urban form where the promotion of high quality urban design, active town centres and community infrastructure attracts talent and visitors.
- Link excellence in schools, health, housing, urban design and town centres within the broader innovation corridor vision. What is good for locals is good for visitors and good for business investment.
- Explore idea of 'eastern corridor (Macedon, Lancefield, Romsey) who have population growth and require better transport & digital connections to the 'Regional Innovation Corridor'.



## Economic outcomes in resource management

### Regional resource solutions for economic development

- Further regional site assessment to support innovation and technology solutions identified through Market Sounding Process run jointly by regional Waste & Resource Recovery Groups is suggested as a key action for the region.

- Proposed organics reprocessing facility, proposed by Vermi-remediations during the LMWRRG Market Sounding process is being considered as a future resource recover option in the current Loddon Mallee Waste and Resource Recovery Implementation Plan<sup>1</sup>.
- Long term feasibility of waste to energy plant is being finalised for Castlemaine focussed on project partners including Don KR, Coliban Water, Mount Alexander Shire Council that has potential for emission improvements, local employment and economic benefit.
- Opportunity exists to build on Large Scale Solar Feasibility Study commissioned by Victorian Greenhouse Alliance to leverage development opportunities particularly in the north of region.

#### **Advocacy & engagement**

- International investment has proven to expedite innovative solutions in other State jurisdictions. Develop advocacy and engagement strategy to address regulatory barriers. Energy and waste projects have been identified in the region and some are awaiting site approval or finance. Advocacy and engagement to unlock these opportunities.

#### **Explore innovative financing**

- Sustainability Victoria has created an innovative financing solution for energy efficiency through the Environmental Upgrade Finance mechanism. As a region, Loddon Campaspe could explore and look to capitalise on innovative regional financing models through lens of regional development. This has been successfully applied for Bendigo Community Bank Model and could unlock feasible business solutions to waste and energy requirements at a regional scale.



## **Creating the most liveable Regional city in Australia**

#### **Regional Employment and Innovation Policy**

- Support the implementation of priority projects identified in Plan Bendigo that promote development of the regional city and a focus on employment, education, health services, access to arts and cultural activity.
- Continue working on local projects including; City deal (regional innovation and energy), Bendigo Hospital (digital health transformation), Food (production, manufacturing, gastronomy story), Bendigo Airport (hub for national/regional network), and Marong Business Park (centre of exc – sustainable advanced manufacturing)

#### **CBD Renewal = Public & Private**

- Capitalise on renewed investment in CBD renewal and work to leverage greater level of private investment. For example, leverage Government investment of \$16M for GovHub in Bendigo to ensure broader private opportunities.

#### **Expanded Tertiary Education**

- The role of tertiary education is central amongst cities that are positioned for innovation and employment. The presence of three Universities within Bendigo is significant, however the employment base provided by these institutions could represent a higher proportion of total employment.
- Initiatives that support the growth and expansion of tertiary education as both a supplier of talent and future workforce, home of research and development and key local employer should be supported.

#### **Leverage regional infrastructure**

- Cultural activities and events that continue to support greater liveability, provide improved access to the arts and creative activities and continue to build the brand of Bendigo should be supported, leveraging the Arts Precinct and Ulumbarra Theatre.
- Securing the upgrade of the Bendigo Airport Terminal building to unlock Regular Passenger Transport (RPT) and future business land development for Stage 3 of the Airport Precinct will be a significant regional development outcome.

<sup>1</sup> Loddon Mallee Waste and Resource Recovery Group Victoria (2017) Loddon Mallee Waste and Resource Recovery Implementation Plan.

- Access to the diversity of services and employment within Bendigo for the broader region will be important. The Bendigo Metro Rail project has undergone policy development and feasibility studies. Further work to unlock this investment with intra-regional rolling stock on existing rail assets could be transformative.



## International economic relationships

### International Engagement Strategy

- Develop a Loddon Campaspe International Engagement Strategy. The development phase could involve review of formal international engagement frameworks (Sister City relationships | MOU's | Friendship Agreements) to identify real economic development opportunities in the form of international export markets, Two-way trade, direct foreign investment and attracting visitors and retaining talent/skills in the region.
- Identify and develop a brand / regional story that recognises the unique regional qualities of Loddon Campaspe to support strengths in manufacturing export and high quality liveability for international visitors and investment.
- Align Loddon Campaspe economic capability and priority export sectors with Victorian Government strategies and initiatives (eg. *Advancing Victoria's Manufacturing, Export Skills program and targeted sector based trade missions, Creative Industry Strategy and Food & Fibre Sector Strategy*)
- Strengthen the linkage between Calder Innovation corridor and Bendigo (most liveable regional City) priorities to promote international opportunities aligned with creative industries, education and tourism.
- Identify priority international markets that are aligned to existing strengths, existing relationships, cultural connections and future economic growth potential.
- Identify blockages in agreements, planning or infrastructure requirements that inhibit international economic opportunities.



## Forests, heritage and landscapes for visitors and residents

### World Heritage classification

- UNESCO frameworks are currently being explored as a mechanism to drive tourism economic benefit while ensuring longer term sustainable development outcomes for natural and built environments. The alignment of the Loddon Campaspe's assets should be explored to understand the cost benefit scenario for pursuing classification of the region.

### Cohesive tourism product

- The region benefits from support by Visitor Victoria through integrated marketing for both the Macedon Ranges / Daylesford Region and the Goldfields region. There is strong alignment between nominated regions through food, heritage, wine and accessible tracks and trails that could be explored as a consolidated tourism product offering.

### Traditional owner partnerships

- Supporting economic development in locations that is supported by the Dja Dja Wurrung and Yorta Yorta traditional owners may enable opportunity for indigenous enterprise opportunities across natural and cultural locations in the region.

### Cities, Towns & Villages

- Strong alignment exists between the initiatives proposed in the Calder Innovation Corridor and Forests, heritage & landscapes. Investment that supports heritage architecture of towns and villages from Maryborough to Kyneton, Castlemaine and Bendigo are important to promote high quality urban design, active town centres and community infrastructure attracts talent and visitors.



## 1 What is a Regional Economic Statement?

The Loddon Campaspe Regional Partnership (LCRP) have initiated the development of a Regional Economic Statement. To be prepared in two parts, the project will develop the next significant strategic economic development framework at a regional scale.

Considerable delivery and advancement of current recognised priorities in both the Loddon Mallee Regional Strategic Plan (RSP) and Investment Prospectus has occurred during the tenure of the current Regional Development Australia Committee and Regional Partnerships across both the Loddon Campaspe and Mallee Regions.

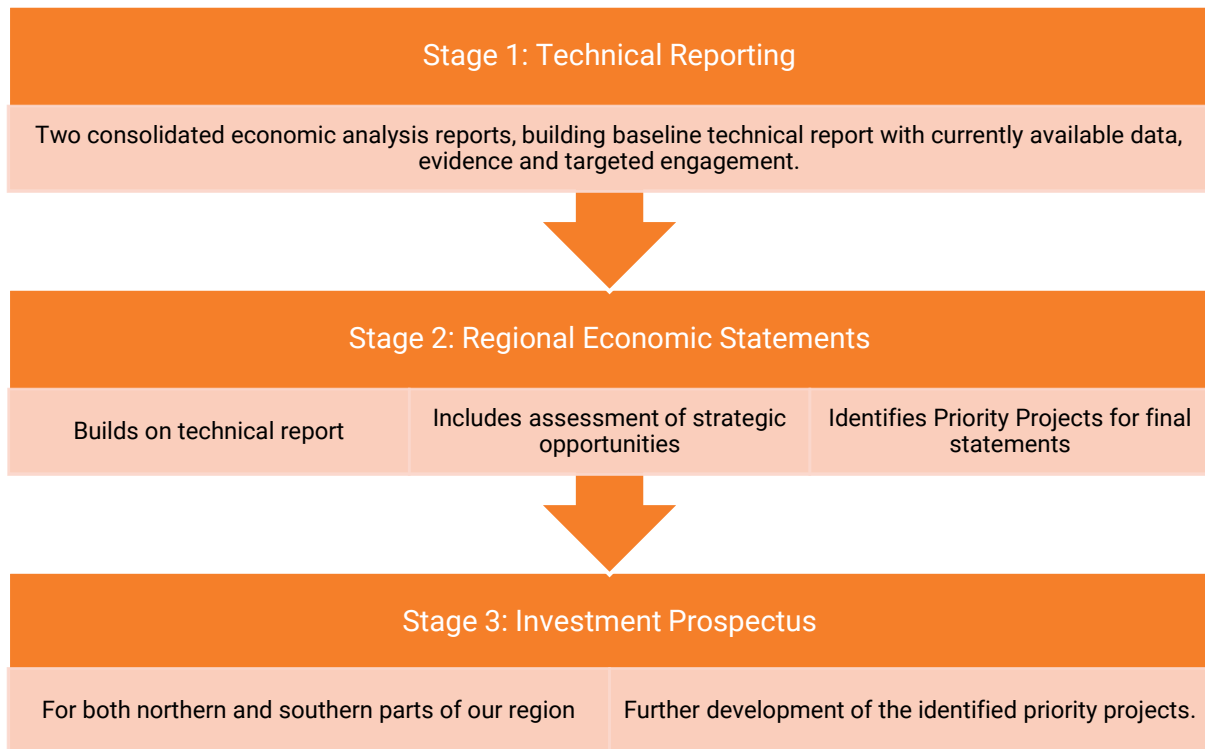
Development of a Regional Economic Statement (RES) is critical for the next phase of investment throughout the broader Loddon Mallee. The RES ultimately must provide a strategic basis and rationale for priority investment and projects throughout the region. Aligned to the core RDA charter of economic development, the RES needs to provide clarity for future RDA committees about how they can positively impact to economic advancement throughout the Loddon Mallee region and both the Loddon Campaspe and Mallee sub-regions.

As outlined in Figure 1-1, the RES is being delivered over three distinct project stages. Stage 1 (the subject of this report) involves preparation of consolidated economic analysis that recognises the current situation based on the most recently available evidence (data & information) and targeted engagement to ensure regional insights and identify emerging priority areas for regional economic development.

Stage 2 will build on this evidence base and prepare a consolidated Regional Economic Statement (RES) to utilise strategic opportunity assessment and priority project identification to prepare a final RES with specific initiatives outlined.

Stage 3 of the project will involve the preparation of a revised and updated Investment Prospectus for both the north and south of sub-regions within the Loddon Mallee region.

Figure 1-1 Regional Economic Statement Project Method



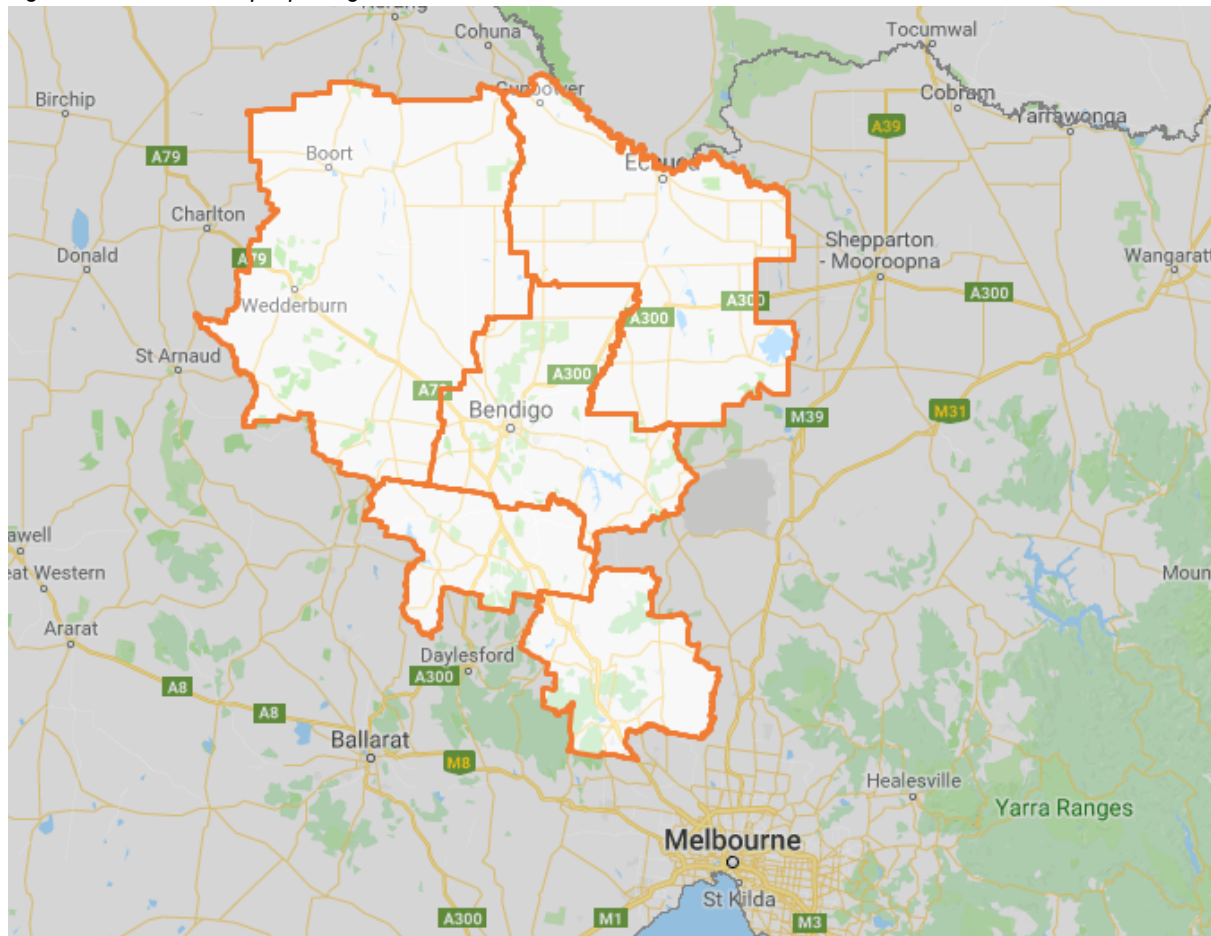
## 2 Regional Economic Context

The Loddon Mallee region is made up of two distinct geographical regions – Loddon Campaspe and Mallee. The region contains 10 local government areas (LGA), including City of Greater Bendigo, Mount Alexander Shire Council, Central Goldfields Shire Council, Macedon Ranges Shire Council, Loddon Shire and Shire of Campaspe in Loddon Campaspe; and Mildura Rural City Council, Swan Hill Rural City Council, Buloke Shire Council and Gannawarra Shire Council in the Mallee.

In summary the key latest economic indicators indicate the following:

- The Loddon Mallee region has a population of 321,187 people.
- 59,898 (18.65%) persons are classified as youth (ages between 0-15) a slightly higher figure from the state (18.23%) and 62,586 (19.49%) are Seniors who are over the age of 65.
- The region has an unemployment rate of 5.2%, lower than the state average of 6.0%.
- Total output generated by the businesses within the Loddon Mallee region is estimated at \$36,399.293 million.
- 'Manufacturing' accounts for \$7,258.514 million (or 19.9% of total output) followed by 'Construction' (\$4,771.380 million) and 'Rental, Hiring and Real Estate Services' (\$3,443.054 million).
- The total employment (place of work) estimate for the Loddon Mallee region is 129,417 jobs.
- 'Health Care and Social Assistance' industry sector is the largest sector at 20,008 jobs (15.5%); followed by 'Retail Trade (13,348 jobs) and 'Manufacturing' (11,834 jobs).

Figure 2-1 Loddon Campaspe Region



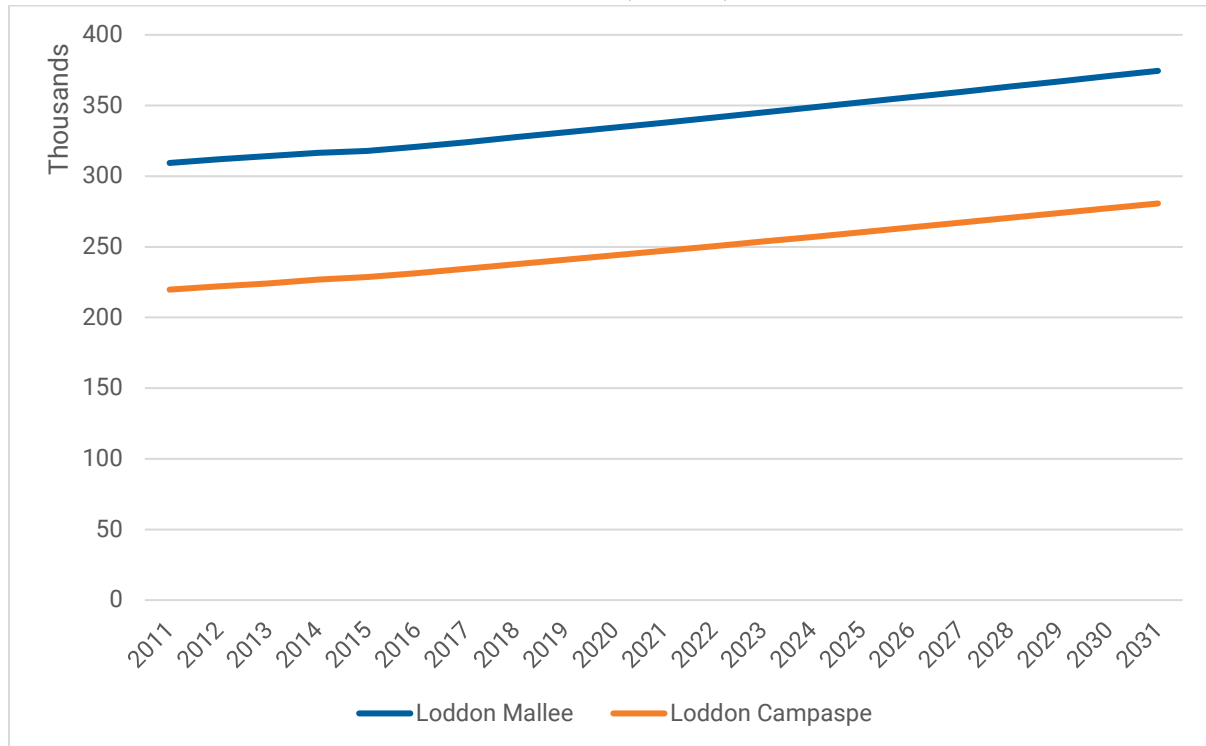
Source: <https://remplan.co/2M8uiwT>

The following section of the report provides an overview of key economic data and associated trends. A more detailed current economic profile is detailed in the Appendices.

## 2.1 Loddon Campaspe population

The Loddon Campaspe is the most populous region within the Loddon Mallee. In 2017 the population of the Loddon Campaspe represents almost 72% of the total Loddon Mallee Region spanning from Gisborne to Mildura. The projected population within the Loddon Campaspe is forecast to rise to represent 75% of the regions proportional population by 2031 (Figure 2-2).

Figure 2-2 Regional Population Growth. Loddon Campaspe (VIF 2016)

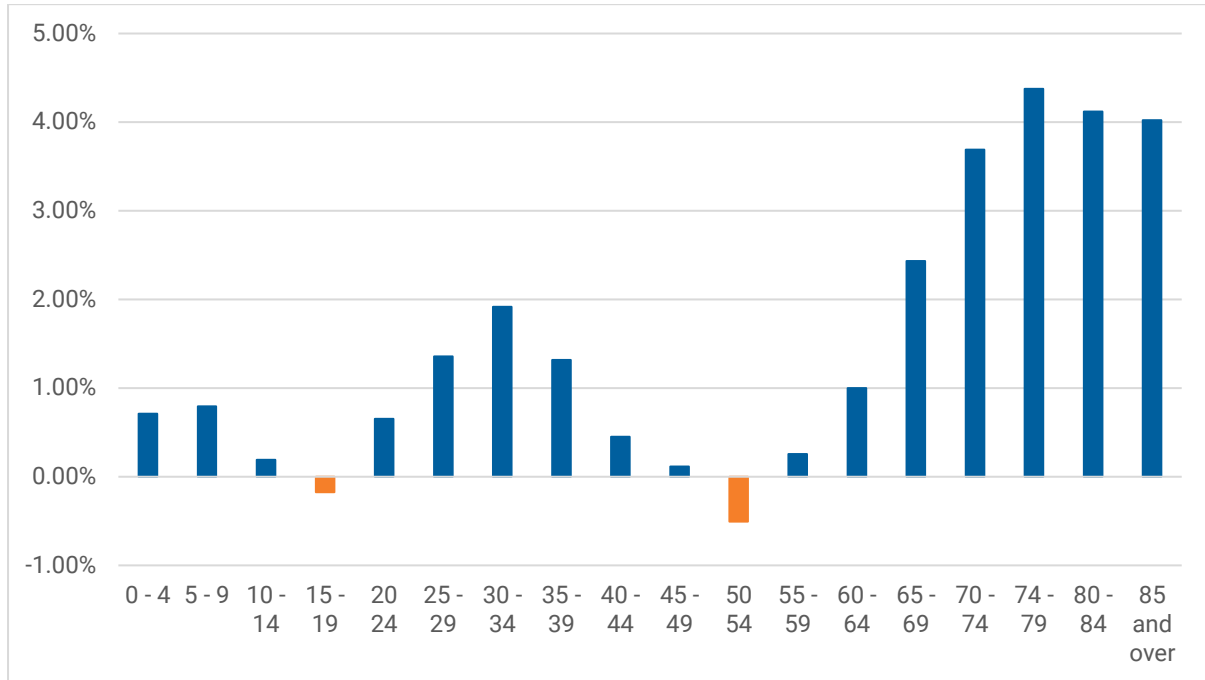


Source: VIF 2016, Compiled by REMPLAN.

The Loddon Campaspe region has a population of 229,557 people, of which 43,273 (18.58%) are classified as youth (ages between 0-15) a slightly higher figure from the state (18.23%) and 46,225 (19.85%) are Seniors who are over the age of 65, also higher than the state (15.13%).

This current trend is further evident when analysing forecast population structure. Analysis of 20 year average population growth rates across 5 year age cohorts in the Loddon Campaspe indicates significant growth of over 65 year old's. 93,010 persons are projected to be over 65 year old by 2036 (Figure 2-3).

Figure 2-3 20 year average growth rate (5 Year age cohorts), Loddon Campaspe

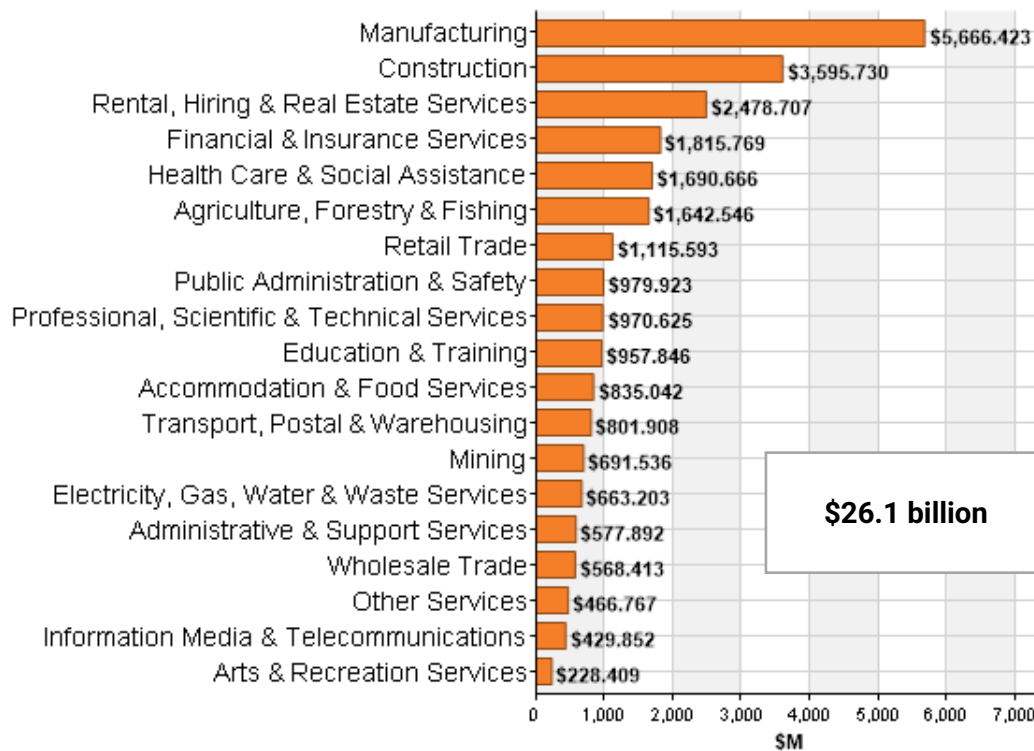


Source: Victoria in Future, 2016. Compiled by REMPLAN.

## 2.2 Industry performance

Output data represents the gross revenue generated by businesses / organisations in each of the industry sectors in a defined region. The output generated by the Loddon Campaspe region is estimated at \$26,176.849 million. 'Manufacturing' accounts for \$5,666.423 million (or 21.6% of total output) followed by 'Construction' (\$3,595.730 million) and 'Rental, Hiring and Real Estate Services' (\$2,478.707 million).

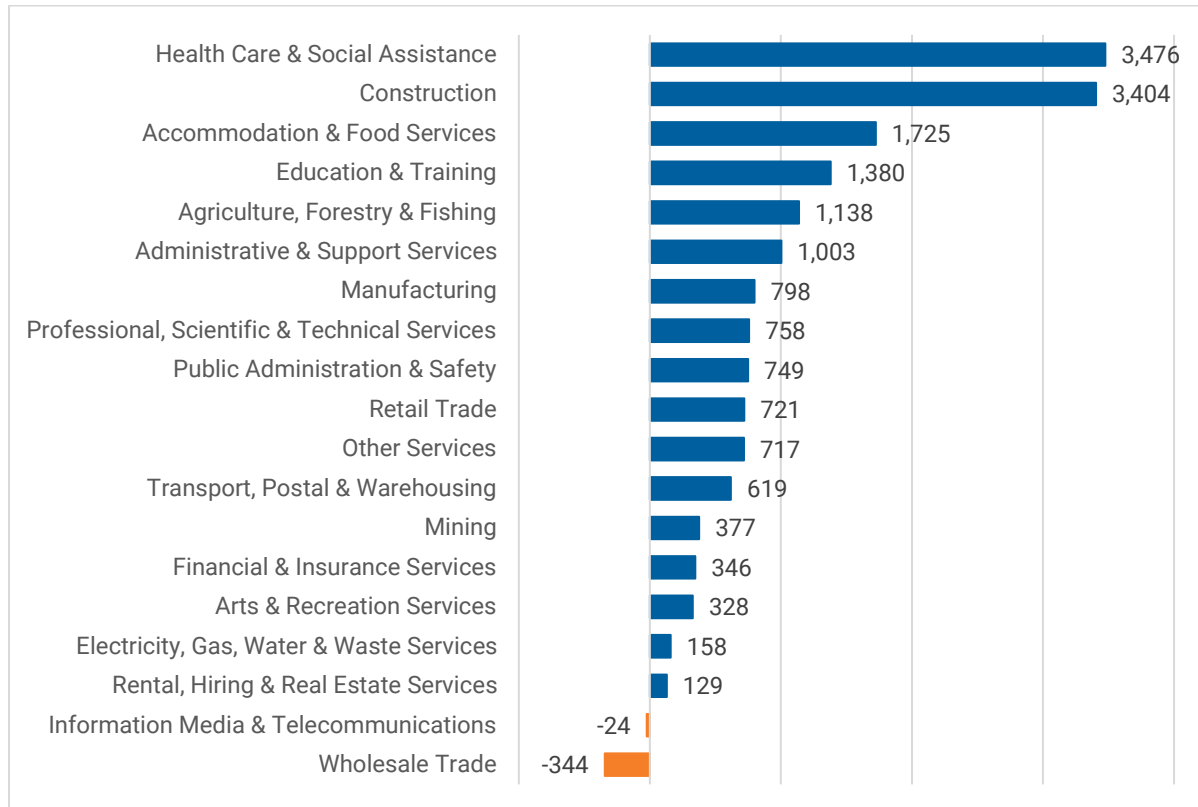
Figure 2-4 Loddon Campaspe Output



The total employment (place of work) estimate for the Loddon Campaspe region as at the 2016 Census is 91,379 jobs. The 'Health Care and Social Assistance' industry sector is the largest sector at 14,746 jobs (16.1%); followed by 'Retail Trade (10,659 jobs) and 'Manufacturing' (9,451 jobs).

Between the last Census period, an additional 17,458 new jobs were created in the Loddon Campaspe. The key sectors to expand the local economic base were Health Care & Social Assistance, Construction, Accommodation & Food Services, Education & Training, Agriculture, Forestry & Fishing and Administrative services. These top six sectors represented 69.5% of new local jobs in the region between 2011 and 2016. Only Information, Media & Communication and Wholesale Trade experienced a decline in the overall employment base (Figure 2-5).

Figure 2-5 Jobs in Loddon Campaspe, Change between 2011 and 2016.

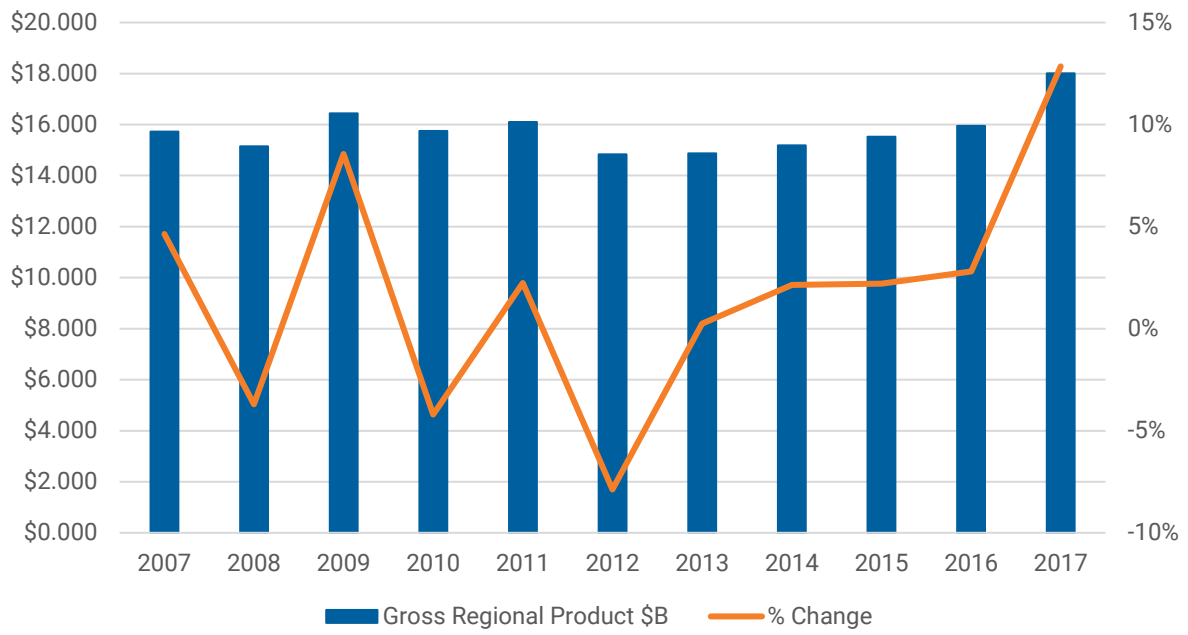


Value-added data represents the marginal economic value that is added by each industry sector in a defined region. The total value-added by the Loddon Campaspe economy is estimated at \$11.978 billion. 'Rental, Hiring and Real Estate Services' contributes the highest value-added (\$1.773 billion), followed by 'Health Care and Social Assistance' (\$1.224 billion) and 'Financial and Insurance Services' (\$1.220 billion).

However, the increased economic activity associated with the 'Food Industry' (aggregating Agriculture & Food Manufacturing) has been significant. When omitting the impact of the 'Rental, Hiring and Real Estate Services' which is a derived imputed value, the food industry 'super sector' is a clear driver of marginal economic value in the region.

The 'Food Industry' contributes around \$1.400 billion or 11.6% of Gross Regional Product (GRP) in the Loddon Campaspe, more than double the contributions of Health Care & Social Assistance, and Financial & Insurance Services. In turn this has supported a sustained period of economic growth in the Loddon Campaspe (Figure 2-6).

Figure 2-6 Loddon Mallee Gross Regional Product



Source: Latest REMPLAN data incorporating Australian Bureau of Statistics' (ABS) June 2017 Gross State Product, 2014 / 2015 National Input Output Tables and 2016 Census Place of Work Employment Data.

### 3 Emerging Priorities

The following section of the Part A report provides direction for finalisation of the Regional Economic Statement. It seeks to provide a summary, context and identify opportunities for emerging economic priorities that can in turn leverage substantial investment and long term economic benefits for the Loddon Campaspe region.

Table 3-1 provides a quick overview of the emerging priorities that are detailed below. The following format for each emerging priority has been applied to assist in defining the driver for economic investment in this area, including:

- **Policy Alignment** – identifying strategic alignment of the emerging priority with key current policy and regional programming
- **Summary** – provides an executive overview of the identified economic issue in the Loddon Campaspe region
- **Context** – preliminary investment logic for the priority, describing the evidence base centred around change or identifiable data trends.
- **Opportunities** – provides insights for investment decisions that may include new initiatives, further enhancing existing opportunities or broader linkage with regional resources.

Table 3-1 Summary of Loddon Campaspe Regional Economic Statement: Emerging Priorities

<p><b>Connecting skills to future industries</b></p> <ul style="list-style-type: none"> <li>• Targeted vocational training</li> <li>• Work integrated learning</li> </ul>	<p><b>Enhancing our strong regional food industry</b></p> <ul style="list-style-type: none"> <li>• Agri tech investment</li> <li>• Leveraging regional infrastructure</li> <li>• Export markets</li> <li>• Skills and Workforce</li> <li>• Regional branding</li> </ul>	<p><b>Establishing the Calder innovation corridor</b></p> <ul style="list-style-type: none"> <li>• Regional Economic Policy</li> <li>• Business Environment</li> <li>• Innovation infrastructure</li> <li>• Leverage art and creative industries</li> <li>• Great towns and villages</li> </ul>
<p><b>Economic outcomes in resource management</b></p> <ul style="list-style-type: none"> <li>• Regional resource solutions for economic development</li> <li>• Advocacy &amp; engagement</li> <li>• Explore innovative financing</li> </ul>	<p><b>Creating the most liveable Regional city in Australia</b></p> <ul style="list-style-type: none"> <li>• Regional Employment and Innovation Policy</li> <li>• CBD Renewal = Public &amp; Private</li> <li>• Expanded Tertiary Education</li> <li>• Leverage regional infrastructure</li> </ul>	<p><b>International economic relationships</b></p> <ul style="list-style-type: none"> <li>• International Engagement Strategy</li> </ul>
<p><b>Forests, heritage and landscapes for visitors and residents</b></p> <ul style="list-style-type: none"> <li>• World Heritage classification</li> <li>• Cohesive tourism product</li> <li>• Traditional owner partnerships</li> <li>• Cities, Towns &amp; Villages</li> </ul>		

Ultimately, the listed priorities require further refinement. The emerging initiatives are presented as ideas that if addressed would demonstrate significant benefit at a regional level. The issue of scale of investment required at a regional level must reflect the opportunity to positively impact on regional prosperity.

It is likely that investment opportunities will require a partnership that seeks to unlock private investment and involves government support. Support from government may be realised through direct expenditure, policy review or new actions.

These specific tasks will be identified during preparation of Part B and detailing of the final Loddon Campaspe Regional Economic Statement.



### 3.1 EP 1: Connecting skills to future industries

*Policy alignment: Skills First | Victorian Priority Sector Strategies National Innovation Agenda | Future Industries | Gonski 2.0*

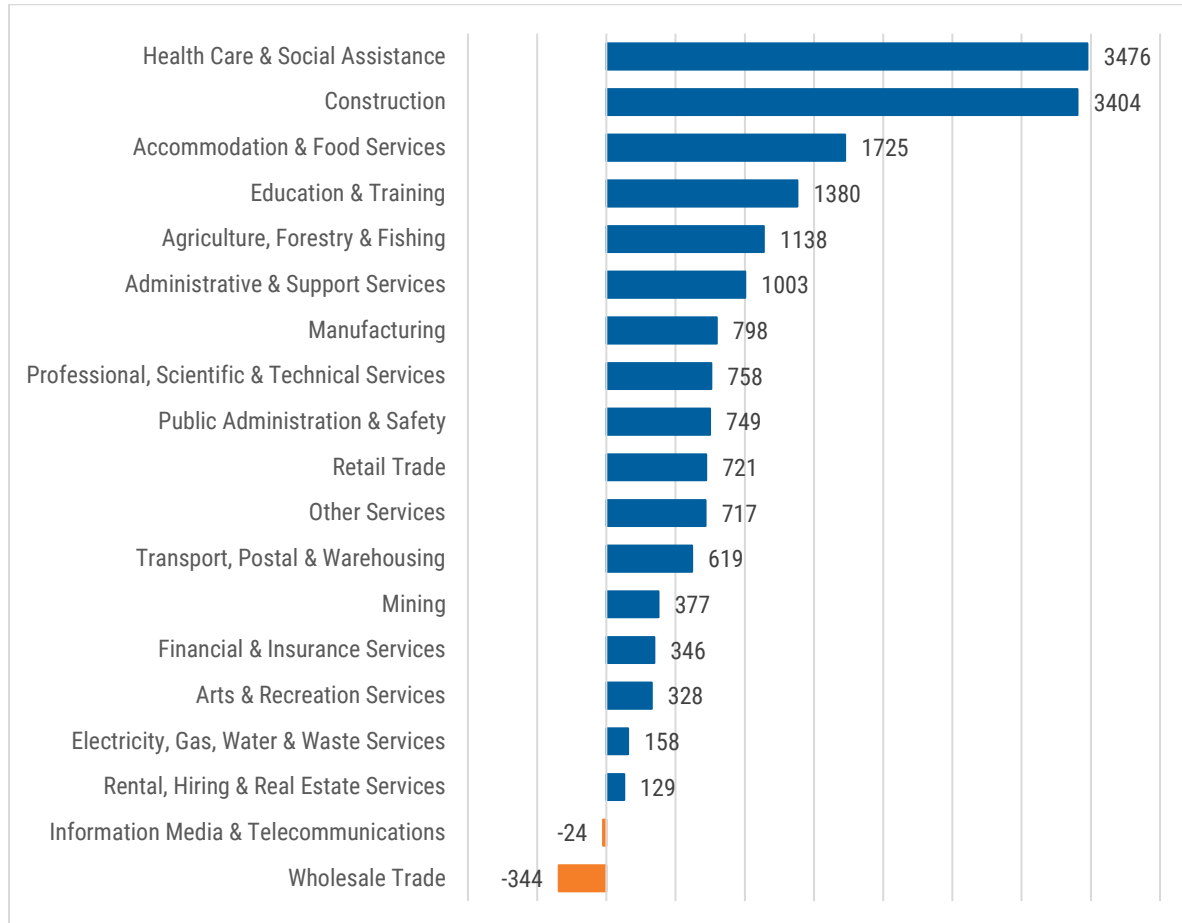
#### 3.1.1 Summary

- The region requires the right skills to support regional business growth.
- Despite growth in regional employment, local employers continue to report difficulty attracting the right skills.
- There is a disconnect between the demand for skills in the region and the skills available to support industry growth.
- This skills deficit is compounded by a local workforce that has a higher proportion of lower income earners.
- Targeted programs that support the largest regional employing industries of Health & Social Assistance, Manufacturing and Agriculture

#### 3.1.2 Context

The region requires the right skills to support regional business growth. There is a disconnect evident between the demand for skills in the region and the skills available to support industry growth. 17,458 new jobs were created in the Loddon Campaspe over the most recent Census period (2011 – 2016). The greatest concentration of new jobs was experienced in Health Care & Social Assistance, Construction and Accommodation & Food Services in the region, accounting for 49% of all new jobs (Figure 3-1).

Figure 3-1 New jobs in Loddon Campaspe 2011 to 2016

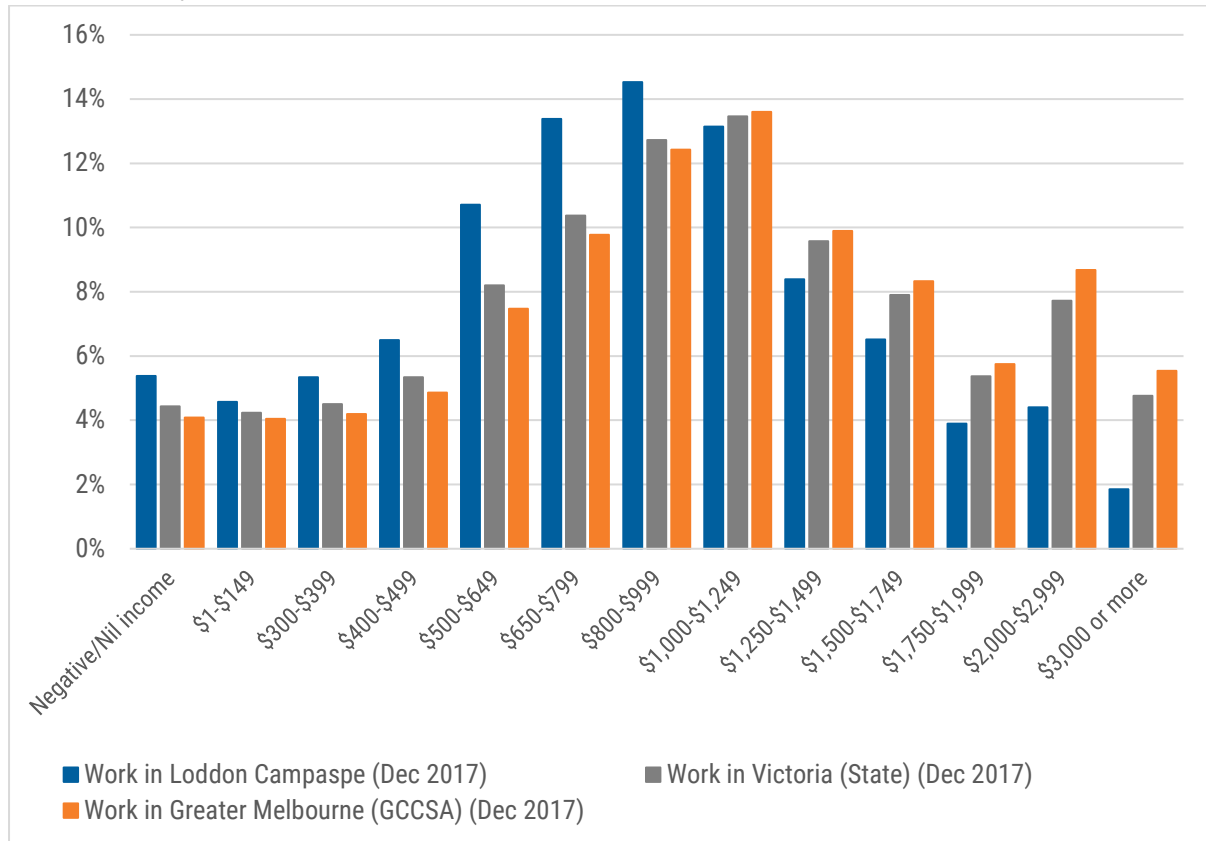


Source: Census (2016) Place of Work.

Despite the growth in regional employment, according to BE Bendigo, local employers continue to report difficulty attracting the right skills. This skills deficit is compounded by a local workforce that has a higher proportion of lower income earners. Over 54,000 workers representing almost 60% of the region’s workers earn less than \$999 per week. This compares with 49.1% of total Victorian workers who earn less than \$999 per week (Figure 3-2).

Demand for workforce varies across the nation. There has been a clear focus on a future workforce that is adaptable, with high emotional intelligence and focussed on problem solving & communication. This workforce research highlights the need to skill up and manage the impact of automation and technology that will mostly impact on lower order employment<sup>2</sup>.

Figure 3-2 Weekly income of local workforce



Source: REMPLAN, Loddon Campaspe (Dec 2017) dataset.

These insights about the future workforce are informed by work undertaken by the Foundation for Young Australian’s who identified new job clusters focussed on skills, not technical disciplines (Figure 3-3). This reflects the changing way in which Australia’s future workforce will engage.

<sup>2</sup> Productivity Commission (2016) Digital Disruption: What do governments need to do?

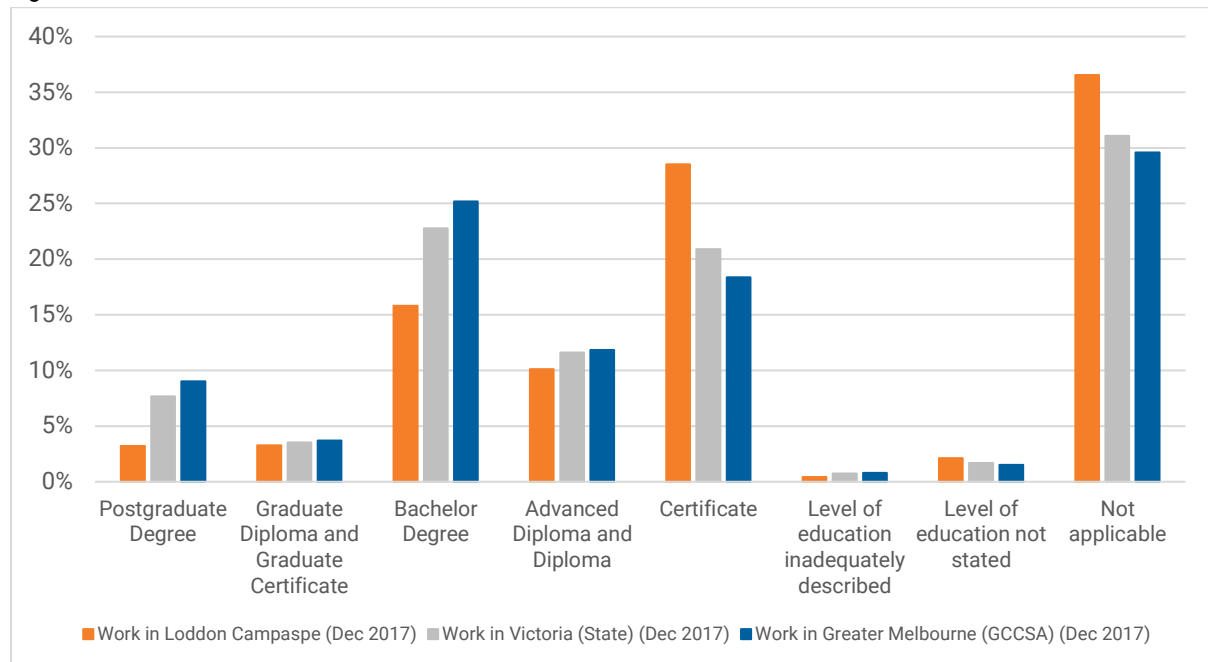
Figure 3-3 New Job Clusters To Help Young People Navigate The New Work Order



Source: Foundation for Young Australians (2016)

However, while skills have been identified as a focus area for employers, over technical capabilities; level of education attainment is a good indication of weekly income as well as skills in adaptability, emotional intelligence, problem solving, and communication. Within the Loddon Campaspe, there is notably lower levels of advanced degrees and associated levels of educational attainment.

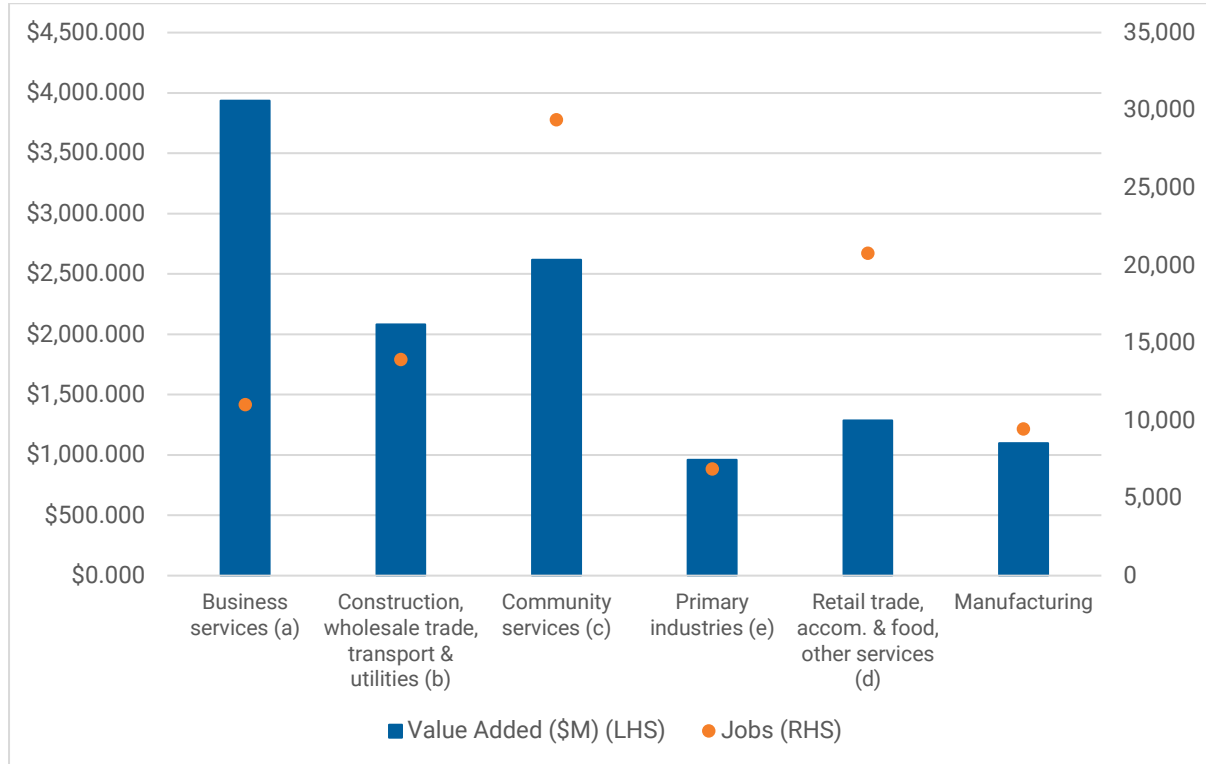
Figure 3-4 Level of Educational Obtainment



Source: REMPLAN, Loddon Campaspe (Dec 2017) dataset.

This situation of matching skills to high performing economic industries is also evident when comparing industries relative to the contribution to Gross Regional Product, by Value Added, compared with local employment levels. As outlined in Figure 3-4, there is opportunity to expand employment levels to increase economic contributions with a particular focus on Business Services, Primary Industries and Manufacturing.

Figure 3-4 Industry contribution to GRP (Value-Added) compared with local jobs



Source: REMPLAN, Loddon Campaspe (Dec 2017) dataset.

Job vacancy data supports these insights suggesting Victorian businesses are unable to fill positions requiring Certificate level education attainment of three and/or four. There has been an increase in the job vacancy rate (the ratio of vacancies per 1,000 total positions) from 10.8 per 1,000 jobs in 2013 up to 13.3 per 1,000 jobs in 2017<sup>3</sup>.

While future jobs strategies are often focused on higher order employment and future job clusters, there is similar demand for Certificate Level 3 or 4 occupations in regional areas. Targeted skills and training is required to support the largest regional employing growth industries of Health Care & Social Assistance; Construction; Accommodation & Food Services; Education & Training; Agriculture, Forestry & Fishing; Administrative & Support Services; and Manufacturing.

<sup>3</sup> Department of Treasury & Finance (2018) 2018-19 Strategy & Outlook. Victorian Budget 2018-19.

### **3.1.3 Opportunities**

The following opportunities provide guidance for the next stage of the Regional Economic Statement. They outline insights for investment decisions centred around new initiatives, further enhancing existing opportunities or broader linkage with regional resources.

#### **Targeted vocational training**

- Targeted programs to support the largest employing industries of Health & Social Assistance, Construction, Manufacturing and Agriculture.
- Leverage 2018 – 2019 budget commitment for a four-year \$109 million career education reform program - career and pathway training decisions for student, focus on career exploration workshops and improving engagement with industry.

#### **Work integrated learning**

- There is a need to better match business skill needs to training on offer – students are being trained for jobs that don't exist and not for the skills that are needed.
- There is strong sectoral learnings from the Bendigo Manufacturers Group who have demonstrated capability to support work integrated learning. Opportunities to expand this approach across other industries could be investigated for application throughout the region.
- There is an identified lack of good employment service; people needing jobs (especially disadvantaged) are not getting employed and there is a general unawareness from employment services of what employers need.
- Feedback during engagement indicated that the agricultural industry cannot get workers - farmers are lacking confidence in ability of workers they are able to recruit. Anecdotal feedback has indicated high levels of apathy toward the industry as a career path.

## 3.2 EP 2: Enhancing our strong regional food industry

*Policy Alignment: Food & Fibre Sector Strategy | Future Industries | National Innovation Agenda*

### 3.2.1 Summary

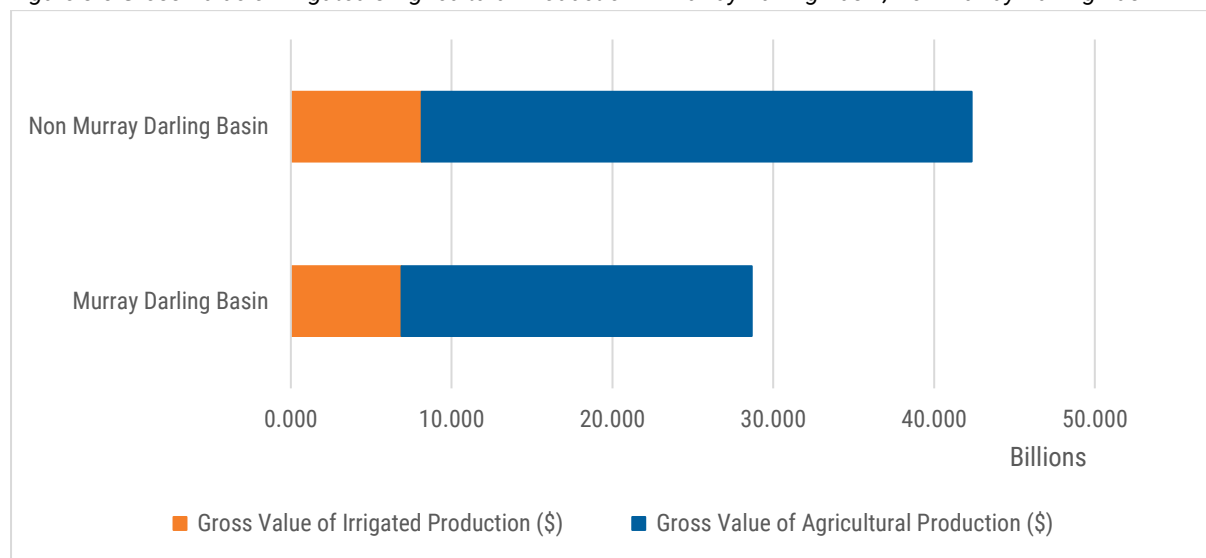
- The strength of both the primary and secondary food sector is directly reflected through its regional economic performance.
- The Food Industry employs over 11,500 people, has a total annual revenue of \$5.000 billion and contributes around \$1.400 billion or 11.6% of Gross Regional Product (GRP) in the Loddon Campaspe. This is a higher proportional share of GRP than the largest employing sector Health Care & Social Assistance.
- Investment is required to further leverage the existing strengths and substantial momentum across agriculture to further value-add through food manufacturing within the Loddon Campaspe.
- Advances in technology are shaping the future of both the paddock and manufacturing sector; opportunity to link data with increased levels of automation across farms and within controlled production lines.
- There is significant opportunity for Loddon Campaspe by developing partnerships to link research institutions, primary producers and food manufacturers.
- The region is well connected to Murray Darling mega region that produces 65% of Australia’s Irrigated land; 1/3 of food supply & 40% of national agricultural revenue.

### 3.2.2 Context

The Agriculture, Forestry & Fishing sector contributes \$1,642.546 million (6.3%) of total output in the Loddon Campaspe and supports over 5,800 jobs in the region. Located at a key gateway to the Murray Darling Basin, the scale of economic activity associated with primary production on both dry and irrigated lands to the north of the region is substantial.

The Murray Darling mega region represents 65% of Australia’s irrigated land and produces 1/3 of the nation’s food supply & 40% of agricultural revenue. Despite generally weak population growth in these regions, the ability to generate increased revenue with a lower workforce through technology investment is driving significant momentum in agricultural investment from Dubbo to Leighton, to Deniliquin and Mildura.

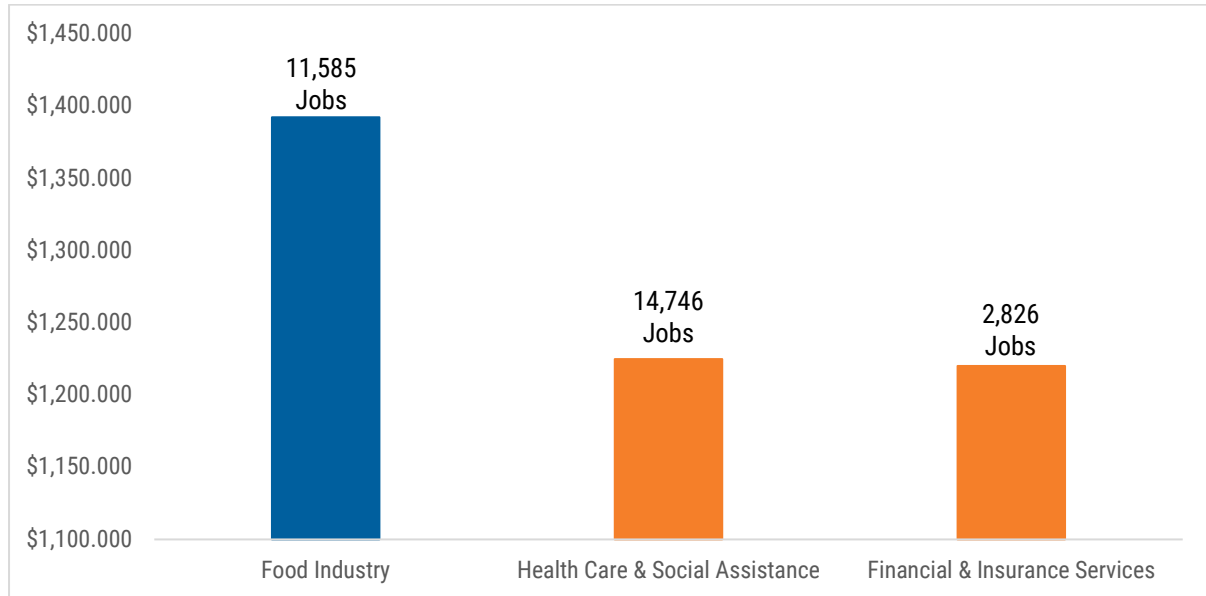
Figure 3-5 Gross Value of Irrigated & Agricultural Production in Murray Darling Basin, Non Murray Darling Basin.



Source: ABS (2016) Gross Value Of Irrigated Agricultural Production (Gviap) And Gross Value Of Agricultural Production (Gviap) – Murray Darling Basin And Non-Murray Darling Basin Regions–2015-16.

The 'food industry' sector contributes around \$1.400 billion or 11.6% of Gross Regional Product (GRP) in the Loddon Campaspe, more than double the contributions of Health Care & Social Assistance, and Financial & Insurance Services.

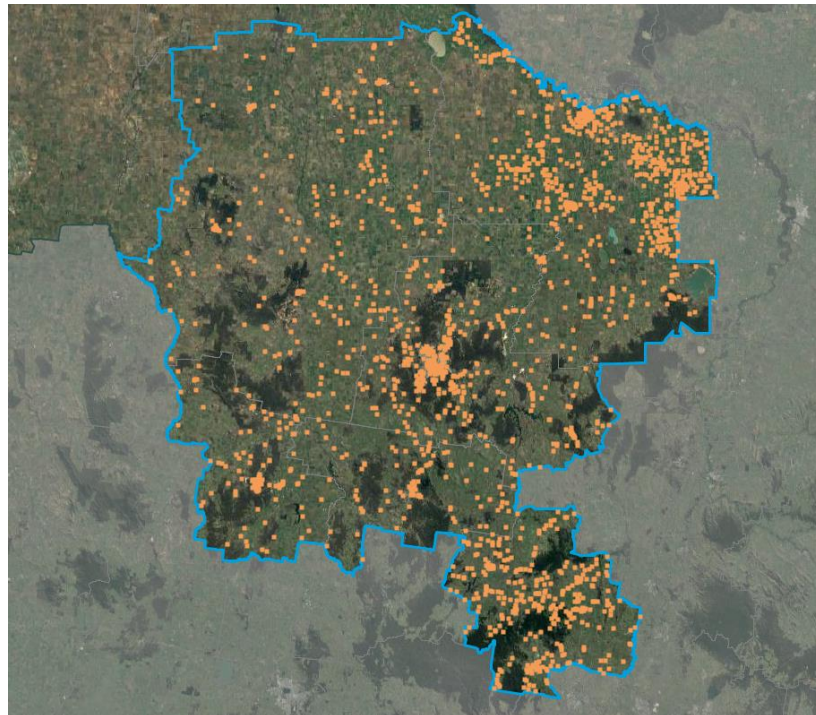
Figure 3-6 Food Industry contribution to GRP (Value Added (\$M))



Source: REMPLAN, Loddon Campaspe (Dec 2017) dataset.

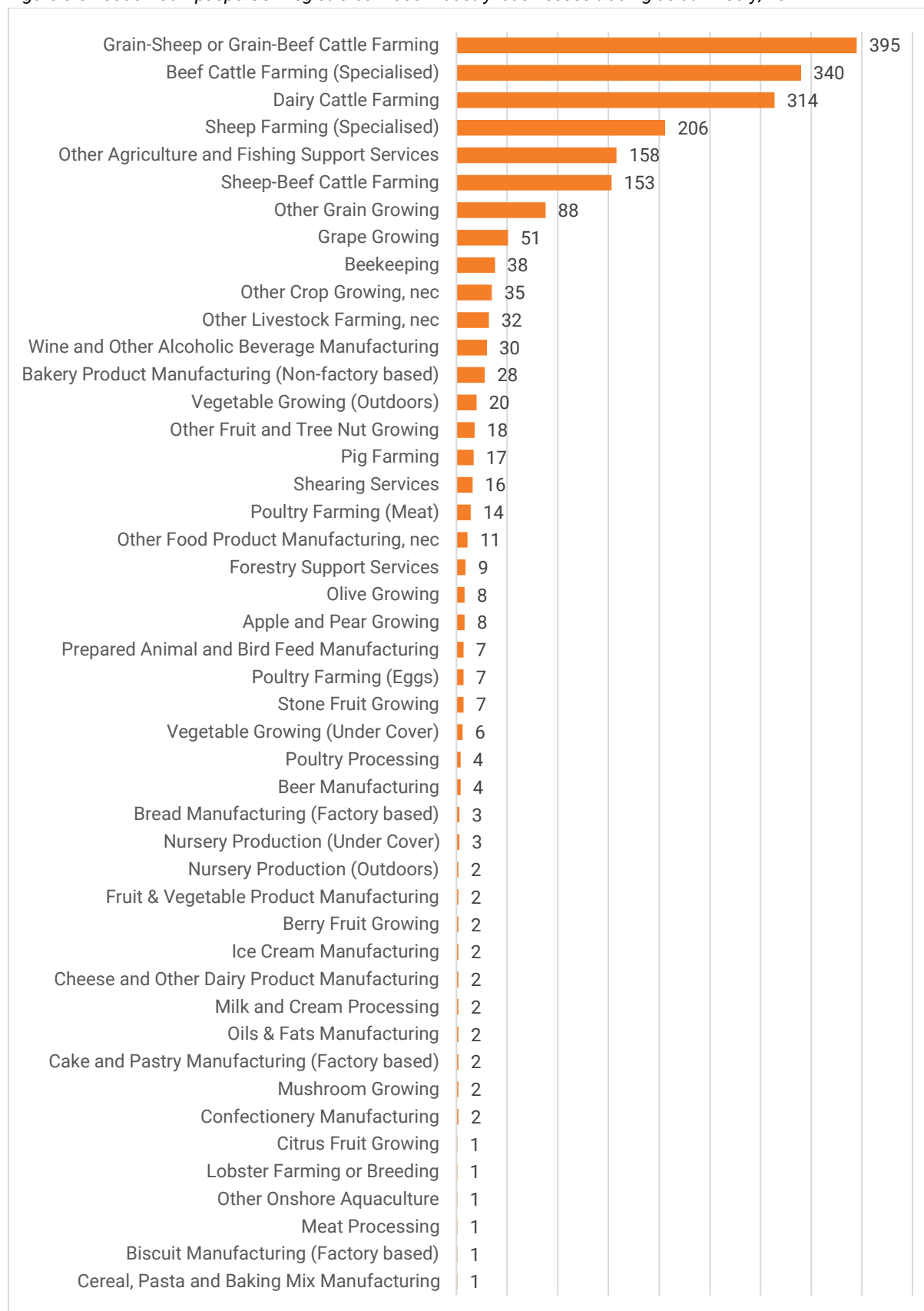
The scale of economic activity is also recognisable when completing analysis of local trading business entities. The Food Industry, that encapsulates both primary production and food/beverage product manufacturing supports approximately 2,100 (15%) of local businesses registered in the Loddon Campaspe. Demonstrating a clear diversity of operations, this includes the largest cohort of businesses in the Food Industry Grain-Sheep or Grain-Beef Cattle Farming (395) through to Cereal, Pasta & Baking Mix Manufacturing business of which there is only 1 in the region (Figure 3-8).

Figure 3-7 Location of Food Industry Businesses throughout Loddon Campaspe Region.



Source: Australian Business Register (1st July 2017), DEDJTR Loddon Mallee via REMPLAN Business Analysis Module.

Figure 3-8 Loddon Campaspe GST registered 'Food Industry' businesses trading as at 1<sup>st</sup> July, 2017.



Source: Australian Business Register (1st July 2017), DEDJTR Loddon Mallee via REMPLAN Business Analysis Module.



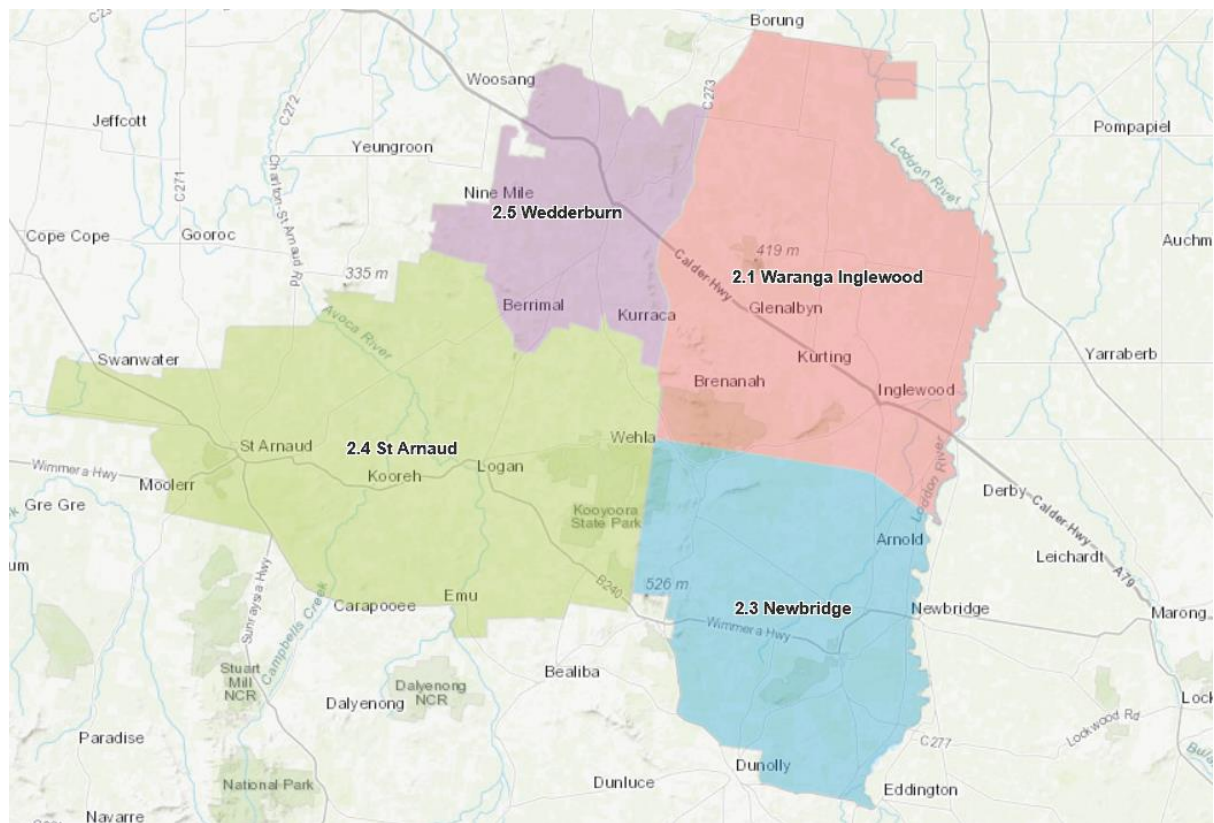
Despite economic growth and momentum in the agricultural based industries of the region, there is recognised issues regarding succession of the workforce and adequate leverage of both existing natural and built assets. With young people moving away from regional areas to pursue education and career options, an aging farming workforce and identified succession issues and family conflicts within the industry; agriculture is not well marketed as a career option. Anecdotal feedback received has identified the lack of young people identifying agriculture as an industry they plan to work in. The industry lacks defined schooling/TAFE opportunities and there is a perception of the industry being difficult. Barriers to entry within the industry are access to capital, and skills.

Opportunity exists to promote the employment benefits in the agricultural industry including Tourism/health/liveability, sustainability, opportunity for wealth generation, value-add opportunities, and workforce development.

**South West Loddon Pipeline Project**

The second stage of construction for the South West Loddon Pipeline is a significant regional infrastructure project that will support significant outcomes for communities, households and the agricultural sector. The project includes approximately 1,300 km of water supply pipeline for an area of 2,900 km<sup>2</sup> (Figure 3-9).

Figure 3-9 South West Loddon Pipeline Project.



This pipeline benefits include improved supply to over 260 rural farming enterprises and more than 370 rural living properties. Leveraging this investment will be important within the context of the regional economic statement priorities.

### 3.2.3 Opportunities

Investment is required to further leverage the existing strengths in agricultural production and high value food manufacturing within the Loddon Campaspe. A range of opportunities were identified throughout this emerging priority including:

#### Agri tech investment

- Global momentum in Agri-tech that links research, data and increased levels of automation requires a co-ordinated strategy. The region is well positioned to pilot investment in networks, IoT and data sharing to grow the food industry. The pilot through Birchip Cropping Group in neighbouring Buloke Shire Council area should be monitored for application within the Loddon Campaspe.

#### Leveraging regional infrastructure

- South West Loddon Pipeline is a significant regional infrastructure that requires regional investment to unlock potential for communities, households and the agricultural sector within the 2,900 km<sup>2</sup> supply area.
- Key issues relevant to the management land for farming, including protection of agricultural land, managing loss of productive agriculture enterprises and the impact of housing/hobby farm development on commercial operations remains a key regional issue. Demand for 'rural' lifestyle living is often at the nexus between planning for farming growth or planning for sale of land. The role of land use planning remains an important policy consideration for the sector.

#### Export markets

- There is an identified \$16.1 million in the Victorian 2018-2019 budget that aims to help grow agricultural exports, improving market access to key international markets, establishing a premium artisanal food program and implement Victoria's Wine Strategy. The Loddon Campaspe region is well positioned to leverage this opportunity.
- Completing supply chain analysis to map food industry supply chains identifying economic opportunities for logistics, value-add and further economic benefit along the supply chain rather than limiting the view of supply (commodity) and demand (final market). Opportunities for local expenditure and regional economic benefit could exist between the primary activity and current final marketplace.

#### Skills and Workforce

- The sector has strong relationship to the demand for skills and a stable workforce identified in Emerging Priority 1. Preliminary ideas for review include: review tax and immigration policy to understand Federal policy implications on the local 'food industry' workforce to better advocate change; develop business skill programs that target SME with high growth potential; and, enhance vocational training for the food industry that extends from career pathways in secondary levels, through tertiary training to on the farm training – strengthening the link between farmers and local training providers (TAFE & University).

#### Regional branding

- Enhance the Loddon Campaspe regions productive food industries through co-ordinated branding strategies that identify the diversity of landscape, production and food product manufacturing occurring from Macedon through to Echuca.

### 3.3 EP 3: Calder innovation corridor

*Policy alignment: Creative Industries Strategy | Defence White Paper | National Innovation Agenda | Future Industries | City Deals | Plan Bendigo*

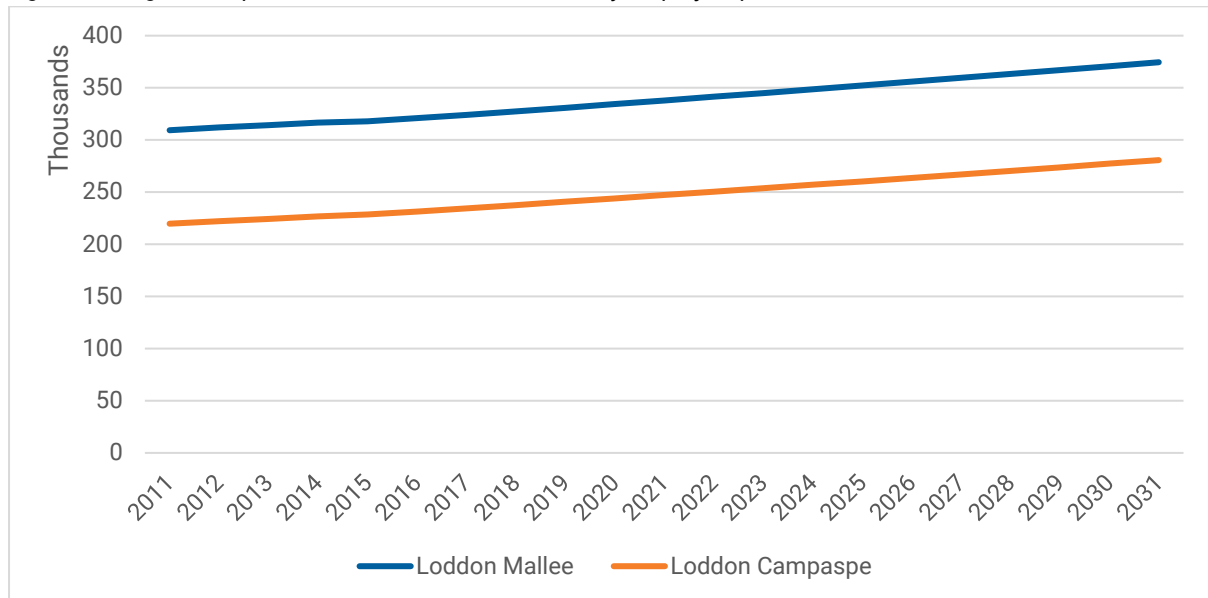
#### 3.3.1 Summary

- The Calder corridor between Bendigo and Melbourne supports the highest concentration and fastest growing population base within the Loddon Campaspe region.
- Bound by the Regional City of Bendigo and Victoria’s economic powerhouse, Melbourne, the flow of economic activity is significant.
- Aligned with population, the corridor also supports a high density of businesses and as a result, employment.
- New business creation within the corridor over the last five years has been concentrated in Business Service industries and Construction & Wholesale Trade.
- There is opportunity to recognise the corridor as unique economic region bound by Melbourne and Bendigo.
- The corridor demands investment that will build on strengths in innovation, creative industries, and micro businesses to foster the most innovative regional corridor in the country.
- The region supports high value manufacturing, first class health facilities and three Universities.
- Arts and creative industries are vital cultural and economic contributors in the region, demanding technology and collaboration nationally and internationally.

#### 3.3.2 Context

In 2017 the population of the Loddon Campaspe represents almost 72% of the broader Loddon Mallee Region. This proportion is projected to rise to 75% of the region’s population by 2031 reflecting the strength of population growth between Melbourne’s north and Bendigo along the Calder Corridor.

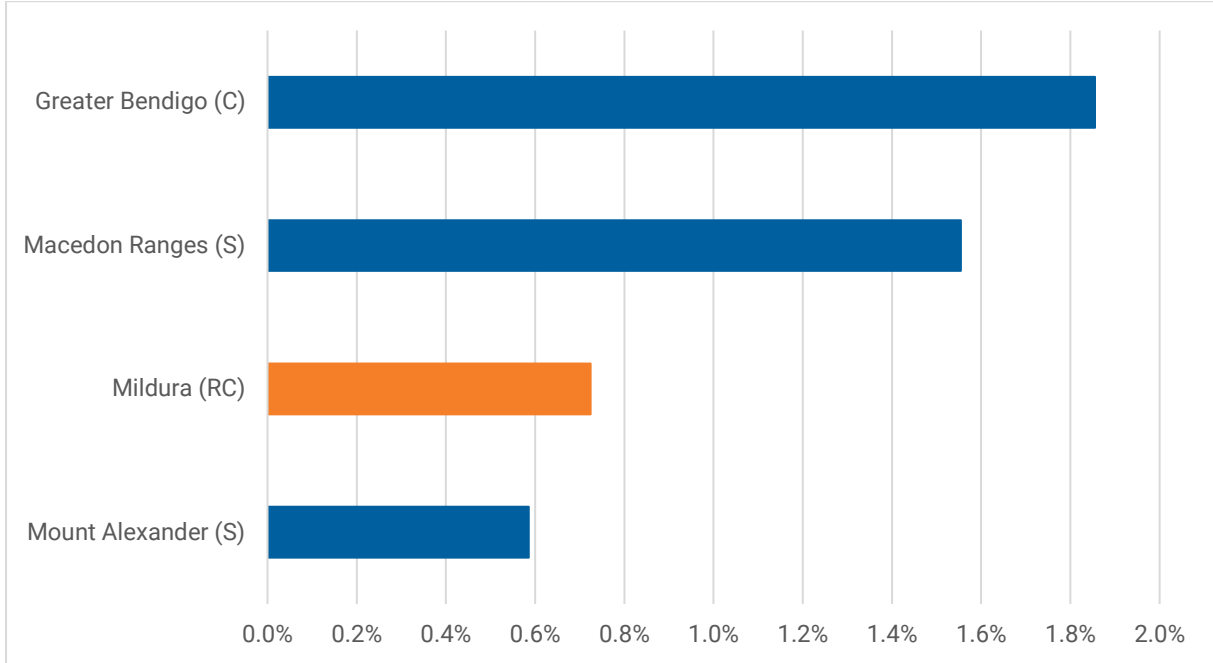
Figure 3-9 Regional Population Growth – 2011 – 2031, 20 year project period



Source: LGA 20 Year Forecasts, VIF 2016, compiled by REMPLAN.

The southern municipalities of the Loddon Campaspe are projected to sustain the highest level of population growth over the next 20 years across the Loddon Mallee. Only Mildura Rural City is forecast to sustain population growth, while the combined Greater Bendigo, Mount Alexander and Macedon Ranges local government areas have and are forecast to achieve an average annual population growth rate of 1.33% (Figure 3-10).

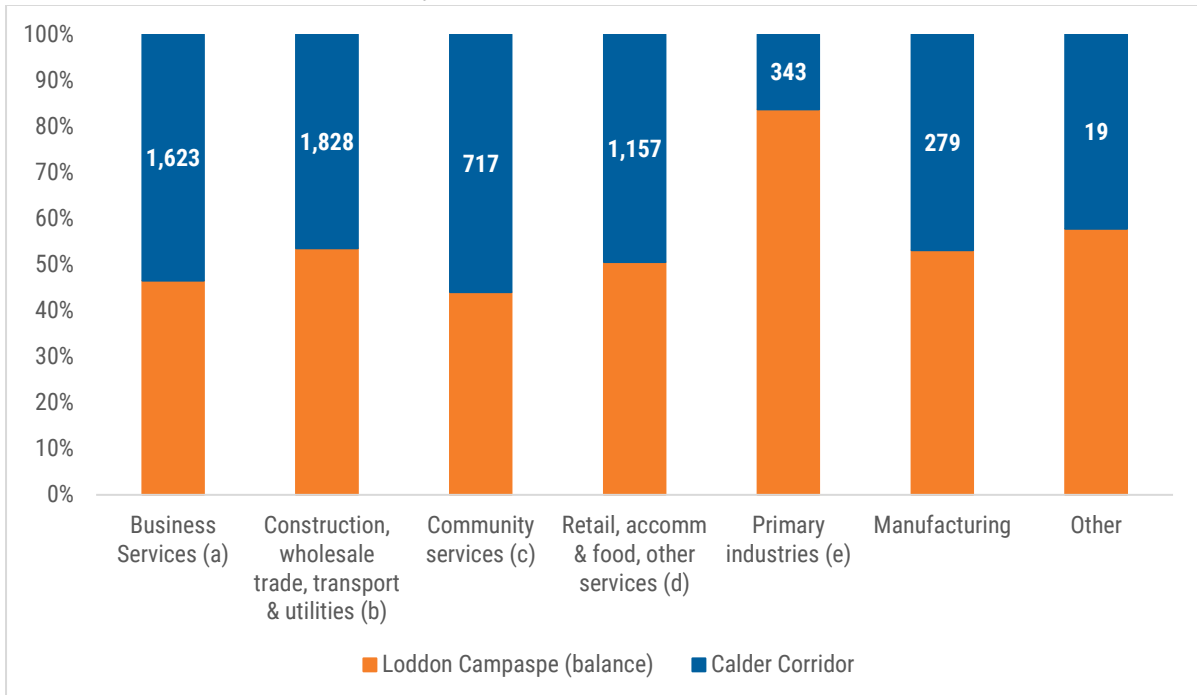
Figure 3-10 20 Year AAGR of fastest growing LGA's in the Loddon Mallee



Source: LGA 20 Year Forecasts, VIF 2016, compiled by REMPLAN.

The concentration of population growth has also resulted in new business creation. Analysis to identify the level of business investment associated with strong transport infrastructure and the network of historic townships along the Calder Corridor indicates that 44% of all businesses listed within the Loddon Campaspe region are located along the Calder Corridor. The analysis focussed on localities (Gazetted Suburbs) proximate to either the Calder Highway or Melbourne to Bendigo Railway line (Figure 3-11). Notably 53% of Business Services organisations were proximate to the Calder Corridor.

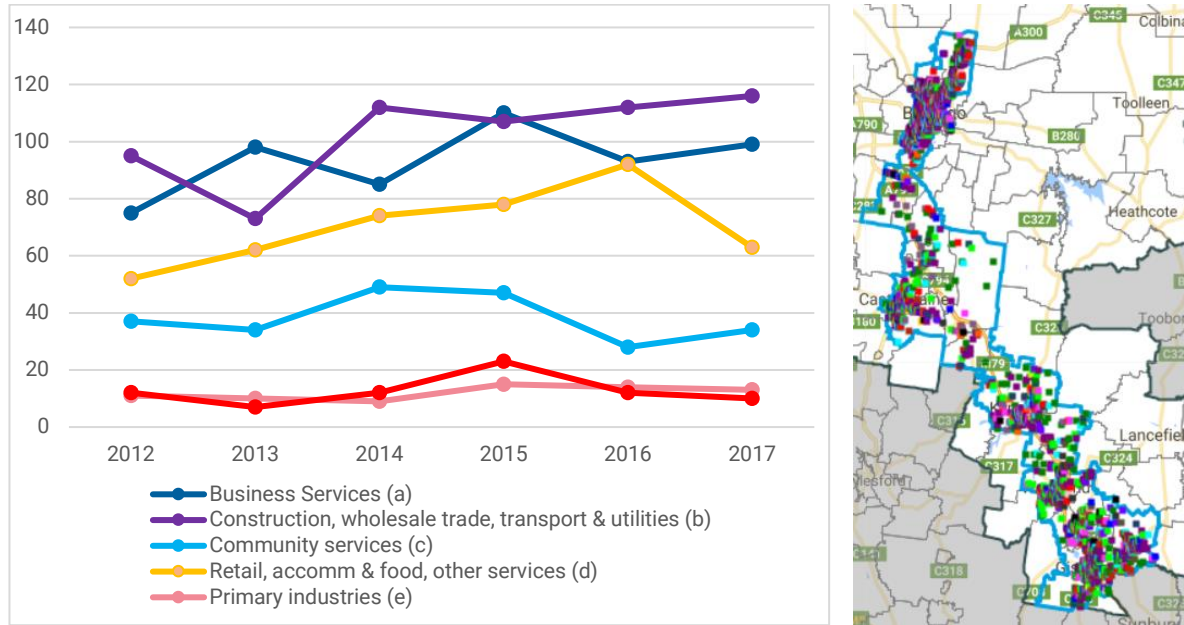
Figure 3-11 Businesses trading at 17 July 2017 excluding Trusts and Super Funds.



Source: DEDJTR Hume Region Australian Business Register Data. Includes businesses registered for GST excluding Trusts & Super Funds.

The creation of new businesses (listed for GST) in the Calder corridor indicates strong sustained growth. New business creation within the corridor over the last five years has been concentrated in Business Service industries and Construction & Wholesale Trade.

Figure 3-12 Annual new business entries within the Calder Corridor



Source: DEDJTR Hume Region Australian Business Register Data. Includes businesses registered for GST excluding Trusts & Super Funds.








The Calder Corridor sustains a solid base of innovation enabling infrastructure to support ongoing investment. This includes the presence of three key universities, a state of the art world class hospital, major financial institution, substantial high-value manufacturing and a burgeoning start-up culture. In addition, recent investment in creative industries in Bendigo and deep-rooted arts culture within Mount Alexander Shire both drive demand for new innovation and support substantial capability.

The legacy of a start-up and co-share environment is already evident throughout the Calder Corridor. Business Enterprise centres designed to foster young businesses have been in work for over 10 years through Workspace located in Bendigo and Castlemaine. While more recent practitioner led spaces have also emerged including Cohoots in Castlemaine and Synergize Hub in Bendigo.

Preliminary assessment of the key elements for successful Employment and Innovation Clusters prepared by AECOM<sup>4</sup> has been undertaken to identify existing strengths and opportunities to investigate and expand the idea of a Calder Corridor.

<sup>4</sup> AECOM (2018) Transforming Melbourne And Victoria With Employment and Innovation Clusters (EICs).

Table 3-13 Elements for a successful Employment & Innovation Cluster

Key elements	Loddon Campaspe	Description
A 'one window' innovation concierge		Regional Development Victoria currently provides a centralised and direct link to Government. Formalising their role to support the an Innovation Corridor presents an opportunity.
A flexible planning framework		While regional development planning extends to a range of issues, the Victorian Planning System is fundamentally directed by Local Government. Opportunity exists to recognise inherent issues for businesses scaling rapidly.
High-quality urban design and architectural application		The built form within the existing settlements presents significant opportunities. Bendigo's CBD Plan has led design excellence in the region, and other key settlements should recognise the role of urban design, architecture and liveability in attracting talent.
Setting measurable performance targets		Establishing a regional innovation corridor framework with agreed KPI's would be a key first step. A performance framework can assist stakeholders, policy makers and identify future investment opportunities.
Planning for Corridor as a collection of cooperating clusters		Building on established Regional governance models to embed private sector interests would assist with planning to recognise the role and function of each key settlement within the Corridor.
Providing financial and economic support		The financial capability of the region punches above its weight. Innovation in community level financing by the Bendigo & Adelaide bank.
Creating an economic 'mega-region' with adjacent cities		The spatial location of the Calder Corridor supports population, significant existing and future transport investment. Located at the juncture of Melbourne's northern suburbs through to the regional City of Bendigo, the existing economic activity provides an established base to build upon.

Source: Adapted from AECOM (2018) Transforming Melbourne And Victoria With Employment And Innovation Clusters (EICs), compiled by REMPLAN.

### 3.3.3 Opportunities

Packaging the Calder Corridor as a unique economic region is central to this emerging priority. Linking strategic planning and policy with investment in business and cultural programming and economic enabling infrastructure. Opportunities include:

#### Regional Economic Policy

- Establish the Calder corridor as a unique economic region, through policy and regional strategic planning will support appropriate infrastructure and economic development investment. The policy context could support development of a Creative Corridor Industries Strategy to strengthen the creative industries ecosystem that is located throughout the corridor.

#### Business Environment

- Build a culture of start-ups and regional entrepreneurship to foster the most innovative regional settlement corridor in Australia (eg. Innovation Think Tank's, Regional industry clusters, Identify

key technology and industry sectors for region and design “mashups” to support networking, collaboration and innovation development) to tease out innovation opportunities, then support advancement of ideas through the innovation funnel.

- Job training – facilitate regional access to appropriate training and potential hires, i.e. coding school programs.

### **Innovation infrastructure**

- Invest in opportunities for research and development that leverage existing high value manufacturing, health facilities & universities.
- Develop a productivity measure for transport infrastructure recognising the need for both increased digital connection and physical mobility (eg. Faster regional trains).
- Build on the market led approaches (by Nokia and Vodafone) to the Victorian Government for Digital Train Radio Systems and extend a solution for expanded network capability on passenger rail between Melbourne and Bendigo.
- Expand investment in networks, IoT and data sharing through pilots and potential international level engagement to improve digital connectivity reliability that fosters private sector investment.

### **Leverage art and creative industries**

- Strengthen ‘regional’ links to arts, innovation, training – building on concentration of artisans, designers, technologists, and informers throughout the region.
- Define and estimate local value of creative industries recognising the role of makers and creative activities across areas of design, digital branding, gaming and manufacturing to identify creative clusters excellence.

### **Great towns and villages**

- Gear investment around visitors and residents. The heritage architecture of towns and villages from Maryborough to Kyneton, Castlemaine and Bendigo provide ‘fine grain’ urban form where the promotion of high quality urban design, active town centres and community infrastructure attracts talent and visitors.
- Link excellence in schools, health, housing, urban design and town centres within the broader innovation corridor vision. What is good for locals is good for visitors and good for business investment.
- Explore idea of ‘eastern corridor (Macedon, Lancefield, Romsey) who have population growth and require better transport & digital connections to the ‘Regional Innovation Corridor’.

### 3.4 EP 4: Economic outcomes in resource management

*Policy Alignment: RET | CET | Finkel Review | Renewable Energy Action Plan | Community Energy*

#### 3.4.1 Summary

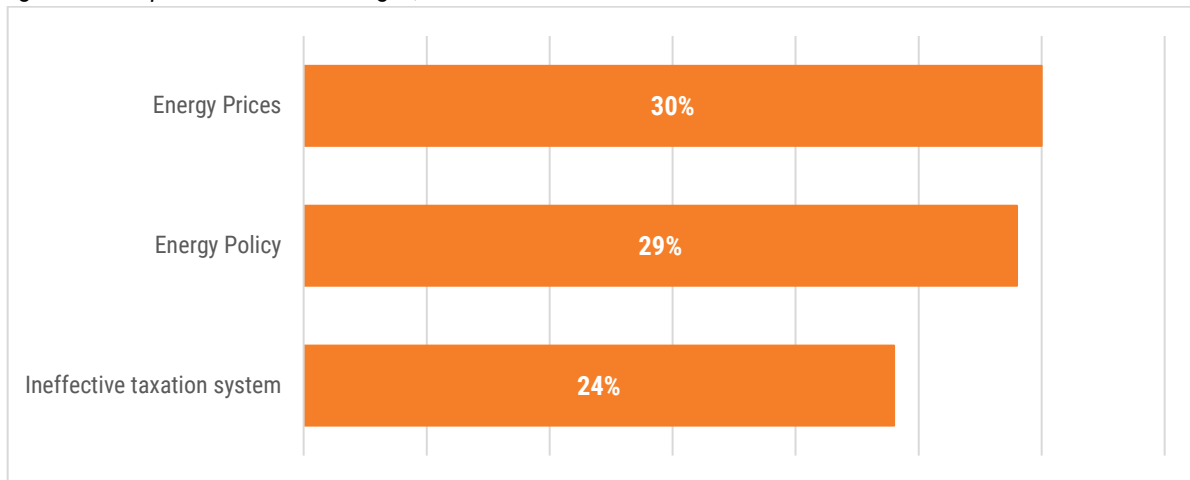
- Access to secure cost-effective energy aligned with Victoria’s commitment to adopted renewable energy targets is central to prosperous regions, industries, cities and households.
- Volatility in market prices for electricity and gas have significant impact on regional businesses, particularly manufacturing.
- *Electricity prices (30%) & energy policy (29%)* were the top two greatest economic challenges for Australian business at the end of 2017.
- Victorian government policy has begun to reposition renewable energy investment.
- There is a strong legacy of both pilot solar projects and household take up in Central Victoria
- Woodend, Newstead and Bendigo are all benefiting from Community Energy grant funding to assist with development of Community renewable hubs.
- The appetite for significant scale investment in renewable energy and exploration of waste to energy schemes is beyond the current level of government funding.
- Regional stakeholders have also cited difficulty in regulatory and policy environments (State to Federal) to bring projects to fruition.
- Beyond investment in large scale energy solutions that address national and international abatement targets, business and community desire lower cost of production, reduced network charges and greater control of energy solutions.

#### 3.4.2 Context

Energy and waste management are two of the most important policy areas for business. There is a need to continue the focus on addressing demand issues in the Loddon Campaspe, particularly as it relates to critical business cost. Households and businesses in Central Victoria have responded initially to feed in tariff incentives and more recently lower technology pricing to take up access to rooftop solar panels.

The region has a strong legacy of key demonstration projects, initiated within the region over the last 10 years to expand understanding and capability for increased use of renewable energy in the region. However, the impacts of National renewable energy policy and global increase in gas pricing has driven many business owners and company Directors to highlight both Energy Pricing and Policy as the top two economic challenges behind an ‘ineffective taxation system at the end of 2017 (Figure 3-12).

Figure 3-12 Top 3 Economic Challenges, Director Sentiment Index

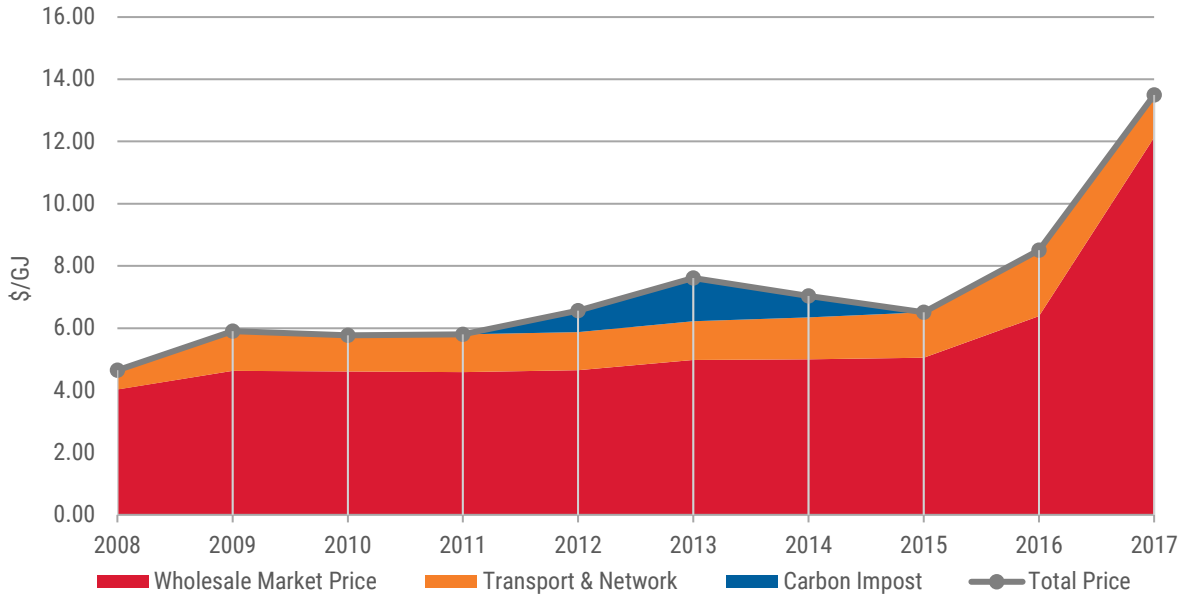


Source: (2017) Australian Institute of Company Directors



The ramping up of gas pricing has had significant impacts for industrial businesses (Figure 3-13). Given the importance, and recent growth of the manufacturing sector within the region the significant changes in pricing particularly for gas delivered to country Victoria has created an appetite for significant scale investment in renewable energy and exploration of waste to energy schemes beyond the current level of government funding.

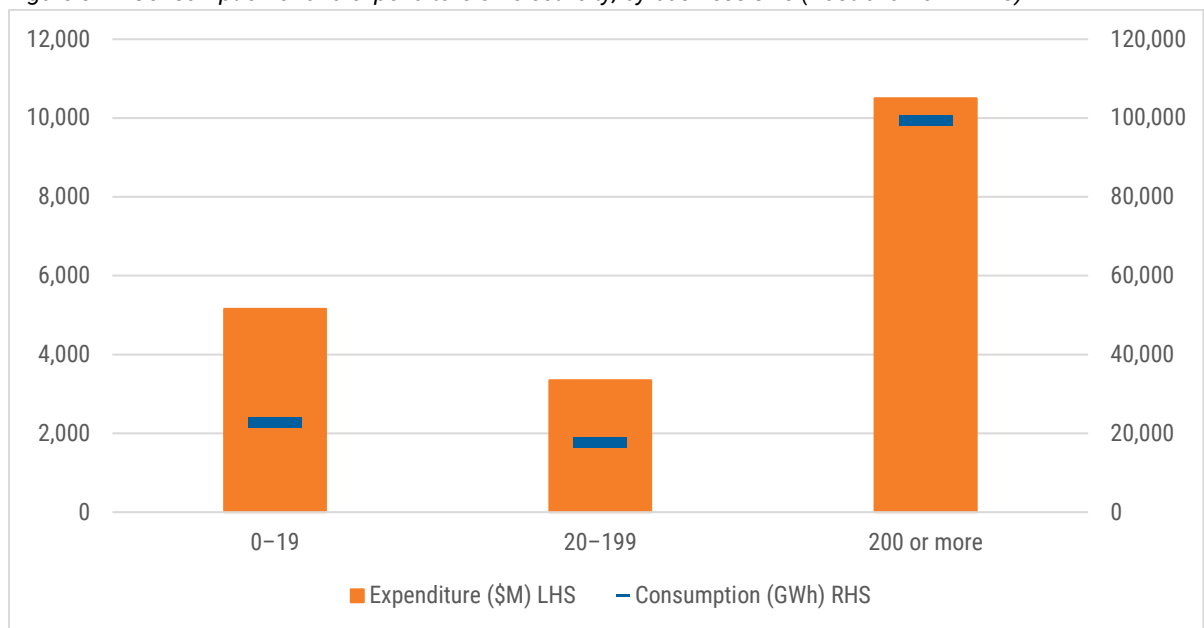
Figure 3-13 Small Industrial Customer (<1PJ pa) – Average Real (\$2017) Gas Price Delivered to country Victoria



Source: Oakley Greenwood (2018) Gas Price Trends Review 2017. COAG Energy Council

A review of electricity requirements by size of business (no. of employees) reveals that small medium enterprises in Australia (under 199 employees) typically consume 19,000 and 23,000 GWh per annum. Large enterprises (over 200 employees) have a much higher consumption demand closer to 100,000 GWh per annum. Business expenditure is significant at a national level, following demand and estimated to be over \$19.000 billion per annum across Australia.

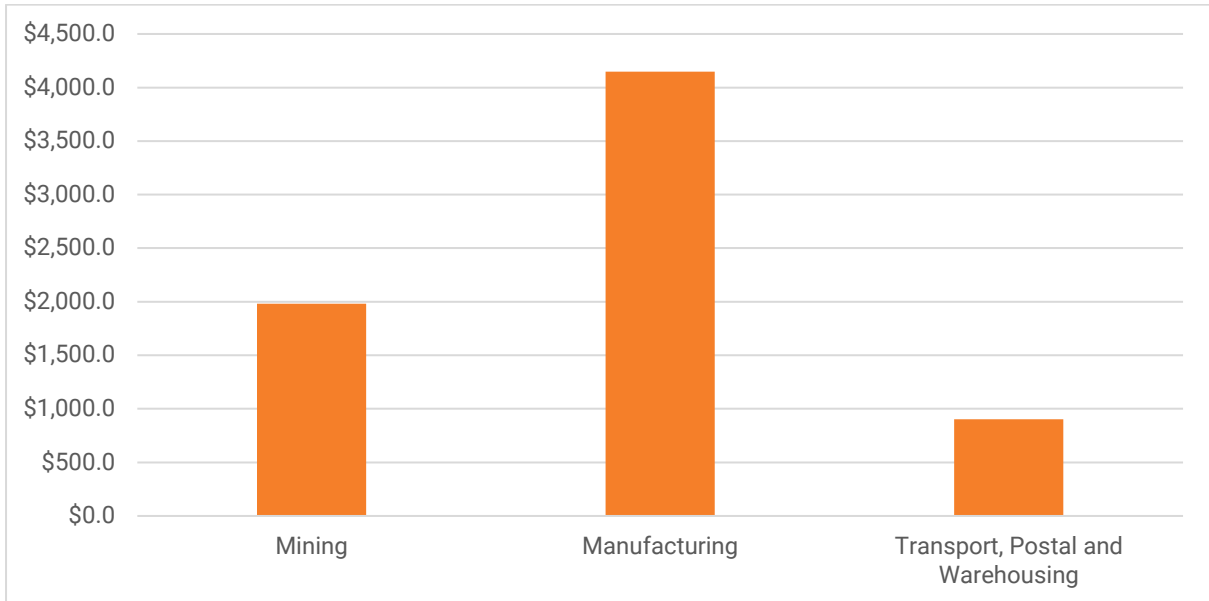
Figure 3-14 Consumption of and expenditure on electricity, by business size (Australia 2014 – 15)



Source: ABS (2016) 4660.0 Energy Use, Electricity Generation and Environmental Management, Australia, 2014-15.

Mining, Manufacturing and Transport, Postal & Warehousing reflect 56% of electricity consumption by industries in Australia. The annual expenditure on electricity supply for Australian manufacturing is estimated to be 4.150 billion (Figure 3-15).

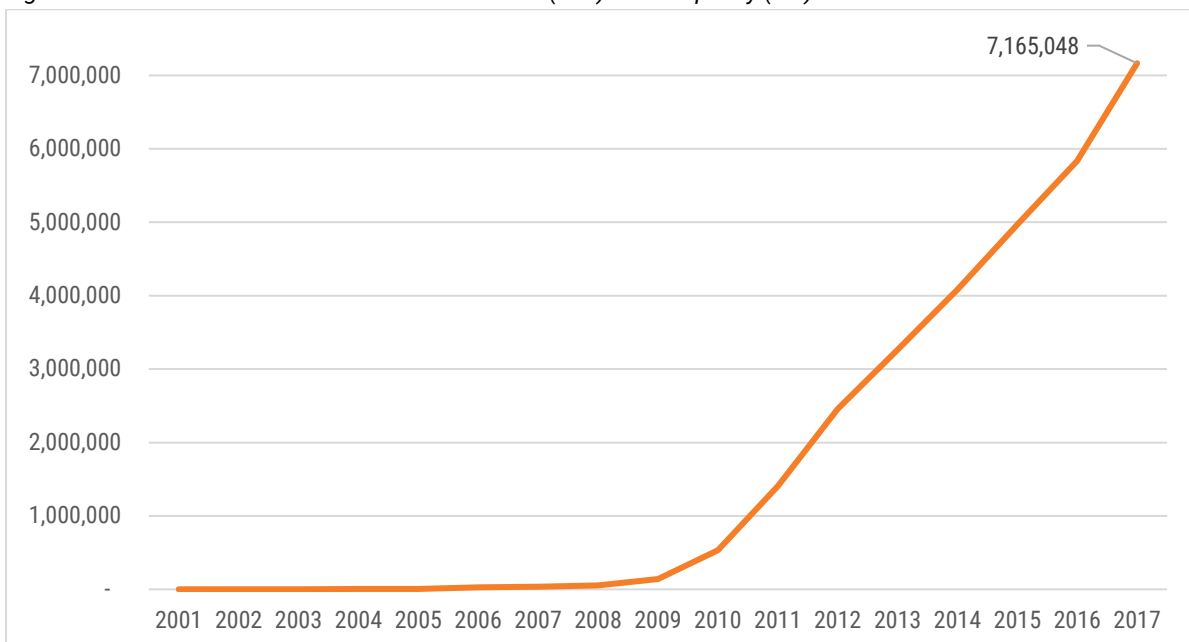
Figure 3-15 Consumption of and expenditure on electricity (\$M), by business size (Australia 2014 – 15)



Source: ABS (2016) 4660.0 Energy Use, Electricity Generation and Environmental Management, Australia, 2014-15.

Coupled with changes in energy pricing for gas and the existing electricity expenditure profile of industry has been the significant increase in total capacity of renewable energy within the Australian energy market. For example, since 2001 the total capacity of energy generated through photovoltaic has increased from essentially a non-existence generation base to over 7,000,000 kW (Figure 3-16). Further capacity generated by wind, geothermal and hydroelectricity also contribute to diversified renewable energy supply.

Figure 3-16 Australian PV installations 2001 – 2017 (Dec): total capacity (kW)

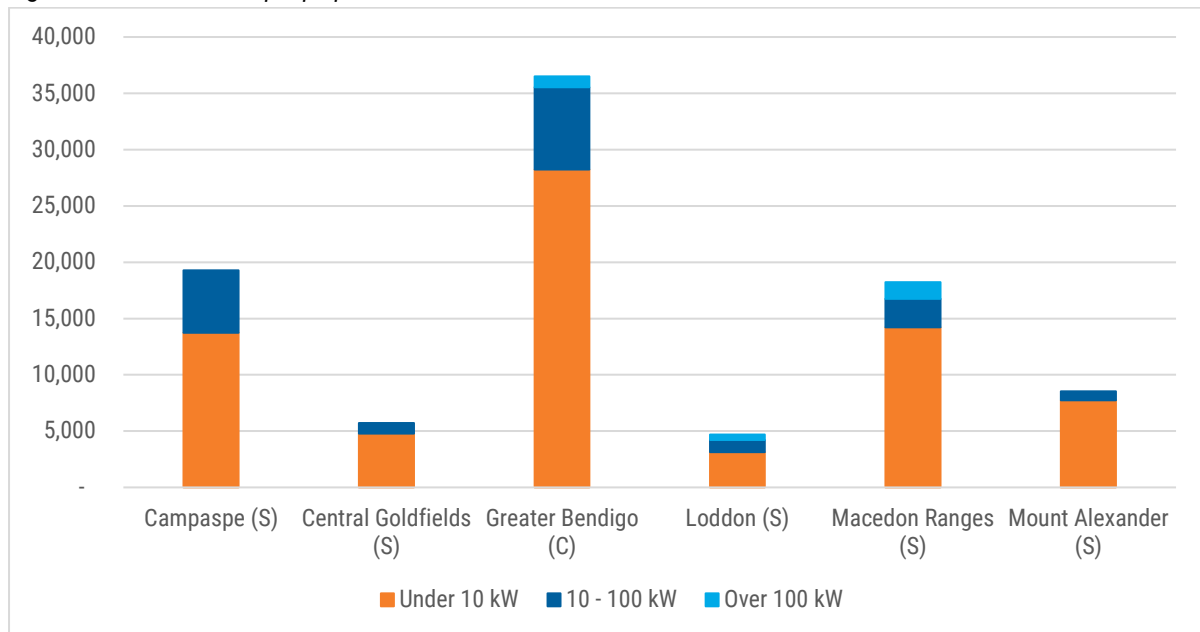


Source: Australian PV Institute, sourced from Clean Energy Regulator.

The take up in renewable energy as a key component of the Australian Energy supply market has significant momentum. Coupled with further initiatives toward de-centralised solution and local large scale battery storage, there is a need for regional policy to respond to demands by Business and communities for sustainable and lower cost energy solutions.

There is a strong legacy of both pilot solar projects and household take up in Central Victoria. Recent funding has provided benefits for Woodend, Newstead and Bendigo through Community Energy grants to assist with development of Community renewable hubs. However, solar energy generation in the Loddon Campaspe has predominantly supported smaller scale installations mainly for household consumption. Figure 3-17 demonstrates photovoltaic installations across the region. 77% of installations are under 10 kW, 20% are 10 kW to 100 kW and only 3% of installations are over 100 kW.

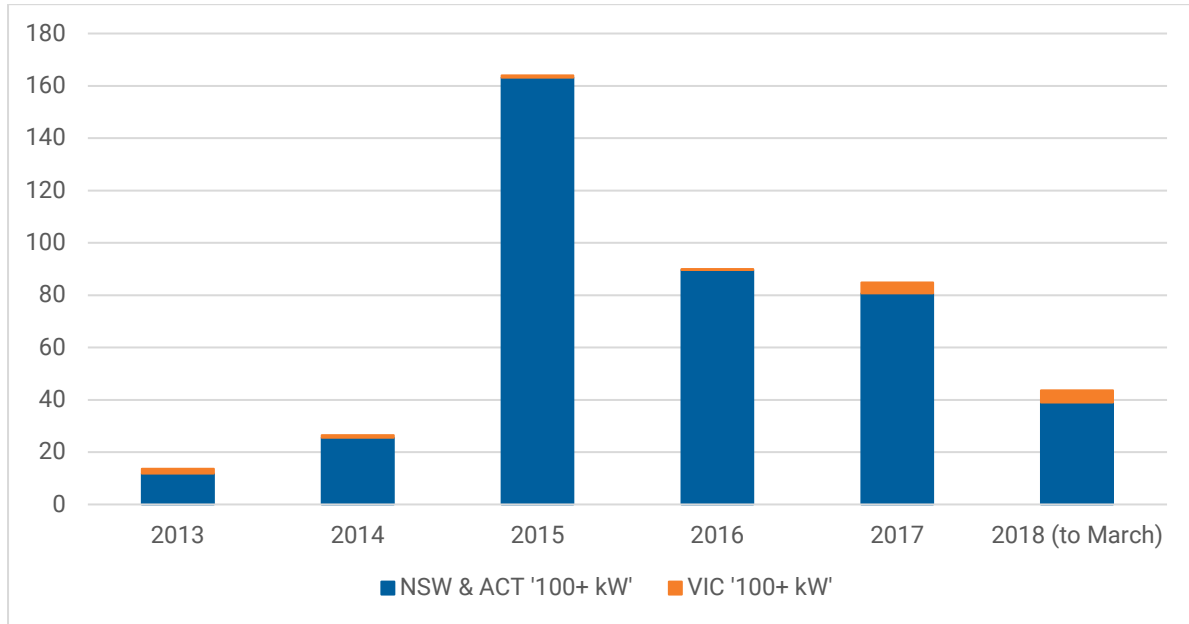
Figure 3-17 Loddon Campaspe photovoltaic installations



Source: Australian PV Institute, sourced from Clean Energy Regulator.

Despite recent State policy efforts to address the mix of power within the region, Victoria is largely behind its most comparable State counterpart New South Wales (including the ACT) in production of large scale systems of 100+ KW (Figure 3-18). It is expected that demand for solution to either feed into the grid or provide local de-centralised solutions is best aligned to the key growth industries across manufacturing sector whose energy footprint represents is the key industries in the Loddon Campaspe.

Figure 3-18 Victorian and New South Wales (incl. ACT) photovoltaic installations over 100 kW

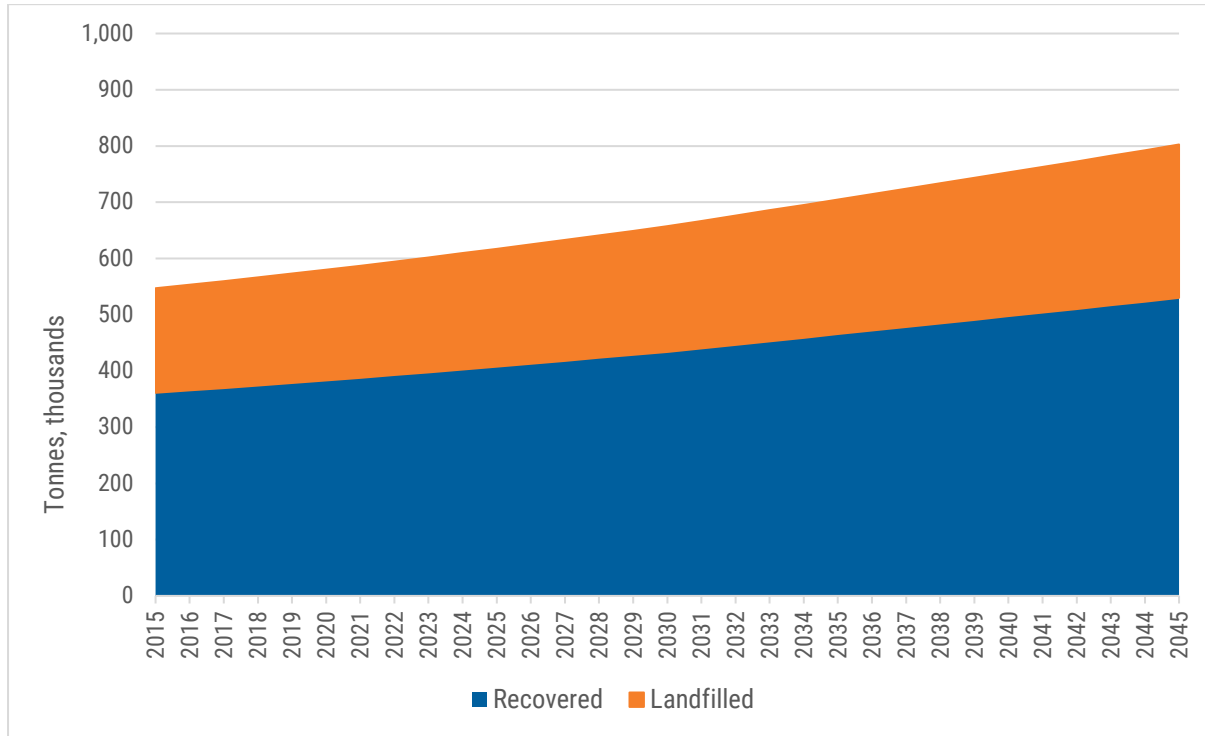


Source: Australian PV Institute, sourced from Clean Energy Regulator.

The recent international investment intervention in South Australia has proven there are modes of delivery to disrupt national energy markets. Within the Loddon Campaspe there opportunity to build on the *Large Scale Solar Feasibility Study* commissioned by Victorian Greenhouse Alliance to leverage development opportunities particularly in the north of region. In addition, the local appetite amongst manufacturers warrants further investigation around de-centralised and local solutions that ensure lower cost solutions and in turn promote economic development.

Waste is often the single largest budget item for Local Government, the management of waste is too often on the cost side of the regional economic development ledger. Assessment by the Loddon Mallee Waste and Resource Recovery Group (LMWRRG), indicates that the broader regions waste generation is projected to increase to over 800,000 tonnes per annum. On a business as usual scenario it is expected that 2/3 of this waste will be recovered and 1/3 will be landfilled (Figure 3-19).

Figure 3-19 Projected tonnes of waste to be generated in the Loddon Mallee region, business as usual, 2015-45



Source: Victorian Regional Waste and Resource Recovery Database v3; waste and resource recovery data provided by Sustainability Victoria

Projections for the region are linear and based on forecast population growth, with the bulk of waste in the Loddon Mallee expected to be generated through the growing populations of the Loddon Campaspe, in particular Greater Bendigo and other southern Local Government Areas.

Despite waste recovery efforts and targeted industry sector work there remains opportunity to expand efforts for a waste to energy solution. Preliminary review of opportunities to find the right scale of waste to energy solutions demand large amounts of material to justify the significant capital costs for technology and infrastructure. In the context of the Loddon Campaspe (or broader Loddon Mallee) region waste solutions that also promote investment opportunities require a regional scale solution.

### 3.4.3 Opportunities

Further investigations to unlock the feasibility of existing studies and unidentified opportunities in the region should be a focus for economic outcomes in resource management. A range of opportunities were identified throughout this emerging priority including:

#### Regional resource solutions for economic development

- Further regional site assessment to support innovation and technology solutions identified through Market Sounding Process run jointly by regional Waste & Resource Recovery Groups is suggested as a key action for the region.
- Proposed organics reprocessing facility, proposed by Vermi-remediations during the LMWRRG Market Sounding process is being considered as a future resource recover option in the current Loddon Mallee Waste and Resource Recovery Implementation Plan<sup>5</sup>.
- Long term feasibility of waste to energy plant is being finalised for Castlemaine focussed on project partners including Don KR, Coliban Water, Mount Alexander Shire Council that has potential for emission improvements, local employment and economic benefit.
- Opportunity exists to build on *Large Scale Solar Feasibility Study* commissioned by Victorian Greenhouse Alliance to leverage development opportunities particularly in the north of region.

#### Advocacy & engagement

- International investment has proven to expedite innovative solutions in other State jurisdictions. Develop advocacy and engagement strategy to address regulatory barriers. Energy and waste projects have been identified in the region and some are awaiting site approval or finance. Advocacy and engagement to unlock these opportunities.

#### Explore innovative financing

- Sustainability Victoria has created an innovative financing solution for energy efficiency through the Environmental Upgrade Finance mechanism. As a region, Loddon Campaspe could explore and look to capitalise on innovative regional financing models through lens of regional development. This has been successfully applied for Bendigo Community Bank Model and could unlock feasible business solutions to waste and energy requirements at a regional scale.

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<sup>5</sup> Loddon Mallee Waste and Resource Recovery Group Victoria (2017) Loddon Mallee Waste and Resource Recovery Implementation Plan.

### 3.5 EP 5: Creating the most liveable Regional City in Australia

*Policy alignment: Smart Cities & National Employment Innovation Clusters (NEIC) | City Deals | Plan Bendigo | Plan Melbourne*

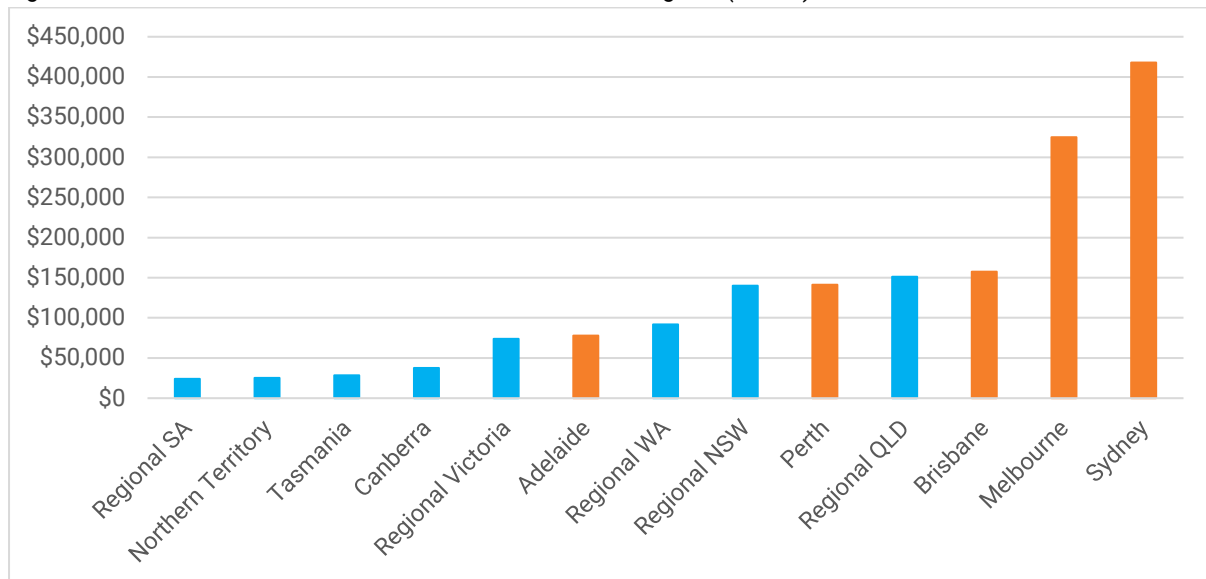
#### 3.5.1 Summary

- Bendigo is the Loddon Campaspe’s key regional city. In 2031, the proportion of Loddon Campaspe’s population will grow from 72% to 75% within the broader Loddon Mallee region. Bendigo will absorb most population growth in the region. ‘Working age’ is forecast to grow, but +65 represent 25% (93,010) of population by 2031.
- Regional assets within Bendigo are considered both good for Bendigo and the region. This includes recent investments in hospitals, galleries, theatres and recreational facilities. Investment in arts, cultural activities and recreational assets underpin the liveability of the region.
- Bendigo has continued to expand its economic base and diversity of activity. Over 10,000 jobs were added to Greater Bendigo between 2011 and 2016. Bendigo is positioned to build on high level of contained employment and continue to diversify the industry existing base.
- The strength of Bendigo as a regional city is most clearly demonstrated through cross organisational governance and partnership.
- Private investment has been concentrated in growth area housing and industry. It is not as evident in the Bendigo CBD.
- Significant strategic planning and infrastructure delivery has been identified through Plan Bendigo.
- Bendigo must perform a regional metropolitan role and provide a central location for employment, education, health services and access to arts and cultural activity as a legitimate alternative to Melbourne. Access to high quality education and health will be critical for the region’s growing population base.

#### 3.5.2 Context

The role of urban settlement is pervasive in the context of the most sparsely populated continents in the world. However, fundamentally Australian’s are urban dwellers. This population distribution is reflected in the economic contribution of Australia’s cities which demonstrates as the role of capital cities driving economic performances (Figure 3-20).

Figure 3-20 Economic Performance of Australia’s Cities and Regions (\$ ‘000)

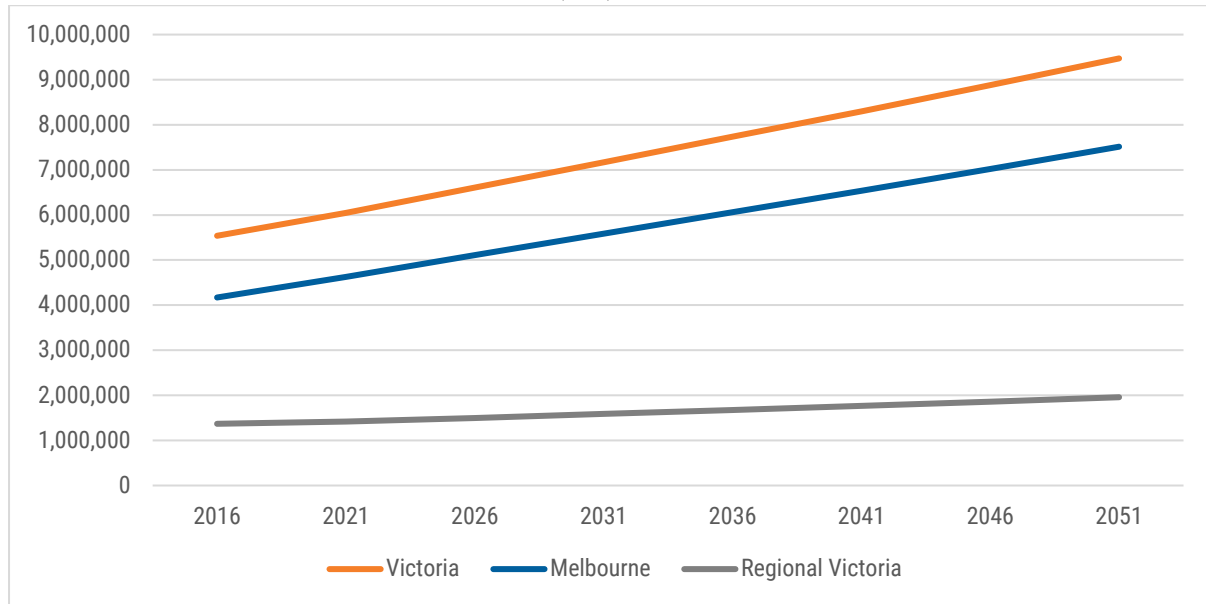


Source: SGS (2017) Economic Performance of Australia’s Cities and Regions

In Victoria, this economic impact is forecast to grow particularly as the stimulus created through population growth directly relates to increased demand for housing and construction and in turn household driven services. Ultimately, additional population drives additional demand for employment.

While population within Victoria is forecast to grow across the State, projected to reach close to 10 million people by 2051, the change in distribution of growth will have the greatest impact across rural and regional Victoria. Figure 3-21 demonstrates the projected population increase in the State against the total change in population expected throughout Greater Melbourne and Regional Victoria.

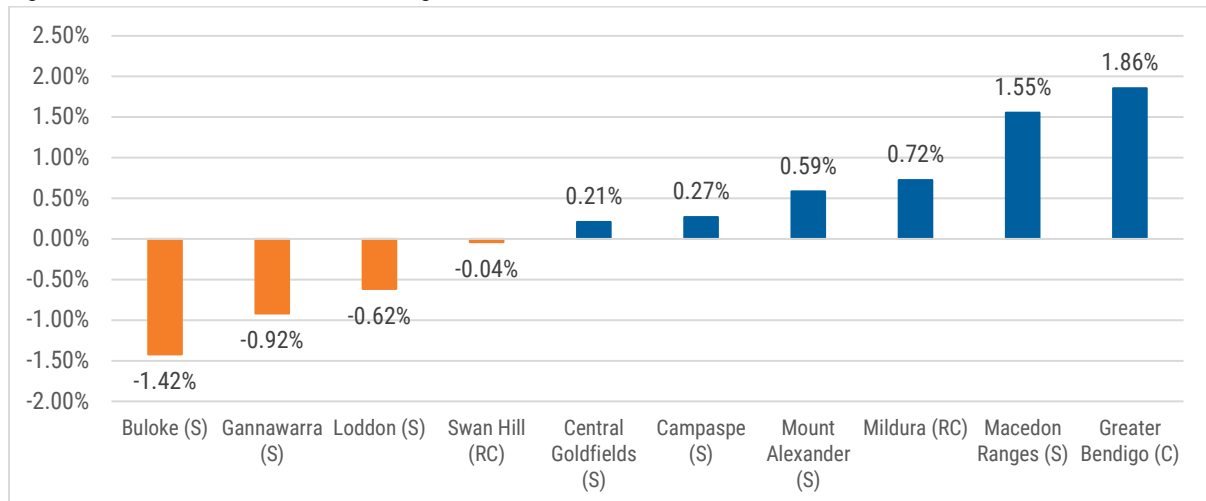
Figure 3-21 VIF 2016 Estimated Resident Population (ERP) and components of change



Source: Victorian In Future (2016), compiled by REMPLAN.

While, the evidence suggests Regional Victoria will decrease its proportional share of Victoria’s population from 24.7% in 2016 to 20.7% in 2051, the impact is greater in rural areas. Of note, is the urban growth impact that is being experienced in Greater Melbourne, Greater Sydney and South East Queensland is replicated on a smaller scale at a lesser rate in the Loddon Mallee. That is while the key townships in the Calder Corridor are all forecast to receive population growth, the regional City of Bendigo expected to sustain a higher rate of growth, close to 1.9% on an annual average basis (Figure 3-22).

Figure 3-22 2011 – 2031, 20 Year Average Growth Rate



Source: Victorian Government (2016) Victoria in Future, compiled by REMPLAN.



The Local Government Area (LGA) Greater Bendigo (C) supports a population of over 113,000<sup>6</sup> and over 47,000 local jobs. Total Output in the Greater Bendigo is estimated at \$13.703 billion. The top three sectors by Output in the LGA are Manufacturing (16.4%), Construction (14.4%) and Financial & Insurance Services (9.8%). While the employment base in Bendigo supports both regional and local residents, the resident working population represents 86.9% of these jobs. The top five employing sectors within Greater Bendigo support over half the local employment base representing 27,260 jobs. The sectors include Health Care & Social Assistance (18.2%), Retail Trade (12.1%), Construction (9.5%), Education & Training (9.2%) and Manufacturing (8.0%).

Local Government policy development is underway that aims to support diverse and strong local workforce through recognition of employment and innovation clusters across key local industry sectors including Finance, Health, Business Services and Manufacturing in Bendigo. In addition, Bendigo increasingly supports visitors and residents alike as the key regional city and destination within Central Victoria. Great cities support a density of population that stimulates innovation and creativity. The combination of regional scale cultural institutions and events, high quality built and natural heritage, burgeoning professional services and creative industries are centred around first class regional city assets.

This alignment of assets and industry are intrinsically linked with economic development practice and Employment & Innovation Cluster theory. Three assets characteristics have been linked with great cities that promote innovation and employment (Table 3-2).

Table 3-2 Employment & Innovation Cluster Assests, Characteristics & Benefits

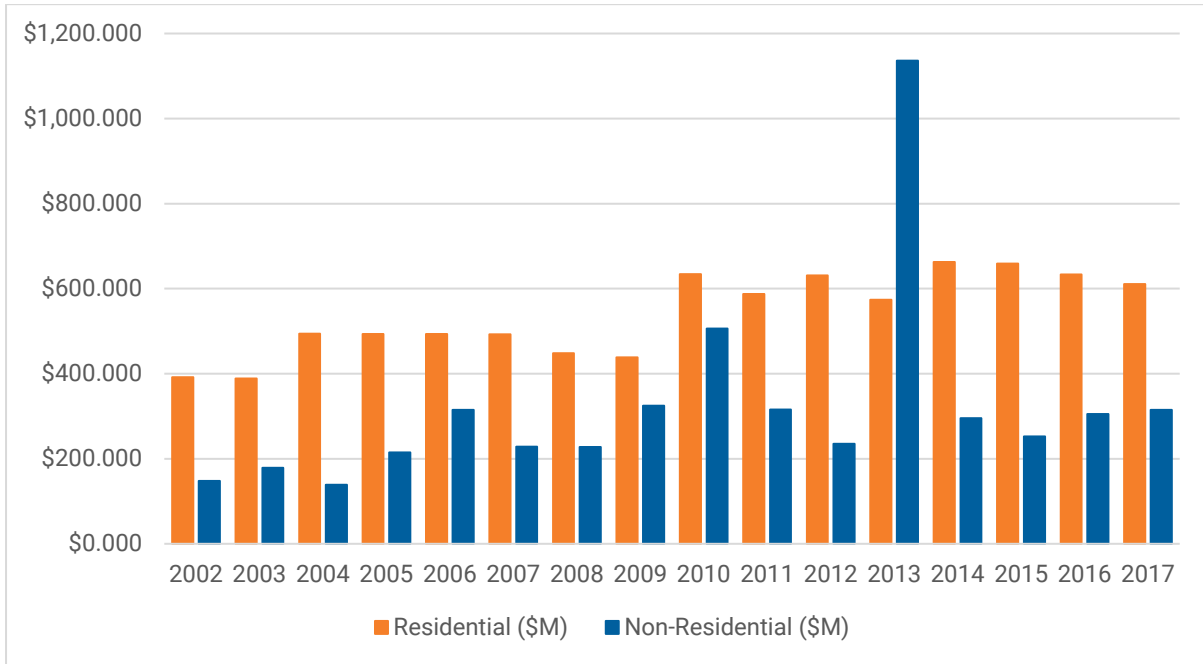
Asset category	Physical characteristic	Economic Benefit/s
<b>Economic</b>	Concentration of: <ul style="list-style-type: none"> <li>• Large employing businesses</li> <li>• Health &amp; Education Institutions</li> <li>• Government &amp; non-Government Organisations.</li> </ul>	Demonstrable concentration of highly skilled, driven professionals that enables or has the potential to develop a culture and outcome focussed business environment centred around innovation.
<b>Physical</b>	<ul style="list-style-type: none"> <li>• Public and privately buildings,</li> <li>• Public spaces, streets, and infrastructure</li> </ul>	High quality built environment where physical assets are designed and structured to promote increased levels of connectivity, collaboration, and innovation.
<b>Networking</b>	<ul style="list-style-type: none"> <li>• Interaction and relationships between industries, professionals, local businesses and institutions</li> </ul>	Sharing of ideas, information and ultimately development of economic activity where increased relationships promote or accelerate better ideas and outcomes.

Source: Brookings Institute, adapted by REMPLAN.

The role of strong growth is demonstrated in building approvals data that is dominated by the effect of Greater Bendigo (Figure 3-23). This is most notable in 2013 that demonstrates the new Bendigo Hospital build. Sustained building activity has occurred for non-residential buildings, however it is the role of residential building construction that underpins much of the local construction activity.

<sup>6</sup> ABS 2017 Estimated Resident Population is 113,617.

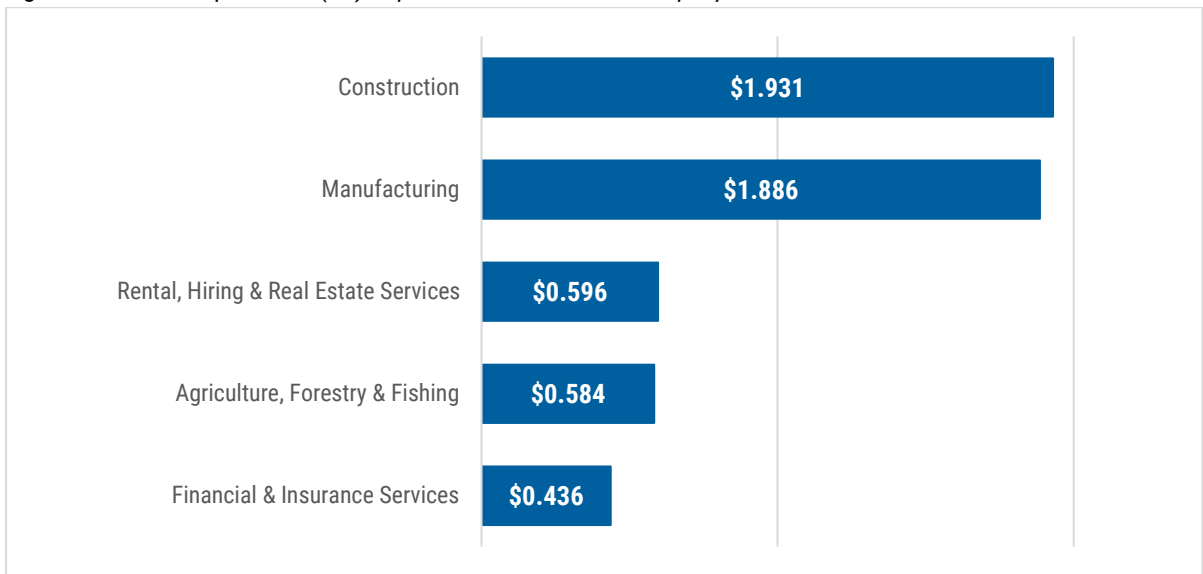
Figure 3-23 Building Approvals – Loddon Mallee Local Government Areas



Source: ABS (2016) Building Approvals, Cat. 8731.0.

The positive impacts of sustained construction activity in the Loddon Campaspe is demonstrated through local supply chains. Figure 3-24 provides an overview of the top 5 industry sectors in terms of local expenditure. Local Expenditure data represents the value of intermediate goods and services purchased by local industry sectors within the region. Construction, Manufacturing and Rental, Hiring & Real Estate (essentially the services demanded by Owners of Dwellings) all drive significant local totalling over \$4.400 billion per annum. Agriculture Forestry and Fishing and Financial and Insurance Services also drive significant local demand for goods/services.

Figure 3-24 Local expenditure (\$B) Top five sectors Loddon Campaspe



Source: REMPLAN.

The investment in regional infrastructure has been significant within Bendigo over the last five to eight years. This has included public investment in the CBD through upgrade to the Library, Multi-storey Carparks and Ulumbarra Theatre and new Bendigo Hospital. In addition, the increasing opportunity to leverage the tripartite investment in the Bendigo Airport continues, with the City of Greater Bendigo

recently seeking supporting funding for upgrade of the Airport Terminal building to unlock Regular Passenger Transport (RPT) and future business land development for Stage 3 of the Airport Precinct.

The investment in a new Terminal Building once operational, has the potential to deliver economic benefits beyond the construction phase through:

- increased income through growth in fee revenue supporting local employment
- increased visitor expenditure resulting from additional visitation to the region
- Time saving from not having to travel to Melbourne airports.

Further recreational and cultural assets also included the upgraded Bendigo Stadium and Kangaroo Flat Swimming pool complex, all of which continue to provide improved assets for residents of Bendigo and regional catchments beyond the municipal border.

### **3.5.3 Opportunities**

Significant policy development has occurred at the Local Government level, however there remains opportunity to continued strategic alignment.

#### **Regional Employment and Innovation Policy**

- Support the implementation of priority projects identified in Plan Bendigo that promote development of the regional city and a focus on employment, education, health services, access to arts and cultural activity.
- Continue working on local projects including; City deal (regional innovation and energy), Bendigo Hospital (digital health transformation), Food (production, manufacturing, gastronomy story), Bendigo Airport (hub for national/regional network), and Marong Business Park (centre of exc – sustainable advanced manufacturing)

#### **CBD Renewal = Public & Private**

- Capitalise on renewed investment in CBD renewal and work to leverage greater level of private investment. For example, leverage Government investment of \$16M for GovHub in Bendigo to ensure broader private opportunities.

#### **Expanded Tertiary Education**

- The role of tertiary education is central amongst cities that are positioned for innovation and employment. The presence of three Universities within Bendigo is significant, however the employment base provided by these institutions could represent a higher proportion of total employment.
- Initiatives that support the growth and expansion of tertiary education as both a supplier of talent and future workforce, home of research and development and key local employer should be supported.

#### **Leverage regional infrastructure**

- Cultural activities and events that continue to support greater liveability, provide improved access to the arts and creative activities and continue to build the brand of Bendigo should be supported, leveraging the Arts Precinct and Ulumbarra Theatre.
- Securing the upgrade of the Bendigo Airport Terminal building to unlock Regular Passenger Transport (RPT) and future business land development for Stage 3 of the Airport Precinct will be a significant regional development outcome.
- Access to the diversity of services and employment within Bendigo for the broader region will be important. The Bendigo Metro Rail project has undergone policy development and feasibility studies. Further work to unlock this investment with intra-regional rolling stock on existing rail assets could be transformative.

### 3.6 EP 6: International economic relationships

*Policy alignment: Creative Industries Strategy | Future Industries | National Innovation Agenda | International Education Sector Strategy | Visitor Economy Strategy*

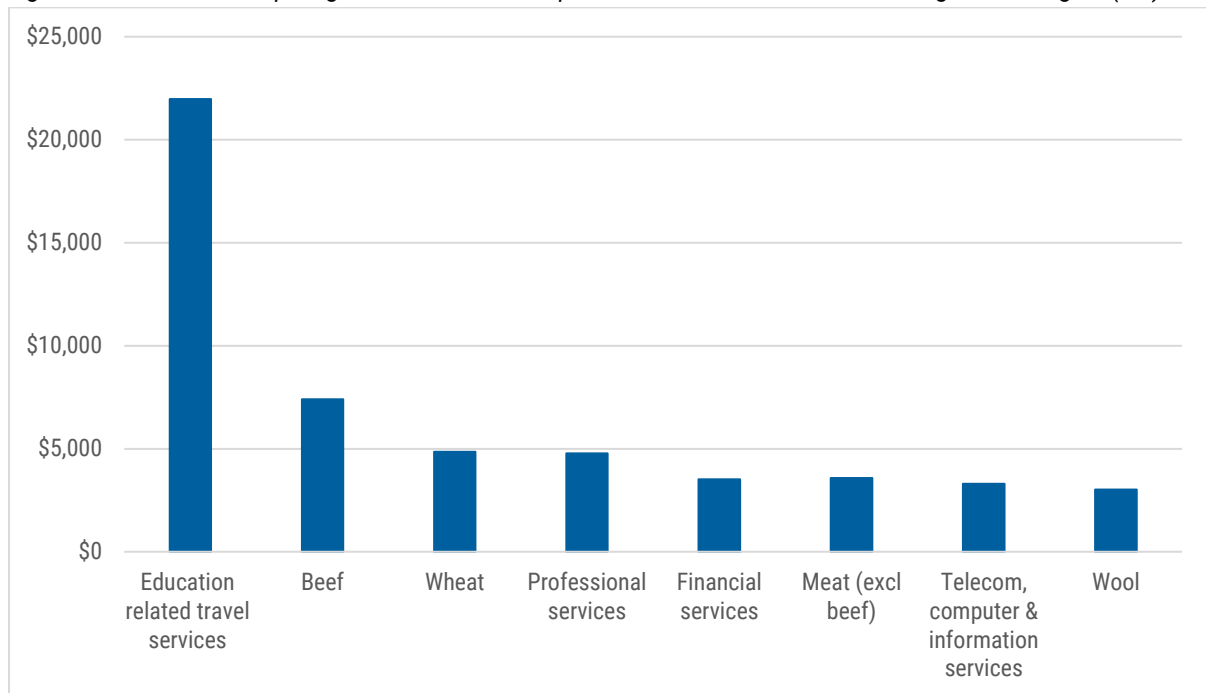
#### 3.6.1 Summary

- Art institutions and cultural events like the Bendigo Art Gallery and Castlemaine State Festival continue to promote high levels of global engagement.
- Many Loddon Campaspe producers and manufacturers extend relationships internationally through supply chains and markets.
- Melbourne and Victoria are known for global liveability and high-quality education.
- International visitation to regional Victoria increased by 9.8% in 2017 and by 40.7% in Daylesford / Macedon Ranges.
- Regional international expenditure represents just 7% of total international expenditure with most visitor expenditure occurring in Melbourne.
- Engagement internationally has been recognised to create economic benefit through: access to talent, leveraging significant tourism outcomes; expanding export of goods & services
- There is strong alignment between the top international goods and services exports and Loddon Campaspe’s high value manufacturing, tertiary education, health services and visitor economy capability.

#### 3.6.2 Context

There is significant opportunity to broaden and deepen international relationships to support economic growth in the region. Review of the top goods and services exports reflect reliance on regional areas and strong alignment with the Loddon Campaspe’s regional strengths. 8 of the top exporting sectors match closely the industry sectors within the region with a particular focus on international education, agriculture, food production, professional and financial services Figure 3-25.

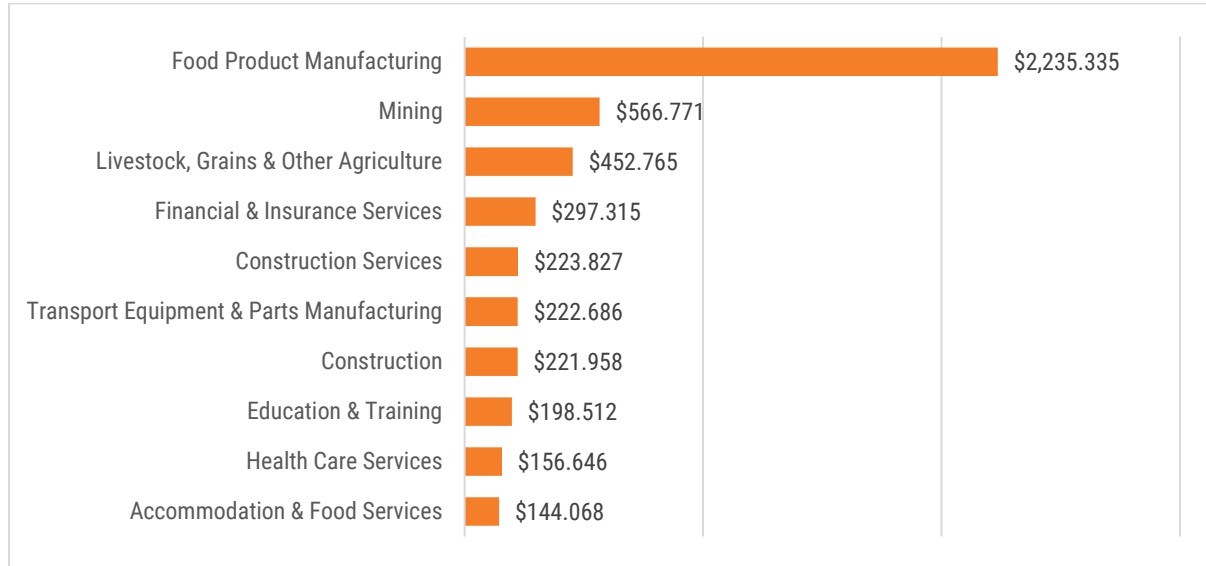
Figure 3-25 Australia’s Top 20 goods and services exports - Selected industries reflect regional strengths (\$M)



Source: DFAT 2018. Based on ABS trade data on DFAT STARS database and ABS catalogue 5302.0 (Jun-2017).

\$6,111 Billion of regional exports<sup>7</sup> is generated from the Loddon Campaspe. While this includes goods and services produced in the Loddon Campaspe and sold to both domestic and international exports outside of the region, there is strong alignment across key regional industry sectors with demonstrated export demand. Figure 3-26 highlights the top 10 regional export markets demonstrating the importance of food product manufacturing, mining, livestock and other agriculture and financial and insurance services. While some of the export markets are supporting regional demand, for example construction services and health care services. Well established international relationships exist across mining and transport equipment & parts manufacturing within the Loddon Campaspe.

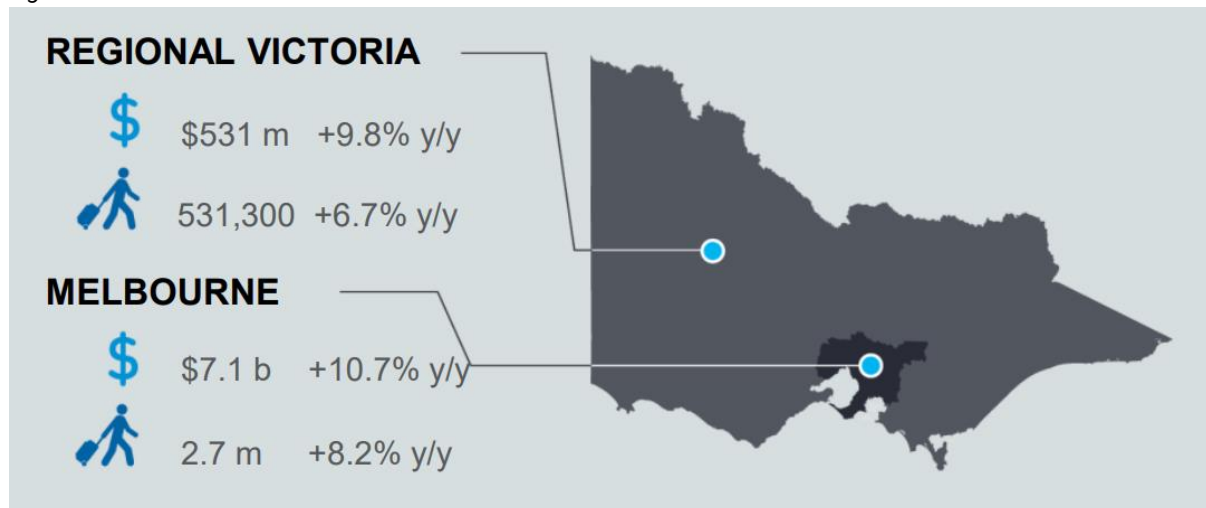
Figure 3-26 Top 10 Regional Exports (\$M) – Loddon Campaspe (45 Sectors)



Source: REMPLAN.

Victoria is a destination for international visitors with 2.7 million visitors coming to Melbourne, spending \$7.1 billion dollars. Regional Victoria attracts 531,300 international visitors, who spend \$531 million annually. Opportunity exists to package the regional tourism offer for maximum economic impact.

Figure 3-19 Victoria's International Tourism Performance



Source: Victorian Government (2016) International Visitor Survey Results (year ending December 2017). DEDJTR.

<sup>7</sup> Regional Exports data represents the value (\$) of goods and services exported outside of the defined region that have been generated by businesses / organisations in each of the industry sectors within the region. The report includes both domestic and international exports.

Local engagement indicates there is a strong point of difference in the Loddon Mallee. While not as clearly evidenced through dramatic landscape or abundant of natural resources, the diversity of the regions capability is arguably unmatched throughout regional Australia.

Strong transport connections to the economic engine of Melbourne, significant human capital in areas of finance, education, government and manufacturing. Accessibility to the largest food fibre resources in south-eastern Australia.

However, a complete product offer or demonstrated international scale investment opportunity has not been described. Indeed, the issue of scale when compared with metropolitan areas of the nation potentially limits the opportunity to attract international engagement and subsequent investment.

### 3.6.3 Opportunities

Increasingly governments at all level have constrained budget contexts with an increasing focus on core areas of health, education and transport infrastructure driving a significant expenditure. International investment and relationships can be transformative, and offer an opportunity to expedite significant private sector investment capability and capital. Opportunities include:

#### International Engagement Strategy

- Develop a Loddon Campaspe International Engagement Strategy. The development phase could involve review of formal international engagement frameworks (Sister City relationships | MOU's | Friendship Agreements) to identify real economic development opportunities in the form of international export markets, Two-way trade, direct foreign investment and attracting visitors and retaining talent/skills in the region.
- Identify and develop a brand / regional story that recognises the unique regional qualities of Loddon Campaspe to support strengths in manufacturing export and high quality liveability for international visitors and investment.
- Align Loddon Campaspe economic capability and priority export sectors with Victorian Government strategies and initiatives (eg. *Advancing Victoria's Manufacturing, Export Skills program and targeted sector based trade missions, Creative Industry Strategy and Food & Fibre Sector Strategy*)
- Strengthen the linkage between Calder Innovation corridor and Bendigo (most liveable regional City) priorities to promote international opportunities aligned with creative industries, education and tourism.
- Identify priority international markets that are aligned to existing strengths, existing relationships, cultural connections and future economic growth potential.
- Identify blockages in agreements, planning or infrastructure requirements that inhibit international economic opportunities.

## 3.7 EP 7: Forests, heritage & landscapes for visitors & residents

*Policy alignment: Victorian Visitor Economy Strategy | Loddon Campaspe Regional Significant Trails Strategy | Dja Dja Wurrung Recognition and Settlement Agreement | Heritage Victoria Framework of Historical Themes*

### 3.7.1 Summary

- Access to high quality built and natural environment underpins the regions liveability and supports a strong visitor economy.
- Victoria's tourism regions within the Loddon Campaspe include both the Macedon Ranges / Daylesford Region and the Goldfields region.
- The visitor economy within the region contributes approximately 3.7% to total Gross Regional Product, 'Accommodation and Food Services' accounts for \$366.415 million (or 39.7% of total tourism output)
- There is a constructive working relationship with the Dja Dja Wurrung people, formally established through the signed Recognition and Settlement Agreement that incorporates land management and opportunities for tourism and enterprise for traditional owners.
- The region has a strong cultural heritage that extends across transport networks, and the network of cities and towns between Kyneton, Maryborough, Castlemaine, Heathcote, Bendigo and Echuca.
- The diversity of landscape values and accessibility of forests and rivers is significant. Extensive networks of tracks and trails exist and are priority investments for the region, which includes the Goldfields Track, Bendigo Bushland Trail and O'Keefe's Rail trail. In addition the ability to access the Murray River and other waterways underpins future tourism opportunities.
- Iconic natural assets including Mount Macedon and Hanging Rock that support activation through events require necessary infrastructure and an asset management approach to their management.

### 3.7.2 Context

Access to high quality built and natural environment underpins the regions liveability and supports a strong visitor economy. The combination of natural features throughout the region include Mount Macedon, Hanging Rock, Mount Alexander and the Greater Bendigo National Park provide high quality landscape values and also support a range of existing food, wine and tourism assets.

The Loddon Campaspe is located within two of Victoria's tourism regions, both the Macedon Ranges / Daylesford Region and the Goldfields region. However, beyond these nominated regions is a strong link to food, wine and accessible tracks and trails.

Linking these assets with the strong cultural heritage and built environment of the region provides a compelling package that contributes approximately 3.7% to total Gross Regional Product through the Visitor economy.

Investment in brand development and destination management will be important for this economic base and to continue to serve as a driver that attracts talent. The rich natural, cultural and historical assets set within the context of a significant network of historic villages from Maldon to Maryborough and Bendigo to Echuca provide a range of tourist offers for domestic and international visitors across both the Cultural Tourism<sup>8</sup> and Adventure Tourism<sup>9</sup> markets. This includes opportunities to: visit history, heritage buildings sites or monuments; go bushwalking or cycling.

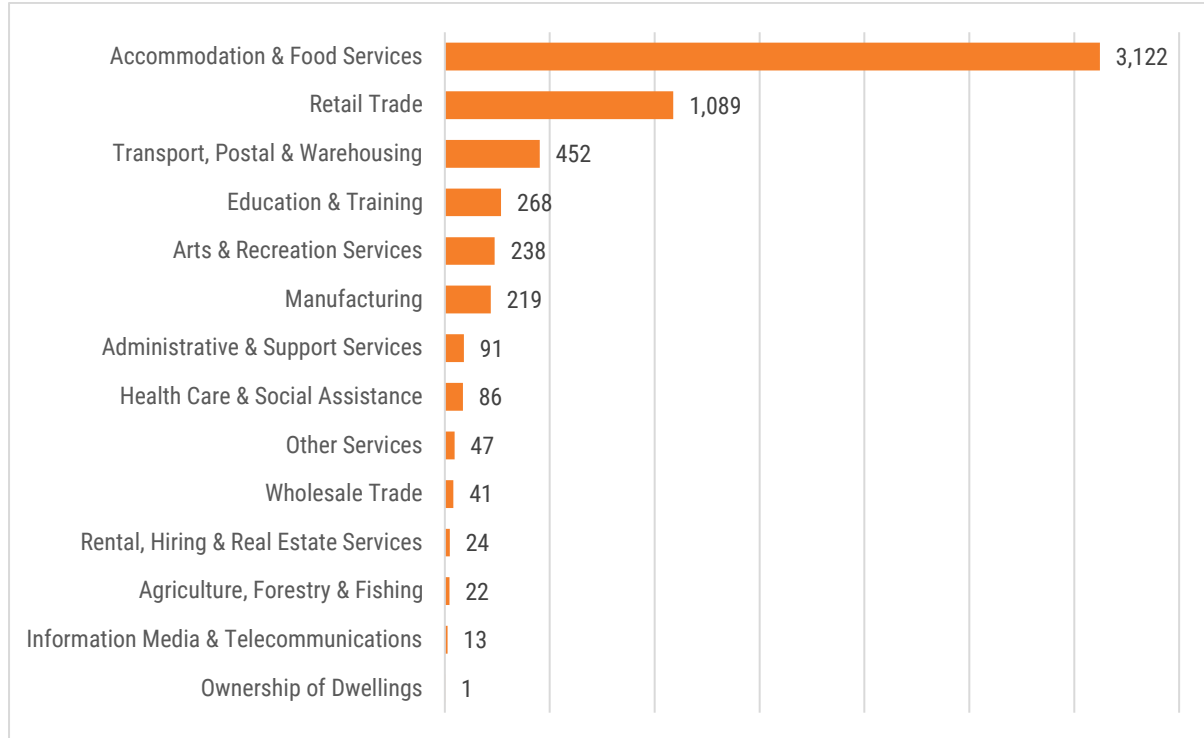
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<sup>8</sup> Cultural visitors are defined as those who attended a theatre performance, a concert or other performing arts, a cultural festival, fair or event; or visited a museum, art gallery, art or craft workshop or studios, and/or a history or heritage site while on their trip to Australia.

<sup>9</sup> Adventure tourism visitors are defined as those who experienced bushwalking or rainforest walks, fishing, scuba diving, snorkelling, surfing, sailing, windsurfing, kayaking and/or other outdoor activities while on their trip to Australia.

The total output estimate for Loddon Campaspe is \$26.176 billion, and the visitor economy (tourism) contributes \$958.242 million (3.7%) of total output. The total tourism related employment estimate for Loddon Campaspe is 5,713 jobs, 45.6% of the jobs are supported by 'Accommodation and Food Services' while Retail trade accounts for 19.1% of employment attributable to the visitor economy in the Loddon Campaspe (Figure 3-27).

Figure 3-27 Employment attributable to the Visitor Economy, Loddon Campaspe.



Source: REMPLAN Tourism Analysis Module.

The Dja Dja Wurrung represent the traditional owner group who have a traditional and cultural association with the Agreement area and now maintain joint management agreement for key parks and reserves throughout the Loddon Campaspe. Opportunities to integrate traditional knowledge, land management and tourism outcomes should be supported in the region. A recent example in the region is the newly created La Larr Ba Guawa Park with 34 kilometres of mountain biking trails. This development involved cultural heritage input from the Traditional owners and naming conventions for the site were developed in partnership with the Dja Dja Wurrung.

The region has a strong cultural heritage formed around the goldfields and development of transport and water pipeline infrastructure. These transport networks extend across a network of cities and towns between Kyneton, Maryborough, Castlemaine, Heathcote, Bendigo and Echuca. The activation and high quality heritage built environment provides a platform for liveability and character. These built environment assets, including heritage facades and character streetscapes that incorporate new development and maintain strong heritage links are aligned to the emerging priorities of the Calder Innovation Corridor that seek to attract talent and visitors to the region.

The regional city of Ballarat has commenced implementation of the UNESCO Historic Urban Landscape approach that recognises the changing nature of cities and regions and the need to preserve heritage while stimulating economic outcomes. This approach has also occurred in South Australia where a World Heritage bid for UNESCO listed for the Adelaide Hills, the Barossa Valley, Mount Barker and McLaren Vale focussed on the unique qualities as a working agricultural region. Both approaches seek to recognise the unique landscape, productive nature and ultimately attract economic development that



is complementary to heritage assets and local employment. The characteristics of change in the Loddon Campaspe including traditional owners, goldfields, forests as resources and now highly liveable network of regional city, towns and villages presents an opportunity to explore this type of approach.

The diversity of landscape values and accessibility of forests and rivers is significant. Extensive networks of tracks and trails exist and are priority investments for the region, which includes the Goldfields Track, Bendigo Bushland Trail and O’Keefe’s Rail trail. In addition the ability to access the Murray River and other waterways underpins future tourism opportunities.

Figure 3-28 Hanging Rock Event Management



Source: [www.visitmacedonranges.com.au](http://www.visitmacedonranges.com.au)

In addition, iconic natural assets including Mount Macedon and Hanging Rock that support activation through events require necessary infrastructure and an asset management approach to their management. As these assets leverage both natural assets and renewed media interest stimulated through Amazon Prime’s remake of Picnic at Hanging Rock, the need for appropriate management of peak visitation is also required for successful staging of large scale music concerts.

Figure 3-29 Image of Picnic at Hanging Rock (2018)



Source: Prime Amazon 2018

### **3.7.3 Opportunities**

The natural and built environmental assets underpin the cultural history and liveability of the Loddon Campaspe. High quality assets extend across the region and the economic statement should reflect the importance of these assets for future economic growth.

#### **World Heritage classification**

- UNESCO frameworks are currently being explored as a mechanism to drive tourism economic benefit while ensuring longer term sustainable development outcomes for natural and built environments. The alignment of the Loddon Campaspe's assets should be explored to understand the cost benefit scenario for pursuing classification of the region.

#### **Cohesive tourism product**

- The region benefits from support by Visitor Victoria through integrated marketing for both the Macedon Ranges / Daylesford Region and the Goldfields region. There is strong alignment between nominated regions through food, heritage, wine and accessible tracks and trails that could be explored as a consolidated tourism product offering.

#### **Traditional owner partnerships**

- Supporting economic development in locations that is supported by the Dja Dja Wurrung and Yorta Yorta traditional owners may enable opportunity for indigenous enterprise opportunities across natural and cultural locations in the region.

#### **Cities, Towns & Villages**

- Strong alignment exists between the initiatives proposed in the Calder Innovation Corridor and Forests, heritage & landscapes. Investment that supports heritage architecture of towns and villages from Maryborough to Kyneton, Castlemaine and Bendigo are important to promote high quality urban design, active town centres and community infrastructure attracts talent and visitors.

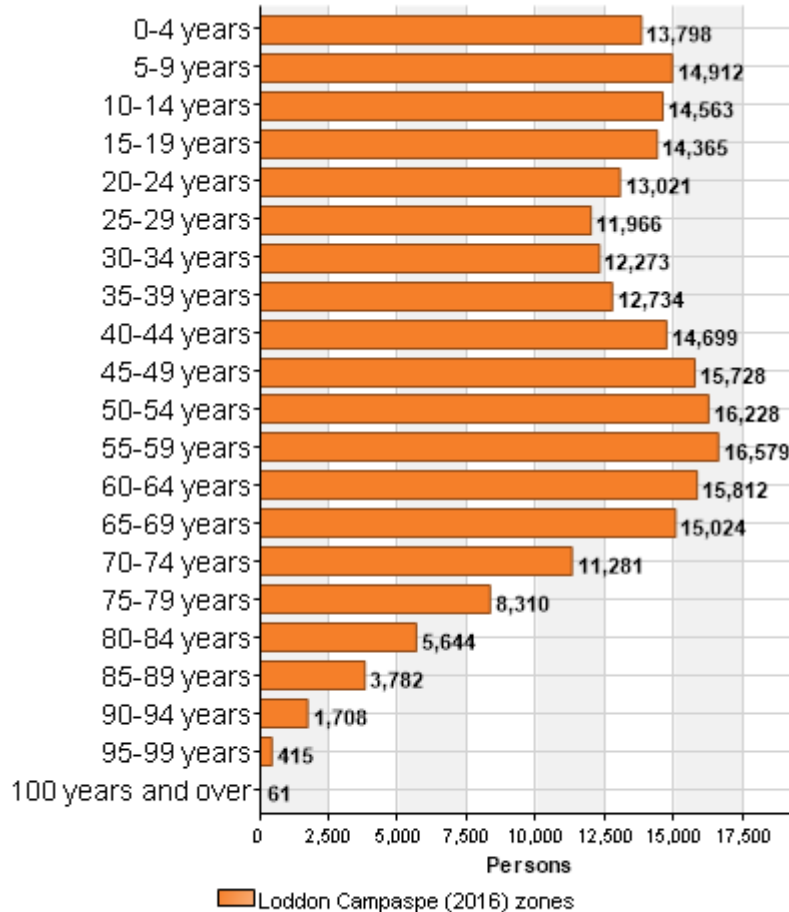
## Appendices

### 1 Demographics

#### 1.1 Loddon Campaspe Population

The total number of people usually resident in the Loddon Campaspe region in all age cohorts in 2016 was 232, 903. The 55-59 year cohort accounts for the largest proportion of residents being 16,579 residents.

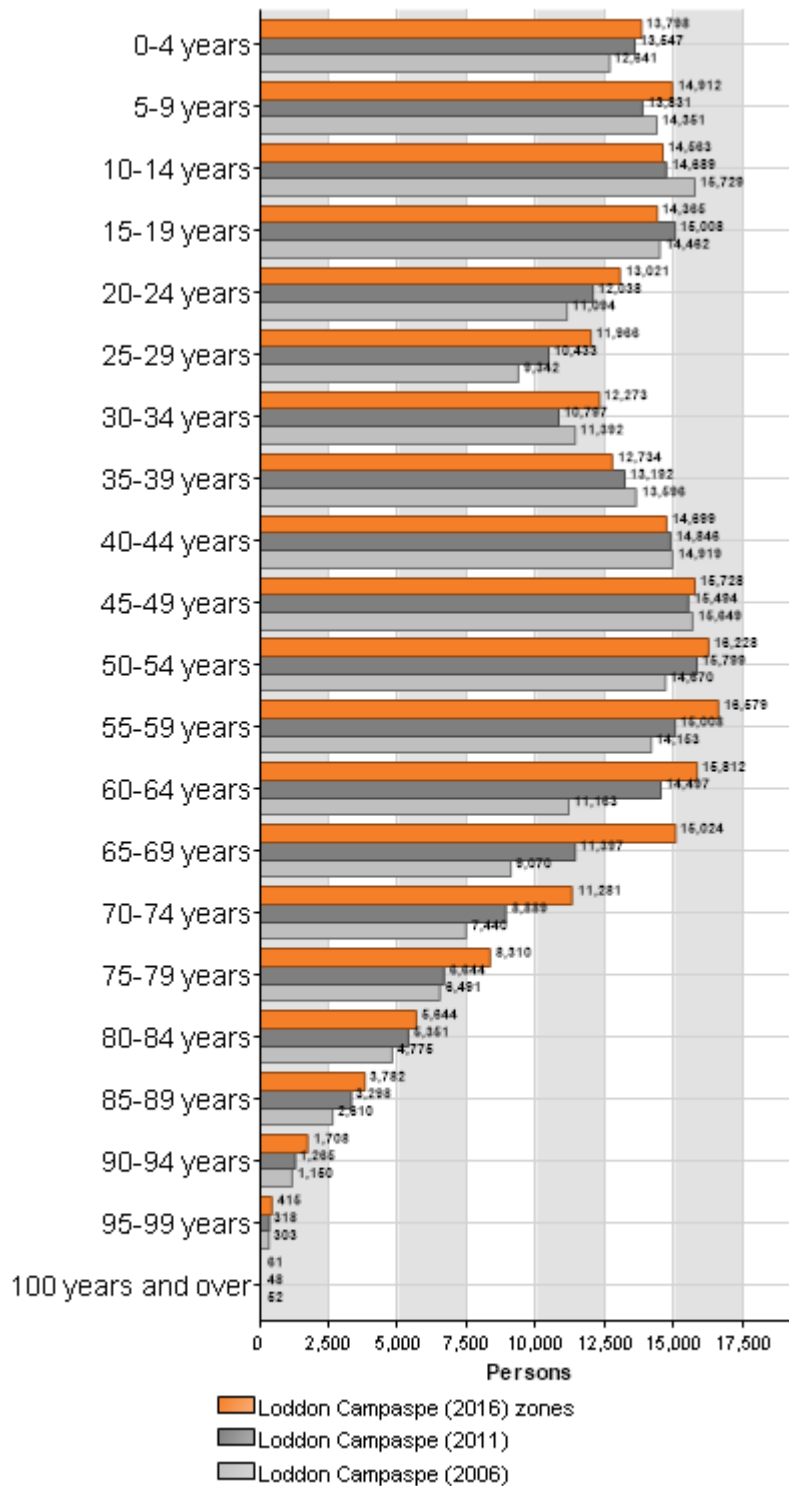
Figure 1-1 Loddon Campaspe Population 2016



#### 1.2 Loddon Campaspe Population 2016, 2011 and 2006

The total number of people usually resident in the Loddon Campaspe region in all age cohorts in 2011 was 216,389. Over the four years, there was an increase in the population by 7.6%. The resident population had further increased by 13.6% since 2006 where the figure was 205,052.

Figure 1-2 Loddon Campaspe Population – 2016, 2011 and 2006

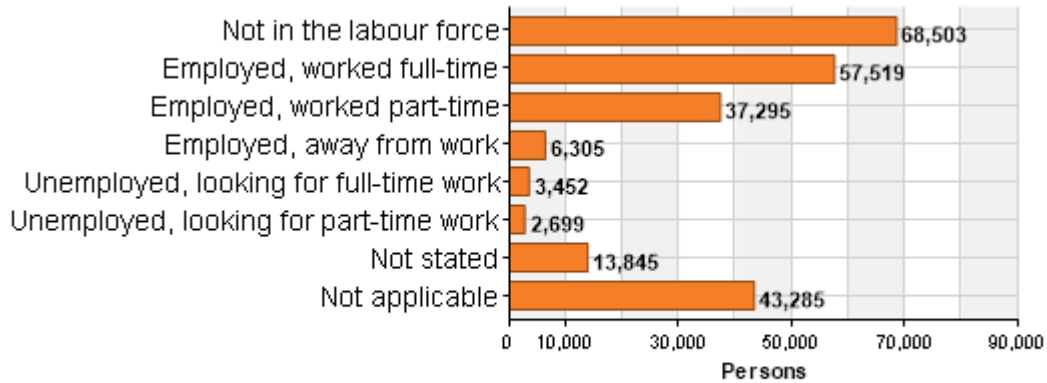


## 2 Workforce

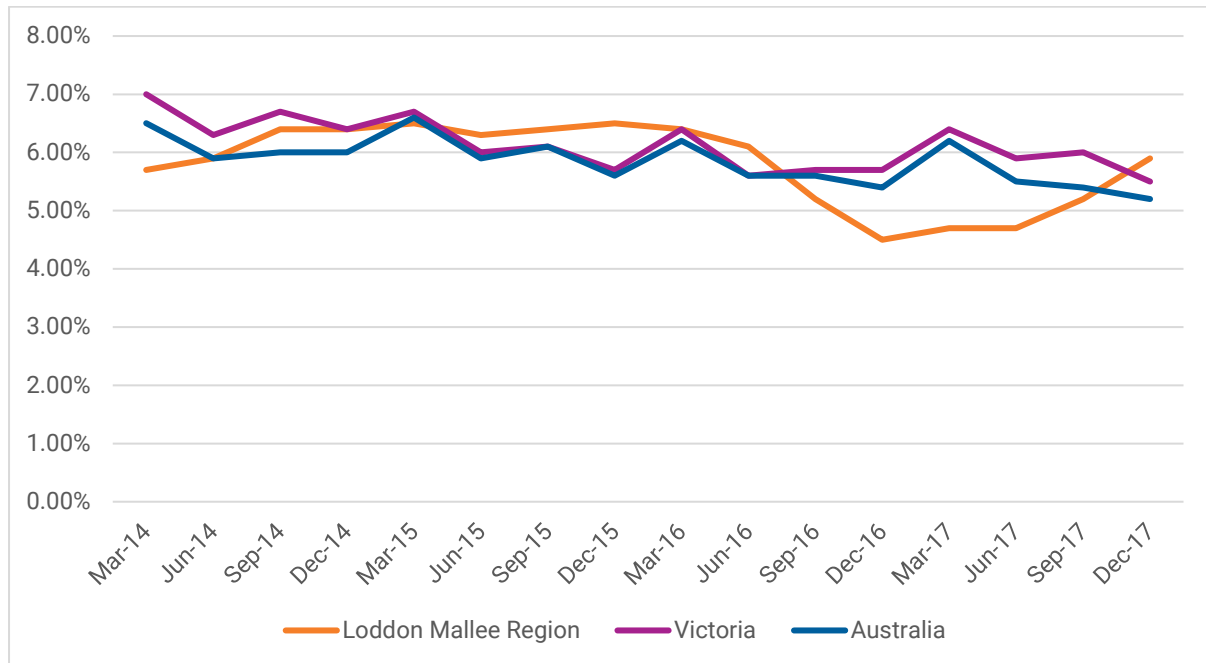
### 2.1 Loddon Campaspe - labour force participation

Of the 232,903 residents living within the Loddon Campaspe region, there were 101,119 (43.42%) residents working either full time or part time (including those employed but away from work). 6,151 (2.64%) of residents were unemployed and looking for full time or part time work.

Figure 2-1 Loddon Campaspe - labour force participation



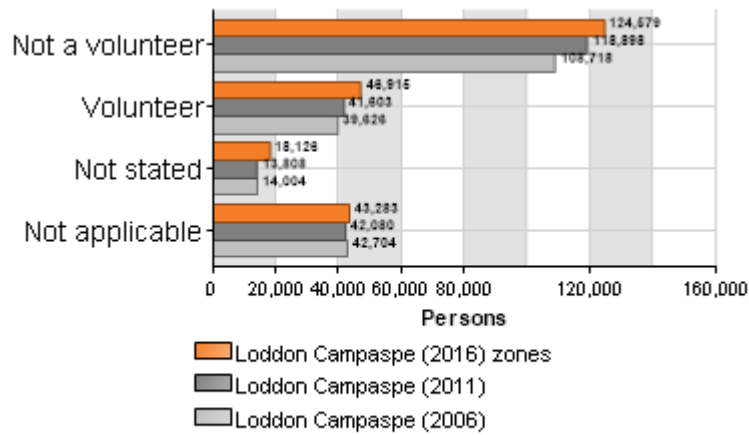
### 2.2 Loddon Campaspe – unemployment rate



### 2.3 Loddon Campaspe – volunteer rate

The total number of people in the Loddon Campaspe region who participated in work as a volunteer in 2016 is 46,915. Over the four years since 2011, there was an increase in participation from 41,603 residents, where 39,626 volunteered in 2006.

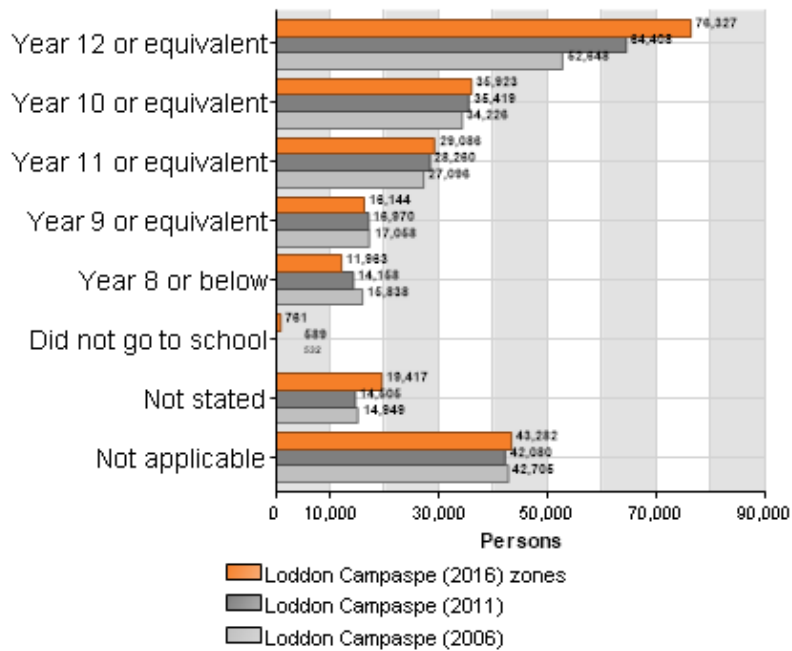
Figure 2-2 Loddon Campaspe - volunteer participation 2016, 2011 and 2006



## 2.4 Loddon Campaspe – education attainment

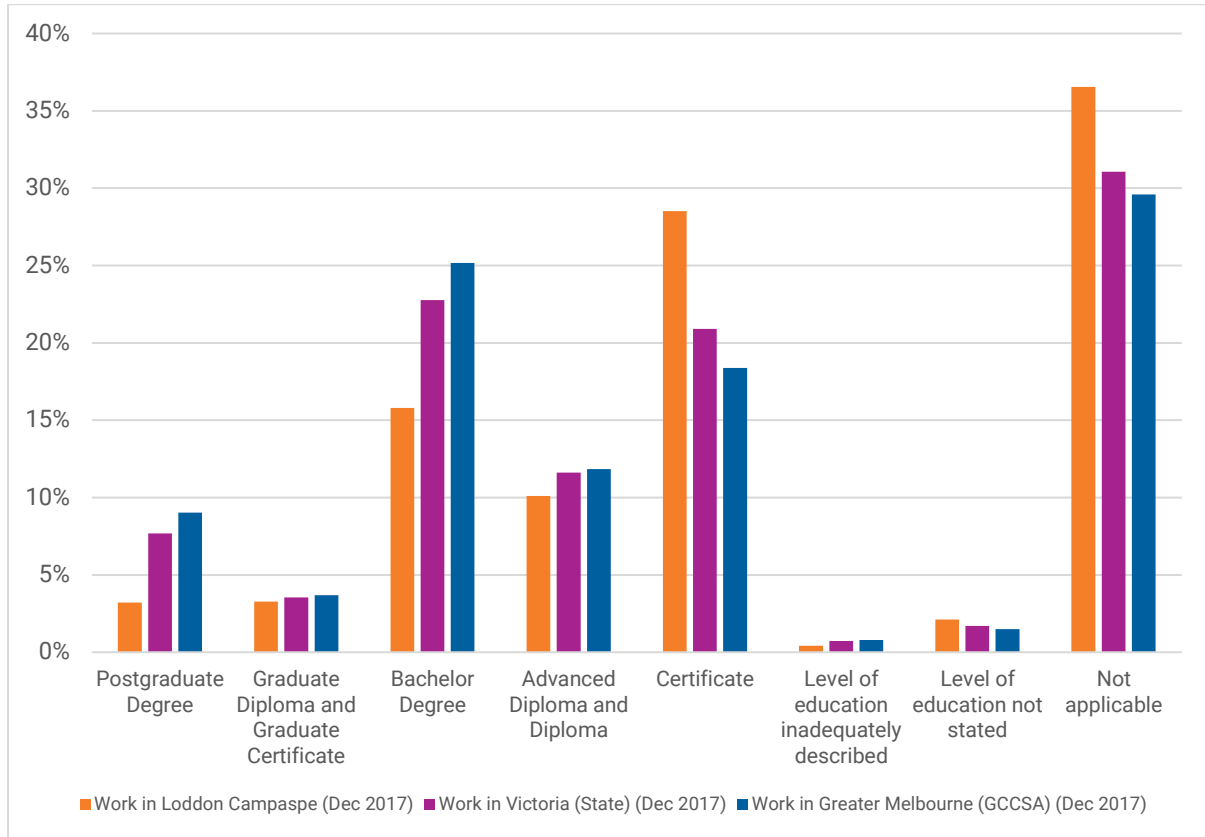
There has been an increase in the educational attainment of people in the Loddon Campaspe region. 76,327 residents completed year 12 in 2016, compared with 64,408 in 2011 and 52,648 in 2006.

Figure 2-3 Loddon Campaspe – school completion



There has been a general increase in the educational qualifications of people in the Loddon Campaspe region. In 2016, 30,537 (13.11%) residents had completed at least a Bachelor level qualification (including Postgraduate and Graduate Diploma level), compared with 24,211 in 2011 and 18,632 in 2006.

Figure 2-4 Loddon Campaspe – qualifications

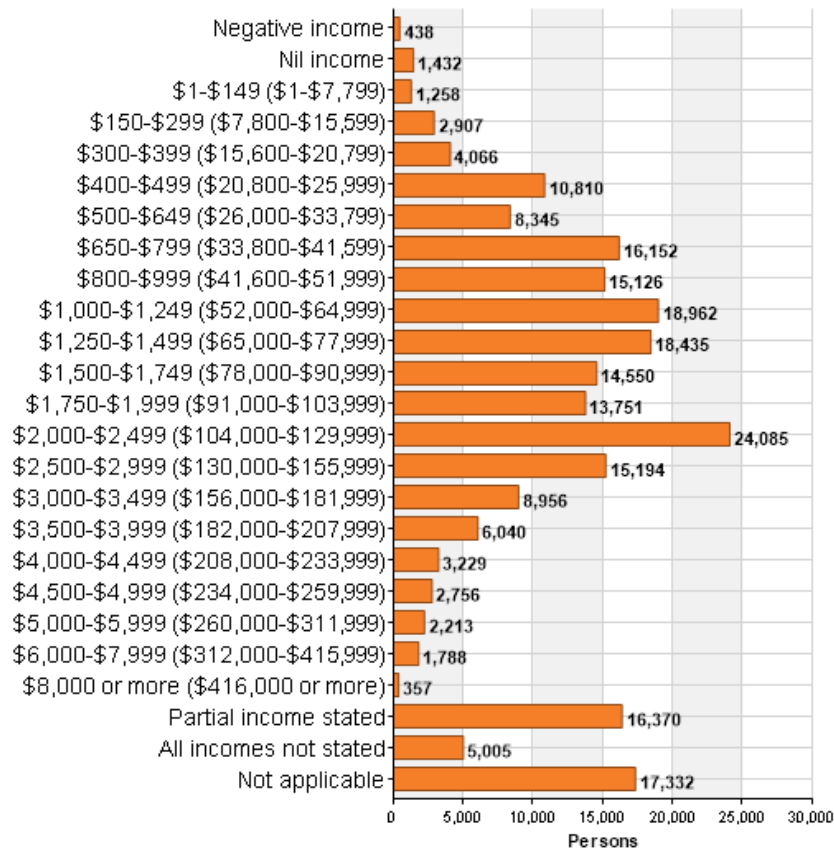


## 2.5 Loddon Campaspe – social and economic disadvantage

In 2016, of the 229,557<sup>10</sup> respondents in Loddon Campaspe, 24,085 had a weekly household income between \$2,000-\$2,499. 60,534 respondents (26.37%) had a weekly household income of less than \$999. 39.56% (90,807) of all households in Loddon Campaspe have 2 motor vehicles, where 20.44% (46,915) have 1 vehicle. Of all respondents, 13,267 (5.78%) had a need for assistance with core activities.

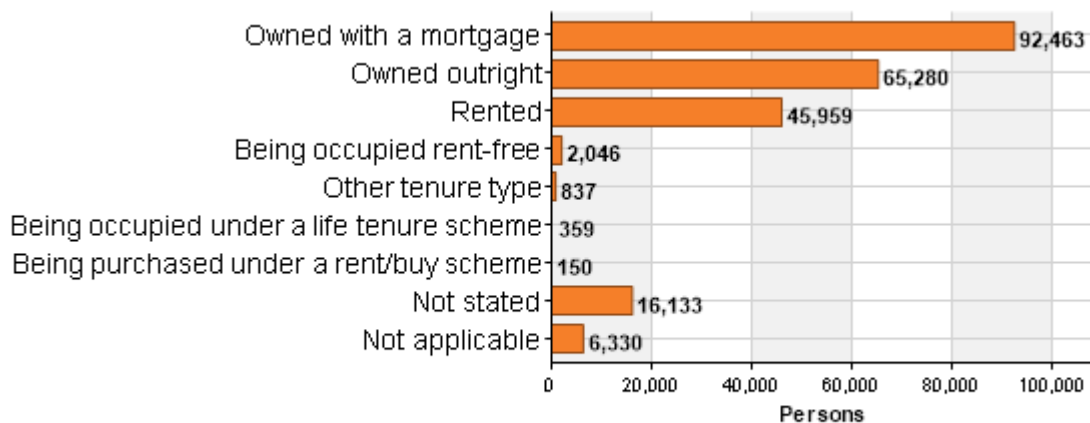
<sup>10</sup> Data captured is Place of Enumeration (Persons)

Figure 2-5 Loddon Campaspe – household income



In 2016, 223,227 residents in Loddon Campaspe occupied private dwellings of which 157,743 (68.72%) were owned with a mortgage or owned outright. Within the region, 42.40% of homes were 3 bedrooms, 29.98% were 4 bedrooms and 10.15% were two bedrooms.

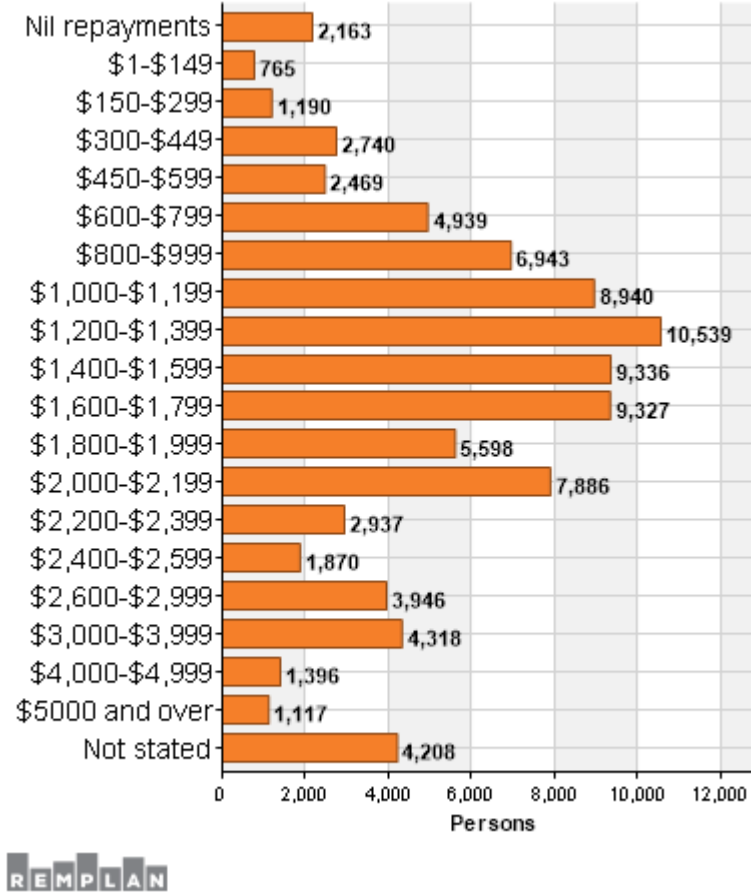
Figure 2-6 Loddon Campaspe – household ownership





Of those paying a mortgage, the largest proportion of residents 10,539 (4.59%) paid in the \$1,200-1,399 mortgage cohort. 9,336 residents paid in the \$1,400-\$1,599 cohort, where 9,327 paid between \$1,600-\$1,799. In the region, 45,959 were occupying rental homes. Of those paying rent, the largest proportion of residents 6,310 (2.75%) paid in the \$250-274 rent cohort.

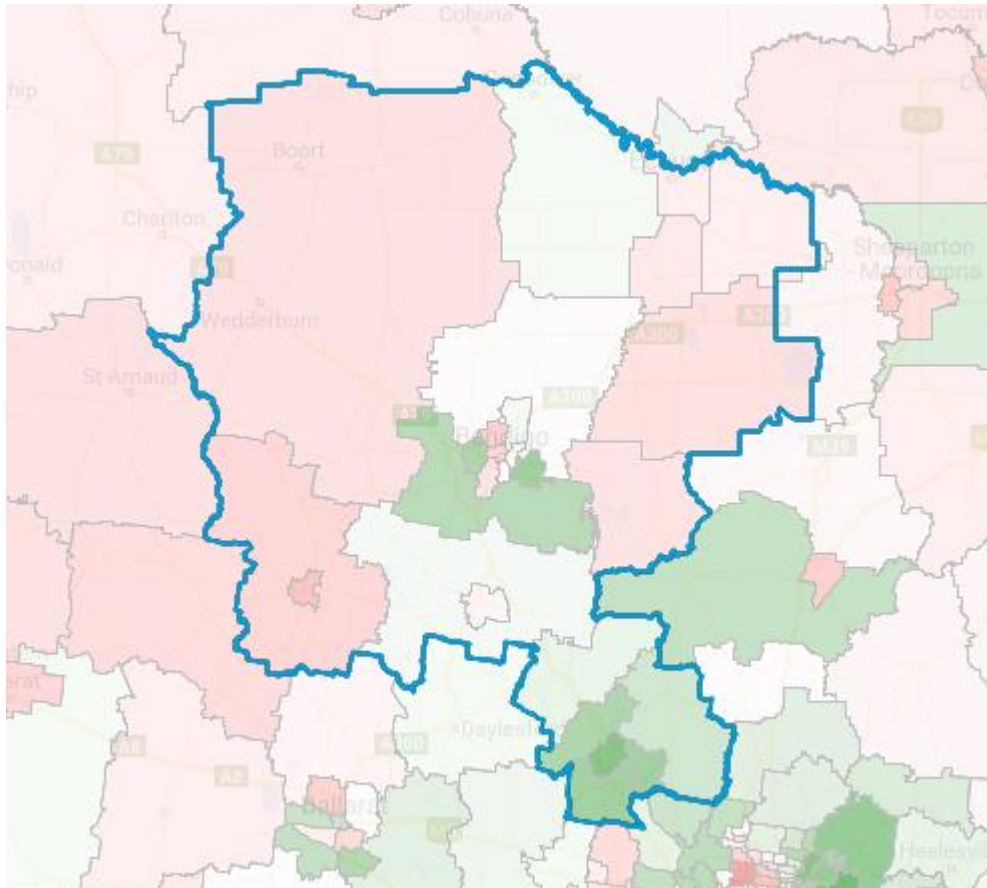
Figure 2-7 Loddon Campaspe – mortgage repayment<sup>11</sup>



Socio Economic Indexes for Areas (SEIFA) is a suite of indexes that have been created by the Australian Bureau of Statistics (ABS) from social and economic Census information. Each index ranks geographic areas across Australia in terms of their relative socio-economic advantage and disadvantage. The SIEFA score for the **Loddon Campaspe** Region in 2016 was 989.

<sup>11</sup> Graph omits those residents who are not paying mortgage repayments

Figure 2-8 Loddon Campaspe SA2's – SIEFA

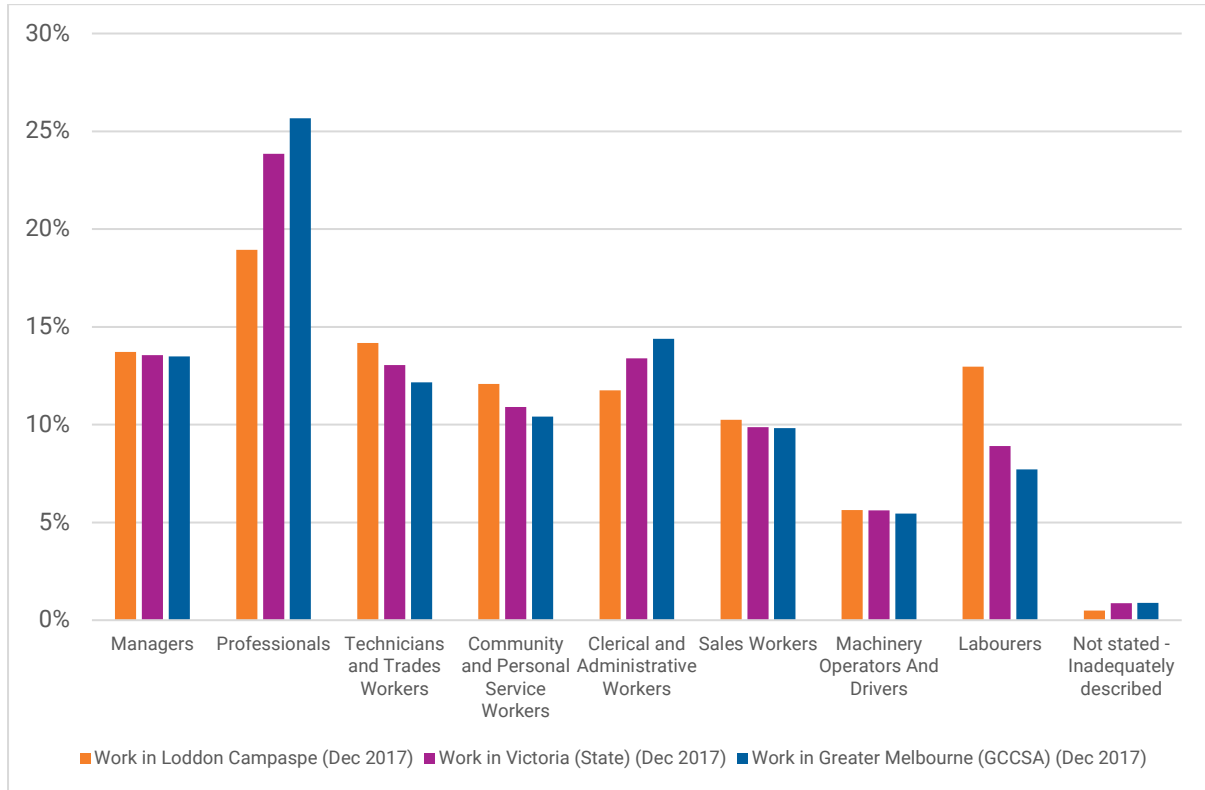


Source: ABS 2018

## 2.6 Loddon Campaspe – occupation

Workers across the RDA South West region are classified into a number of occupations. The Technicians and Trades Workers makes up the largest cohort of occupations within the region at 16.4% or 11,757 workers. When compared to the state, the largest cohort is the Professionals occupation with 20.80% of all workers across the state classified within this occupation.

Figure 2-9 Occupations in Loddon Campaspe.



## 2.7 Loddon Campaspe – journey to work

Figure 2-10 Residence of workers

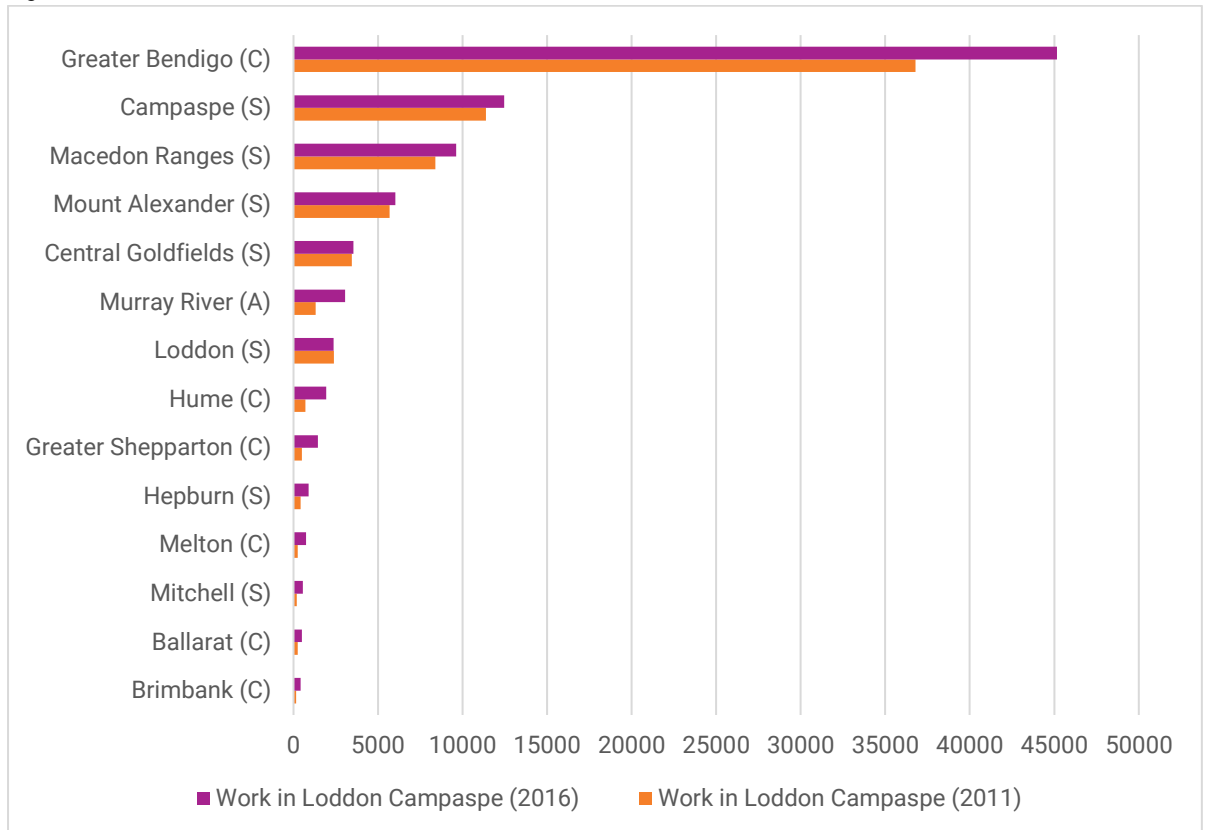
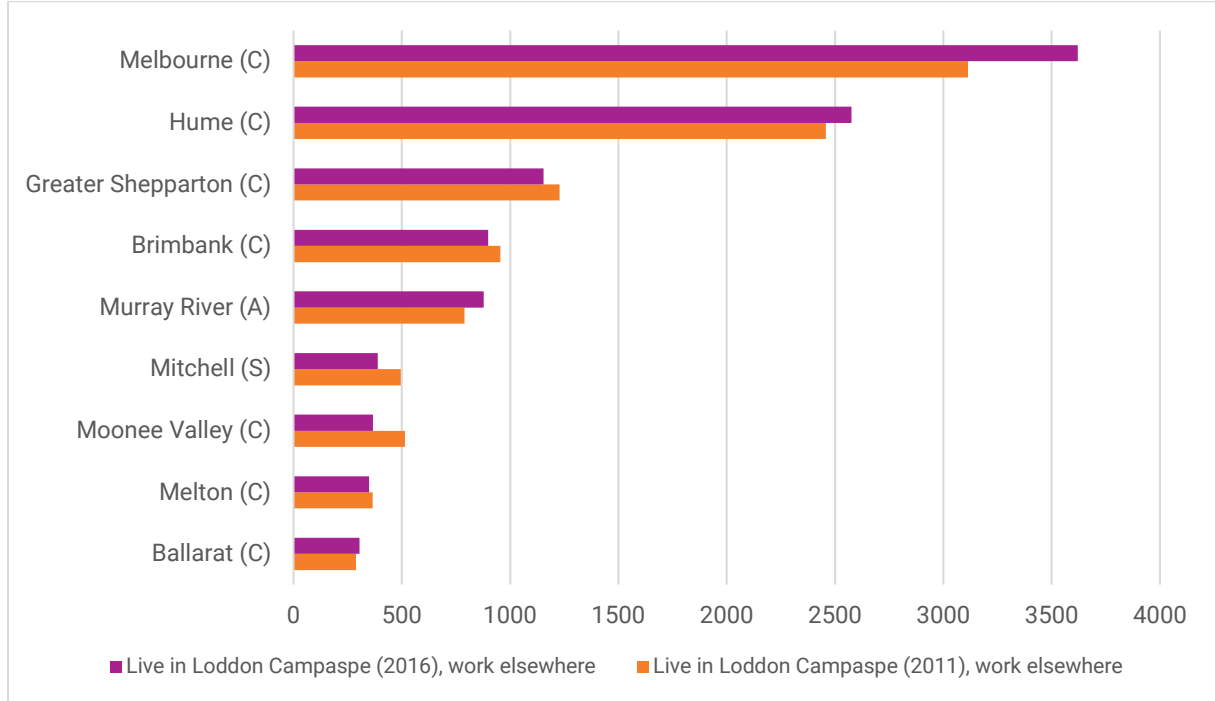


Figure 2-11 Residents working outside the region



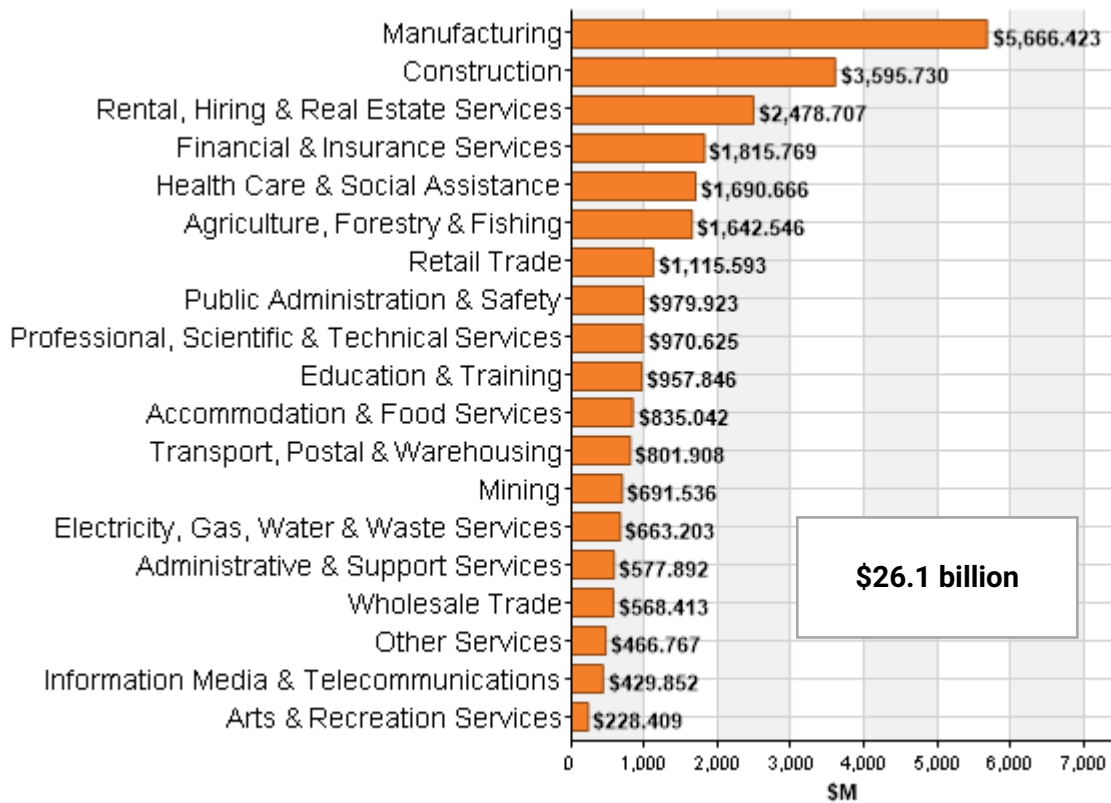
## 2.8 Economic Indicators

### 2.8.1 Output

Output data represents the gross revenue generated by businesses / organisations in each of the industry sectors in a defined region.

The output generated by the Loddon Campaspe region is estimated at \$26,176.849 million. 'Manufacturing' accounts for \$5,666.423 million (or 21.6% of total output) followed by 'Construction' (\$3,595.730 million) and 'Rental, Hiring and Real Estate Services' (\$2,478.707 million).

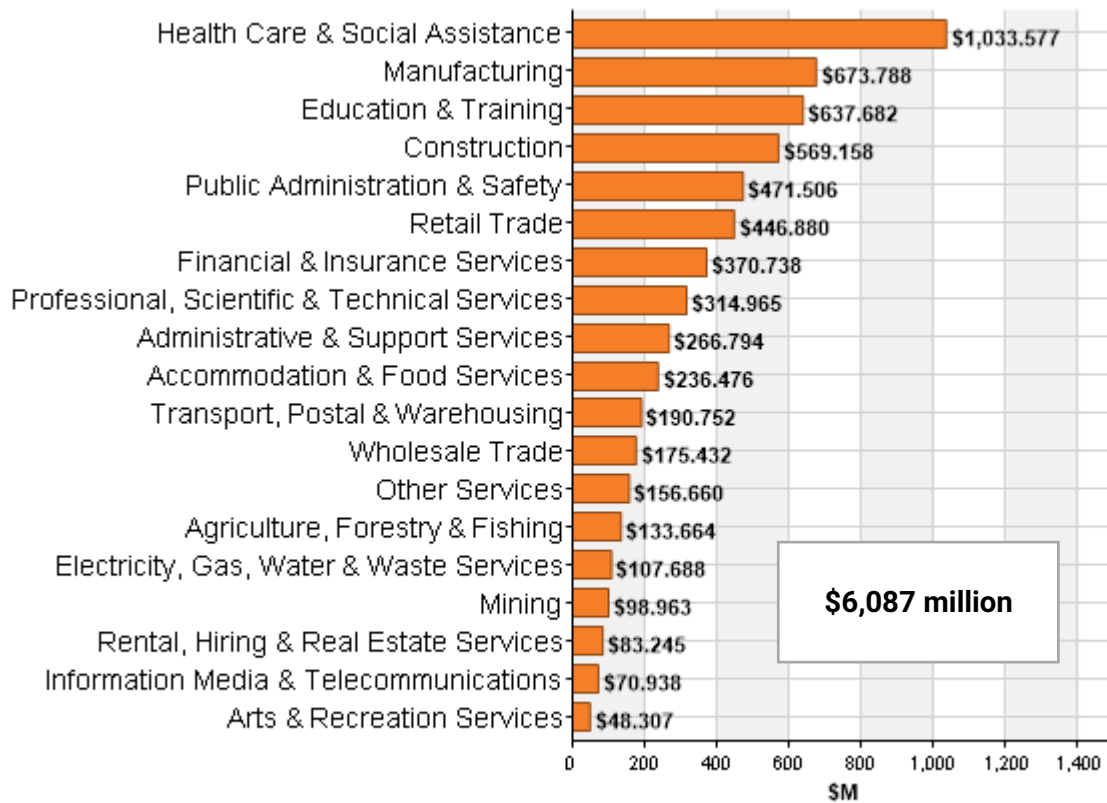
Figure 2-12 Loddon Campaspe Output



### 2.8.2 Wages and Salaries

This report shows the wages and salaries paid to employees who work in the Loddon Campaspe region. The total wages and salaries estimate for the precinct is \$6,087.213 million. The 'Health Care and Social Assistance' sector generates \$1,033.577 million in wages and salaries for the employed persons working in the Loddon Campaspe region.

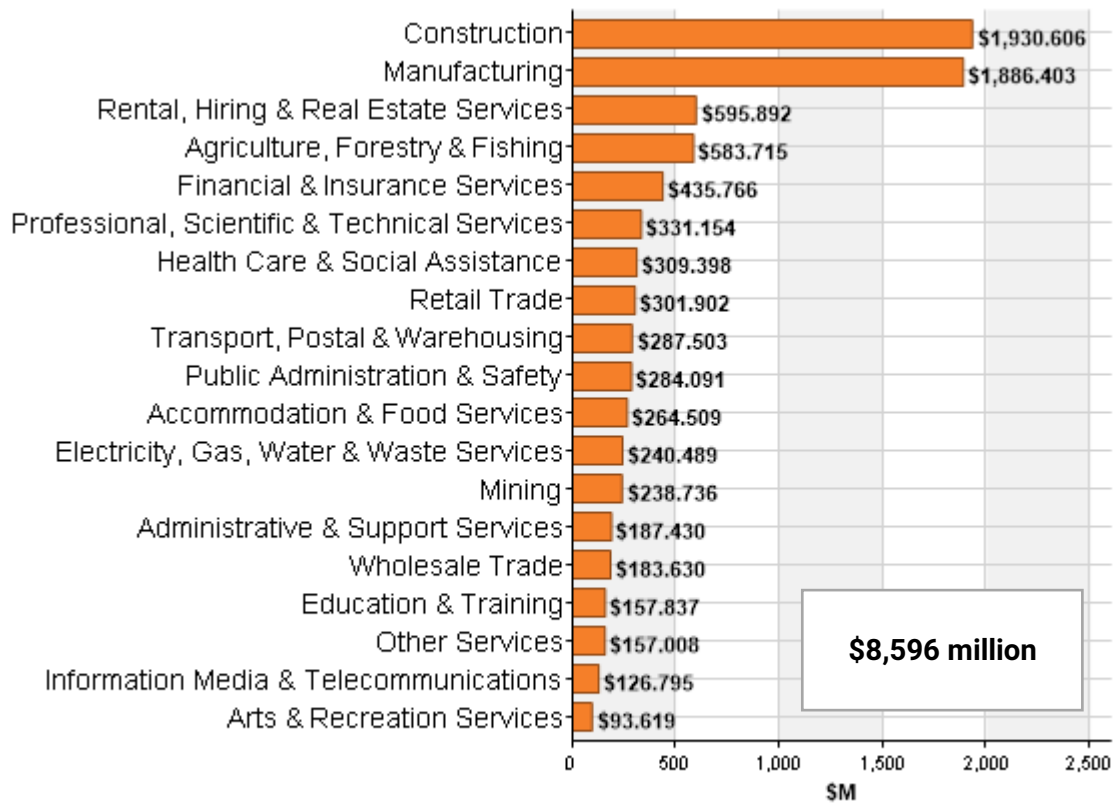
Figure 2-13 Loddon Campaspe Wages and Salaries



### 2.8.3 Local Expenditure

Local Expenditure data represents the value of intermediate goods and services purchased by local industry sectors within the precinct. A high level of local expenditure on intermediate goods and services proportionate to total output is indicative of well-developed local supply chains and also that any expansion in this sector would typically deliver broad based benefits for the precinct’s economy.

Figure 2-14 Loddon Campaspe Local Expenditure

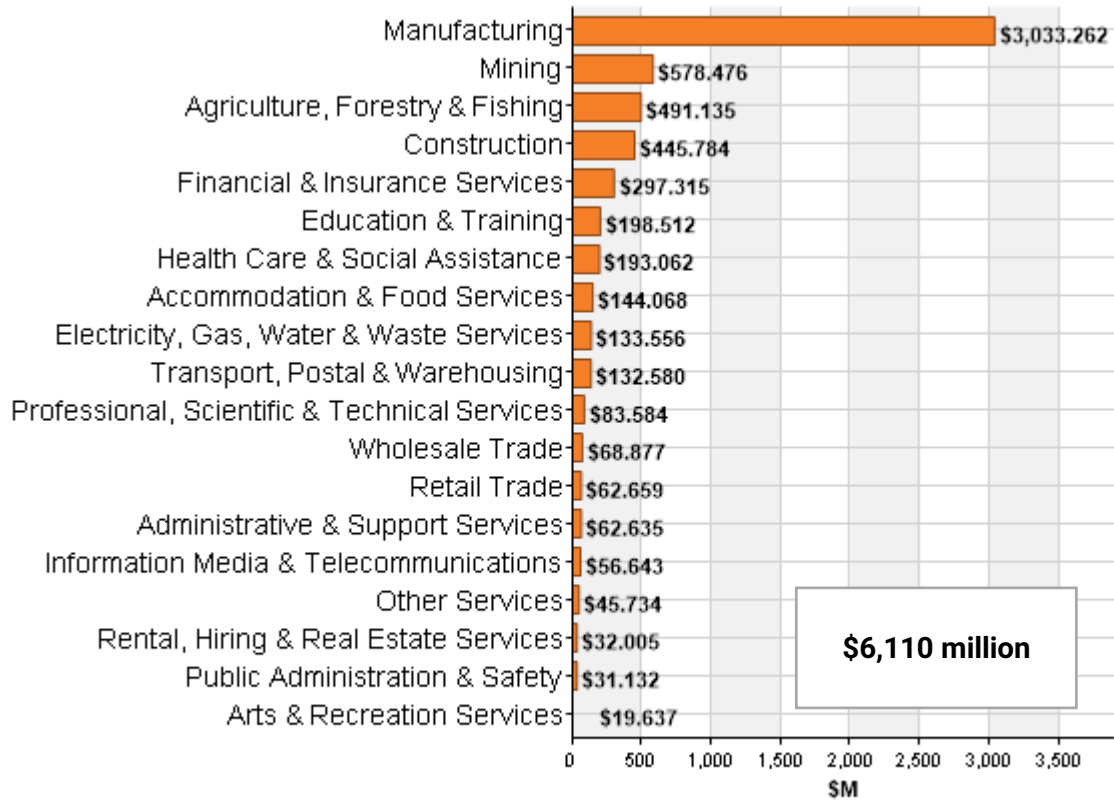


The total local expenditure estimate for Loddon Campaspe is \$8,596.483 million. The 'Construction' sector has the highest level of local expenditure, purchasing \$1,930.606 million (22.5%) on locally sourced goods and services. This is followed by 'Manufacturing' and 'Rental, Hiring and Real Estate Services' yielding \$1,886.404 million and \$595.892 million, respectively for the Loddon Campaspe region.

### 2.8.4 Regional Exports

Regional Exports data represents the value of goods and services exported outside of the region that have been generated by industry sectors within the region. The following graph depicts the contribution to total regional exports generated by each of the industry sectors ranked from highest to lowest.

Figure 2-15 Loddon Campaspe Regional Exports



The total regional export estimate for the Loddon Campaspe region is \$6,110.658 million. The 'Manufacturing' sector represents the vast majority of exports at \$3,033.262 million or 49.6%, followed by 'Mining' (\$578.476 million) and 'Agriculture, Forestry and Fishing' (\$491.135 million).

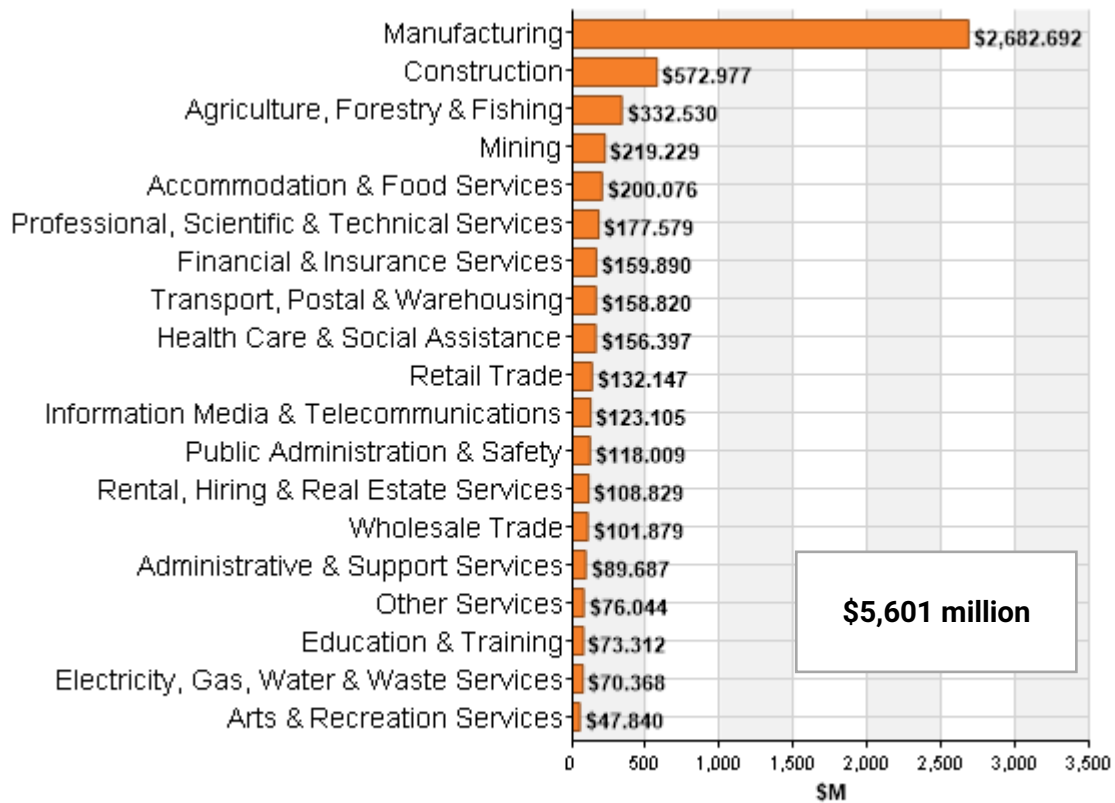
### 2.8.5 Regional Imports

Regional Imports data represents the value of goods and services imported from outside of the region. Imports are necessary for many reasons and the following graph depicts the value of sector dependency on total regional imports by each of the industry sectors ranked from highest to lowest.

The total regional import estimate for the Loddon Campaspe region is \$5,601.412 million. The 'Manufacturing' sector represents the vast majority of regional imports at \$2,682.692 million, followed by 'Construction' (\$572.977million) and 'Agriculture, Forestry and Fishing' (\$332.530 million).



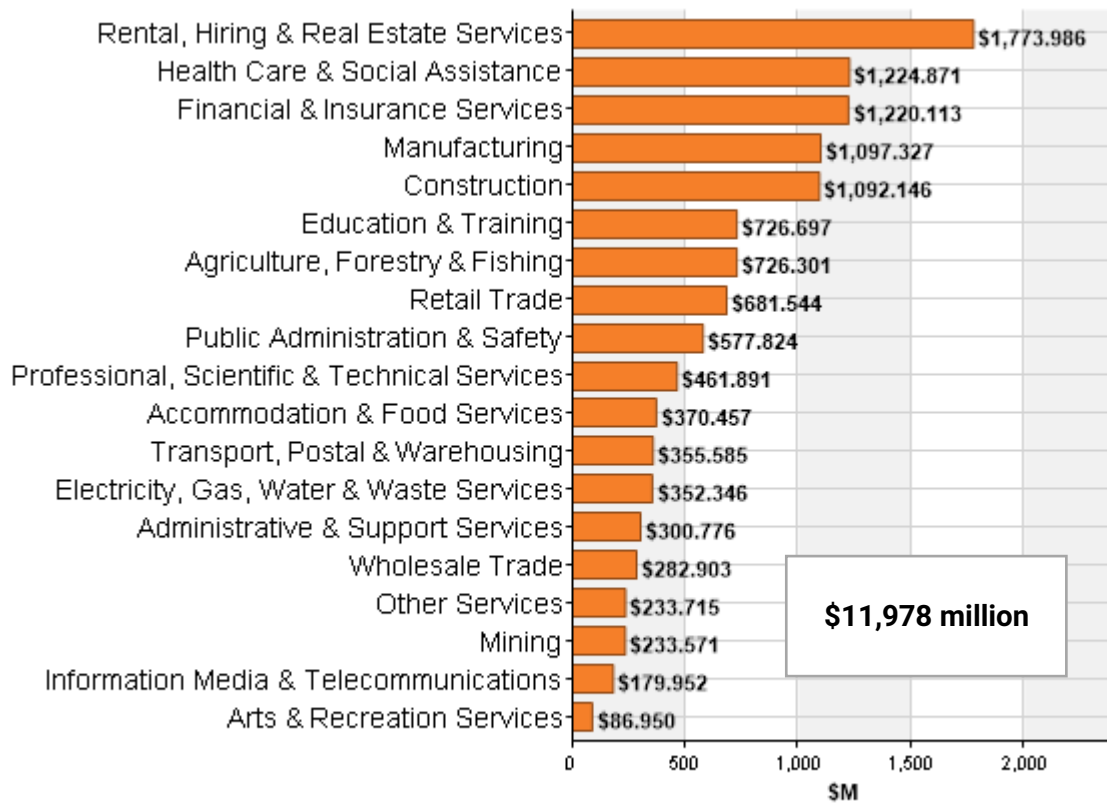
Figure 2-16 Loddon Campaspe Regional Imports



### 2.8.6 Value Added

Value-added data represents the marginal economic value that is added by each industry sector in a defined region. Value-added can be calculated by subtracting local expenditure and expenditure on regional imports from the output generated by an industry sector, or alternatively, by adding the Wages & Salaries paid to local employees, the gross operating surplus and taxes on products and production. Value-added by industry sector is a major element in the calculation of Gross Regional Product.

Figure 2-17 Loddon Campaspe Value-Added



The total value-added by the Loddon Campaspe economy is estimated at \$11,978.954 million. ‘Rental, Hiring and Real Estate Services’ contributes the highest value-added (\$1,773.986 million), followed by ‘Health Care and Social Assistance’ (\$1,224.871 million) and ‘Financial and Insurance Services’ (\$1,220.113 million).

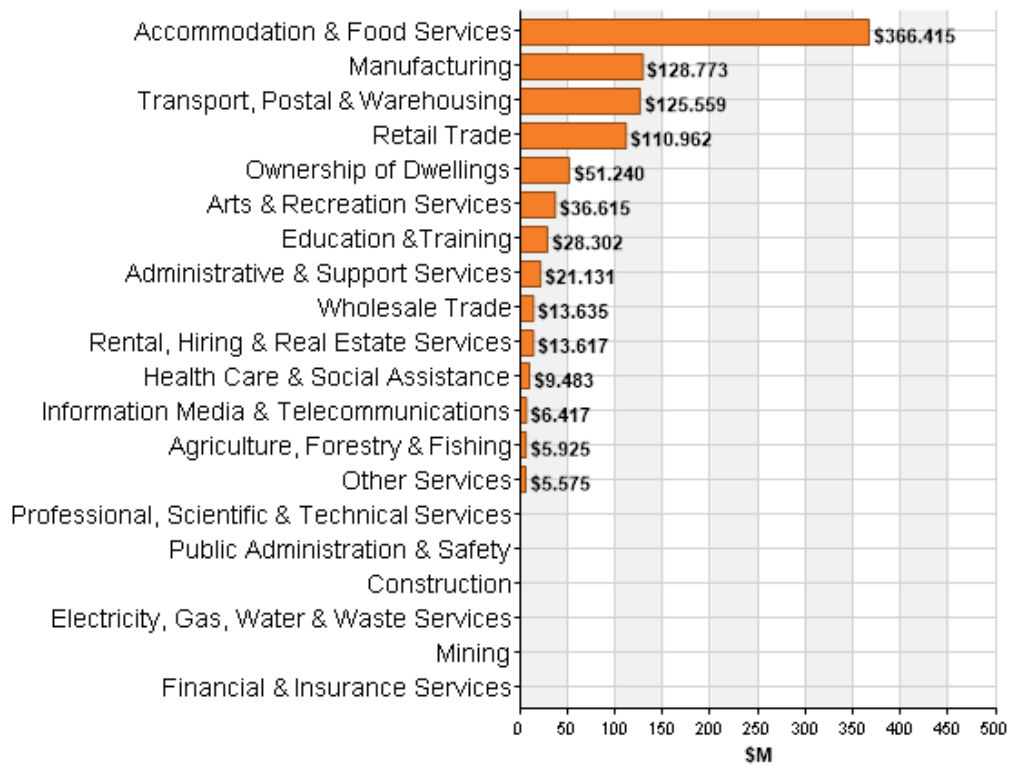
### 3 Visitor Economy

#### 3.1 Tourism Output

Tourism output represents the gross revenue generated by businesses / organisations in the Tourism sector. Tourism is an amalgamation of a number of industry sectors.

The output attributed by tourism in the Loddon Campaspe region is estimated at \$923.649 million. ‘Accommodation and Food Services’ accounts for \$366.415 million (or 39.7% of total output) followed by ‘Manufacturing’ (\$128.773 million) and ‘Transport, Postal and Warehousing’ (\$125.559 million).

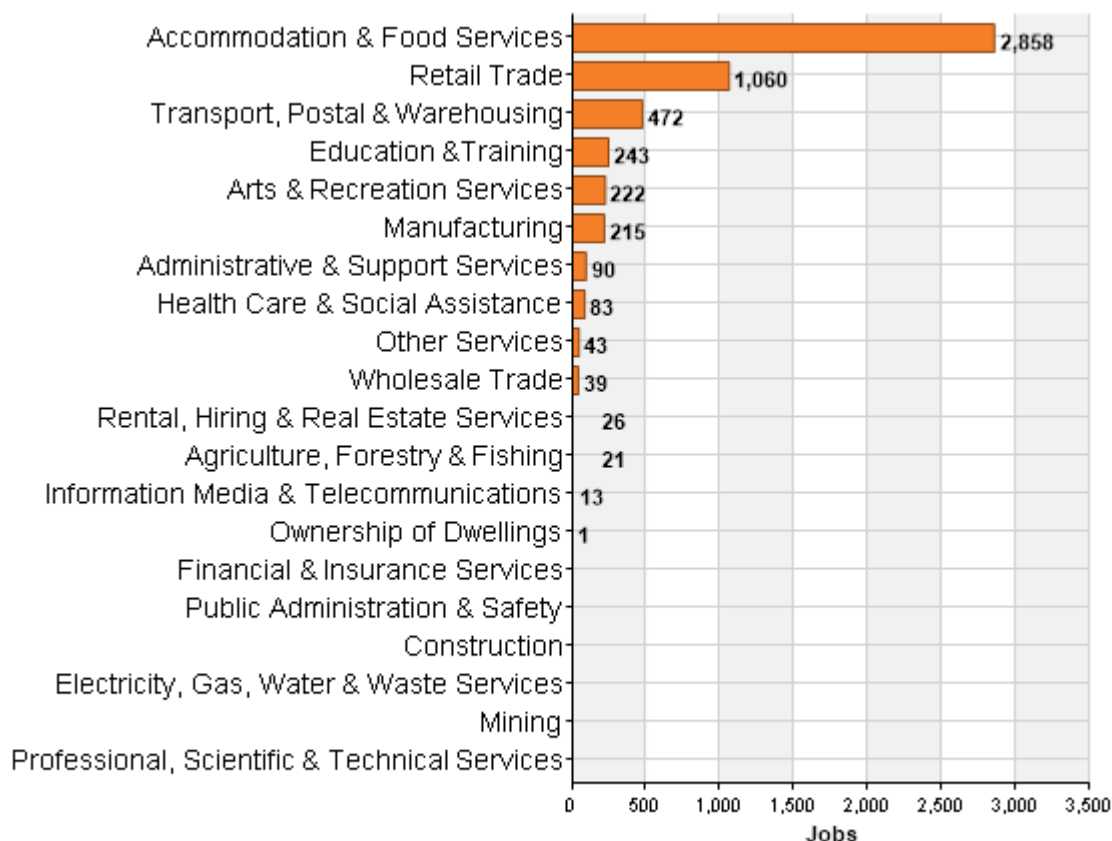
Figure 3-1 Loddon Campaspe - output attributed to tourism



### 3.2 Tourism Employment

The total employment (place of work) estimate for Tourism within the Loddon Campaspe as at the 2016 Census is 5,386 jobs. The 'Accommodation and Food Services' industry sector is the largest sector at 2,858 jobs (53.1%); followed by 'Retail Trade' (1,060 jobs) and 'Transport, Postal and Warehousing' (472 jobs).

Figure 3-2 Loddon Campaspe – employment attributed to tourism



### 3.3 Visitor profile

Tourism Research Australia (TRA) data for Loddon Campaspe region provides estimates for typical visitor expenditure for domestic day and domestic overnight visitors.

Table 3-1 Loddon Campaspe Visitor Profile

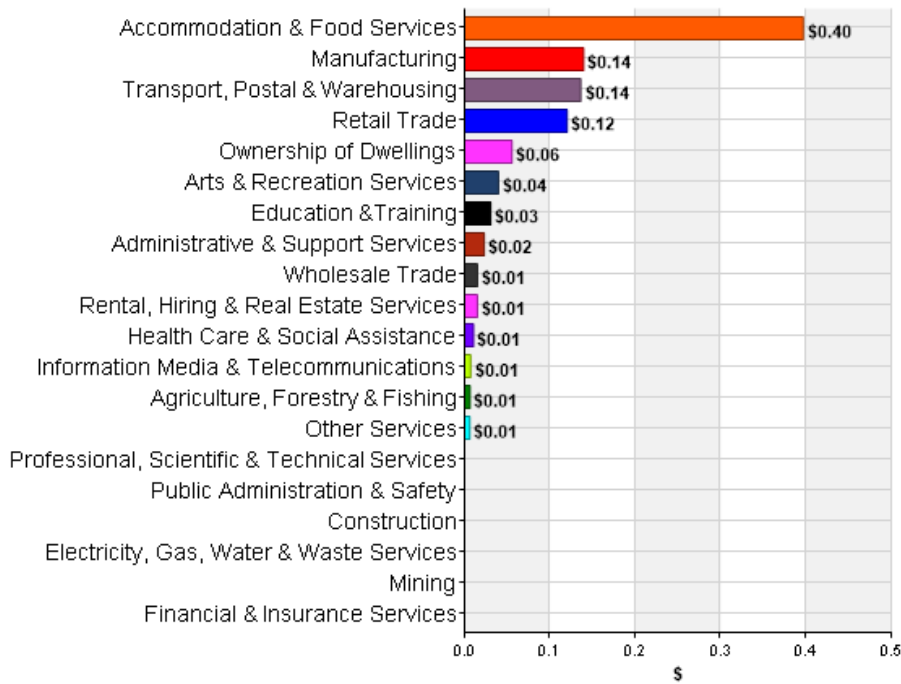
	Average stay (nights)	Average spend per trip (\$)	Average spend per night (\$)
<b>Domestic Day</b>	-	\$94	-
<b>Domestic Overnight</b>	2	\$306	\$120
<b>International</b>	16	\$909	\$66

Source: Tourism Research Australia (TRA), Tourism in Local Government Areas 2015; Domestic visitors: Bendigo Loddon, Central Murray & Macedon - weighted averages. International visitors: Bendigo Loddon & Central Murray - weighted averages

### 3.4 Distribution of Tourist Dollar

For each dollar spent by a visitor in Loddon Campaspe, it is estimated that typically \$0.40 is spent on Accommodation and Food Services, \$0.14 on Manufacturing and \$0.14 on Transport, Postal and Warehousing. The estimated typical distribution of a dollar spent in the Loddon Campaspe region is shown in the graph below.

Figure 3-3 Distribution of a Typical Visitor Dollar – Loddon Campaspe Region



## 4 Key Propulsive Industry Characteristics

Taking into consideration potential import replacement opportunities as well as current contributions to the regional economy in terms of employment, value-added and local expenditure on goods and services (backward linkages), key propulsive industries sectors have been identified. The details of these contributors are as follows:

- Employment - the key social outcome of economy development; employment data represents the number of people employed by businesses / organisations in each of the industry sectors in the Loddon Campaspe region.
- Local Expenditure - details the industry sectors which spend the most on locally sourced intermediate goods and services per dollar of output. These industry sectors may not necessarily make the largest contributions to the Region's economy at present however due to well-developed local supply chains these sectors have a significant capacity to deliver broad based economic benefits for the region.
- Regional Exports - represents the value of goods and services exported outside of the Lilydale Business Precinct Region that have been generated by local businesses / organisations. Another way of defining exports is as an inflow of money into the region, i.e. Motels have an inflow of money from people who live outside the region's boundaries thus they are earning export equivalent dollars.
- Value-Added - represents the marginal economic value that is added by each industry sector in a defined region. Value-Added is calculated by subtracting local expenditure and expenditure on regional imports from the output generated by an industry sector. Value-Added by industry sector is the major element in the calculation of Gross Regional Product.

These industry sectors may not necessarily make the largest contributions to the regions economy at present but due to well-developed local supply chains these sectors have a significant capacity to deliver broad based economic benefits for the region.

### 4.1 Key Propulsive Sectors – Loddon Campaspe

The following key propulsive industry sub-sectors have been identified at the top three for the industry at the 19 sector classification level and sorted alphabetically as the key drivers of the Loddon Campaspe economy:

- Construction
- Manufacturing
-

Figure 4-1 Key Propulsive Sectors Summary – Loddon Campaspe (19 Sectors)

Proportion of Key Propulsive Sector Industry Contribution	Local expenditure	Employment	Regional Exports	Value-Added
Construction* (\$M)	\$1,930.606 (22.5%)	8,340 (9.1%)	\$445.784 (7.3%)	\$1,092.146 (9.1%)
Manufacturing* (\$M)	\$1,886.403 (21.9%)	9,451 (10.3%)	\$3,033.262 (49.6%)	\$1,097.327 (9.2%)
Total Industry (\$M)	\$8,596.483 (100%)	91,379 (100%)	\$6,110.658 (100%)	\$11,978.954 (100%)

\*Is a key propulsive sector in any combination of three economic indicators.

In order to further understand the contributions of industry sectors in more detail, the general 19 industry sector classification has been broken down to the 114 industry sub-sector level. The following key propulsive industry sub-sectors have been identified as the key drivers of the Loddon Campaspe economy to provide more detailed specification of the key drivers of growth in the precinct:

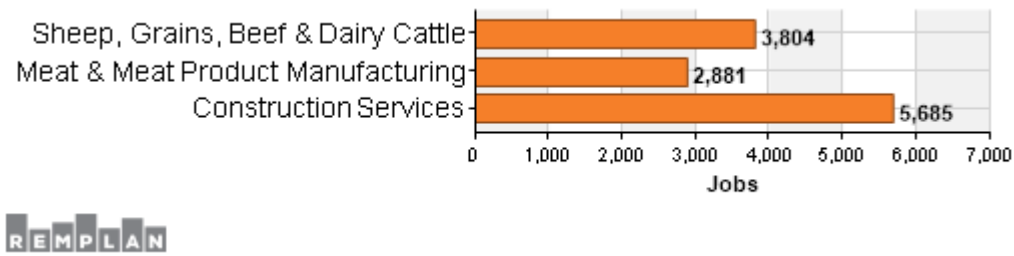
- Sheep, Grains, Beef and Dairy Cattle
- Meat & Meat Product Manufacturing
- Construction Services

The above sectors have been identified as within the top ten of all four indicators of local expenditure, employment, value-added and regional exports.

#### 4.1.1.1 Employment

Employment is a key social outcome of economic development; employment data represents the number of people employed by businesses/organisations in each of the industry sectors in the Loddon Campaspe economy. The total employment estimate for the precinct is 91,379 jobs. The key propulsive industries contribute 12,370 jobs, accounting for 13.5% of the precinct's total jobs.

Figure 4-2 Key Propulsive Sectors (114 Sectors) – Loddon Campaspe - Employment Contribution

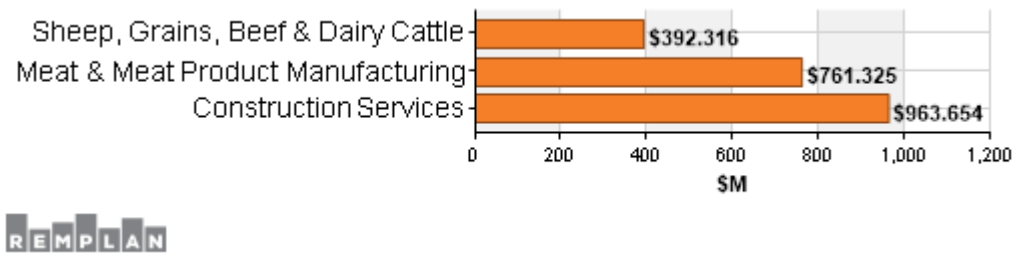


At the 114 industry sector level, the ‘Construction Services’ employs 5,685 jobs, accounting for 6.2% of total the Loddon Campaspe economy’s jobs.

**4.1.1.2 Local Expenditure**

This report shows the value of intermediate goods and services purchased by industry sectors within the economy. The total local expenditure estimate for Loddon Campaspe is \$8,596.483 million. The selected sectors contribute \$2,117.296 million (44.9%) of total local expenditure.

Figure 4-3 Key Propulsive Sectors (114 Sectors) – Loddon Campaspe - Local Expenditure Contribution



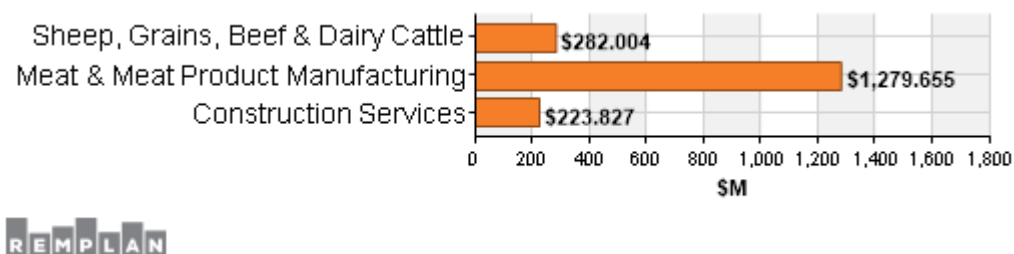
At the 114 industry sector level, ‘Construction Services’ contributes \$963.654 million in terms of local expenditure, followed by ‘Meat and Meat Product Manufacturing’ (\$761.325 million) and ‘Sheep, Grains, Beef and Dairy Cattle’ (\$392.316 million).

**4.1.1.3 Regional Exports**

Regional Exports represents the value of goods and services exported outside of the Loddon Campaspe region that have been generated by businesses/organisations within the precinct. Another way of defining exports is as an inflow of money into the precinct.

The total regional export estimate for the precinct is \$6,110.658 million. The selected sectors contribute \$1,785.485 million (29.2%) of total regional exports.

Figure 4-4 Key Propulsive Sectors (114 Sectors) – Loddon Campaspe - Regional Export Contribution



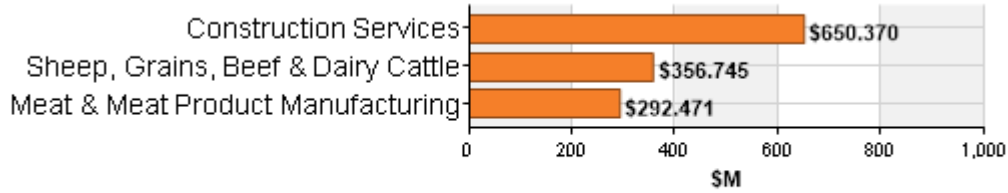
At the 114 industry sector level, the ‘Meat and Meat Product Manufacturing’ contributes \$1,279.655 million, followed by ‘Sheep, Grains, Beef and Dairy Cattle’ (\$282.004 million), with the third largest exporter being the ‘Construction Services’ sector (\$223.827 million).



**4.1.1.4 Value-Added**

The total value-added estimate for the Loddon Campaspe region is \$11,978.954 million. The selected sectors contribute \$1,299.586 million (10.8%) of total value-added.

Figure 4-5 Key Propulsive Sectors (114 Sectors) – Loddon Campaspe - Value-Add Contribution



At the 114 industry sector level, the ‘Construction Services’ sector contributes \$650.370 million in terms of value-added, followed by ‘Sheep, Grains, Beef and Dairy Cattle’ (\$356.745 million), with the ‘Meat and Meat Product Manufacturing’ sector contributing \$292.471 million.

**4.2 ABR Business Counts**

A business has been counted from the Australian Business Records for the Loddon Campaspe region if it is has current registration of an Australian Business Number and is currently registered for GST.

As at 12 February 2018, there were 13,401 businesses operating in the Loddon Campaspe region. For the year to date (12 February 2017 to 12 February 2018), there were 653 business entries. Business entries appear concentrated throughout Bendigo, Castlemaine, Woodend and Gisborne.

Figure 4-6 Business Counts

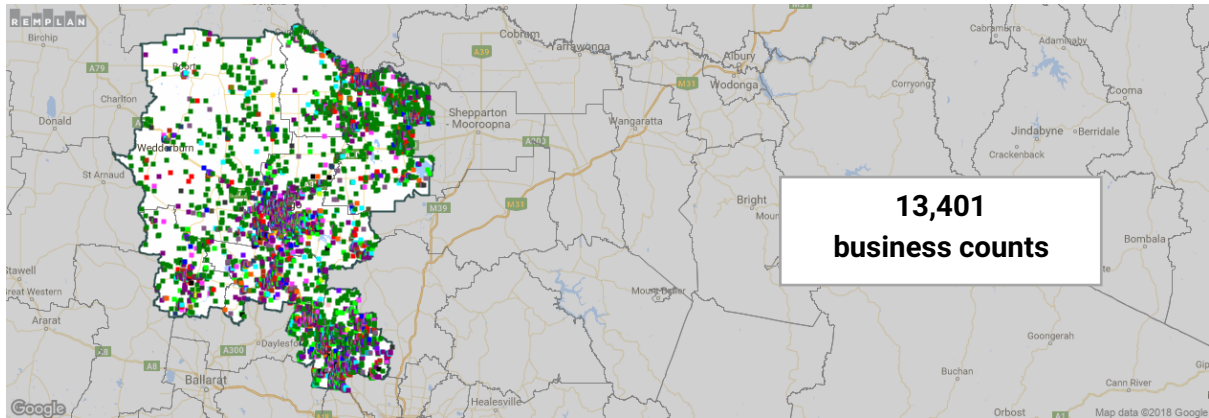
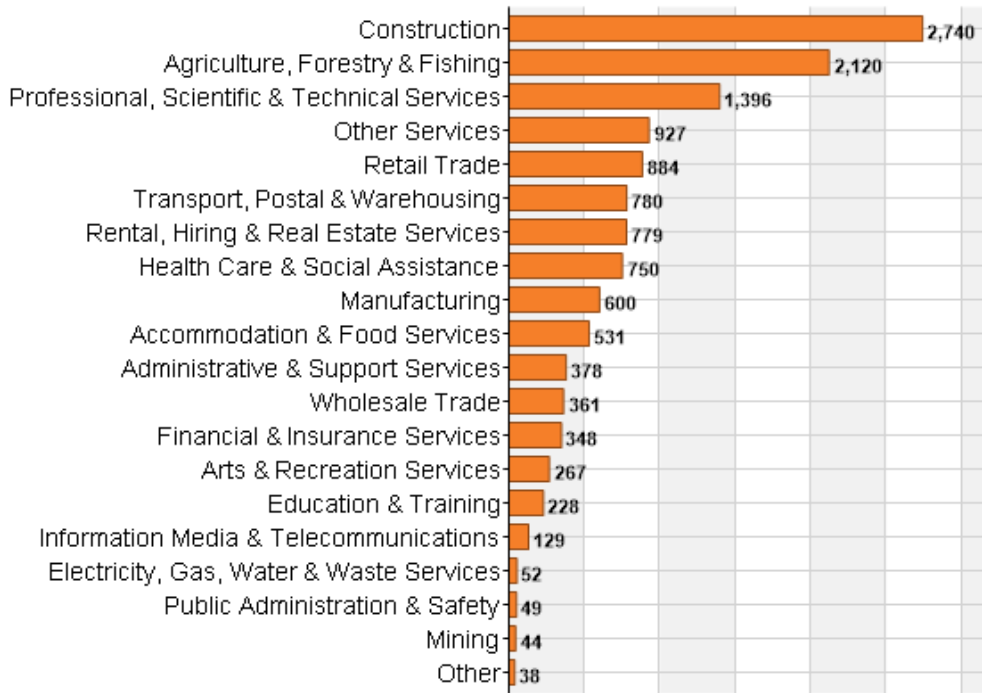


Figure 4-7 Business Entries



### 4.3 Sector Business Counts in the Loddon Campaspe region

Figure 4-8 Business Counts (19 Sector Level)



#### 4.4 Gross Regional Product

The Gross Regional Product for the Loddon Campaspe region is \$13,022.44 billion. The Per Capita GRP for residents in the Loddon Campaspe region is \$55.914 and the Per Worker GRP is \$142.510.

Table 4-1 Loddon Campaspe region GRP (Expenditure Method)

GRP (Expenditure Method)	\$M
Household Consumption	\$10,208.22
Government Consumption	\$3,043.70
Private Gross Fixed Capital Expenditure	\$3,816.17
Public Gross Fixed Capital Expenditure	\$745.83
Gross Regional Expenses	\$17,813.91
plus Regional Exports	\$6,181.96
minus Domestic Imports	-\$8,857.99
minus Overseas Imports	-\$2,115.44
<b>Gross Regional Product</b>	<b>\$13,022.44</b>
Population	232,903
Per Capita GRP (\$'000)	\$55.914
Per Worker GRP (\$'000)	\$142.510

Table 4-2 Loddon Campaspe GRP (Income Method)

GRP (Income Method)	\$M
Wages and Salaries	\$6,087.21
Gross Operating Surplus	\$5,338.58
Net Taxes - Products & Services	\$1,167.66
Net Taxes - Production	\$428.99
<b>Gross Regional Product</b>	<b>\$13,022.44</b>
Population	232,903
Per Capita GRP (\$'000)	\$55.91
Per Worker GRP (\$'000)	\$6,087.21

Loddon Campaspe accounts for:

- 0.27% of Victoria’s GRP
- 3.15% of Victoria’s output
- 3.35% of Victoria’s employment
- 3.15% of Victoria’s value added
- 2.52% of Victoria’s local expenditure
- 3.03% of Victoria’s wages and salaries
- 5.91% of Victoria’s regional exports (relative)
- 5.12% of Victoria’s regional imports (relative)

Table 4-3 Summary Indicators

(\$M)	GRP	Output	Employment	Value-Added	Local Expenditure	Wages and Salaries	Regional Exports	Regional Imports
Loddon Campaspe	\$1,114.04	\$26,176.849	91,379	\$11,978.954	\$8,596.483	\$6,087.213	\$6,110.658	\$5,601.412
Victoria	\$406,525.00	\$829,775.18	2,730,332	\$379,781.76	\$340,685.02	\$200,611.48	\$103,381.77	\$109,308.41