



Loddon Campaspe Regional Economic Growth Strategy

Regional Investment Feasibility Study



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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 REPLAN, developed by REPLAN 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, REPLAN 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. REPLAN 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.

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Executive Summary

The Loddon Mallee Regional Development Australia (RDA) Committee in collaboration with the Loddon Campaspe Regional Partnership (LCRP) initiated the development of a Regional Economic Growth Strategy. To be delivered over three distinct project stages, it will develop the next significant strategic economic development framework at a regional scale.

A Regional Economic Growth Strategy is critical for the next phase of investment throughout the broader Loddon Mallee. The Regional Economic Growth Strategy will provide a strategic basis and rationale for priority investment and projects throughout the region.

Stage One of the project involved preparing a consolidated economic analysis outlining priority investment.

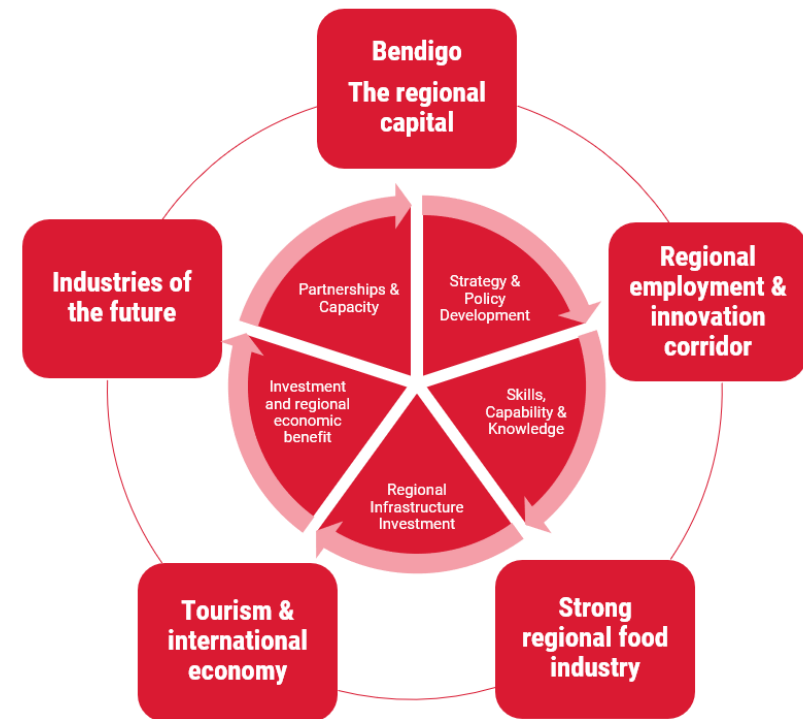
The Loddon Campaspe is the most populous region within the Loddon Mallee. It has sustained growth of 1.25% per annum and is forecast to proportionally increase to represent 75% of the Loddon Mallee population by 2031.

Since the last Census, 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.

Five regional focal investment areas underpin the success of the region, as outlined in Figure ES-1. This includes a focus on population-driven industries associated with Bendigo as the regional capital, and the regional employment and innovation corridor between Clarkefield and Echuca-Moama. Other regional strengths including agriculture, food processing, tourism and emerging industries are also identified with supporting economic direction.

Finally, the Regional Economic Growth Strategy seeks to respond to demands for future skills and emerging industry sectors that leverage intrinsic regional strengths.

Figure ES-1 Regional Economic Growth Strategy Framework



The following table summarises the regional focal investment area initiatives that will drive delivery of economic objectives for the region and deliver broader economic benefits and/or outcomes.

Table ES -1 Summary of Regional Focal Investment Area Initiatives

Focal Area	Economic Objective	Economic Priority	Economic Benefit
Bendigo the regional capital	Supporting population growth	<ul style="list-style-type: none"> Implementation of pre-existing plans (e.g. Plan Bendigo) that support the aspiration of growing Bendigo's population whilst maintaining and enhancing Bendigo's liveability. 	<ul style="list-style-type: none"> Maintenance of a population growth of 2% per annum (currently 1.86%).
		<ul style="list-style-type: none"> Continue economic diversification and drive higher levels of employment through health, manufacturing, finance and related tertiary education activity. 	<ul style="list-style-type: none"> Population growth itself helps drive the viability of new services and economic opportunities. A workforce that has a higher proportion of better paid professionals compared to present.
	Regional city infrastructure investment	<ul style="list-style-type: none"> Ensure regional investment in infrastructure responds to residents, business and visitor needs including Bendigo Airport, business land, cultural assets and Bendigo 'metro' rail. 	<ul style="list-style-type: none"> Retention and attraction of skilled workforce.
		<ul style="list-style-type: none"> CBD Infrastructure renewal taskforce/renewal authority to resolve property constraints within the Bendigo CBD, specifically targeting known water/fire management, power and gas infrastructure impediments to support CBD renewal and private investment. 	<ul style="list-style-type: none"> Business investment and development into Bendigo market.
		<ul style="list-style-type: none"> Safe and convenient network of bike and walking paths and open spaces that include the renewal of Bendigo creek that includes design and landscape restoration. 	<ul style="list-style-type: none"> An expansion of 'capital city' type services available in Bendigo.
			<ul style="list-style-type: none"> Complete visitor experience and tourism product offering.
			<ul style="list-style-type: none"> Increased private capital investment in Bendigo to support residential and commercial land development.
			<ul style="list-style-type: none"> Increased central resident population to support 'Night Time Economy'.
			<ul style="list-style-type: none"> Increased liveability and support.
			<ul style="list-style-type: none"> Less traffic congestion.
			<ul style="list-style-type: none"> Better social connections Healthier waterways. Potential for urban development yield.

Focal Area	Economic Objective	Economic Priority	Economic Benefit
	Attraction of a government agency or corporate headquarters to Bendigo	<ul style="list-style-type: none"> Advocacy and lobbying for a key central agency to be headquartered in Bendigo, as white-collar jobs provide a significant economic benefit for regional areas. 	<ul style="list-style-type: none"> Transformative increase in local employment associated with headquarters of major government department or private industry.
Regional employment & innovation corridor	Expanded tertiary education investment	<ul style="list-style-type: none"> Support initiatives that grow and expand tertiary education as a supplier of talent and future workforce, a home of research and development, and a key local employer. 	<ul style="list-style-type: none"> Increase in tertiary education employment and level of research activities in the region. Increased student population.
	Regional employment and innovation corridor policy and positioning	<ul style="list-style-type: none"> Strengthen the regional employment and innovation corridor through regional policy, land use planning and economic development strategy. 	<ul style="list-style-type: none"> Attraction of skilled workforce and business investment. Small-medium enterprise business creation - increased employment (jobs).
	Facilitating entrepreneurship in the region	<ul style="list-style-type: none"> Pilot industry community place-making approaches that are fundamentally economically and entrepreneurial driven. 	<ul style="list-style-type: none"> Small-medium enterprise business creation - increased employment (jobs).
	Innovation enabling connectivity infrastructure	<ul style="list-style-type: none"> Investigate the potential for using VicTrack and Telstra High Speed Optic Fibre assets to increase regional digital connectivity. 	<ul style="list-style-type: none"> Resolve 'regional' inhibitors to research and creative business to increase local jobs.
		<ul style="list-style-type: none"> Invest in research and development to leverage existing high value manufacturing, health facilities and universities. 	<ul style="list-style-type: none"> Better access to jobs and markets throughout the corridor.
		<ul style="list-style-type: none"> Ensure ongoing investment and maintenance along Bendigo to Melbourne train line including increased speeds and opportunities for train station renewal (Harcourt, Clarkefield, Kyneton, Goornong, Huntly) 	<ul style="list-style-type: none"> Leveraging broader markets through Melbourne Airport rail connection. Urban development and value capture associated with new/renewed train stations.
	Township renewal	<ul style="list-style-type: none"> Gear investment around visitors and residents, linking excellence in schools, health, housing, urban design and town centres within the broader innovation corridor to improve township amenity and sustainability. 	<ul style="list-style-type: none"> Population growth and attraction of skilled / creative workforce. Increased levels of tourism visitation and expenditure.
Strong regional food industry	Leveraging pipeline infrastructure and water policy reform	<ul style="list-style-type: none"> Secure funding required for Mitiamo Pipeline. Encourage private on-farm investment to support regional food supply chains leveraging access to secure water supply through South West Loddon and Mitiamo pipelines. 	<ul style="list-style-type: none"> \$M private on-farm investment. Expansion of animal processing and intensive agricultural industries

Focal Area	Economic Objective	Economic Priority	Economic Benefit
	A more productive future for the Goulburn Murray Irrigation District (GMID)	<ul style="list-style-type: none"> Identify enterprises that are doing well, and learn from their success, applying the way they respond to the region's strengths and challenges. 	<ul style="list-style-type: none"> Maintenance of agricultural productivity despite lower water allocations.
		<ul style="list-style-type: none"> Develop an operating environment that attracts and supports new agricultural enterprises. 	<ul style="list-style-type: none"> Lower supply chain costs.
		<ul style="list-style-type: none"> Improve freight movement across the GMID. 	
	Food industry supply chain analysis mapping	<ul style="list-style-type: none"> Identify supply chain opportunities to boost local industry development and create efficient local supply chains. 	<ul style="list-style-type: none"> Increased value of Regional Expenditure (\$M)
	Develop a skilled & innovative workforce	<ul style="list-style-type: none"> Build the sector's strong relationship to the demand for skills and a stable workforce. 	<ul style="list-style-type: none"> Capability building of the sector.
		<ul style="list-style-type: none"> Build the sector's capability via independent business management insights for industry associated with government policy, risk management and water reform. 	<ul style="list-style-type: none"> Increased compliance, efficiency and profitability.
		<ul style="list-style-type: none"> Develop digital networks that support the uptake of the Internet of Things 	<ul style="list-style-type: none"> Increased output by sector.
		<ul style="list-style-type: none"> Encourage the uptake of automation in farming and food processing 	
		<ul style="list-style-type: none"> Develop sector-based plans for the growth of agricultural production 	
Tourism & international economy	International engagement strategy	<ul style="list-style-type: none"> Prepare a strategy for the growth of international export output, increased international visitation, strong regional co-ordination of international identity, attraction of international students, and encouraging skilled migration in Loddon Campaspe. 	<ul style="list-style-type: none"> International Export Value (\$M) increase.
			<ul style="list-style-type: none"> More internationally active businesses.
			<ul style="list-style-type: none"> Higher numbers of international students.
	Develop the region's nature tourism potential	<ul style="list-style-type: none"> Complete construction of the Loddon Campaspe Iconic Trails. Ensure activation of the trails network through coordinated management arrangements. Establish improved management of our forested areas to ensure greater appreciation and use. 	<ul style="list-style-type: none"> Higher levels of tourism visitation and expenditure.

Focal Area	Economic Objective	Economic Priority	Economic Benefit
		<ul style="list-style-type: none"> • UNESCO World Heritage listing for the 'Dry Diggings'. • Support the development of indigenous enterprises that leverage our natural and cultural landscape. 	
	Develop the region's reputation as a food and artisan destination	<ul style="list-style-type: none"> • Build on the regional strengths and unique food culture to support economic benefits. • Support wineries, breweries and opportunities for farm gate activity and food related trails. • Support the establishment of an institute of gastronomy and Bendigo Food Hub. • Achieve status as a 'City of Culture – Gastronomy' for Bendigo 	<ul style="list-style-type: none"> • Higher levels of tourism visitation and expenditure.
	Cohesive regional tourism product development	<ul style="list-style-type: none"> • Renew existing tourism attraction products. • Support emerging tourism attractions. 	<ul style="list-style-type: none"> • Higher levels of tourism visitation and expenditure.
	Preserve and enhance the unique character of our towns and villages	<ul style="list-style-type: none"> • Gear investment around visitors and residents, linking heritage restoration, urban design and town centres with tourism product development and marketing. 	<ul style="list-style-type: none"> • Higher levels of tourism visitation and expenditure.
Industries of the future	Creating our future workforce	<ul style="list-style-type: none"> • Ensure the region's school leavers are engaged and equipped for further study or work. 	<ul style="list-style-type: none"> • Increase ability for employers to find suitable employees.
	Comprehensive future skills study	<ul style="list-style-type: none"> • Identify needs of region from vocational to higher research level employment to match tertiary education curriculum and attract future workforce. 	<ul style="list-style-type: none"> • Increased regional prosperity when measuring GRP through Income method. • Increased household (wages & salaries) and business income (Operating Surplus) when measuring Value Added.
	Build a 21 st Century health sector	<ul style="list-style-type: none"> • Support the establishment of research partnerships that leverage the capacity of the new Bendigo Hospital and its cutting-edge capabilities. 	<ul style="list-style-type: none"> • More tertiary jobs.
		<ul style="list-style-type: none"> • Leverage the \$100 million State Government upgrade to the Maryborough District Hospital including the Centre for Inspired Learning which offers a Diploma of 	<ul style="list-style-type: none"> • Local investment by Global Tech Company. • Capital investment in research facility.

Focal Area	Economic Objective	Economic Priority	Economic Benefit
		Nursing on site. Seek funding for the redevelopment of the Castlemaine Health facilities.	<ul style="list-style-type: none"> Global research that supports the Bendigo (Loddon Campaspe brand) and attracts skilled workforce.
	Export strategy for advanced manufacturing	<ul style="list-style-type: none"> Growth in food related production and advanced manufacturing to support local jobs and generate export income. 	<ul style="list-style-type: none"> Increased value of total exports from 'Food Industry'. Increase in Research Jobs. Growth Manufacturing Output. Grow employment in the region.
	Regional renewable energy network	<ul style="list-style-type: none"> Undertake the planning required to support the transition to a new energy economy that has more localised power production and an increased dependence on batteries. 	<ul style="list-style-type: none"> Localised energy production creates savings. Transmission losses of approximately 15% are incurred when power comes from the Latrobe Valley
		<ul style="list-style-type: none"> Help City of Greater Bendigo achieve its goal of becoming 100% renewable by 2036 by: <ul style="list-style-type: none"> Undertaking a feasibility for the Bendigo pumped hydro project 	<ul style="list-style-type: none"> If local power generation is retained under local ownership domestic and business energy costs are lowered. <ul style="list-style-type: none"> Access to lower corporate energy costs. Build local industry capability within resource management.
		<ul style="list-style-type: none"> Establishing two to five 10 Megawatt solar farms, retaining local ownership. 	
		<ul style="list-style-type: none"> Encourage the uptake of corporate Power Purchasing Agreements (PPAs) to help achieve lower energy costs. 	
	Regional employment land	<ul style="list-style-type: none"> Provision of adequate industrial and employment land to support growth of regional industry including manufacturing, construction and logistics. 	<ul style="list-style-type: none"> Increase in economic output. Growth manufacturing output. Growth employment base for region.
	Attract new business investment	<ul style="list-style-type: none"> Expand the current government support given to private businesses that wish to expand. 	<ul style="list-style-type: none"> Increased manufacturing sector (\$M) value-added.
		<ul style="list-style-type: none"> Create a Regional Capital Investment Fund that supports businesses wishing to expand and needing equity to do so. There is a need to explore financing model to unlock and incentivise access to capital to expand into new markets and support innovation. 	<ul style="list-style-type: none"> Level of private product development and local job creation.

1 Project Sponsorship & acknowledgement

*To be finalised – proposed joint piece (Loddon Mallee Regional Partnership
Chair and Loddon Mallee RDA Chair)*

2 Introduction

The Regional Economic Growth Strategy (the Strategy) outlines a strategic direction for the Loddon Mallee Region to invest in skills, build capability and leverage recent and future capital infrastructure through a package of targeted and ‘*unique to region*’ investment.

The Strategy aims to increase capacity and regional prosperity for the residents of both the Loddon Campaspe and Mallee sub-regional areas of the Loddon Mallee. The initiatives and strategic direction outlined in the Strategy are integrated and multifaceted addressing identified economic focal areas of regional innovation and connection, regional manufacturing and food industry, economic resource management and forests, heritage and landscape. Throughout both regions, investment in skills and supporting relationships beyond the region are central strategies.

Regional economic strategies reflect the complexity of regional development. While the primary objective of this strategic work is underpinned by economic development, insights from practitioners, policy makers, institutional managers and senior local government staff have enabled the integration of broader policy objectives across education, housing, urban design, environmental restoration and protected areas management. The integration of these policy approaches drives success and economic prosperity of a region and its community.

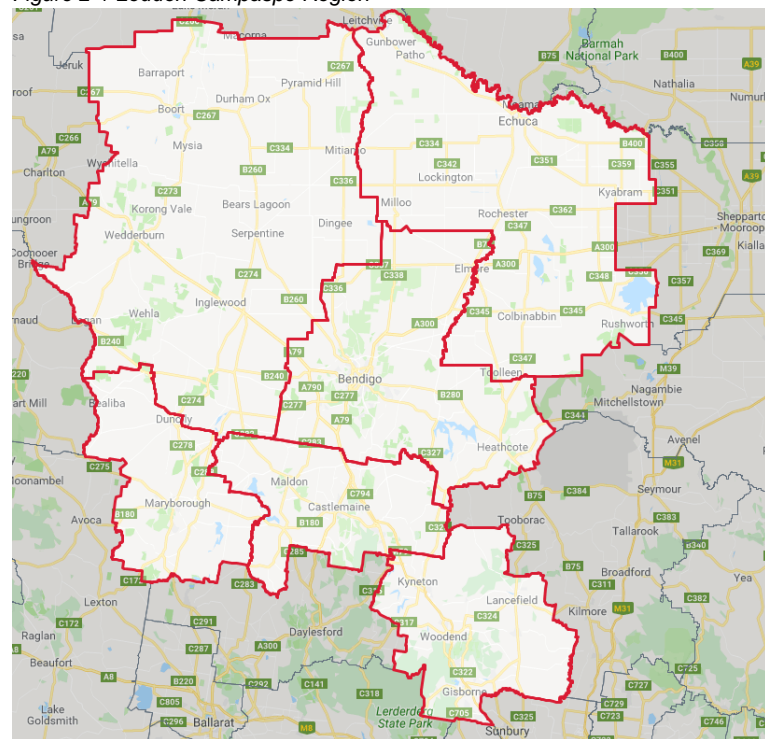
The Regional Economic Growth Strategy is unashamedly focused on increased employment, growing Gross Regional Product (GRP) and improving prosperity of the region as recognised through productivity gains, increased wages and salaries and a higher level of educational attainment.

2.1 Project Scope

Project work has been undertaken within the Loddon Mallee across both the Regional Partnership sub-regional areas of the Loddon Campaspe and Mallee Region. The following Strategy is focused on the Loddon Campaspe Region.

The Loddon Campaspe region is comprised of the following six Local Government Areas: Campaspe Shire, Central Goldfields Shire, City of Greater Bendigo, Loddon Shire, Macedon Ranges Shire and Mount Alexander Shire.

Figure 2-1 Loddon Campaspe Region



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

Investment objectives for the Loddon Mallee are consistent throughout the two regions, but the strategies are unique to each region. Objectives include investment targeted to support enhancement of key areas of capital (Table 2-1).

Table 2-1 Targeted areas of investment to increase capital

Capital	Area of investment strategy
Political	Strategy & Policy Development
Human	Skills, Capability & Knowledge
Built	Regional Infrastructure Investment
Cultural	Celebrating Region & Heritage
Social & Financial	Partnerships & Capacity

At a sub-regional level, the strategies are focused on the specialisation opportunities of the region and respond to the key drivers of the sub-regional economies.

In the southern Loddon Campaspe region, population is the driver of economic activity, demanding and supporting regional services. In the north and the Mallee region, the overriding economic driver is production and export-driven activity where rural land use provides economic return to the region through high levels of output per worker.

Of course, this simple view does not reflect the complexity of each region. However, it is fundamental in the approach to the development of the Strategy, and as a result, targeted investment to support sub-regional prosperity across the Loddon Mallee.

2.2 Project Background

The Regional Economic Growth Strategy is being delivered over three distinct project stages as outlined in Figure 2-2. Stage One involved a consolidated economic analysis of the current situation based on evidence (data information) and targeted engagement to provide insights and identify emerging priority areas for regional economic development.

Stage Two has built on this evidence base and prepares a consolidated Regional Economic Growth Strategy utilising strategic opportunity assessment and priority project identification.

Stage Three of the project will involve the preparation of a revised and updated Investment Prospectus for the Loddon Mallee region.

Figure 2-2 Regional Economic Growth Strategy Project Method



2.2.1 Current economic profile

The key latest economic indicators for the Loddon Campaspe region indicate a sustained population growth of 1.25% with a forecast total population of 280,669 by 2031. Over 90,000 jobs are supported in the region and with the top sectors of employment concentrated in Health Care & Social Assistance, Retail Trade and Manufacturing. As a sector, Health Care & Social Assistance is the greatest contributor to Gross Regional Product (as measured by Value-added). However, Manufacturing and Construction drive local expenditure with higher total output.

Table 2-2 Key Economic Profile Statistics – Loddon Campaspe

Estimated Resident Population 240,096 (ABS)	Annual Population Growth Rate 1.25% (VIF)	Projected Population 2031 280,669 (VIF)
Gross Regional Product (\$B) \$13.022	Per Capita GRP (\$'000) \$55.914	Per Worker GRP (\$'000) \$142,510
Total Output (\$B) \$26.177	Total Employment (Jobs) 91,379	Total Value-added (\$B) \$11.979
<u>Top 3 Sectors by Output</u> 21.6% Manufacturing 13.7% Construction 6.9% Financial & Insurance Services	<u>Top 3 Sectors by Jobs</u> 16.1% Health Care & Social Assistance 11.7% Retail Trade 10.3% Manufacturing	<u>Top 3 Sectors by Value-added</u> 10.2% Health Care & Social Assistance 10.2% Financial & Insurance Services 9.2% Manufacturing
Tourism Output (\$M) \$958.242	Tourism Employment 5,713	Tourism Value-added (\$M) \$429.539

Source: Australian Bureau of Statistics, Victoria in the Future, REMPLAN.

Note: Economic estimates above exclude Rental, Hiring and Real Estate Services of which a significant component includes 'Ownership of Dwellings'. Ownership of dwellings consists of landlords and owner-occupiers of dwellings. Owner-occupiers are regarded as operating a business that generates a gross operating surplus. The imputation of a rent to owner-occupied dwellings enables the services provided by dwellings to their owner-occupiers to be treated consistently with the marketed services provided by rented dwellings to their tenants.

3 Loddon Campaspe Economic Growth Strategy

3.1 Preferred Economic Future

The legacy of our investment decisions today will underpin the future of our region, the Loddon Campaspe. In 2030, the Loddon Campaspe region is recognised as the most progressive region in Australia. It is an inclusive corridor of economic activity that boasts diversity in food production, innovation in finance, advanced manufacturing and globally recognised research centres.

The region's population growth has been delivered through investment in infrastructure that attracts talent, sustains residents and draws visitors. Increasing our proportion of the state's population, our region has contributed to maintaining Melbourne's liveability. The region is now renowned for its inclusive population and supports culturally diverse communities which are passionate about the region.

The regional employment and innovation corridor has matured into a highly connected network of towns and cities that are the envy of metropolitan suburbs nationwide. Mature and highly valued professional services and creative industries are built around regional innovation hubs. Strong town centres, bustling main street economies and a dynamic highly connected workforce are no longer a 'bubble' but the common features of our region.

The economic base has diversified, and our region's key sectors are centred around highly visible health and education institutions. The health sector provides more than first-class public health: with digital health transformation, 2,000 health research staff in Bendigo and surrounds extend preventative health outcomes globally.

Tertiary education has expanded in the region as consolidation of valuable Melbourne university assets has driven the creation of regional models lauded throughout Europe and the United States. As a result, the region boasts educational attainment levels at the highest global standards. Once

representing just over 1% of all jobs in the region, the tertiary education sector has surpassed jobs in both agriculture and manufacturing and grown tenfold to support 10,000 local jobs across the three key regional universities.

Strong links in research from these institutes extend across a connected, mechanised and technology enhanced agricultural and manufacturing sector that produces world class exports for defence, mining, and the highly competitive household food produce markets of Asia and the Middle East.

Investment in our region's rural communities to manage succession, be digital-ready and actively leverage both water pipeline infrastructure and expanded digital connectivity has supported renewed growth in the agriculture and food sectors. Generation Alpha now recognise Agriculture as a tech led and innovation rich desirable employment sector.

Regular Passenger Transport (RPT) between Sydney and Adelaide, first unlocked in 2019, was pivotal in supporting our successful global relationships that extend goods and services from the region. However, the high-speed trains direct to Melbourne Airport transformed the desirability of the region for highly qualified and a globally mobile population. Local rail, smart bus connections, a culture of walking and cycling supported through a high-quality urban design underpin the region's emphasis on preventative health.

These outcomes have not come without challenges. Managing sustainability objectives, water scarcity and global carbon pricing has driven innovation. Unprecedented levels of energy and waste solutions have been integrated at both industry and household levels, while our region's highly valued reserves of public land and forests are actively managed for recreation and environmental services.

3.2 Investment Objectives

Identifying areas of focus is key to the development of the Regional Economic Growth Strategy. Regional focal investment areas will help categorise priorities that best leverage existing regional strengths and address weaknesses.

The purpose of this document is not to detail or design specific investment projects, rather to outline preliminary investment logic at both a program and focal area level to support further substantiation.

Importantly, while the focal areas are targeted, and proposed actions and responses have been aligned to a specific program area, the proposals are often integrated and holistic in their approach. In several focus areas a project or initiative has a positive impact on or supports a proposal in another nominated priority area.

As an example, proposed township renewal through urban design and connectivity have been nominated within the *Regional employment and innovation corridor* focal area. These actions directly support the *Tourism and international economy* focal area, supporting increased visitor expenditure and built heritage outcomes within the region's townships.

The role of government and regional structures including Regional Partnerships and Regional Development Australia to expedite and support economic development within their region is fundamentally linked with policy. While this policy support is often expressed through advocacy and engagement, it is most commonly demonstrated through contractual agreements, financial instruments and grants.

Key partners in the region are Local Government bodies, whose regional economic development efforts are commonly directed toward capital investment in infrastructure and assets, regulatory change of land use planning, and a range of business support approaches such as collaboration/networking, lobbying and promotion.

Central to many of these decisions is coordination of strategic line of sight between demonstrated business need, evidence and information, strategies and plans and business case development to unlock capital.

Each of the focal areas provides an investment summary with overview of strategic assessment. Summary material included in the Strategy has been supported through technical reporting and subject matter expert workshops. The Strategy provides an overview of each focal area, including:

- Economic objectives – why the region should target this focal area
- Economic priorities - Description of investment/service need, including likely high-level solutions and priority recommended actions
- Economic benefits - preliminary assessment of regional investment benefits.

Recommended actions are aligned to the role of government but ultimately seek to unlock private sector investment. Typically, these approaches recognise a need for partnership in the investment.

4 Regional Focal Investment Areas

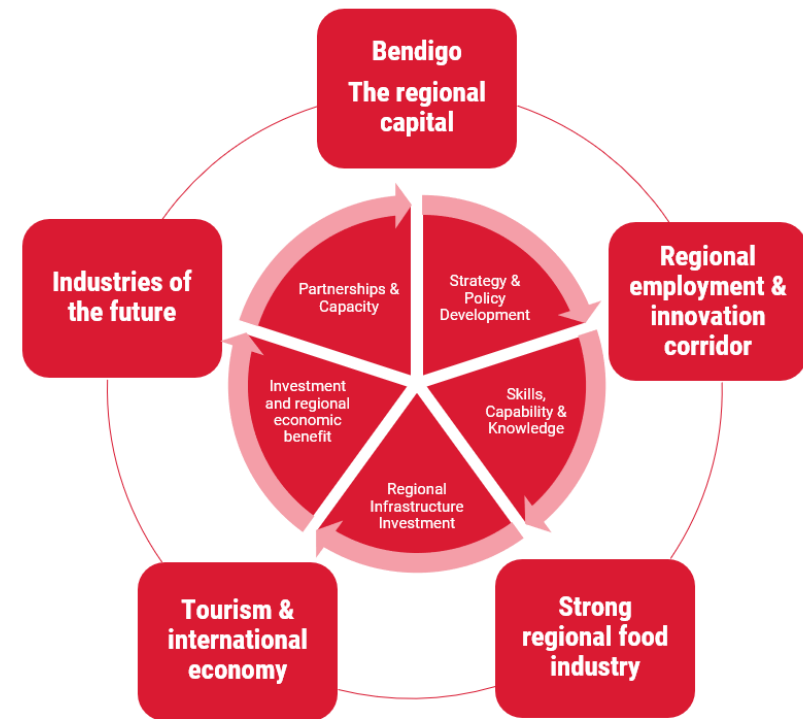
The Regional Economic Growth Strategy outlines priority areas that leverage strengths and address problems requiring investment to remove impediments to increased productivity and prosperity in the Loddon Campaspe region.

The positive economic outcomes (increased productivity and prosperity) of the Loddon Campaspe region will be structured around the success of key regional strengths.

These positive economic outcomes are fundamentally driven by a strong relationship to the attraction and capability of the region's human capital, structural policy shifts that advance future strategy and investment in the region's built and natural environment.

Forging new regional success stories, economic outcomes and positive histories links to the future with the region's significant cultural heritage. These lived experiences underpin the success of the region. Shared experience and cultural celebration is the bond that ensures economic outcome within the regions are fostered through partnership and celebration and broad regional relationships that extend beyond the immediate Loddon Campaspe region.

Figure 4-1 Regional Economic Statement Framework



4.1 Bendigo - the regional capital

4.1.1 Economic Objectives

The urban area of Bendigo has emerged from its role as a service centre for rural agriculture and manufacturing into one of the top 20 cities in Australia.

Bendigo aspires to become the most liveable regional city in Australia. The region aspires to be the most progressive region in Australia.

Bendigo is at the heart of this aspiration and regional economic strategy. As the key regional capital within the Loddon Campaspe region, the city of Bendigo must continue a progressive trajectory of investment to support its growing population.

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.

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 often hidden from public view. However, private capital investment is not as evident in the Bendigo CBD where the largest projects are driven through public sector led renewal by the City of Greater Bendigo with initiatives such as GovHub that combines several State Government agencies into one new building.

The investment in public infrastructure for regional communities has been significant in Bendigo over the last five to eight years. This has included upgrades to the Goldfields Library, multi-storey carparks, the Ulumbarra Theatre, and the 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 funding to help upgrade the airport terminal building to support the commencement of Regular Passenger Transport (RPT) services and future business land development for Stage Three of the airport precinct.

However, transformation of the retail sector has hollowed out the Bendigo CBD and higher than normal vacancy rates, coupled with lower private sector capital investment, presents a threat to the key regional capital.



Figure 4-2 View of Mount Alexander, Bendigo Art Gallery (foreground) and Bendigo Cathedral

Victoria's regions continue to demand a high-quality workforce. It is important to maintain Bendigo as a competitive economic destination to ensure the region's business environment supports its overall economic condition.

Regional assets within Bendigo are considered both good for Bendigo and the region. Regional benefits will accrue when the following economic objectives are realised: a diverse growing economy that supports population growth and increased inward migration, infrastructure to support the broader regional population, an expanded tertiary education workforce and research base, a reinvigorated focus on CBD renewal and city amenity.

Central to all these objectives is creating employment diversity and housing destination of choice. While proposals to relocate public agencies are important to anchor services and support diverse economic activity, ultimately attracting private sector activity including business leaders and a strong workforce will be key to Bendigo's long-term success.

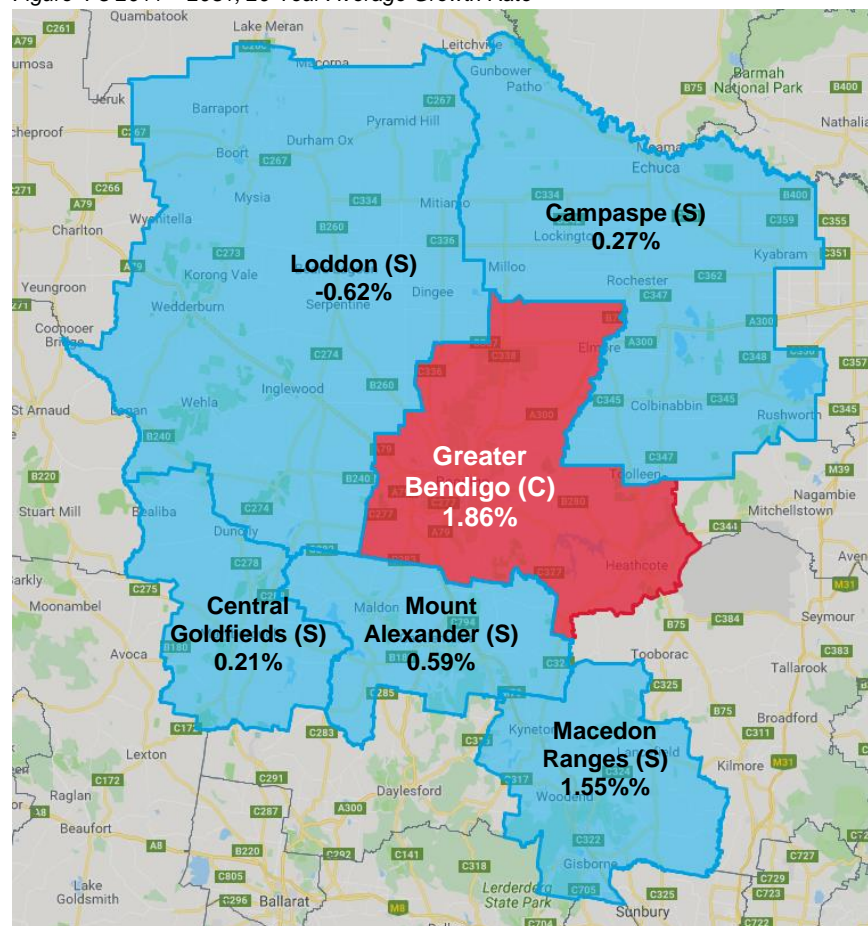
4.1.2 Economic priorities

4.1.2.1 Supporting population growth

Investment is required to support forecast population growth, continue economic diversification, and drive higher levels of employment through health, manufacturing, finance and related tertiary education activity.

Now more than ever, public infrastructure must take a long-term view for the benefit of both the city and region. High quality infrastructure is required to ensure transport systems, cultural institutions, housing diversity, employment precincts and land, education and health providers, recreational assets and natural systems are positioned for population growth and long-term economic prosperity.

Figure 4-3 2011 – 2031, 20 Year Average Growth Rate



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

The Local Government Area (LGA) of Greater Bendigo currently supports a population of over 113,000¹ and more than 47,000 local jobs. In 2031, the

¹ ABS 2017 Estimated Resident Population is 113,617.

proportion of Loddon Campaspe's population is forecast to grow from 72% to 75% within the broader Loddon Mallee region. Bendigo will absorb most population growth in the region as the urban population of region continues to grow (Figure 4-3).

Economic activity will be driven by population growth largely within the urban catchment of Bendigo. City level investment must be a driver of talent attraction where human capital underpins the key industry sectors within the region. Increasing the depth of food production, innovation in financing, advanced manufacturing and growing strong links to recognised research centres demands capital investment in technology and infrastructure.

However, it will be Bendigo's ability to compete with other cities and attract skilled workers that will ultimately position the city for long term growth.

The top five employing sectors within Greater Bendigo currently 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%).

These employment ratios are expected to shift as increased automation and the resulting economic output is achieved through technology advancement. Population driven services will underpin the diverse economic base of the region.

Bendigo must position investment to enable regional populations to access capital city services locally, be it professional services, cultural celebration or health and education requirements. The city is positioned to exploit a focus on employment and innovation clustering and increasingly export related services (Health, Tertiary Education, Professional Services, Manufacturing) that rely heavily on attracting talent and knowledge driven employment.

Critically, Bendigo must lift its economic profile in terms of wages and salaries for local employees. It needs to attract and retain industries that are positioned for the future and are magnets for talent.

As technology and transport reduce the tyranny of distance, Bendigo must recognise the power of cultural and ethnic diversity to drive economic growth in Australia. The city must position itself as a residential and employment destination of choice.

Investment must be clear and targeted to support regional infrastructure, improving liveability and access to high quality social and community services that support a progressive regional population. Strategic investment can lift the city's national and global profile through international manufacturing relationships, world class research and a depth of local services in education, energy/resource management and health care.

4.1.2.2 Regional city infrastructure investment

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 a high level of contained employment and continue to diversify the existing industry base.

Regional investment in infrastructure must respond to residents, business and visitor needs. Key infrastructure investments to expand the economy include development of a Bendigo Airport terminal building, provision of additional industrial/employment land, and completion of Bendigo's 'metro' rail.

If appropriately targeted, investments in additional city infrastructure can have a compounding impact on the regional economy.

As an example, immediately following the opening of the new Bendigo Hospital, patronage increased by 10 percent. This wasn't because people in Bendigo suddenly became sicker, but because services that had

previously been provided by Melbourne hospitals were now being offered in Bendigo.

A multiplicity of benefit then flows throughout the region. Residents have access to improved services, and improved services increase the desirability of the region as a place to live. In this example, the increased services delivered in Bendigo translated to new jobs.

Similar impact has been seen with other public and private investments made in Bendigo over the last decades such as the Bendigo Bank headquarters, Ulumbarra Theatre and Marist College.

Investment is also required to improve the vibrancy and liveability of Bendigo. Improvements to the cultural offerings, the functioning of the regional city's open spaces and the connectivity across the CBD are all important. A high priority is investment in Bendigo Creek to substantially lift the amenity of central Bendigo. There is a significant project of renewal, design and landscape restoration that would ultimately increase liveability, reduce traffic congestion, improve social connections, create healthier waterways and potential additional urban development yield.

Private investment has been concentrated in growth area housing and industry. It is not as evident in the Bendigo CBD. There are known and documented infrastructure impediments for water/fire management, power and gas utilities to support CBD renewal and private investment.

Opportunity exists to better target and co-ordinate key infrastructure requirements that will drive strategic planning direction. Strategies such as the *Bendigo CBD Plan* and *Plan Bendigo* clearly articulate future development to cater for a population of 200,000 people.

Establishment of a CBD Infrastructure renewal taskforce/authority to resolve property constraints within the Bendigo CBD should be explored. Specifically targeting known water/fire management, power and gas infrastructure impediments to support CBD renewal and private investment.

The authority could perform a function akin to Infrastructure Australia, identifying infrastructure shortfalls through audits and completing infrastructure feasibility and business case development for capital renewal/upgrade/new assets. There is also opportunity to explore a central 'referral' role to streamline planning applications within the Bendigo CBD.

4.1.2.3 Attraction of government agency or corporate headquarters to Bendigo

The City of Greater Bendigo has been at the forefront of policy and strategy development to recognise its role as a key regional city with many of the characteristics of metropolitan areas. Plan Bendigo articulates significant capital investment priorities and seeks to increase the city's objective of becoming Australia's most liveable regional city.

While Bendigo has benefited from a strong public sector base, there is no key federal or state government agency headquartered in the city.

Proposed government investment in GovHub will unlock significant short-term capital activity, providing a single location to house existing local government and state government staff, as well as attracting 100 new positions to the region.

There is a need to attract a major Federal or State Government agency whose headquarters are located within the regional capital of Bendigo. Over the 2011 to 2016 Census period, employment in Public Administration, Regulatory Services, Order & Safety sector contributions declined from 2,241 jobs (6.0%) to 2,476 jobs (5.2%) of total employment.

Continued advocacy and lobbying for location of a key central agency to be headquartered in Bendigo will be critical in realising transformational economic benefit. Public administration jobs provide a significant economic benefit for regions.

Similarly, attracting a corporate headquarters to Bendigo will create equivalent benefits. Work should proceed in identifying suitable businesses that may relocate and packaging the attractiveness of a move to Bendigo.

The aspiration of attracting 500 to 1000 new positions in the region would create a significant economic impact.

4.1.3 Economic benefit

While project scopes at a regional scale are broad and high level, the following preliminary economic benefits are presented by way of plausible scenarios.

4.1.3.1 Supporting population growth

Population growth provides a significant economic benefit. Broader strategies exist that plan for Bendigo to grow to a population of 200,000. The investment in strategies that support population growth underpin local job creation.

As an example, from a net population increase of 1,000 persons in Greater Bendigo, it is estimated that the number of working residents would increase by 436 persons, of which it is estimated 387 persons would work in Greater Bendigo. Based on current labour propensity across industries, it is estimated that under this scenario Gross Region Product would increase by \$104.356 million (1.48%) to \$7,169.083 million. Contributing to this is a direct increase in output of \$110.794 million, 387 additional jobs, \$27.081 million more in wages and salaries and a boost in value-added of \$54.005 million across the following industry sectors².

4.1.3.2 Unlocking CBD development

There are several key CBD sites with approved planning approval for development of mixed use, multi storey buildings. Putting aside the operational benefit of increased gross lettable area within Bendigo's CBD, the construction impact of new development is significant for the region.

The impact of every \$5 million in construction expenditure within the Greater Bendigo economy represents increased demand for intermediate goods and services up to \$4.725 million. In addition, the increase in direct and indirect output would typically correspond to the creation of jobs in the economy. A proportion of these wages and salaries are typically spent on consumption and a proportion of this expenditure is captured in the local economy. The consumption effects under this scenario are estimated at \$2.104 million.

That is, the total impact of \$5 million in CBD construction has a potential positive impact in the Greater Bendigo economy of up to \$11.829 million dollars. Another way to view this benefit is for every \$1 spent on a construction project, a further \$1.40 is generated within the broader economy.

4.1.3.3 Attraction of government agency or corporate headquarters to Bendigo

As an example, if 250 new Public Administration & Regulatory Services jobs were re-positioned and created in Bendigo, the direct annual economic impact would be \$45.851 million. Preliminary economic analysis suggests this repositioning of 250 new jobs to the region could support close to another 200 indirect jobs.

² REMPLAN Community Population and Housing Impact Model based on data from the Australia Bureau of Statistics 2016 Census, as well as 2014 / 2015 National Accounts Input Output Tables and June 2017 Gross State Product estimates.

The relocation of 100 new employees has been experienced several times in Bendigo with Rural Finance, State Trustees and the committed Gov Hub proposal. The relocation of a major department from Melbourne or Canberra that included 500 to 1000 new employees would be a steep change for the local economy, generating between 1.65 percent to 3.29 percent of Gross Regional Product currently estimated to total \$7.075 billion.

4.2 Regional employment and innovation corridor

4.2.1 Economic objectives

Increased levels of creativity and innovation are required to remain globally competitive as places and spaces that support forms of capital respond to the rapid and disruptive industrial change forecast with Industry 4.0 or the Fourth Industrial Revolution.

Echuca-Moama is commonly recognised as Victoria's 11th largest regional city. Along with Bendigo and the Calder Highway area north of Clarkefield, it forms part of an important regional employment and innovation corridor that requires investment and policy support to harness its population growth and changing workforce.

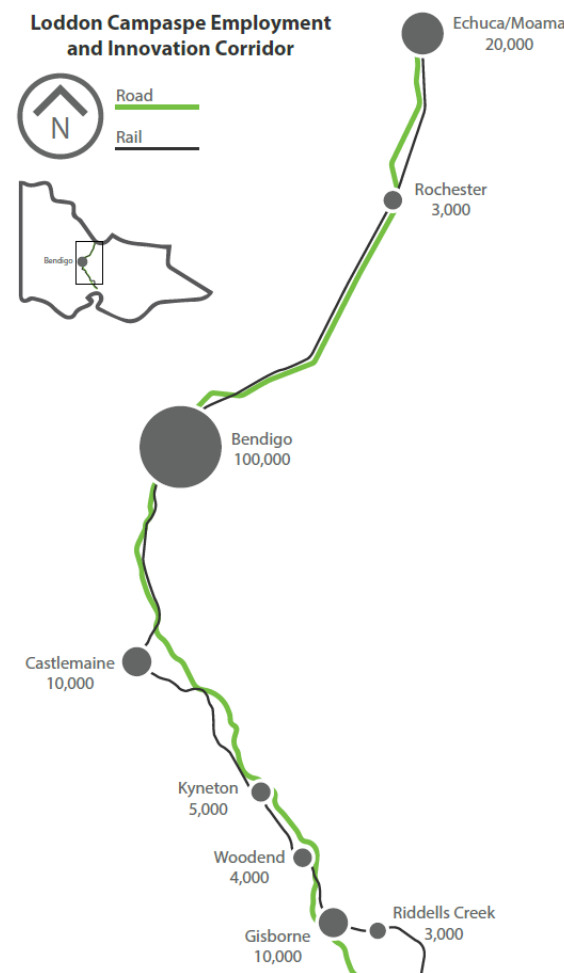
This focal investment area is aligned with a range of Local, State and Federal policy agendas including *Creative Industries Strategy*, *Defence White Paper*, *National Innovation Agenda*, *Regional Deals* and *Plan Bendigo*.

The Regional employment and innovation 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 a deep-rooted arts culture within Mount Alexander Shire both drive demand for new innovation and support substantial capability.

This focal area seeks to recognise the region's creativity, innovation, sustainability and liveability, leveraging the population and associated significant public investment throughout the transport corridor and settlements between Melbourne, Bendigo and Echuca-Moama.

Figure 4-4 Conceptual Regional Employment & Innovation Corridor



Source: City of Greater Bendigo

Investment that supports increased productivity across innovation industries is required. Requirements are multi-faceted and include town centre renewal, exploration of underutilised government assets that support

additional high-speed fibre outcomes and support to leverage and expand a culture of creative industries and entrepreneurialism.

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 operation for over ten years through Workspace located in the Loddon Campaspe region. While more recent practitioner led spaces have also emerged including CoHOOTS in Castlemaine, Synergize Hub in Bendigo, Macedon Ranges Business Centre in Woodend and Kyneton Business Hub.

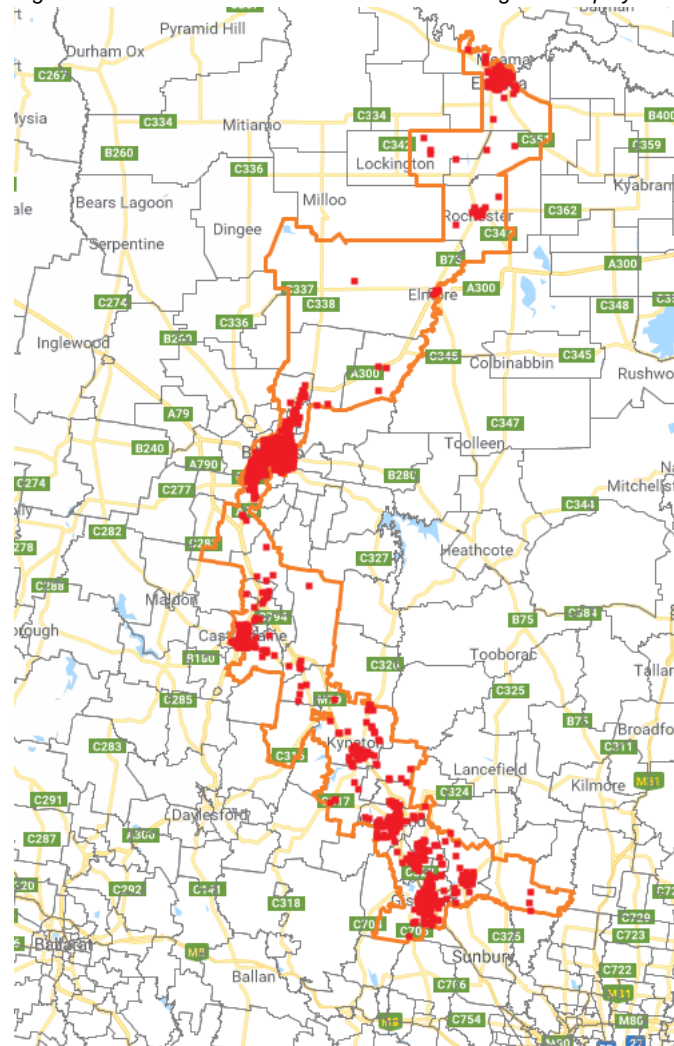
Additionally, attracting and securing an increased tertiary education base that enables consolidation of research centres will drive success. The need for capital investment in research facility, alignment of global tech capability, and structuring research capability around global research that supports the Bendigo (Loddon Campaspe) brand and attracts skilled workforce would be transformative.

Traditionally, Employment and Innovation Clusters (EICs) have been in larger (metropolitan) centres. However, regional cities and towns across the world all need to respond to technology advancement, workforce shortages and increasing demand for higher skills.

EICs are typically defined precincts or locations where distinct characteristics can be identified through economic, physical and networking assets that support culturally rich economic activity that benefits from collaboration, connectivity and ultimately innovation³.

A defined precinct approach within a metropolitan setting can also be applied to a broad regional corridor, particularly when the concentration of economic business activity reflects this spatial definition.

Figure 4-5 Association of innovation Industries - Regional Employment & Innovation Corridor



³ Katz, B & Wagner, J (2014) The Rise of Innovation Districts: A New Geography of Innovation in America. Metropolitan Policy Program, Brookings Institute.

Table 4-1 Employment & Innovation Cluster Assests, Characteristics & Benefits

Asset category	Physical characteristic	Economic Benefit/s
Economic	Concentration of: <ul style="list-style-type: none"> Large employing businesses. Health & Education Institutions. Government & non-Government Organisations. 	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.
Physical	<ul style="list-style-type: none"> Public and privately-owned buildings. Public spaces, streets, and infrastructure. 	High quality built environment where physical assets are designed and structured to promote increased levels of connectivity, collaboration, and innovation.
Networking	<ul style="list-style-type: none"> Interaction and relationships between industries, professionals, local businesses and institutions. 	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 link to innovation and job rich locations that are positioned for industries of the future and cultivate a business environment centred around start-ups and entrepreneurialism set EICs apart from other locations. EICs commonly have a density of employment associated with educational (e.g.

Universities) and/or other institutions such as hospitals that foster demand for research and in turn innovation.

The need to travel often and for greater distances is typical in regions. The populations and businesses that choose regional locations recognise mobility is at the heart of regional living. Technology and better transport infrastructure will help overcome the tyranny of distance to boost innovation.

Long before approaches toward formal EICs, the benefits of clustering employment activity prompted land use re-zoning, development of industrial parks and science/innovation parks. These approaches to land use development, often focused on singular or key industry anchors to concentrate employment and create efficiency in access to resources, goods and labour.

The same demand for concentration of employment activity developed in the past is now being recognised as a means for supporting new ideas and fuelling greater economic growth. While the physical context has shifted with complex and diverse urban forms that support a range of business scales and institutional organisations, the objective remains to promote the ability to transfer knowledge and ideas through the 'collision sport'⁴ that is innovation and collaboration.

The vision for this corridor is to achieve excellence in digital connectivity, urban design, active town centres and community infrastructure investment that attracts talent and visitors.

The corridor has great connectivity with high speed rail, freeway grade road and links to Melbourne Airport. The success of light rail through metropolitan EICs requires replication within a regional context. Improved train frequency and reliability of service and direct connection to Melbourne Airport remains

⁴ AECOM (2017) Transforming Melbourne and Victoria With Employment & Innovation Clusters.

a priority for the workforce within the corridor to extend knowledge-based services for clients in broader markets.

Ultimately the corridor should mature into a highly connected network of towns and cities that are the envy of metropolitan suburbs nationwide. It will attract highly valued professional services and creative industries with economic maturity that are built around regional innovation hubs. The benefits of this dynamic population growth and associated employment will support strong town centres, bustling main street economies and a highly connected workforce.

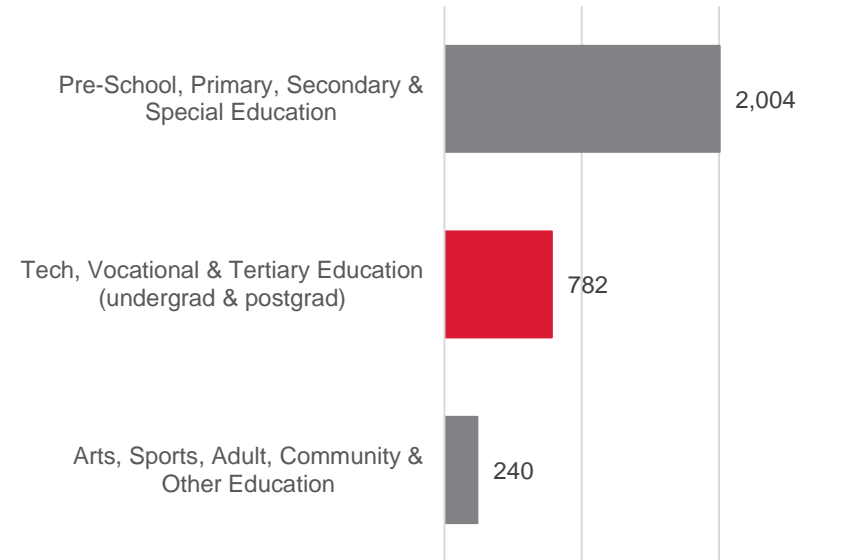
4.2.2 Economic priorities

4.2.2.1 Expanded university presence and new research centres

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 should represent a higher proportion of total employment.

As an example, employment within central urban areas of Bendigo supports 3,027 Education and Training jobs, representing 9.0 percent of total employment in the study area. Pre-school, Primary, Secondary & Special Education comprise the largest cohort of workers, being 65.3 percent of all education and training jobs. While Tech, Vocational & Tertiary Education represents 782 jobs or 25.8 percent of jobs in the sector. Arts, Sports, Adult, Community & Other Education make up the balance of Education and training jobs (8%) (Figure 4-6).

Figure 4-6 Education employment within central Bendigo Urban Area – Tertiary Sector Mapped



Source: ABS (2016) Place of Work Data. Central Bendigo.

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. This need for an expanded tertiary education employment base is highlighted when Bendigo is compared with knowledge-rich employment hubs that foster innovation and research. In essence, the current tertiary education employment profile in Bendigo is underrepresented.

Fostering an environment that turbo charges local institutions to position for research growth rather than cessation is critical. There is strong competition for research in central locations where world class and cutting edge is supported through industry and 10-year Co-operative Research Centre grants through Federal Government support.

Opportunities to support investment for research and development that leverage existing high value manufacturing, health facilities and universities should be prioritised throughout the corridor and within Bendigo. Expanding the local role of research centres and the amalgam of universities within the corridor and centred around Bendigo will be critical. While significant research activity exists across government, industry and participating universities within the corridor, there is a need to cement this activity through establishment of physical research centres.

Bendigo Hospital cannot be a true world class hospital without the physical presence of a research centre. The establishment of this facility will be critical in attracting talent and fostering employment where full-time demand for specialised health practitioners does not currently exist. For example, a health research centre would draw health professionals who can create a diverse employment role combining practitioner, lecturer and researcher to create a 'whole' position within the region.

Similarly, opportunities within the corridor that draw rural and regional learnings together through development of regional research institutes could be transformative. Supporting direct local employment, a rural and regionally focussed institute could be positioned to address many economic and future industry issues. This could include a focus on rural land use, food industries, resources and water aligned with the strategic direction of the Strategy.

4.2.2.2 Regional employment & innovation corridor policy and positioning

To establish and define the Regional innovation & employment corridor (the corridor), further work is required to inform policy development.

Early assessment has identified a concentration of employment, occupations and business creation strongly associated with the transport corridor and townships between Bendigo and Melbourne that support higher wages, higher skills and a strong association with 'innovation' and creative industries.

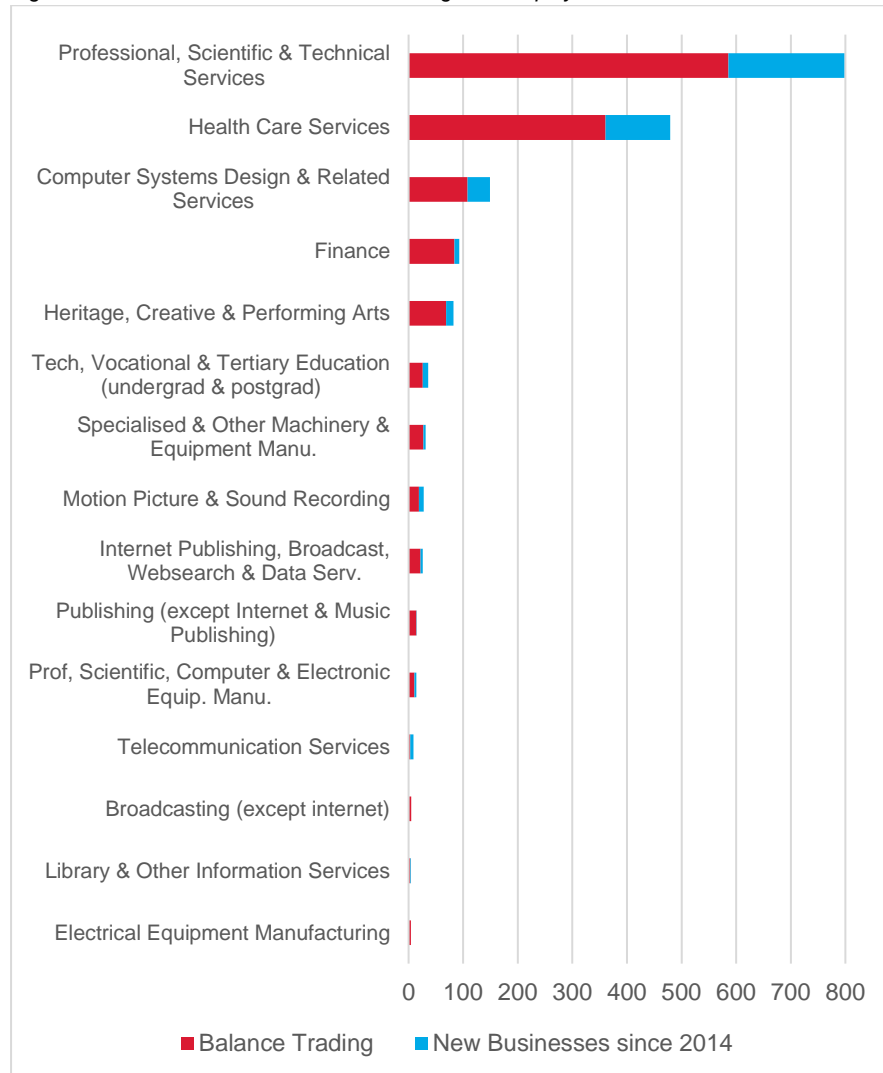
Establishing the corridor as a unique economic region, through land use policy and regional strategic planning will support appropriate infrastructure and economic development investment. Assessment and quantification of research levels throughout the region including relationships with regional educational providers will be important in recognising innovation.

Analysis of industry sectors with strong alignment to innovation was completed for localities⁵ that intersect the key transport corridors between Clarkefield and Echuca.

While not completely representative of innovation that takes place in some sectors, analysis of key sectors commonly associated with innovation demonstrate the power of the corridor. A total of 8,379 businesses registered for GST (excluding Trusts) were trading as at 14 January 2019. Of these 21.2 percent of 1,773 businesses were associated with creative activities and innovation. These included, Professional Services and Health Care through to Publishing and Library Information services. 431 of these businesses were created in the last five years (Figure 4-7).

⁵ Localities are Australian Bureau of Statistics Gazetted Suburbs.

Figure 4-7 Innovation Industries within the Regional Employment & Innovation Corridor



Source: REMPLAN Business Module, City of Greater Bendigo.

The policy context should support development of a corridor that clearly recognises the strength of regional creative pursuits through artists, makers, designers, curators and professionals who support content development. Extending this policy beyond professions, there is a need to strengthen 'regional' links to the arts and other creative industries that only survive through innovation. These relevant sectors include design, digital branding, gaming and advanced manufacturing.

Land use policy should direct the investment of key enabling infrastructure and focus land use development outcomes, including public works around productivity gains and economic objectives that encourage small business growth. This could include infrastructure investment for transport and communications and flexible land use planning requirements to enable start-ups and collaborative business outcomes.

4.2.2.3 Facilitating entrepreneurship in the region

There is a need to create strong partnerships between private industry and government to facilitate increased levels of regional entrepreneurship. While government recognises the power of business growth through the establishment of small and medium enterprises, there is a need to use learnings from the private sector to build the capability of the region.

Building a culture of start-ups and regional entrepreneurship to foster the most innovative regional settlement corridor in Australia will require leadership from private business. Existing methods for engagement and capability building including *Innovation Think Tanks*, *regional industry clusters*, and identification of key technology and industry sectors for region and design "mashups" could be supported by government. Government could support private business within the corridor to lead networking, collaboration and innovation development with the objective of advancement of ideas through the innovation funnel.

4.2.2.4 Innovation enabling connectivity infrastructure

Mobility of people, knowledge and goods is essential within the corridor. This extends to both physical and digital movement. Priority investment to support innovation enabling connectivity includes ongoing investment and maintenance along Bendigo to Melbourne transport corridors.

Regional road and rail infrastructure is essential to the movement of knowledge and services. Significant improvements and investment in the transport corridor have been completed. However, further train line investment to support greater speeds, more frequent services and opportunities for train station renewal is essential to drive private sector investment in the corridor.

Train station renewal/upgrade opportunities that require priority advocacy and investigation include Harcourt, Clarkefield, Kyneton, Goornong and Huntly.

The digital connectivity of the region must be significant to drive the economic goal of realising the full potential within the corridor. Expanded investment in networks, the Internet of Things (IoT) and data sharing through pilots and potential international level engagement to improve digital connectivity reliability will be important in fostering ongoing private sector investment.

Defined opportunities exist within the corridor to undertake High Speed Optic Fibre Investigations of existing government assets (VicTrack). Current application of these assets exists for a single user within Geelong. There is an appetite to explore piloting regional connectivity benefits along the transport corridor given the concentration of settlement within the townships between Gisborne and Echuca-Moama.

4.2.2.5 Township renewal

While connectivity remains vital infrastructure to drive innovation, the importance of place is often cited as the key link to draw talent, creativity and innovation to the locations. Investment in 'place' through design excellence and higher levels of public amenity is a core strategy for attraction of visitors and talent while benefiting existing residents.

There is a need to gear public investment around visitors and residents throughout the region's townships. 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 will continue to attract talent and visitors.

Investment in the public domain including streetscape improvements that facilitate an improved pedestrian experience and assist in stimulating economic development through increased footfall and shopfront renewal remain a priority for many of the region's town centres. Investment that supports increased pedestrianisation, improved carparking and ultimately enables an environment for thriving main streets is strongly aligned to the innovation agenda around high quality place and design.

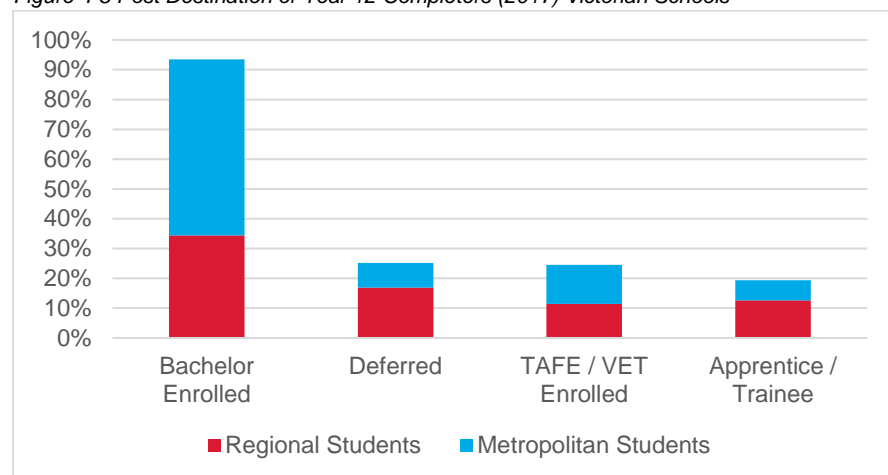
Excellence in schools (public and independent), healthcare facilities, housing diversity, urban design and active town centres facilitates the broader innovation corridor vision. Put simply, what is good for locals is good for visitors and good for business investment.

4.2.3 Economic Benefit

Analysis of the benefit of higher education in multiple jurisdictions has repeatedly indicated that workforce participation, levels of wages and therefore tax contribution and broader non-direct benefits attributable to individual employment all rise as a result of higher levels of education.

Analysis of regional Victoria found that metropolitan students are more likely to pursue higher education or VET courses, while regional cohorts of school leavers are more than two times likely to enter full time employment following completion of secondary school (Figure 4-8). Tertiary attainment of 25 to 34-year-olds in Australia represents 52 percent of all individuals within that cohort⁶.

Figure 4-8 Post Destination of Year 12 Completers (2017) Victorian Schools



Source: On Track Year 12 completer survey 2018 (Department of Education and Training)

Previous studies have found 52 percent of the earning difference between bachelor degree holders and those without any post school education are a result of 'qualification effect'⁷. As the number of students within the region achieve higher levels of qualifications there are a number of direct and indirect economic benefits. This includes Increased levels of labour productivity generated by students with higher levels of qualifications; and,

increased incomes and by extension revenue for government through taxation of higher earning individuals.

4.2.3.1 University expansion

While project scopes at a regional scale are broad and high level, the following preliminary economic benefits are presented by way of plausible scenarios.

The Tech, Vocational & Tertiary Education (undergraduate and postgraduate) sector contributes 197.368 million (0.8%) of total output within the Loddon Campaspe. The bulk of the employment associated with this sector is in Greater Bendigo (849 of 965). If initiatives to boost research were successful in attracting a significant capital investment, 290 new local jobs would be created, a 30 percent increase in Greater Bendigo's employment within the sector.

Under this scenario, total output would rise by \$124.106 million. Anticipated increases in total employment as a result of University expansion could total 531 jobs in the broader economy once demand for goods and services and consumption effects are considered.

4.2.3.2 Streetscape improvements

Design led initiatives that improve amenity are not simply about look and feel in townships. Literature review findings support increased pedestrian movements as a means to improve economic activity, particularly retail turnover. Investment in the public domain that makes townships streetscapes more walkable, safer and inviting has benefits for local trade, due to the additional time a pedestrian will spend in a retail district.

⁶ OECD (2018) Education at a Glance: OECD Indicators, Australia.

⁷ DAE (2016) Estimating the public and private benefits of higher education. Australian Government Department of Education and Training.

There have been a number of research papers into improving pedestrian access and the subsequent effect on retail turnover, a summary of these papers is presented below in Table 4-2.

output, a conservative estimate of between 3% and 8% marginal benefit would provide significant economic returns across the region.

Table 4-2 Literature Review Findings

	Increase in trade	Source
City of Manhattan traffic calming	14%	Good for Business: The benefits of making streets more walking and cycling friendly. Rodney Tolley, Honorary Research Fellow, Staffordshire University, UK, (2014) ^a
Auckland City traffic calming	16%	"as above"
Essen (Germany) traffic calming	15% - 35%	Impact of pedestrianisation and traffic calming on retailing, Carmen Hass-Klau, Environmental and Transport Planning (1993)
Bristol traffic calming	5% – 20%	The Impact of Pedestrianisation on Retail Economic Activity, A Review of the Evidence February 2001, Ecolane Limited, Transport & Environment Consultancy (2001)
Shepparton CBD Improvements	4%	Essential Economics, Shepparton CBD Revitalisation Project Economic Benefit Analysis, 2014.
Improvements to tree coverage and the streetscape	9%	Trees on Main Street: Influences on Retail and Shopping Behaviour, University of Washington, 2004
Willingness to pay extra where significant streetscape improvements	9% - 12%	More in Store: Research on City Trees and Retail, Dr Kathleen Wolf article for Arborist News 2009

While each township and village across the region and throughout the corridor vary in terms of economic composition and existing economic

4.3 Strong regional food industry

4.3.1 Economic Objectives

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

To grow our economy, it is important to focus on this regional strength and set ourselves an aspirational target to increase the contribution from the food industry towards the Region's Gross Regional Product by 50% over the next ten years.

The benefit of a strong regional food industry includes strengthening and leveraging opportunities within the local supply chains, retaining and ensuring sustainable local primary and secondary industries, increasing export income and leveraging investment in capital infrastructure.

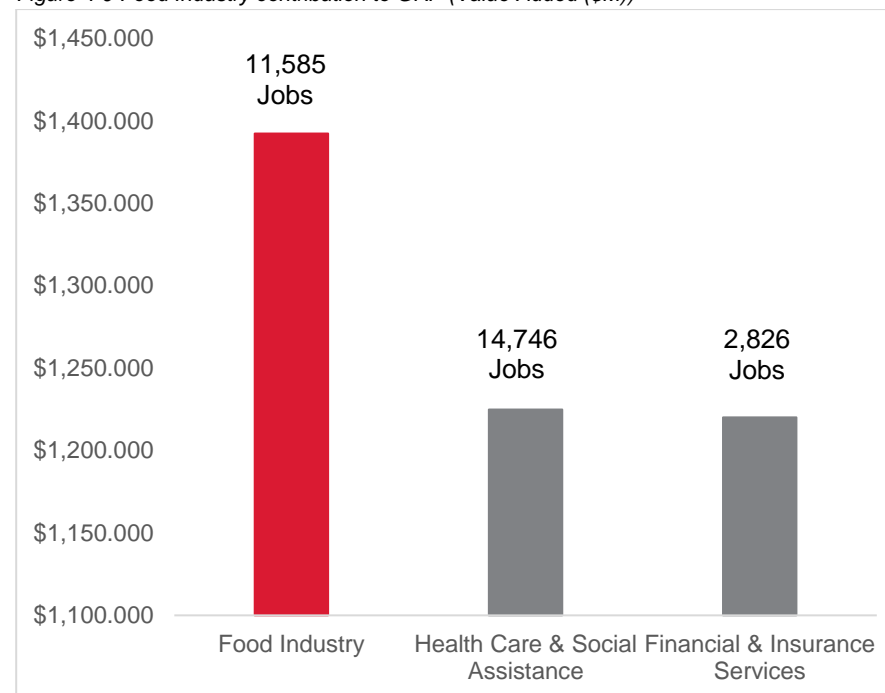
Encapsulating both primary production and food/beverage product manufacturing, the food industry supports approximately 2,100 (15%) local businesses registered in the Loddon Campaspe. Population growth in the Loddon Campaspe continues to drive service related economic activity yet the synergy between rural land use supporting agricultural commodities and a regional food manufacturing base is clear.

While Australian manufacturing undertakes a transition as technology, global competition and labour all impact on the ability to drive cost effective domestic manufacturing, food related product manufacturing has supported the stabilisation of Bendigo and the region's manufacturing employment.

The food industry within the Loddon Campaspe employs over 11,500 people. Consolidating and retaining this industry base is essential as it leverages diversity of growing conditions, existing capability and recognises the long-term role of the region that includes substantial areas of rural land.

Advances in technology are shaping the future of both the agricultural and manufacturing sectors. The region needs both public and private sector to be positioned to proactively embrace this opportunity.

Figure 4-9 Food Industry contribution to GRP (Value Added (\$M))



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

In addition, regional water infrastructure and identifying businesses that can best leverage assets such as the South West Loddon Pipeline are central to future investment in the region.

Investment that supports digital readiness will be important to manage succession and attract talent. As technological approaches take hold in rural production settings, lessons learned from IoT pilot projects will help young entrepreneurs reconceive the role of remote sensing, automation and

innovation in catchment management to drive greater efficiencies and increase yields.

Managing environment threats and broader climate change challenges remains a constant driver of innovation. Public investment in water security requires structured responses to ensure water pipelines deliver high value agricultural production.

4.3.2 Economic priorities

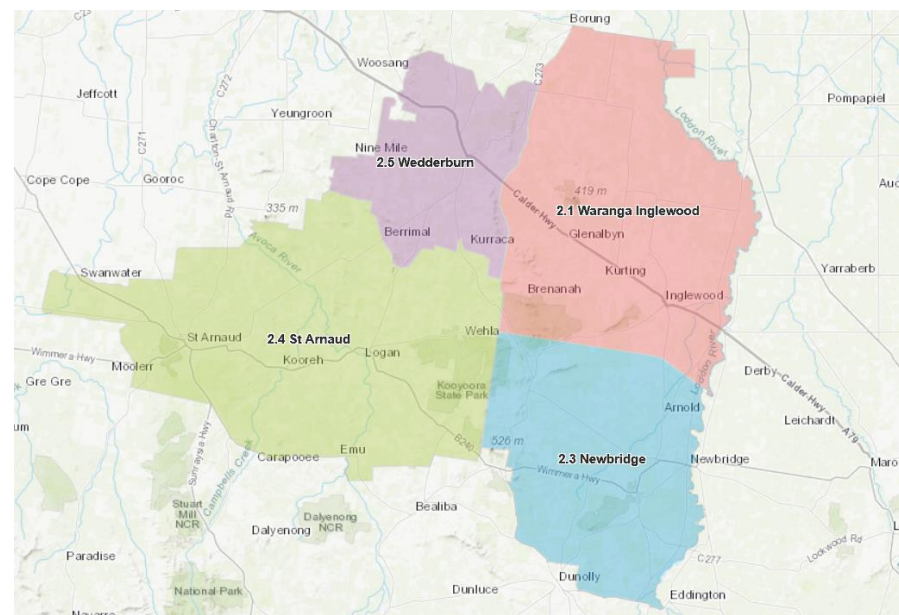
4.3.2.1 Leveraging pipeline infrastructure and water policy reform

The completion of the South West Loddon Pipeline and potential funding of the Mitiamo Pipeline are significant for the supply of domestic and stock water. The regional infrastructure will unlock potential for communities, households and the agricultural sector across a total of 3,650 km² supply area/s.

Management of 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 remain key regional issues. 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.

Leveraging pipeline investment through land use activation will be critical in realising business cases and driving the intensification and diversification of agricultural output from the regions. Over 3,000 rural farming enterprises across both catchment areas have the potential to access water supply and intensify rural land use for local economic activity. A focus on supporting private on-farm investment to support regional food supply chains and leverage access to secure water supply will be critical.

Figure 4-10 South West Loddon Pipeline Project.



4.3.2.2 A more productive future for the Goulburn Murray Irrigation District

The introduction of transferable water entitlements, the implementation of the Murray Darling Basin Plan (MDBP), climatic conditions and the varying profitability of different commodities have all contributed to a marked reduction in the consumptive pool of water available for irrigation within the Goulburn Murray Irrigation District (GMID).

Whilst less water is available for irrigation, farm productivity has fallen by a lesser percentage due to \$2 billion investment in modernising and making the irrigation supply infrastructure more efficient, and in turn irrigators have become more efficient in their use of water.

While the national water policy debate has been divisive, there are some indications that implementation of the MDBP may continue to affect Victorian irrigators. It is time for the industry to focus on ensuring the available water and irrigation infrastructure is used to its full capacity.

There are policy issues to resolve how best to structure pricing to encourage sustainable and productive use of the available water. But there is also a need to develop an operating environment that attracts and supports new agricultural enterprises.

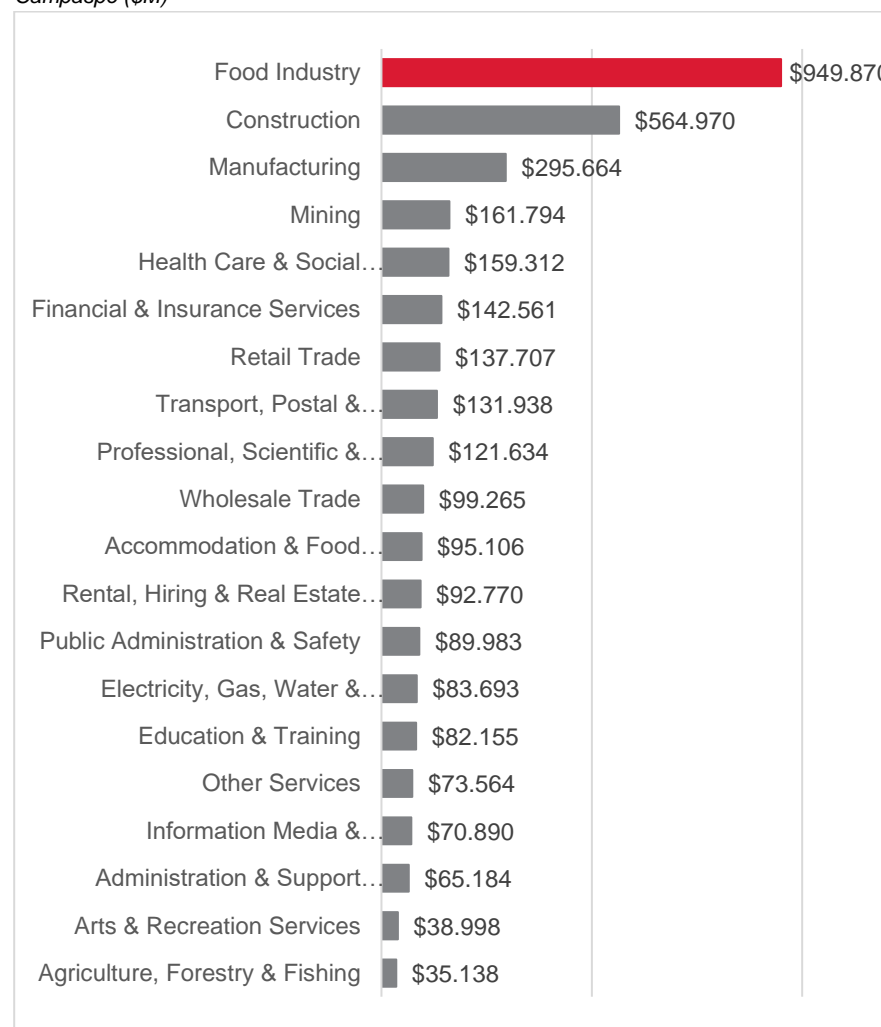
Also benefiting the GMID will be improvements to the movement of freight within the region.

4.3.2.3 Supply chain analysis mapping

In the Loddon Campaspe, the food industry presents one of the most integrated supply chains with strong links between rural production and local manufacturing predominantly occurring within Bendigo. This is particularly evident in meat and meat processing manufacturing (poultry, pigs), beverage manufacturing (grapes, apple and pear growing).

However, significant leakage of expenditure by the industry exists, with domestic imports of goods and services into the Loddon Campaspe by the Food Sector of \$949.870 million (27.2%).

Figure 4-11 Domestic Imports (from within Australia by Local Demand Sectors – Loddon Campaspe (\$M)



Source: REMPLAN, Loddon Campaspe Gap Analysis, 2017.

Investment decisions that strengthen supply chains and form strong bonds between research and an increasingly mechanised and technology enhanced agricultural and manufacturing sector should be prioritised. The region is positioned to produce targeted world class exports for highly competitive household food produce markets of Asia and the Middle East.

Driving greater integration between rural production and local value adding of commodities through food production is central to the region's prosperity. There is a need to recognise the trend for larger scale farming operations that demand less direct labour units (jobs) but generate higher levels of output through technology advances. Identification of supply chain opportunities will support industry development and create efficient local supply chains. Supply chain mapping should include:

- Food Industry focussed mapping
- Gap Analysis to identify intermediate goods and services 'gaps' in local supply chains specific to the Food Industry.
- Market research to complement local business mapping and macroeconomic gap analysis and build in depth understanding of regional market conditions, national and global demand drivers within the sector.
- Recommendations for key industries that present expansion opportunities identifying key links in the supply chain that require investment or further unlocking.

4.3.2.4 Develop a skilled & innovative workforce

The food industry sector has a strong demand for skills and a stable workforce. The demand for skills is broad. Issues include access to reliable and diligent workers, through to medium level management skills to manage government regulatory change.

The broader food industry presents a range of opportunities for local employment; however, it is often difficult managing expectations of staff who want career advancement before they can demonstrate skills and aptitude.

The expectations of rapid advancement by junior management is problematic and has a material cost for business in the form of lower retention of high value staff.

Affordable and timely access to necessary skills to support government policy, risk management and water reform is essential to protect and retain primary industries where farmers can find themselves unable to navigate rapid change and position for positive impacts.

Fundamentally, the sector needs to invest in independent business management support to address issues around trust with service delivery via government. In the first instance partnership and engagement that enables farm management (organisations and/or families) to build trust and understand benefits of changes in business management practices will enable reform tools to be leveraged for increased profitability.

Government can influence the availability of a skilled workforce through tax and immigration policy. Government can help develop business skill programs that target SMEs 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-farm training, strengthening the link between farmers and local training providers (TAFE & University).

Sector level planning (for each agriculture sector) has been identified as a key strategy to identify paths for increased levels of productivity. The Central Victorian Agribusiness Forum, Agricultural Consultants and Agriculture Victoria have important roles to play in advancing this focused approach to productivity increase.

Some sectors, such as intensive animal industries, have greater prospects for growth and should be prioritised for sector planning.

There is scope for increased productivity in both farming and food processing to result from the uptake of new technologies.

With the development of appropriate networks, most forms of farming can benefit from utilising the Internet of Things. Improved on-farm decision making using big data can similarly improve productivity and reduce input costs.

Both farming and food production can benefit from increased automation, especially where labour costs are currently high.

4.3.3 Economic Benefit

The food industry (primary production and food manufacturing) within the Loddon Campaspe contributes 11.6 percent of GRP and employs over 11,500 people. While there is significant integration of supply chains within the regions and known local strengths, the industry reports significant implications that stem from lack of access to sufficient workers with the appropriate skills.

The potential for increased output by the food industry (comprising primary production and food production) as a result of the investment above is significant.

For example, a 10 percent increase in output (total revenue) would represent a direct increase for the industry of \$488.069 million. This increase in income could represent a 2.51 percent increase to Gross Regional Product, rising by \$325.724 million.

From this direct expansion in the economy, flow-on supply-chain effects in terms of local purchases of goods and services would result and these indirect impacts could support 959 more jobs and \$51.148 million more paid in wages and salaries.

4.4 Tourism and international economy

4.4.1 Economic Objectives

There is significant opportunity to broaden and deepen international relationships to support economic growth in the region. A review of the top goods and services exports shows reliance on regional areas and strong alignment with the Loddon Campaspe's regional strengths.

Strengthening the links to the region for tourism and international visitation provides substantial opportunity to increase visitor expenditure and length of stay. This focal area seeks to build on landscapes and heritage buildings through accessible and expanded visitor products.

In addition, the region's strong ties to the arts, galleries and festivals are critical links to visitor expenditure. Art institutions and cultural events like the Bendigo Art Gallery and Castlemaine State Festival continue to promote high levels of global engagement.

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 tourism offers for domestic and international visitors across both the Cultural Tourism⁸ and Adventure Tourism⁹ markets.

The Loddon Campaspe is located within three of Victoria's tourism regions, the Macedon Ranges/Daylesford Region, the Goldfields region and the Murray 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 percent to total GRP through the visitor economy.

Victoria is a destination for international overnight visitors with 3.0 million visitors spending \$8.3 billion dollars. Regional Victoria attracts 528,000 international visitors, who spend \$542 million annually. This total expenditure represented a decrease of 2.6 percent year on year¹⁰. Opportunity exists to package the regional tourism offer for maximum economic impact.

Access to high quality built and natural environment underpins the region's liveability and supports a strong visitor economy. The combination of natural features throughout the region including mountains, rock formations, unique flora, state and national parks, rivers and lakes provide high quality landscape values and support a range of existing food, wine and tourism assets.

Additionally, eight of the top exporting sectors align with the industry sectors within the region with a focus on international education, agriculture, food production, professional and financial services.

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. These include 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.

⁸ 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.

⁹ 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.

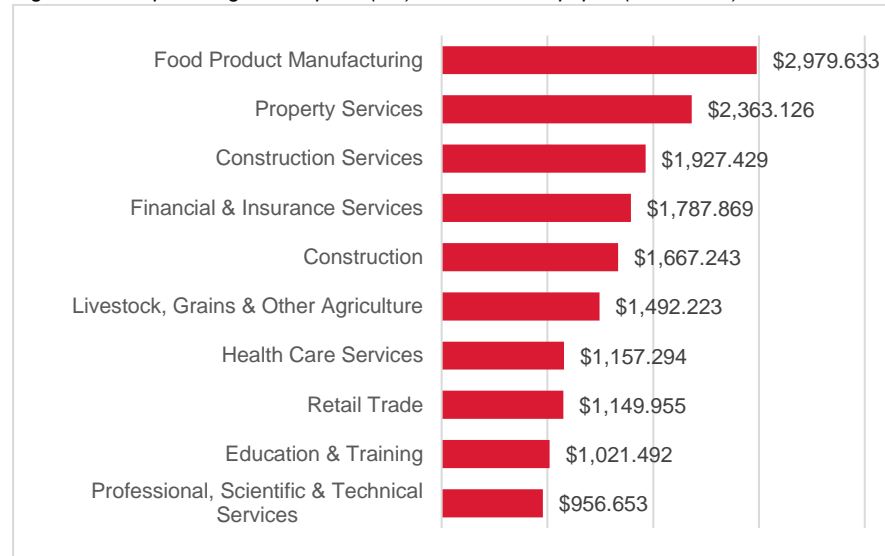
¹⁰ Regional Victoria Tourism Summary, Year Ending September 2018.

Investment in brand development and destination management will be important for this economic base and continue to serve as a driver that attracts talent.

Strategic international engagement creates benefit through access to talent, leveraging significant tourism outcomes and expanding export of goods and services. Local engagement indicates there is a strong point of difference in the Loddon Mallee.

Review of the top goods and services exports reflect reliance on regional areas and strong alignment with the Loddon Campaspe's regional strengths. There is strong alignment across key regional industry sectors with demonstrated export demand. There is significant opportunity to broaden and deepen international relationships to support economic growth in the region.

Figure 4-12 Top 10 Regional Exports (\$M) – Loddon Campaspe (45 Sectors)



Source: REMPLAN.

4.4.2 Economic priorities

4.4.2.1 International engagement strategy

While many local businesses would be interested in exploring international opportunities, there is a gap in local capability and understand around the opportunity.

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.

Development of a Loddon Campaspe international engagement strategy presents an opportunity to review formal international engagement frameworks (Sister City relationships, MOUs, Friendship Agreements) to identify real economic development opportunities in the form of international export markets, two-way trade, direct foreign investment, attracting visitors and retaining talent/skills in the region.

The strategy should identify and develop a brand/regional story that recognises the unique regional qualities of Loddon Campaspe and positions the region as an economic centre.

Often business recognise they need to move toward international markets but there is a need to build confidence. There is strong support to explore development of pathways to market through regional collaboration and understanding.

The strategy should align Loddon Campaspe economic capability and priority export sectors with Victorian Government strategies and initiatives (e.g. *Advancing Victoria's Manufacturing, Export Skills Program* and targeted sector-based trade missions, *Creative Industry Strategy* and *Food & Fibre Sector Strategy*) to identify priority international markets that are

aligned to existing strengths, existing relationships, cultural connections and future economic growth potential.

Finally, the strategy should identify blockages in agreements, planning or infrastructure that inhibits international economic opportunities.

4.4.2.2 Develop the region's nature tourism potential

In pursuit of increasing the economic role of nature-based tourism, there is considerable opportunity for development of Indigenous enterprises across natural and cultural locations in the region.

Significant investment in regional tracks and trails is often concentrated on strategy, concept development and capital establishment. Many of these assets suffer from reliance on a pool of passionate volunteers. In addition, where assets cross multiple land classifications this results in multiple responsible land managers.

*The Loddon Campaspe Tracks and Trails Strategy*¹¹ demonstrates significant economic benefit through increased tourism for the region and should be implemented

To ensure forecast economic benefit from tracks and trail investment is realised it is recommended to restructure coordination of management and maintenance of regional trail assets. Coordination and efficiency in processes that address governance, asset management, conservation management and tourism activation/product development and marketing is required to ensure first class assets are maintained accordingly.

The establishment of a regional tracks and trails management organisation could support tourism product development and accreditation as well as focus management and maintenance efforts to ensure regional investment is long lasting throughout the network of trails.

The possibility of achieving UNESCO World Heritage Listing for the 'Dry Diggings' surrounding Castlemaine should also be explored as a mechanism to drive tourism economic benefit while ensuring longer term sustainable development outcomes for natural and built environments.

More generally, there is a need to improve the perceived value of the region's natural landscapes, ensuring management of forests achieves the dual aim of improving their condition and increasing usage by both visitors and tourists.

4.4.2.3 Develop the region's reputation as a food and artisan destination

The development of a thriving food and arts sector is key to improving the liveability for the regions residents but also in attracting tourists.

The growth of food retailing and food services as a part of the gastronomy industry is particularly visible in the economy of Greater Bendigo where registered food service businesses have more than doubled between 2012 and 2017.

Sheep, grains, beef and dairy cattle farming is the most significant agricultural industry in the north, accounting for 48.1% of all food related agricultural output across the entire region.

Meat and meat product manufacturing is the largest food related manufacturing industry in the region which contributes 25.1% of output for the whole food industry. Within Greater Bendigo, poultry processing accounts for 24.5% of output generated by all industries in the food sector in 2017, up from 16.6% in 2011.

¹¹ Loddon Campaspe Tracks and Trails Strategy, 2017, RDV

Echuca is the centre of fruit and vegetable product manufacturing, accounting for 56.6% of output generated by the fruit and vegetable product manufacturing industry in the entire region.

Jobs in the gastronomy industry have experienced greater levels of growth compared to the rest of the economy. Within Greater Bendigo, jobs in the food industry increased by 26.1 percent, higher than total job growth of 15.3 percent. Across the region, employment in cafes and restaurants experienced a notable increase of 37 percent growing from 1,722 jobs to 2,351. Other large employment growth can also be observed in bread manufacturing and poultry (egg) farming, both of which more than doubled the number of jobs, with increases of 187 percent and 119 percent respectively.

Australia is increasingly being recognised as a gourmet food destination. Building on the existing attributes of the region and its unique food culture could lead to significant benefits, realised through increased visitor expenditure as well as development of the local food culture to the benefit of residents that are responsible for its creation.

Several opportunities exist to capitalise on this regional strength and increase tourism associated with key wineries and breweries throughout the region from Woodend and Castlemaine to the Heathcote / Bendigo wine regions. Support for farm gate activity and food related trails is encouraged. Integrated food related investment opportunities include building a Food Hub in Bendigo, an Institute of Gastronomy in Daylesford and pursuing recognition of a regional bid to declare Bendigo a UNESCO City of Gastronomy.

4.4.2.4 Cohesive regional tourism product development

The region benefits from support by Visit Victoria through integrated marketing for the Macedon Ranges/Daylesford Region, Goldfields Region and The Murray. 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.

The regional cannot rest on its past success. Current tourism product needs to be renewed, and new product developed to draw tourists to the region. Marketing of this product needs to draw on a strong clear narrative that describes the offerings in the region.

In the immediate future the following tourism product development needs to be funded to expand the visitor economy:

- Renewal of the Golden Dragon Museum
- Central Deborah Goldmine surface level upgrade
- Bendigo Tramways line and stops extension
- Hanging Rock visitor and interpretive centre
- Echuca Riverfront Entertainment Precinct
- Australian Star Paddle steamer
- Completion of the Great Stupa of Universal Compassion
- Completion of the Bendigo Aspire Precinct
- Expansion of the Victorian Goldfields Railway
- Completion of Holgate Brewhouse expansion
- Establishment of the Lancefield Megafauna Cultural and Interpretive Centre
- Completion of the Gargarro Botanic Garden
- Expansion of the Maryborough Energy Breakthrough event
- Support for the Maryborough Highland Gathering.

4.4.2.5 Cities, towns & villages renewal

Strong alignment exists between the initiatives proposed in the Calder Innovation Corridor and forests, heritage and 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.

Streetscape improvements in the public domain underpin private investment confidence and can drive shopfront improvements. The increased footfall associated with an improved pedestrian experience and better car parking management in town centres has been recognised for stimulating local economic development outcomes. Urban design initiatives and streetscape upgrades should be prioritised to support township renewal.

4.4.3 Economic Benefit

Ultimately the benefit of investment into the visitor and international economy is focussed on two key metrics. Increased tourism expenditure and associated duration of stay for the visitor economy is one key metric. While broader international engagement to support a proportional increase in regional exports is the other.

Current estimates of visitation in the Bendigo Loddon¹² suggest total annual totals of 2.616 million visitors. This is made up of 17,000 international visitors, 866,000 domestic overnights and 1,733,000 domestic day visitors. Modelling the potential impact of increasing the average length of stay of International and Domestic Overnight by a single night is estimated to generate an additional \$105.400 million. When considering the indirect benefits of this level of increased visitation the potential exists to create 619 direct jobs and up to another 324 jobs within regional industry sectors within the Loddon Campaspe that have exposure to the visitor economy.

Table 4-3 Marginal economic benefit of an additional nights visitation within the region

Impact	Direct Effect	Supply-Chain Effect	Consumption Effect	Total Effect	Type 2 Multiplier
Output (\$M)	\$105.040	\$49.470	\$43.630	\$198.140	1.886
Long Term Employment (Jobs)	619	160	164	943	1.525
Value-added (\$M)	\$47.57	\$21.64	\$23.99	\$93.19	1.959

4.5 Industries of the future

4.5.1 Economic Objectives

Industry is undergoing its greatest change in 100 years. That change by and large is not being reflected in regional Australia, due to cost, the cost or functionality of NBN, sunk cost within companies, transport costs and/or misalignment between industry needs and educational offerings.

The revolution we are experiencing now is driven by advancements in smart manufacturing, robotics, artificial intelligence, and the internet of things. Manufacturing plays an irreplaceable role in driving growth and economic development. This region's manufacturing contribution remains significant and the region must protect and develop existing manufacturers and new industries of the future.

¹² Tourism Research Australia (2015) Bendigo Loddon Tourism Region Profile.

The need to position the region to positively respond to economic transition and future industries is fundamental. Investment in skills for the future targeted at both local strengths and emerging regional opportunities will be essential in elevating the prosperity of the region, inspiring business investment and positioning the region to specialise.

Strategically positioning for the future, the emphasis within this focal area includes improvements in the educational attainment of the region's students, investment in skills, adequate regional employment land, international and emerging regional industries. Emerging industries include positioning the local health sector to capitalise on digital transformation and recognising significant opportunities within renewable energy and resource management that is both sustainable, profitable and returns value to local communities.

The alignment with highly visible health and education institutions including the opportunity to combine these industries efforts toward digital health transformation will be important. This opportunity coupled with research initiatives identified within the regional employment and innovation corridor will positively impact the region, drawing business investment and attracting highly skilled workers.

The focus of this area is positioning skills and workforce development with local industry investment to build on local strengths and further diversify the regional employment base. Fundamentally the investment seeks to increase the number of tertiary educated locals, increase business capability for market expansion and boost local business investment.

The region has a strong legacy of key energy demonstration projects, initiated within the region over the last ten years to expand understanding and capability for increased use of renewable energy. However, the

ramping up of gas pricing has had significant effects on industrial businesses.

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 solutions 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.

Ensuring adequate regional level employment land remains a priority. While centralisation and population driven services continue to demand commercial land within urban areas of the region, there remains sustained demand for land suitable for industry including food manufacturing, logistics and construction activity.

4.5.2 Economic priorities

4.5.2.1 Creating our future workforce

Between December 2017 and December 2018, the Bendigo statistical region¹³ had the fastest employment growth in Australia at 14.9%¹⁴. With further jobs growth predicted, and many of our workers close to retirement age it is predicted that a further 12,900 jobs will need to be filled in the Bendigo region over the next five years¹⁵.

However, at the same time as having Australia's highest jobs growth rate, the Bendigo region paradoxically has Victoria's highest youth unemployment rate at 18.3%¹⁶.

Other statistics point to an issue with the readiness of the region's school leavers for work or further study. Many young people in the Bendigo

¹³ The Bendigo Statistical Area SA4 includes the City of Greater Bendigo, Loddon Shire, Mt Alexander Shire and the northern half of Macedon Ranges Shire

¹⁴ ABS labour Force, December 2018 (12-month averages of original data)

¹⁵ Department of Jobs and Small Business, Employment projections to 2023

¹⁶ ABS, Labour Force, December 2018

statistical area are disengaged: 15% of 18 to 24-year-olds are neither studying, employed nor looking for work. This compares to 11% for Victoria.

In this region, 71% of young people aged between 20 and 24 completed Year 12 which compares to 82% across Victoria¹⁷. And those that do complete Year 12 in the Loddon Campaspe region are less likely to transition to further study (57% in Bendigo compared to 75% for Victoria¹⁸).

Further investigation is required to diagnose what is going wrong. Are there issues with the primary or secondary education on offer within the region? Would more students go onto further study if a greater range of educational opportunities were provided within the region?

These questions are of great importance, not just for the supply of labour to our growing economy, but for the welfare of individuals and the cohesion and inclusivity of our community.

4.5.2.2 Comprehensive future skills study

One of the greatest inhibitors to regional business growth is the ability to find labour, skills and key people to support business growth and investment into the region. This issue appears to be ubiquitous throughout the region and across industries. Local employers and prospective business investors continue to report difficulty (or risk in) attracting the right skills. A February 2019 survey indicated that 45% of employers have had difficulty filling vacancies, up from 38% at the same time last year¹⁹.

This skills deficit is compounded by a local workforce with a higher proportion of lower income earners. Over 54,000 workers representing almost 60 percent of the region's workers earn less than \$999 per week (compared with 49.1 percent of total Victorian workers²⁰).

The region requires good information on the skills and qualifications required by industries to support the design of vocational courses and higher education offerings that can help meet this need.

The region would greatly benefit from the development of a Regional Skills Demand Profile, similar to those prepared by the Victorian Skills Commissioner in other regions. It would be beneficial to expand the scope of such a study to include higher education needs in addition to the focus on the vocational sector.

In addition, there is a need to strengthen the link between business skill requirements of industry with the secondary school curriculum – ensuring that students are familiar with workplaces and career options. Innovative programs recently introduced to the region are focused on this outcome.

The Bendigo Tech School, sited at La Trobe University, encourages careers in science, technology, engineering and mathematics (STEM).

The *GROW* program and the *Passions and Pathways: Primary Schools and Workplaces in Partnership* programs both encourage students to become familiar with the world of work. Both programs are targeted towards schools in areas with high levels of disadvantage.

Local outcomes have been generated by strong industry engagement by the Bendigo Manufacturers Group (BMG) to support work integrated learning. This has been successful within Bendigo with the Welding Centre of Excellence that supports local businesses and facilitates relationships between industry and registered training organisations (RTOs). Opportunities to expand this approach across other industries could be investigated for application throughout the region.

¹⁷ ABS (2016) Census of Population & Housing

¹⁸ On Track Report, Greater Bendigo Local Government Area, 2018

¹⁹ Department of Jobs and Small Business, Survey of Employers' recruitment experiences, February 2018 and February 2019.

²⁰ ABS (2016) Census of Population & Housing compiled by REMPLAN.

Similar integrated training approaches can be applied to the provision of skills needed by the tourism and hospitality sectors, where courses could be aggregated into a bundled curriculum that includes responsible Service of Alcohol (RSA), Responsible Service of Food (RSF) and Food Handling Certificate to address local demands. Courses could be expanded to include Occupational Health and Safety and Barista training to consolidated regional training offers bolstering local service industries for visitors and the growing regional population.

The long-term benefits for the study include better matching local curriculum and skills development to regional employment opportunities, increasing regional prosperity when measuring GRP through income method, increased household (wages & salaries) and business income (Operating Surplus) when measuring value added.

4.5.2.3 Building a world class health sector

The investment in Bendigo's Hospital has transformed primary care opportunities in the Loddon Campaspe region and beyond. The built infrastructure that underpins this improved treatment of patients is fundamentally digital.

There is considerable opportunity for Bendigo to become a centre for research specialising in models of healthcare in regional settings. Key to this will be unlocking the region's health care value through a program of digital health transformation that digitises services.

Analysis in Germany, for example, identified potential savings of close to 8 percent of the total spend on health care through application of digital transformation across issues including paperless data, online interaction, workflow/automation, outcome transparency and patient self-care.

Partnerships that leverage the significant capital expenditure to afford improved health outcomes, lower operational costs and better customer

experiences require regulatory and policy support within the digital health transformation investment area.

Informing strategies that outline best practice precedents and combine learnings from relevant research, digital solutions aligned to areas of care could be explored to expedite regional investment and/or piloting of projects to unlock Bendigo Hospital for digital service delivery and transformation.

Previous assessment within Bendigo identified a growing demand and new opportunities in information management, communication and promotion in the Health Care sector. Alignment of investment in research centres can leverage public investment in the Bendigo Hospital through a partnership that stimulates the local economy through job creation and population attraction.

In addition, emerging innovative approaches toward health/care industries that support ageing residents and recognise the significant forecast population demand amongst this older cohort present great community outcomes that supports regional economic development. The development of a leading regional Australian dementia village facility and associated research and educational/training facilities in Heathcote is such an example. The Dementia village concept seeks to develop Heathcote as a dementia friendly township, incorporating research, workforce development and economic stimulus for local economies by applying dementia enabling environment principles.

The linkage to local supply chain development, local workforce demand and an ability to scale and replicate the model in other smaller townships presents a significant township renewal strategy.

Leverage off the \$100 million State Government upgrade to the Maryborough District Hospital including the Centre for Inspired Learning which offers a Diploma of Nursing on site. Seek funding for similar investment in Castlemaine Health's facilities.

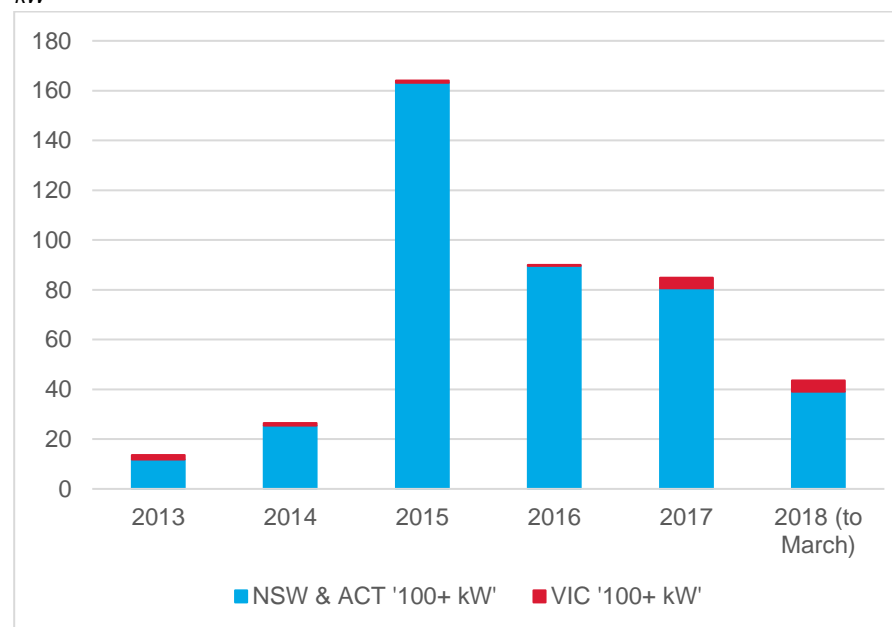
4.5.2.4 Renewable and equitable regional energy network

Energy is one of the most important policy areas for business. 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 2017²¹.

The region has a strong legacy of key energy demonstration projects, initiated within the region over the last ten years to expand understanding and capability for increased use of renewable energy in the region. However, the ramping up of gas pricing has had significant impacts for industrial businesses.

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 4-13). 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 4-13 Victorian and New South Wales (incl. ACT) photovoltaic installations over 100 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.

Our region needs to undertake the planning required to support the transition to a new energy economy that has more localised power production and an increased dependence on batteries – particularly to accommodate a predicted increase in electric vehicle usage.

²¹ (2017) Australian Institute of Company Directors

We need to support Local Governments who aspire to become more reliant on renewables (CoGB is to become 100% renewable by 2036) by:

- Testing the feasibility of the Bendigo Pumped Hydro project and preparing the project for private investment.
- Establishing a series of mid-sized locally owned (10 Megawatt) solar farms.

The Bendigo Pumped Hydro project provides a platform for demonstration and skills export within the renewable energy sector.

Localised energy production creates savings. Transmission losses of approximately 15 percent are incurred when power comes from the La Trobe Valley. If local power generation is retained under local ownership domestic and business energy expenses are retained in our local communities.

Models that promote local ownership have been successfully applied through the Bendigo Community Bank Model and could unlock feasible business solutions to waste and energy requirements at a regional scale.

Integration of standards for sustainable community micro-grid models into residential and industrial subdivisions could present further opportunities for neighbourhood grids that return community benefit and foster renewable energy industry capability. Utilisation of smart meters that have been installed but remain unused, could also enhance the cost-effective use of the available energy.

Opportunities to support financing solutions/instruments for households, communities, businesses and development community that support renewable investment and improve trading conditions through access to lower energy prices.

Opportunities exist to develop Power Purchasing Agreements that create necessary scale to support development of 2 – 5 and 10-megawatt solar

farm scale relevant to residential and smaller commercial businesses operations that maintain private or business leases.

There are trade water and waste restrictions that may inhibit further regional development through increased headworks charges for developers. Regional incentives scheme that enables rewards innovation for 'on-site' closed loop water/waste solutions may address potential economic growth limitations where water authorities requires significant infrastructure renewal to enable development.

4.5.2.5 Regional employment land

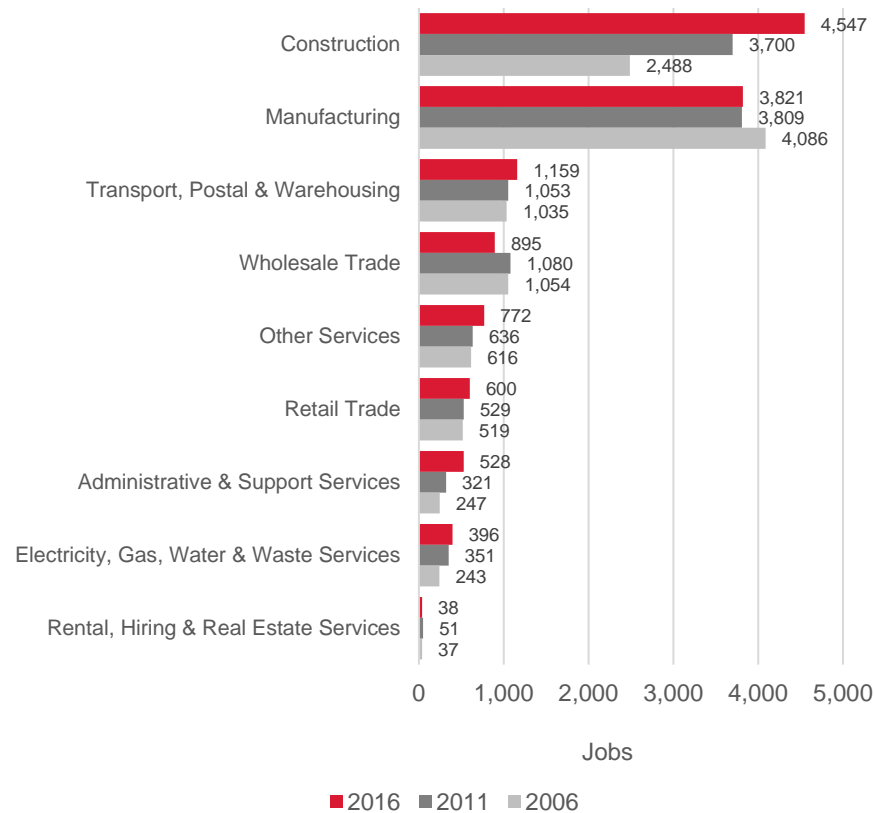
The provision of appropriately serviced industrial land is critical for both existing and future businesses within Greater Bendigo and the broader region. Confidence underpins economic growth and regardless of public investment throughout the regional capital, lack of adequate land to support private investment and local employment has the potential to inhibit economic growth.

Currently, Greater Bendigo has around 120 hectares of industrial land to support future industry and local employment. Employment trends in Bendigo industry are generally consistent with trends seen across Victoria. One notable distinction is in the stabilisation of employment in Bendigo's manufacturing sector. Across the State, the absolute number of jobs in manufacturing has declined each period between 2006, 2011 and 2016. However, in Bendigo the number of manufacturing jobs has remained relatively stable between 2011 and 2016, driven by growth in the subsectors of food product manufacturing and vehicle manufacturing parts.

Output generated by industry in Bendigo is dominated by the manufacturing and construction sectors. Together, these two sectors account for an estimated \$4.229 billion of output in 2017. Transport, postal and warehousing has also experienced an increase between 2011 and 2017.

Considered as a proportion of all employment, the relative share of manufacturing is decreasing in Bendigo as sectors such as Healthcare and Social Assistance grow in importance. However, given the absolute declines observed in manufacturing across the State, the maintenance of manufacturing jobs in Bendigo is a benefit to the region.

Figure 4-14 Employment in Bendigo Industry, 2006-2016

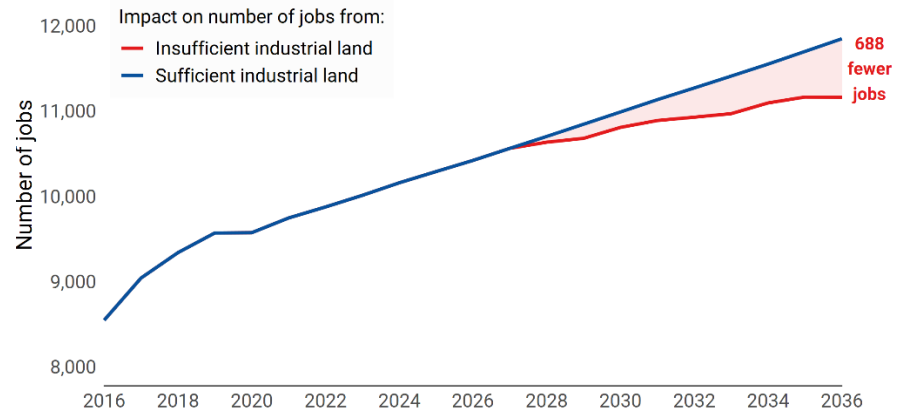


Source: REMPLAN

Should industrial land supply be exhausted, regional economic growth could be negatively affected. Industry, including manufacturing, construction and transport and logistics, remains a critical and important component of the Greater Bendigo and broader regional economy.

Preliminary estimates that combine forecast employment estimates based on projected population growth indicate that if land supply shortages materialise over the next 15 years up to 688 jobs could be at risk. (Figure 4-15).

Figure 4-15 Potential cumulative jobs lost if adequate industrial land supply is not provided (shaded red region)



Source: REMPLAN

There is a need to ensure that available land is commercially viable and enables medium to long term job creation in sectors demanding industrial land. While some capacity exists in regional areas including Romsey, New Gisborne and other locations, the importance of linking a strong available workforce to demand for employment highlights the role of Greater Bendigo in facilitating the provision of industrial land that can adequately serve regional demand.

4.5.2.6 Attract new business investment

Private investment is the engine room of our economy and we need to do what we can to attract as much investment as possible.

Both State and Commonwealth Government have been playing a role in supporting businesses that wish to establish or expand in our region. This occurs through the provision of grants but also in the form of support in overcoming planning hurdles, support in attracting investment, and establishing trade opportunities.

In the 2017/18 financial year the Victorian and Federal governments provided financial support to businesses across the Loddon Campaspe region, as well as considerable amounts of facilitation support. Grants of over \$6 million leveraged \$69.5 million of private investment.

There is evidence of considerable unmet demand for grants that help businesses expand, so it is hoped that Government support of this nature is continued if not increased.

There is also concern that businesses can have difficulty in accessing equity to support business growth. This impediment to economic growth is experienced when capital of between \$0.5 and \$20 million is sought.

The region is currently collecting evidence of this concern, and if proven, there is a need to seek solutions such as developing a line of business capital through a product such as a Regional Capital Investment Fund. A financing model such as this could unlock and incentivise access to capital to expand into new markets and support innovation.

4.5.3 Economic Benefit

Increased employment and capital expenditure that supports new professional capabilities in the region ultimately support the long-term prosperity of the region.

- International Export Value (\$M) increase.
- Increased business capability for market expansion and local business investment.
- Increased Manufacturing Sector (\$M) Value-Added.
- Level of private product development and local job creation.
- Identification and capability building in new emerging sectors.

Renewables investment – pumped hydro

The full scope of investment opportunities that package a range of generation, storage and pumping to support development of a renewable and equitable regional energy network are not yet fully described, investigated or costed. One element, that arguably ties the project together is the investment in a pumped hydro solution.

Preliminary feasibility study assessment has the following broader economic benefits:

- Potential to reduce electricity price volatility in the region
- Potential reduction of local economic burden of groundwater management
- Opportunity for facilitating connection of new renewable generation in the region
- Increased investment attraction to the Bendigo region
- Bendigo being recognised as a centre of innovation in sustainability and renewable energy
- Potential for use as part of a renewable community power project²²

²² ARUP (2018) Pre-feasibility study of renewable energy pumped hydro in Bendigo. DELWP and City of Greater Bendigo

The construction and operation phase of the project also provide direct economic benefits. Reporting suggests the construction phase of the project will total \$50 million in expenditure presenting an opportunity for 15 percent of local labour during the construction phase, while the \$1.25 million in annual operational and maintenance cost will return 40 percent local benefit.

REMPPLAN analysis of these estimates suggest the construction phase (\$7.500 million of local expenditure) will support a total economic impact (direct and non-direct) of \$17.125 million during construction and up to 48 jobs during peak economic activity. The operational phase will support one direct job and up to 0.958 million of direct and indirect output.

5 Workshop Engagement

Brad Crème	Parks Victoria	Sue La Greca	Macedon Ranges Shire Council
Bruce Burns	Department of Education & Training	Tim Shanahan	North Central Catchment Management Authority
Chris Weir	Bendigo Sustainability Group	Trevor Budge	City of Greater Bendigo
David Richardson	Loddon Campaspe Partnership		
Dennis Bice	Be.Bendigo		
Derek Shotton	President Elmore Filed Days, Breeders Australia		
Donna Rogers	Bendigo Kangan Institute		
Hayley Cail	Regional Development Victoria		
Herbert Hermans	Tezamen Pty Ltd		
Ian Hart	Regional Development Victoria		
Jarrah O'Shea	Coliban Water		
Jeff Bothe	Bendigo Manufacturing Group		
Jim Dannock	Australian Industry Group		
Keith Oberin	Campaspe Shire Council		
Keith Reynard	City of Greater Bendigo		
Nigel McGuickan	Loddon Campaspe Partnership		
Peter McAllister	True Foods Maryborough		
Rob Stephenson	La Trobe Head of Campus		