

Mallee Regional Skills Demand Profile

Pulse Check
September 2020

Regional Development Australia
LODDON MALLEE

REGIONAL PARTNERSHIPS
MALLEE

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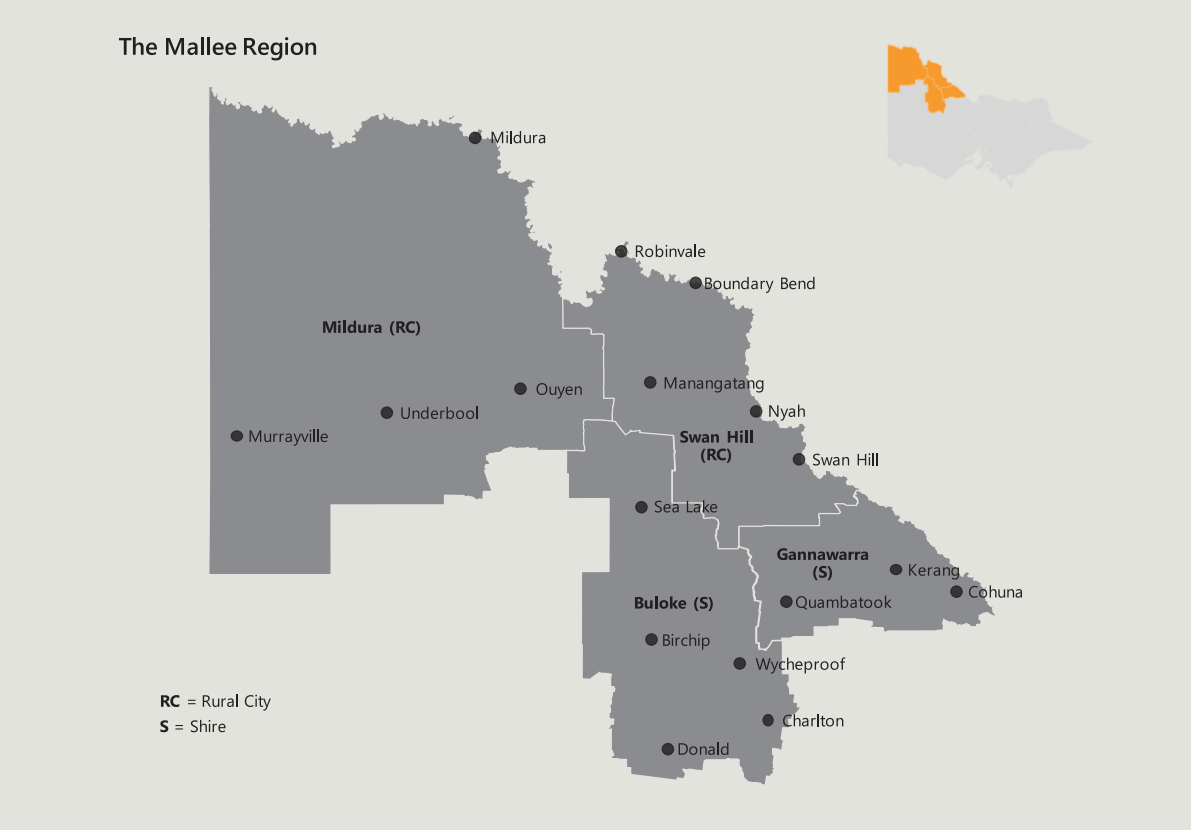
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1 Foreword

Regional Development Victoria engaged Nous Group (Nous) to conduct a 'pulse check' against the original Mallee Regional Skills Demand Profile commissioned in 2017 by the Victorian Skills Commissioner and subsequently built upon with targeted profiles for Buloke and Gannawarra. In the midst of one of the most significant economic and social crises of our lifetime it is timely to revisit this work to understand how the economy has changed and the subsequent implications for the region's workforce and skilling requirements. To conduct this 'pulse check' we have spoken to 21 employers and surveyed 84 businesses representing nine key industry groups and all four Local Government Areas in the region. We are pleased to present our findings in response to the specific challenges identified.

Figure 1 | The Mallee Region



2 Executive Summary

The Mallee region has undergone a period of significant growth since 2017. While it is too early to assess the recent impact of COVID on economic output, value add has increased by around $700 million with almost 2,000 new jobs created between 2017 and 2020, despite the region operating at close to full employment. Growth has been achieved through mobilisation of the local labour force as well as attraction of migrants from overseas into skilled and unskilled roles. The next three years (aside from one-off COVID impacts) offers similar potential for growth. However, without support the region will struggle to meet anticipated industry demand for workers placing future growth at risk.

Growth estimates indicate a potential shortage of 500-1,500 workers in three years' time.

Employers expect recent growth to continue with the potential for between 1,000-2,500 jobs to be created over the next three years and an additional 2,000 workers required to replace expected retirements. The Taskforce's growth expectations are presented in Table 1 below. Estimates outlined in Table 1 represent an order of magnitude for future skills demand and are not intended to be precise. They are informed by the views of local employers and validated by the taskforce.

Table 1 | Preliminary outlook on job growth by industry, 2020-22 (inclusive)

Industry	Current number of jobs (2019)	Taskforce estimate of 2020-22 workforce CAGR	Expected new jobs	Expected retirements
Horticulture	2,736	2.0% to 3.0%	+150 to +250	~150
Sheep, Grains, Beef, and Dairy Cattle	2,697	-0.8% to 1.3%	-50 to +100	~150
Hospitality and tourism	2,586	-0.5% to 2.0%	-50 to +150	~150
Construction	2,700	1.5% to 3.0%	+100 to +250	~150
Manufacturing	2,383	0.0% to 2.5%	0 to +200	~150
Transport and logistics	1,665	-0.1% to 0.0%	-50 to 0	~100
Retail trade	4,689	-1.2% to -0.5%	-150 to -50	~250
Healthcare and social assistance	5,262	1.0% to 2.0%	+150 to +300	~300
Education and training	3,385	0.6% to 3.5%	+50 to +350	~200
Other industries[1]	9,935	~3.0%	+850 to +950	~500
Total	**38,038**	**1.4% to 1.8%**	**+1,000 to +2,500**	**~2,000**

Should estimates be realised, the region is likely to face significant labour shortages. The region is already close to full employment (evidenced by both low unemployment rates and higher than historic participation rates), which means the Mallee will need to continue to attract workers from outside the region. International travel restrictions however mean it will not be as easy to meet demand through migrants on skilled or temporary visas. Diminished access to external workers alongside an ageing local

[1] Other industries include: administrative and support services; arts and recreation services; electricity, gas, water, and waste services; financial and insurance services; information, media, and telecommunications; mining; other services; professional, scientific, and technical services; public administration and safety; rental, hiring, and real estate services; and wholesale trade.

population suggests there could be a labour shortage of 500-1,500 workers in three years' time. If these estimates are realised the economic impact on the region could be significant with a potential economic loss in the order of $80m to $210m in gross value add (GVA) per annum.

Future growth is contingent on attracting and developing the right workers.

The nature of roles required to be filled varies across the region although generally fall into three categories, each with their own specific challenges:

1. **Specialised** roles where advanced professional qualifications are required but total local demand is relatively small. Only specific organisations require these roles and typically only need a few people to fill them. Specialised roles usually require years of experience that is difficult to acquire at a single employer in the region, and once the role is filled it may be a long time before a similar one arises. Thin markets make it difficult to secure a pipeline of specialised professionals to the region. Employers report shortages of GPs, Allied Health professionals, irrigation experts, and agronomists.
2. **High volume** roles with a large and steady demand for workers. Employers are regularly looking for new workers with multiple opportunities per employer. If school leavers follow the right pathways they will find work in the region. High volume roles represent the majority of jobs in the region. Employers of high-volume roles such as carpenters, teachers, and truck drivers compete for scarce local labour, but a lack of awareness of the range of possible jobs among school leavers means many roles face serious supply challenges.
3. **Seasonal** roles which typically involve manual work and are required for short periods during the year on a regular cycle. They are predominantly found in horticulture and grain cropping where additional labour is required at harvest time. Demand is usually met by transient workers such as backpackers or temporary visa holders. Seasonal labour is vulnerable to ongoing travel restrictions, with the horticulture industry concerned about the ability to harvest crops in 2021 if other labour sources are not found.

Opportunities exist to better support the Mallee's next phase of growth

A two-pronged approach that tackles both the structural barriers to attracting and retaining the region's workforce as well as the alignment of training and education provision industry skills is required to prevent labour shortages. The Mallee needs to attract more workers to the region, but it also needs to ensure that school leavers and workers are able to find the right education and training pathways into local jobs.

Opportunities have been identified to tackle structural barriers and improve education and training. Structural opportunities are focused on improvement to labour mobility and participation, ability to fill specialised roles, competition for volume roles and dependence on seasonal labour.

The potential of the region is significant, but the workforce must be available to realise that potential. This 'pulse check' highlights what is required to ensure the economic potential of the region is realised. Implementation of initiatives to address the findings raised in this 'pulse check' represents the next step in in securing the region's future economic and social prosperity.

The education system (school, vocational education and training, Adult, Community, and Further Education [ACFE], and higher education providers) has a critical role to play but cannot do it alone. Successful delivery will require a concerted effort by multiple stakeholders including education and training providers, industry, and government (Table 2, page 5).

Education and training opportunities focus on improving awareness of and interest in local job opportunities, the availability and capacity of in demand courses and support to develop leadership and management capability across the region (Table 3, page 6).

Table 2 | Opportunities to address structural barriers

Challenge	Opportunity
Structural barriers to labour participation and mobility	**Work with government and industry to address critical housing shortages and other structural barriers** including access to childcare provision and availability of public transport that inhibit participation and labour mobility. Existing programs to draw upon include the Sunraysia Mallee Ethnic Communities Council's recent creation of short-term refugee housing, $500,000 of state government funding for Swan Hill Rural City Council's rolling construction program to address housing shortages in Robinvale, and the proposed application of the Defence Housing Australia model for regional Victoria.
Ability to fill specialised roles	**Strategically manage critical roles in the region through targeted and well-formed pathways and recruitment campaigns.** This could include development of prestigious programs that include scholarships and targeted training and development as well as incentives or programs to attract or retain workers. A recent example of a targeted industry intervention came from Northern District Community Health – a health care provider in Gannawarra – who offered a nursing scholarship for a local student and promoted the opportunity through engagement with local schools.
Increasing competition for labour in high volume roles	**Foster a closer relationship between schools, RTOs, universities and industry to promote high volume roles.** Elevate focus to the end outcome rather than the starting point (career rather than job). The 2019 Napthine Review of Regional Education Strategy proposed a regionally-based model for independent, professional career advice. Programs already exist in neighbouring Bendigo such as Passions and Pathways and GROW, which could offer a blueprint.
	Improve access to employment and support services across the region. Doing so will increase participation and employment by youth and individuals who have become disengaged from the labour force. Jobs Victoria Employment Network (JVEN) provides tailored and individualised support to long-term jobseekers and those at risk of long-term unemployment. JVEN has been very successful in Mildura with 218 placements between October 2016 and July 2019, the third highest of all regional Victorian LGAs, and also operates in Robinvale, offering a good model to further develop. SuniTAFE operate Skills and Jobs Centre at their Mildura and Swan Hill campuses, and this model could be expanded to other areas such as Charlton, Kerang and Robinvale.
	Attract workers back to the region Develop a campaign targeting people in the region and those who have a past relationship with the region about the need for local workers. Initial need likely greatest in Mildura and Swan Hill shires.
Dependence on seasonal labour	**Develop strategy in partnership with DJPR to reduce dependency on seasonal labour.** This could include incentives to increase investment in automation or changes in work practices. Recent initiatives include the Mallee Regional Innovation Centre's (MRIC) work with Dried Fruit Australia to automate pruning, and Olam – one of the largest almond growers in the region – recent investment in communications towers to manage automated spraying. Any strategy could also include mapping seasonal opportunities to evaluate potential for year-round work across different harvest periods and other seasonal drivers.
	Quantify the impact of seasonal labour shortages. Develop detailed estimates of potential shortfall in seasonal workers prior to seasonal need and develop strategy to meet needs, including ways for domestic job seekers to access seasonal jobs.

Table 3 | Opportunities for education and training

Challenge	Opportunity
Awareness of and interest in local job opportunities	**Continue to improve student on-the-job exposure to regional careers** in secondary schools through industry collaboration and partnership with schools across the region. Opportunities include structured pre-employment programs and industry tasters that provide students with exposure to industries in the region.
	Continue to expand industry role in supporting the provision of career advice to students. This might include providing better information, resources and support to teachers and school career advisors on available opportunities, industry mentoring, employment pathways and preferred training for careers in industry.
Availability and capacity of in demand courses	**Local provision of high demand courses.** Explore the feasibility of offering courses that are currently unavailable locally where employers report shortages, such as the Certificate III in Hairdressing and the Certificate III in Baking at SuniTAFE, and making the Certificate III in Engineering – Mechanical and the Certificate III in Commercial Cookery available in Swan Hill.
	Explore options to increase availability and take up of digital marketing courses from short to degree. Employers indicated demand for enhanced digital marketing capability. Needs ranged from access to low cost training through to demand for digital marketing professionals.
	Develop a time limited surge model with government and Nursing and Midwifery Board to **enable over-enrolment on the Diploma of Nursing and Bachelor of Nursing courses** to meet immediate demand. In 2018 180 (EFTSL) studied the Bachelor of Nursing in the region at La Trobe University and Federation University Australia, but a further 71 students studied outside of the region. The model would include consideration of availability and funding of training, graduate and supervisory positions. This model could apply to other courses where similar issues exist.
	Advocate for funding changes to **support students to obtain high risk licences** in parallel with their qualifications when not included in qualification (e.g. forklift truck, dogging licence, Occupational Health and Safety) to ensure they are job ready.
	Continue shift to hybrid models of delivery that combine, online, on the job and face to face delivery. Advocate for funding models that **support regional providers (universities and RTOs) to supply face to face delivery** in locations that do not have a local provider or demand to support normal delivery. Thin markets are most prevalent in Gannawarra and Buloke but there are opportunities to take advantage of existing infrastructure to support delivery such as Charlton Trade Centre, Kerang Technical High School, and ACFE in the Mallee.
	Consider the introduction of a **Mallee Regional Skills Training fund** that industry and training providers can apply to for subsidised training and upskilling in thin markets. This model builds on the success of the Regional and Specialist Training Fund which was used and valued by the region. The Mallee Region saw the third highest uptake of free TAFE courses in Victoria, suggesting that current fees inhibit access and illustrating the opportunity for a training fund.
	Advocate to government for **greater flexibility by TAFEs to tailor courses** which are out of date or not meeting local industry needs. Courses should be packages that integrate more on the job learning. This could include microcredentials where there is industry demand.
Leadership and management	**Expand and support availability of modular leadership and management short courses** available in the region e.g. as currently on offer by La Trobe.
	Facilitate **networks of employers** to support industry tailored leadership and management programs. The recent collaboration between four local aged care facilities and SuniTAFE to contextualise leadership and management training for a specific industry is a good example of this approach, which can be expanded to other industries.

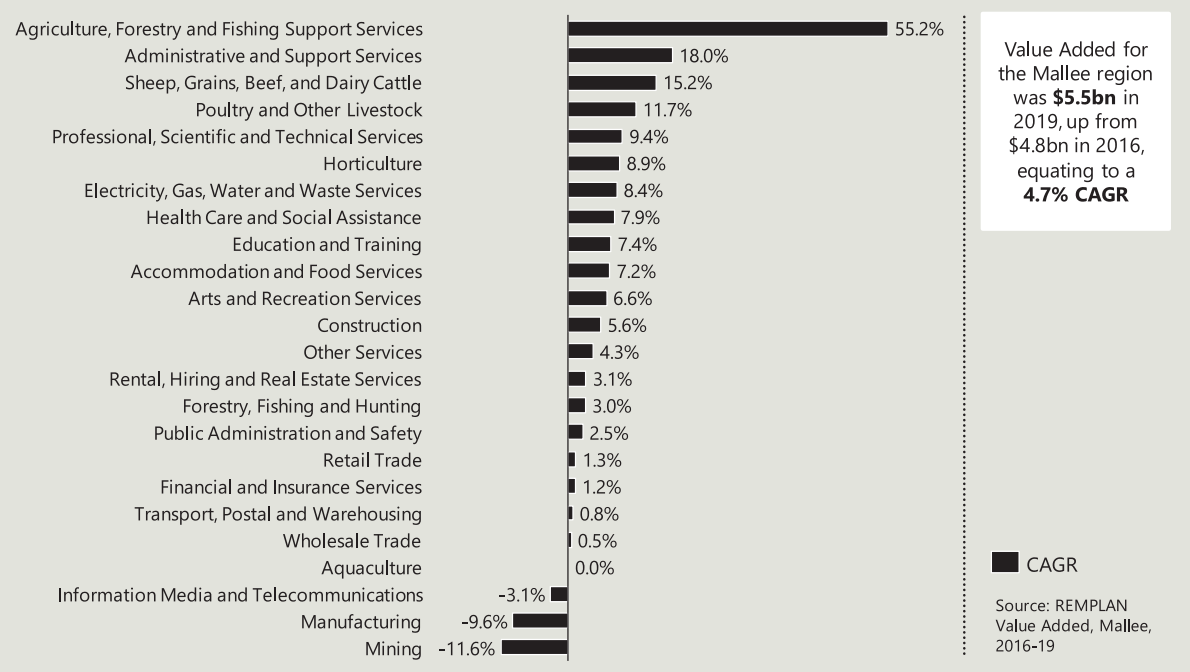
3 The Mallee is operating near full employment

The Mallee region has experienced three years of strong economic growth. Value added has increased by around $700m and the total number of jobs in the region has increased by almost 2,000. To meet industry demand for workers the region has mobilised most of its available labour force – reflected in low unemployment figures – and has been forced to look beyond the region for additional workers. International migration has been crucial to meeting the region's demand for both skilled and unskilled roles.

3.1 The Mallee has experienced three years of strong growth

Since the first Mallee Regional Skills Demand profile was published in 2017, the region's value added – a measure of economic output – has grown from $4.8bn in 2016 to $5.5bn in 2019, which equates to a 4.7% Compound Annual Growth Rate (CAGR). Almost all sectors of the economy have grown but particularly major employing industries such as horticulture, health care and social assistance, and accommodation and food services, as presented in Figure 2 below.

Figure 2 | Value added, CAGR by industry, 2016-2019



The horticulture industry is the second largest industry by value added in the region ($534m) and is going through a strong period of growth. High international prices and export demand have been driven principally by China and facilitated by the China-Australia Free Trade Agreement. Other agricultural industries – in particular wheat, barley, and pulses – have recorded strong growth despite persistent drought. Health care and social assistance has continued to expand to meet the increased care needs of an ageing population and the expansion of NDIS, and accommodation and food services growth reflects the region's popularity as a domestic, and to a lesser extent international, tourist destination.

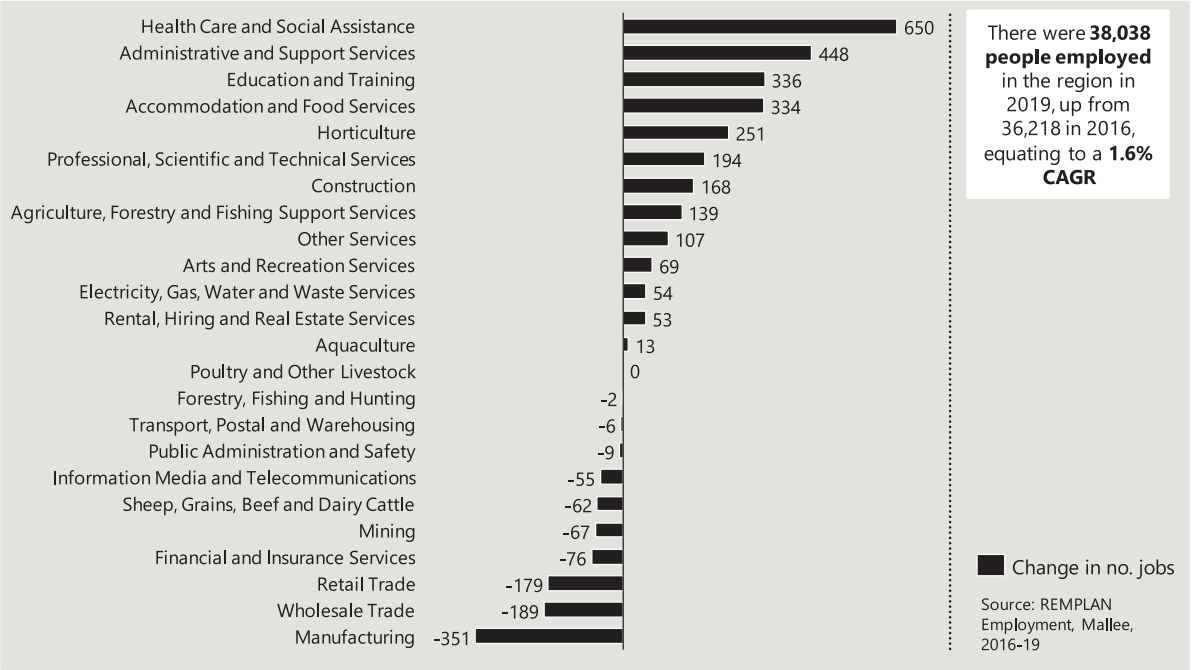
The only areas of decline were Information, Media, and Telecommunications, Manufacturing, and Mining. Manufacturing's decline has been driven principally by the metal manufacturing sector, which declined by

25.0%, while food manufacturing more closely linked to regional production such as meat and bakery products have grown by 13.3% and 5.5% respectively.

3.2 Demand for workers has increased across most but not all industries

High economic growth in the region has translated into modest employment growth. The total number of jobs in the region has increased from 36,218 (2016) to 38,038 (2019), which equates to 1,820 new jobs or a 1.6% CAGR, as presented in Figure 3 below.

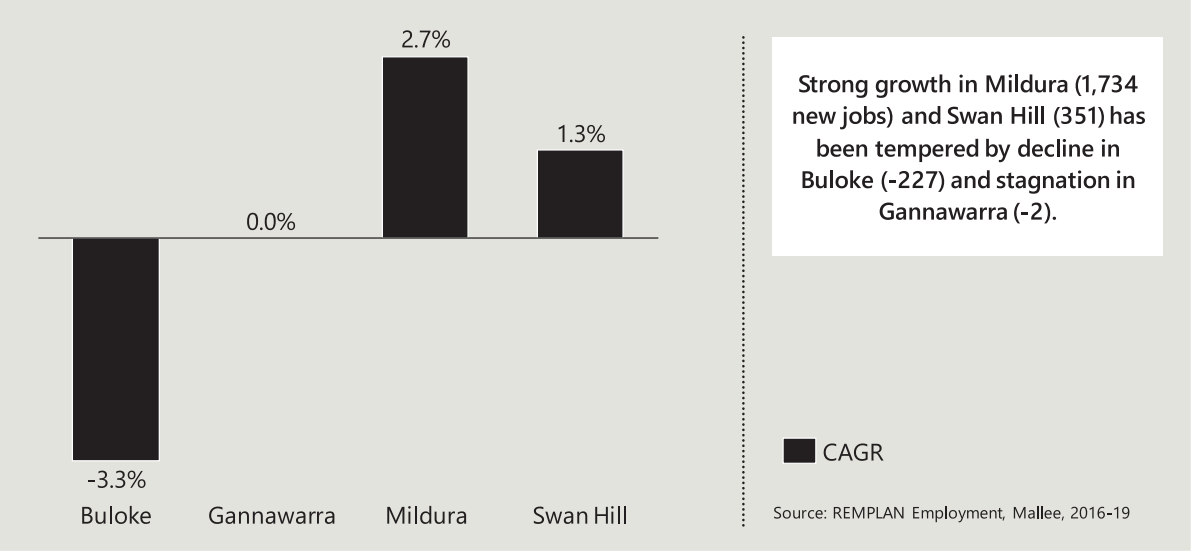
Figure 3 | Change in number of jobs by industry, 2016-2019



Strong employment growth has been recorded in health care and social assistance, accommodation and food services, and horticulture, mirroring growth in economic output. Elsewhere economic growth has not translated into job growth. Employment in sheep, grains, beef and dairy cattle and retail has declined despite increases in value add. The consolidation and corporatisation of farms, in combination with increased mechanisation, has led to a reduction in total employment in sheep, grains, beef and dairy cattle by 62 jobs. In retail, the closing of smaller high street stores alongside a continued transition to online retail has reduced total employment in the sector by 179 jobs.

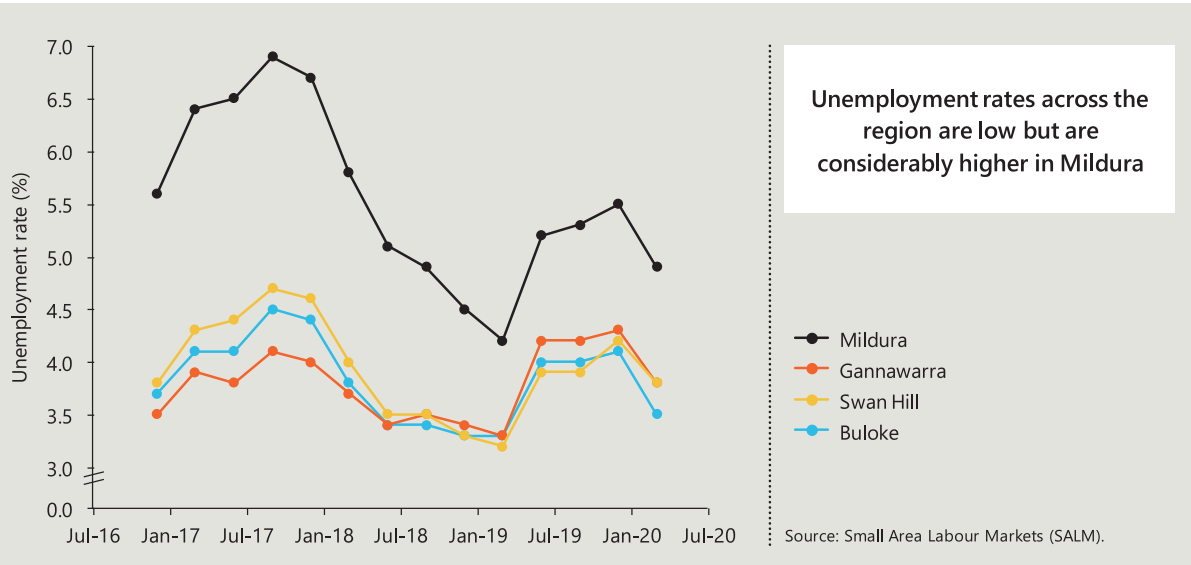
Job growth has been inconsistent across the region as outlined below in Figure 4. Mildura and Swan Hill have seen positive growth while Buloke and Gannawarra have experienced a decline in total employment.

Figure 4 | Job growth by LGA, 2016-2019



Job growth in the region has contributed to a relatively low unemployment rate, which has hovered around 4% for the last few years as shown below in Figure 5, although the rate is considerably higher in Mildura.

Figure 5 | Mallee unemployment rate by LGA, 2016-19

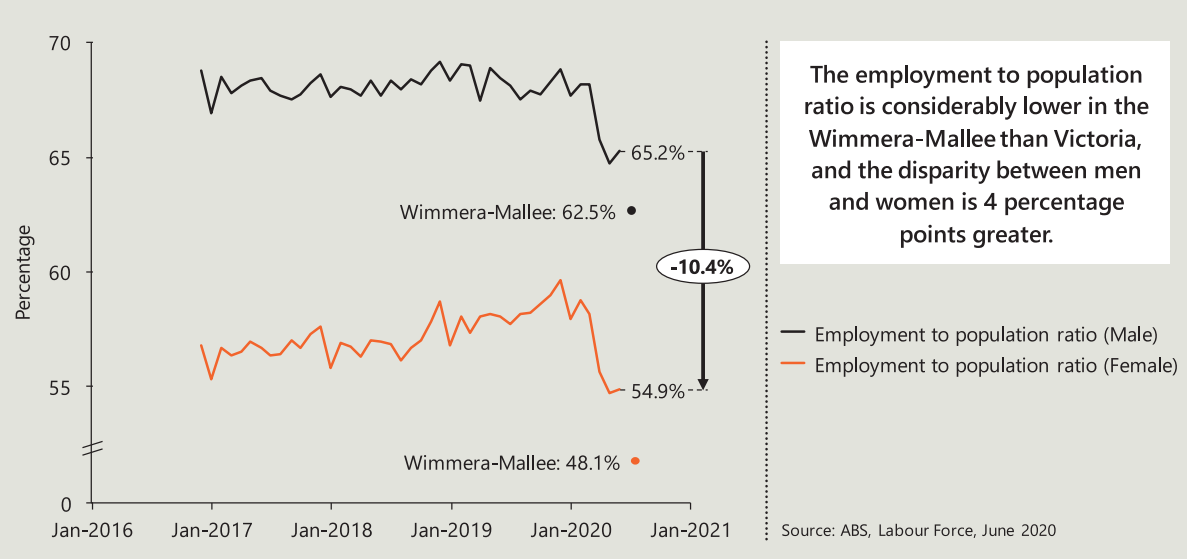


While these rates are slightly lower than state and national levels not everyone in the region has benefited from the growing local economy. 3,887 people currently receive JobSeeker and a further 499 receive youth unemployment allowances.[2] Jobs Victoria Employment Network (JVEN) provides tailored and individualised support to long-term jobseekers and those at risk of long-term unemployment. Mildura has the third highest JVEN placements of all regional Victorian LGAs, with 218 placements between October 2016 and July 2019[3], demonstrating the high levels of demand in the region.

[2] DSS Payment Demographic Data, March 2020
[3] Parliamentary Inquiry into sustainable employment for disadvantaged jobseekers, Jobs Victoria, 21 August 2019

Opportunities also exist to broaden participation. Employment to working age population ratios[4] – a proxy for working age participation rates – are much lower in the Wimmera-Mallee (SA4) region than they are in Victoria, and there is a greater disparity between men and women as presented in Figure 6 below. Consultation identified several barriers that prevent participation in the region, particularly by females.

Figure 6 | Male and female employment to population ratio, Victoria 2016-20



3.3 The region has relied upon mobilising an external workforce to meet demand

Over the last 3 years, in addition to the creation of almost 2,000 new jobs there was a high turnover in existing jobs through retirement – particularly high given the region's ageing population – and domestic migration away from the region. To meet job growth the Mallee has relied upon international skilled migrants and backpackers where local labour was insufficient.

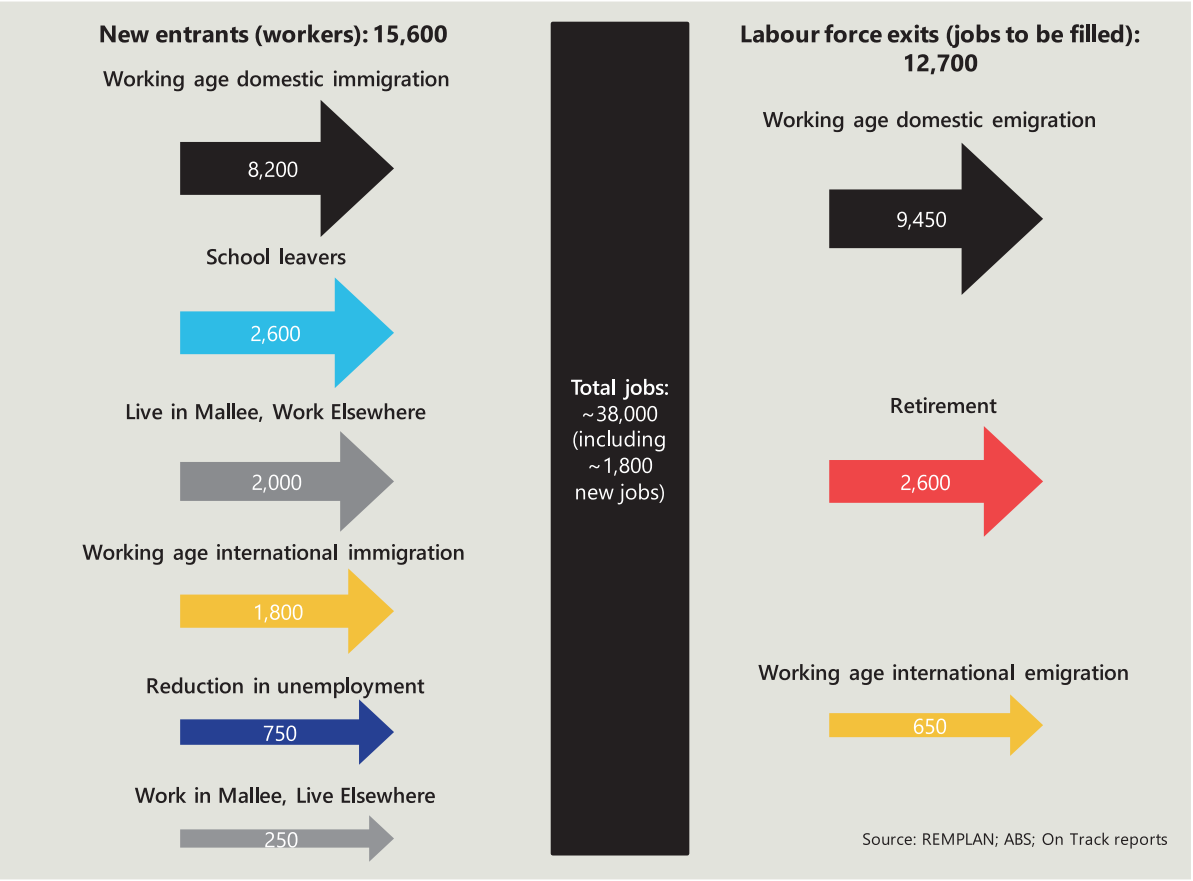
Across the region's four LGAs there were 2,616 school leavers over the last three years. Not all school leavers remain in the region, and there is modest youth unemployment, but most of those who stay in the region can be expected to find jobs. In addition, 1,995 people who live in the Mallee but previously worked outside the region have found local jobs, bolstering the region's economy. However, this was insufficient to meet job demand.

To meet growth over the last three years employers looked to external labour sources to meet demand. International migration has brought workers on skilled labour visas to fill specific shortages such as bakers and carpenters, as well as unskilled backpackers to fill seasonal labour roles particularly in horticulture. In addition, the region has increased its commuter workforce of workers who live in neighbouring regions but work in the Mallee.

This combination of labour sources enabled the region to meet industry growth over the last three years, as presented Figure 7 below.

[4] The number of people that are employed (aged 15 to 64 years) as a percentage of the working age population (civilian population aged 15 to 64 years).

Figure 7 | Labour force entrants and exits, Mallee, 2016-19[5]



[5] Retirements are estimated based on increase in 65-69 year-old age bracket in the region. Working age proportion of immigration and emigration assumes the same proportion as the region's general population.

4 Growth estimates indicate a potential shortage of 500-1,500 workers in three years' time

Local employers expect growth to continue over the next three years, however it is unlikely the region will be able to rely on the same labour sources that have historically ensured labour supply kept track with job demand. International migration will be severely disrupted in the coming years due to COVID-19 travel restrictions and the number of Mallee residents who work outside the region has diminished. This could lead to labour shortages of 500-1,500 workers over the next three years, which would have a significant impact on the economy. Economic damage will be exacerbated by the close interrelation between industries, for example labour shortages constraining horticultural output will negatively affect manufacturing and transportation, compounding the impact.

4.1 Local employers expect strong growth to continue despite COVID-19

Local employers are optimistic about future growth in the region and believe most industries will continue to grow at rates close to those experienced historically despite the impact of COVID-19. If these growth estimates are realised it will result in 1,000-2,500 new jobs being created in the region with an additional 2,000 workers required to replace expected retirements. A breakdown of forecast growth by key industries is presented below in Table 4. Estimates outlined in Table 4 represent an order of magnitude for future skills demand and are not intended to be precise. They are informed by the views of local employers and validated by the taskforce.

Table 4 | Preliminary outlook on job growth by industry, 2020-22 (inclusive)

Industry	Current number of jobs (2019)	Taskforce estimate of 2020-22 workforce CAGR	Expected new jobs	Expected retirements
Horticulture	2,736	2.0% to 3.0%	+150 to +250	~150
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Industry	Current number of jobs (2019)	Taskforce estimate of 2020-22 workforce CAGR	Expected new jobs	Expected retirements
Other industries[6]	9,935	~3.0%	+850 to +950	~500
Total	**38,038**	**1.4% to 1.8%**	**+1,000 to +2,500**	**~2,000**

The region's strongest economic growth is expected to occur in the horticulture, healthcare and social assistance, and education and training sectors. High horticulture prices and exports are expected to continue, although deteriorating relations with China may require an emphasis on new markets. The total land committed to horticulture is not expected to increase, which means economic growth will come through increased productivity and job growth will be strong but not as strong as the last three years. The region has an ageing population which will increase demand for health and social assistance services, and the continued expansion of NDIS provision will further contribute to growth in this sector.

Key service industries such as retail and hospitality and tourism are expected to decline marginally or remain relatively consistent. COVID-19 has hit these industries hardest and businesses have relied on JobKeeper to stay afloat. Domestic tourism has declined significantly, while the continued move to online retail has led to the closure of high street stores in the region.

Other agricultural industries – primarily broadacre cropping – expect marginal growth. Farmers are very aware of the impact of climate change and are increasingly looking to diversify and move into the manufacturing value chain. While the industry's economic output may grow, the consolidation and corporation of farms is expected to continue which will temper actual job growth.

Industries like manufacturing, transport and logistics, and construction are heavily interrelated with other sectors in the region. Positive horticulture and other agricultural growth mean farmers have more money to spend on equipment and there is more produce to package and transport. Manufacturing has struggled in recent years, but employers are optimistic about the future with 67% of survey respondents expecting to expand their workforce over the next 12-24 months, the highest of any industry. Transport and logistics jobs however are expected to decline as transport margins tighten and efficiencies increase in the short-term, with automation further reducing employment in the medium term. Construction businesses report private sector investment has stalled since COVID-19 but public sector spend has continued. While there is a shortage of housing in the region and homebuilding is expected to continue, historical growth has occurred at a moderate 0.9% CAGR for new residential water connections.[7]

New industries such as rare-earth mining are expected to emerge over the next three years and create jobs in the region. The Mallee's mining industry has historically focused on sand mining but has experienced significant decline over the last three years. New opportunities in rare earth mining have recently emerged with plans well-advanced for a mine near Kerang. Processing will also take place in the region and operations are expected to commence in late 2021, with up to 250 jobs created by full production in 2023. If plans continue as expected mining could become a significant employer in Gannawarra. Further mines are planned in Donald (Donald Mineral Sands) with up to 350 employees at full scale operation, as well as new sites (Tronox and Iluka) across the border in NSW.[8]

Detailed industry reports can be found in Appendix A on page 25.

[6] Other industries include: administrative and support services; arts and recreation services; electricity, gas, water, and waste services; financial and insurance services; information, media, and telecommunications; mining; other services; professional, scientific, and technical services; public administration and safety; rental, hiring, and real estate services; and wholesale trade.
[7] Data provided by Lower Murray Water, 2016-19
[8] Minerals Council of Australia, May 2020 Mineral Sands report

4.2 The region will not be able to draw upon the same labour sources to meet future demand

To meet demand over the last three years the Mallee has drawn upon both internal and external labour sources, however there is reason to believe these sources will not be able to provide the same level of supply going forward. If supply forecasts are correct the region will end up with a shortage of 500-1,500 workers as explored in Table 5 below.

Table 5 | Mallee labour sources

Labour source	Estimated size of pool (2020-22)	Opportunity to address shortage	Barriers to accessing labour
School leavers	~2,550	School levers will have many options for work across the region. There are opportunities to better align destinations with industry demand.	School leaver numbers are expected to decline slightly over the next three years. Many students leave the region to study when courses are not available locally and often do not return. In 2018 at least 48% of university students left to study outside of the region. Without offering equivalent local courses, or removing caps where already offered, this trend will continue.
International immigration	~1,200	International migration is crucial to both seasonal labour and meeting specific skills gaps e.g. chefs.	Travel restrictions from COVID-19 are likely to constrain international movement in the short-term. Over the last 3 years ~1,800 working age international migrants came to the region, but our estimates assume at least one full year of international immigration will be lost due to COVID-19.
Mallee residents who work outside the region	~500	Ensuring those who live in the region can find local jobs maximises the available labour force. This strategy was successful over the last three years and the 'Live in Mallee, work elsewhere' population reduced from ~4,800 to ~2,800.	It is unlikely that a shift of a similar magnitude will occur again and it can be presumed that most of the remaining ~2,800 work outside of the region because of a lack of suitable local jobs in their role or industry. Drawing upon this now much smaller pool will bear diminishing returns.
Unemployment	~450	Reskilling and finding suitable employment opportunities for those out of work maximises the available local labour force. Unemployment was at its lowest point of the last three years in March 2019 (Newstart and youth allowances). Returning to this level of virtual full employment would move an additional ~450 people into the labour force.	Long term unemployed are likely to face challenges securing and retaining employment. Historically low unemployment rates indicate that those receiving benefits are likely to have higher needs. Models that support individuals find employment like JVEN will be important to support long-term unemployed find employment.

Labour source	Estimated size of pool (2020-22)	Opportunity to address shortage	Barriers to accessing labour
'Work in Mallee, Live Elsewhere' (commuter workforce)	~100	Drawing upon the population of surrounding regions to bolster the commuter workforce increases the local labour force. The 'Work in Mallee, Live Elsewhere' population has increased from ~4,600 to ~4,850 between 2016 and 2019 suggesting this strategy has been successful.	There are few neighbouring areas of substantial population to draw workers from surrounding the region so it is unlikely that the commuter workforce can be expanded much more.

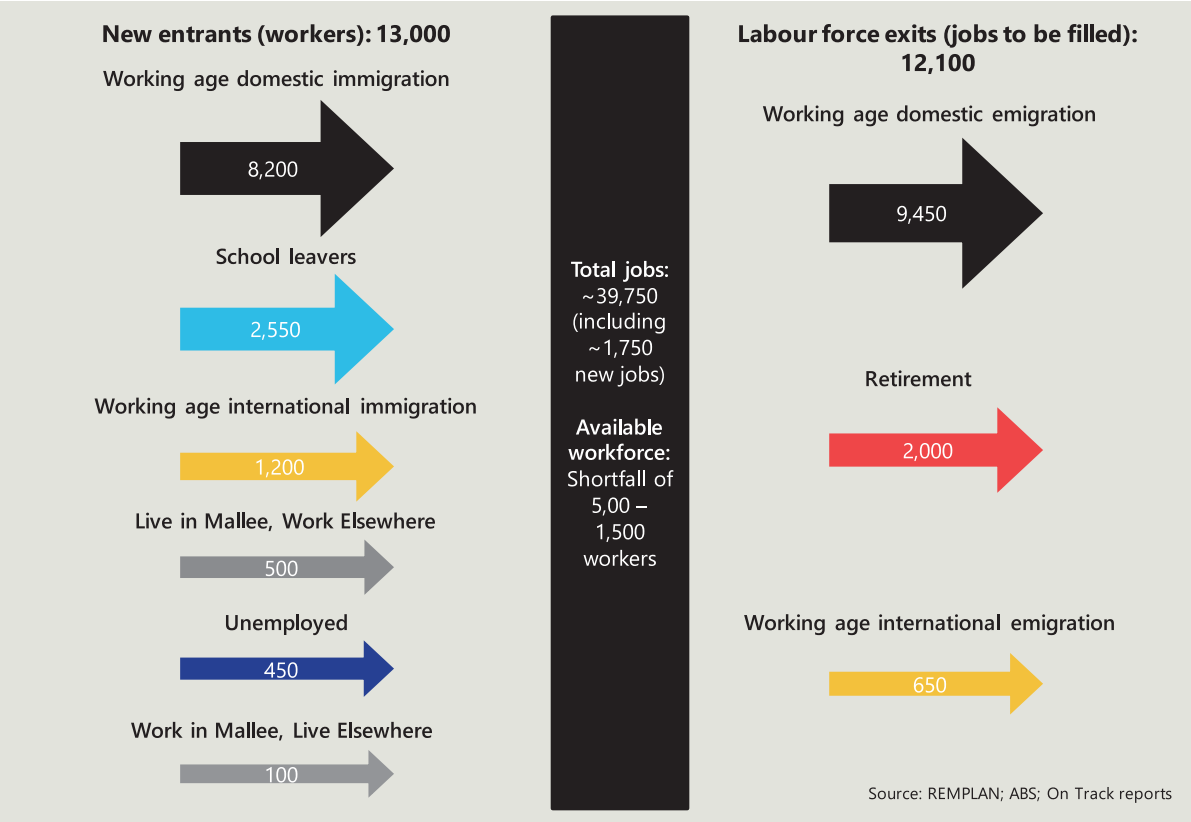
The Mallee region's challenges attracting and retaining workers are exacerbated by persistent structural barriers. The region is characterised by lots of small businesses. There are 10,237 businesses in the Mallee of which 59% are non-employing and 38% employ fewer than twenty workers.[9] Similarly, businesses and the population are geographically dispersed. The region has a very low density of 2 people per square kilometre and 0.3 businesses per square kilometre.[10] Gippsland, a region of similar geographical area, has by contrast 7 people per square kilometre and 0.6 businesses per square kilometre. These factors mean businesses do not have a large pool of workers to draw upon proximate to their location.

A shortage of suitable housing further prevents people from finding work in the region or necessitates long travel times. 26% of Robinvale survey respondents identified the lack of suitable housing in the region as the biggest structural barrier to employment, with particular concern for affordable rental accommodation.[11] The Robinvale survey identified additional structural barriers including a lack of health care services (23%), a lack of childcare services (11%), and insufficient public transport (11%). Employers commented on general liveability as a barrier to attracting and retaining people in the region citing limited shopping and entertainment options, and the need for more social opportunities. These structural barriers will need to be addressed if the region is to attract and retain workers.

Structural barriers and dwindling labour sources will be compounded by the region's ageing population which could lead to significant shortages of 500-1,500 workers in the coming years as illustrated in Figure 8 below.

[9] RDV Information Portal, 2018-19
[10] RDV Information Portal, 2019
[11] Robinvale Our Place – Robinvale Euston Jobs Ecosystem

Figure 8 | Labour force entrants and exits, Mallee, 2020-22



4.3 The impact of labour shortages could be significant

A shortfall of 500-1,500 workers will have a significant impact on the local economy, and responses from local employers suggest labour shortages are already beginning to constrain growth. 57% of businesses surveyed report vacant jobs and 45% of employers in the Robinvale survey report it taking longer than 4 weeks to fill job vacancies.

Labour shortages increase business risks through critical role dependency, which will either constrain growth or ultimately force them out of business. Because the region is highly networked an impact in one industry is not isolated and will cause subsequent challenges for interrelated businesses. If less fruit is harvested by a horticulture business it means less food manufacturing, less transport, and reduced spend on farm machinery. Increasing wages is a typical response to falling supply but this is not an option for many sectors such as retail which are already struggling to compete with online.

23% of Robinvale employers already cite the lack of health care services as a structural barrier to employment, and health care and social assistance providers describe the difficulty of recruiting nurses, GPs, and Allied Health professionals. Labour shortages will further undermine access to critical health services. Similarly access to education is inconsistent in the region and labour shortages will further constrain provision. Damage to the region's already strained services will increase emigration and compound labour shortages.

Each of these missing workers represents forgone economic output. The skills shortages identified could be costing the Mallee region up to $210m in GVA per annum, based on GVA per worker for 1,500 unavailable workers. This figure is an upper bound, with the lower estimate being $80m in forgone GVA per annum for 500 unavailable workers. Our estimate accounts for greater expected labour shortfall in industries such as agriculture and health care, as well as the varying estimates of GVA per worker between

different industries in the Mallee region[12]. The $145,000 estimate of GVA per worker in our analysis is closely aligned with calculations from a 2019 study modelling gross domestic product (GDP) growth resulting from labour supply increase in Australia.[13]

Our estimate considers that GDP typically increases with a 1:1 relationship with labour. This reflects the expected behavioural responses by businesses and the community to work around labour shortages, and any offsetting flow on effects through the supply chain, based on a literature review of computational general equilibrium (CGE) model-based results that analysed similar circumstances of skills shortages and labour market constraints. This aligns with the long-term trend presented in CGE modelling from the Centre of Policy Studies and the Productivity Commission.[14]

[12] REMPLAN (2020) Economy, Jobs and Business Insights for the Mallee Region, accessed at: https://app.remplan.com.au/
[13] Deloitte Access Economics and Oxfam Australia (2019), Economic and social impact of increasing Australia's humanitarian intake, accessed at: https://www2.deloitte.com/au/en/pages/economics/articles/economic-social-impact-increasing-australias-humanitarian-intake.html
[14] Giesecke, J., & Meagher, G. A. (2006), Modelling the Economic Impacts of Migration and Population Growth, Productivity Commission, accessed at: https://www.pc.gov.au/inquiries/completed/migration-population/monashmodel

5 Future growth is contingent on attracting and developing the right workers

To address the anticipated shortage of workers it is necessary to understand the nature of the roles required. Jobs in the region can be grouped into three categories, each with their own specific challenges:

1. **Specialised roles** are those where advanced professional qualifications are required but total local demand is relatively small. Only specific organisations require these roles and typically only need a few people to fill them. Specialised roles usually require years of experience that is difficult to acquire at a single employer in the region, and once the role is filled it may be a long time before a similar one arises.
2. **High volume roles** are those with a large and steady demand for workers. Employers are regularly looking for new workers with multiple opportunities per employer. If school leavers follow the right pathways they will find work in the region. High volume roles represent the majority of jobs in the region.
3. **Seasonal roles** are typically low or unskilled and are required for short periods during the year on a regular cycle. They are predominantly found in horticulture and Sheep, Grains, Beef, and Dairy Cattle where additional labour is required at harvest time. Demand is usually met by transient workers such as backpackers or temporary visa holders.

5.1 Thin markets make it difficult to secure a pipeline of specialised professions for the regions

Because specialised roles are only required in small numbers it is difficult to build an adequate local pipeline. When an employee departs the role can sit vacant for 12 months or more due to difficulties attracting people to the region with the right skills. Alternatively, the vacancy is passed around as staff are poached from other local employers.

Specialised roles include GPs, Allied Health professionals, irrigation managers, agronomists, engineers, and accountants. Young people often enrol in relevant courses – for example in 2018 there were 55 students who studied Occupational Therapy courses, 119 studied Engineering courses, and 35 studied Physiotherapy courses in 2018 (all EFTSL[15]) – but students leave the region to study these qualifications and often do not return. Subsequently, many employers report finding workers in the 25-35 old bracket who intend to stay in the region challenging, making it difficult for businesses to progress employees through to middle management or more specialised positions. Elsewhere student numbers may not align with regional demand, for example 25 students studied Agricultural Science courses in 2018 but employers cite high demand for agronomists, and 10 studied Podiatry (EFTSL).

Some positions can be difficult to fund, for example primary care services report the existing funding model is not financially viable to attract GPs or skilled allied health professionals to the region. There can also be subsequent challenges in retention.

Because specialised professional roles are typically required in small numbers, it is unlikely that regional demand has the critical mass necessary for training delivery to be viable locally. Other training issues are reported by employers, for example existing leadership and management training is hard to access and

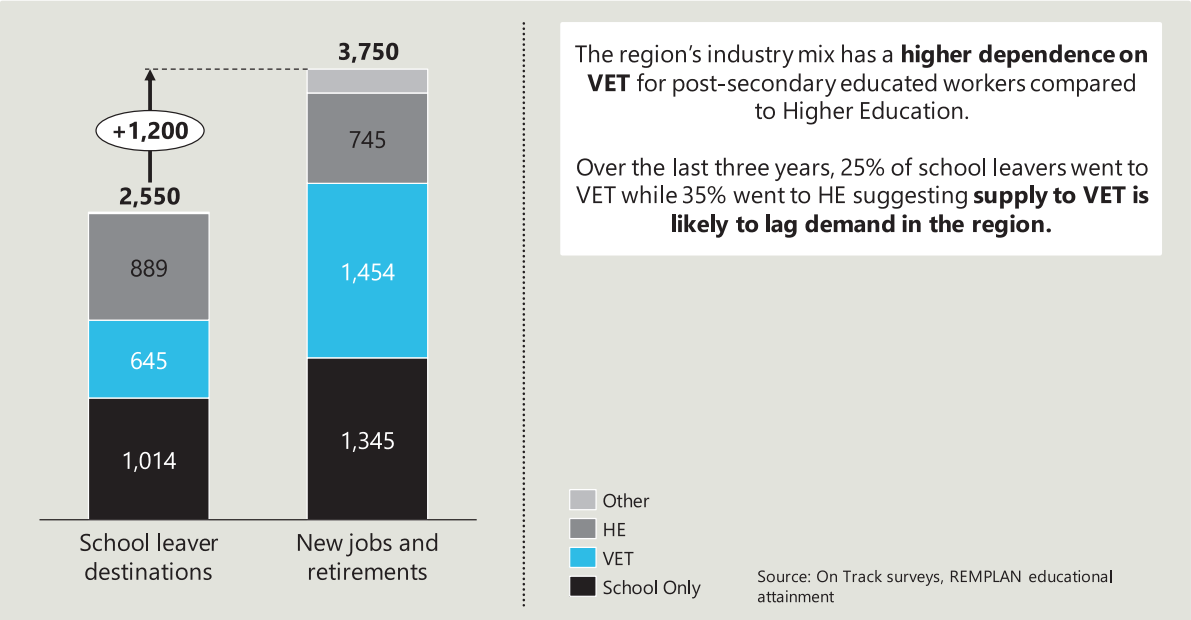
[15] Higher Education Information Management System (HEIMS), EFTSL by permanent residence location, Wimmera-Mallee (SA4)

not tailored to their industry, which makes it difficult to progress staff into middle management roles. Similarly differences between businesses across core practices (such as irrigation or harvesting), customer base, organisational cultures, and other contextual factors can make general training less valuable and viable as a solution.

5.2 Employers of high-volume roles compete for scarce local labour

High volume roles are in significant demand and employers are competing for scarce local labour. Aligning school leaver destinations with industry demand is crucial to preventing labour shortages but this has not occurred historically. Most high volume roles require vocational training, but opportunities exist at all levels of education. Shortages are anticipated to be greatest for VET qualified workers (as demonstrated in Figure 9) although strong demand also exists for unskilled and for higher educated workers as many school leavers who go on to higher education do not return.

Figure 9 | School leaver destinations and job requirements, 2020-22 forecast



The wide range of high demand opportunities in the region offers school leavers diverse career pathways. High volume roles range from plumbers and electricians to nurses and social workers, from bakers and retail assistants to drivers, diesel mechanics and teachers. Schools and training providers however, are not necessarily aware of the industry demand for specific jobs and do not showcase the range of roles within industries, which skews students to more popular professions such as carpentry over painting.

Certain professions are high stress and have unsociable hours (bakers, cooks), which makes them unattractive, and young people may only see the immediate entry-level job rather than opportunities for longer-term progression when making a decision.

For those young people who do identify an appropriate pathway to future work questions of work readiness have been cited by employers. Businesses report recently qualified graduates are not job-ready and lack key skills such as Occupational Health and Safety and forklift licences, and employers feel courses do not include enough on the job experience. Some high demand roles have specific barriers to entry, for example the minimum age for multi-combination vehicle licences is 21.

Ensuring adequate work integrated learning is difficult because placement numbers are limited, particularly for nursing, which restricts course enrolment. In 2018 in the Wimmera-Mallee 111 students studied the Bachelor of Nursing at La Trobe University and another 69 students studied the course at Federation University Australia (who have a Horsham campus). A further 71 students, however, studied the Bachelor of Nursing at universities outside of the region – such as Deakin University and Australian Catholic University – suggesting a higher demand for certain courses than the region can meet.[16]

5.3 Seasonal labour is vulnerable to ongoing travel restrictions

Horticulture and other agricultural industries heavily rely on seasonal labour at key points in the year such as harvest, and to a lesser extent the retail and hospitality sectors require seasonal labour to meet demand during peak tourist season. Backpackers and other travellers on working holiday visas are central to the seasonal labour force, and over the last three years more than 1,800 working age international migrants have moved to the region.

There are serious concerns that travel restrictions could threaten the availability of backpackers for the next harvest in 2021. Farmers who harvested late this year were most affected by COVID-19 measures and reported as much as a 30% reduction in harvest staff availability due to travel restrictions, and this will only increase. A recent submission to the federal parliament by the Australian Fresh Produce Alliance revealed that the working holiday maker program accounts for around 80 per cent of the harvest labour workforce.[17] From March 2020 to June 2020 horticulture businesses received 23,000 inquiries for work, but only 8 percent of these inquiries were made by Australian citizens and permanent residents. Tens of thousands of backpackers have already left Australia this year and if these trends continue as feared national seasonal labour shortages could cause significant spikes in fruit and vegetable prices.

Alternative labour sources available at scale for a short period of time will be hard to come by. Mechanisation has been pursued in the region by horticulture businesses to reduce their reliance on seasonal labour, for example the Mallee Regional Innovation Centre (MRIC) has been working with Dried Fruit Australia to automate pruning, and Olam – one of the largest almond growers in the region – has recently invested in communications towers to manage automated spraying. Mechanisation and automation however remain costly and cannot replace all necessary labour.

Outside of horticulture seasonal labour issues are already affecting wool shearing. Around 500 shearers travel each year from New Zealand to Australia to support the shearing in Spring, but border restrictions have so far prevented their arrival.[18] Shearers and woolhandlers also travel interstate between farms but state border closures may force the Mallee to rely on the small number of shearers and woolhandlers already in Victoria.

[16] All student numbers refer to EFTSL
[17] 'Horticulture giants warn fruit and vegetable prices could rise due to labour shortage', *Sydney Morning Herald*, 30 July 2020
[18] ''Wool Air': Mercy dash for Kiwi shearers on the cards to help clip Australia's flock', *Sydney Morning Herald*, 23 August 2020

6 Opportunities exist to better support the Mallee's next phase of growth

To prevent labour shortages, it will be necessary to adopt a two-pronged approach that tackles both the structural barriers to attracting and retaining the region's workforce as well as the alignment of training and education provision industry skills. The Mallee needs to attract more workers to the region, but it also needs to ensure that school leavers and workers are able to find the right education and training pathways into local jobs.

6.1 Structural barriers should be addressed to unlock the region's potential workforce

Addressing the structural barriers that prevent the Mallee attracting and retaining workers is critical to ensuring a sustainable supply of labour. We have identified opportunities to tackle overall structural barriers, as well as those for each job type (specialised, high volume, seasonal), as presented below in Table 6. Successful delivery will require a concerted effort by education and training providers, industry, and government.

Table 6 | Opportunities to address structural barriers

Challenge	Opportunity
Structural barriers to labour participation and mobility	**Work with government and industry to address critical housing shortages and other structural barriers** including access to childcare provision and availability of public transport that inhibit participation and labour mobility. Existing programs to draw upon include the Sunraysia Mallee Ethnic Communities Council's recent creation of short-term refugee housing, $500,000 of state government funding for Swan Hill Rural City Council's rolling construction program to address housing shortages in Robinvale, and the proposed application of the Defence Housing Australia model for regional Victoria.
Ability to fill specialised roles	**Strategically manage critical roles in the region through targeted and well-formed pathways and recruitment campaigns.** This could include development of prestigious programs that include scholarships and targeted training and development as well as incentives or programs to attract or retain workers. A recent example of a targeted industry intervention came from Northern District Community Health – a health care provider in Gannawarra – who offered a nursing scholarship for a local student and promoted the opportunity through engagement with local schools.
Increasing competition for labour in high volume roles	**Foster a closer relationship between schools, RTOs, universities and industry to promote high demand roles.** Elevate focus to the end outcome rather than the starting point (career rather than job). The 2019 Napthine Review of Regional Education Strategy proposed a regionally-based model for independent, professional career advice. Programs already exist in neighbouring Bendigo such as Passions and Pathways and GROW, which could offer a blueprint.

Challenge	Opportunity
	Improve access to employment and support services across the region. Doing so will increase participation and employment by youth and individuals who have become disengaged from the labour force. Jobs Victoria Employment Network (JVEN) provides tailored and individualised support to long-term jobseekers and those at risk of long-term unemployment. JVEN has been very successful in Mildura with 218 placements between October 2016 and July 2019, the third highest of all regional Victorian LGAs, and also operates in Robinvale, offering a good model to further develop. SuniTAFE operate Skills and Jobs Centre at their Mildura and Swan Hill campuses, and this model could be expanded to other areas such as Charlton, Kerang and Robinvale.
	Attract workers back to the region Develop a campaign targeting people in the region and those who have a past relationship with the region about the need for local workers. Initial need likely greatest in Mildura and Swan Hill shires.
Dependence on seasonal labour	**Develop strategy in partnership with DJPR to reduce dependency on seasonal labour.** This could include incentives to increase investment in automation or changes in work practices. Recent initiatives include the Mallee Regional Innovation Centre's (MRIC) work with Dried Fruit Australia to automate pruning, and Olam – one of the largest almond growers in the region – recent investment in communications towers to manage automated spraying.
	Quantify the impact of seasonal labour shortages. Develop detailed estimates of potential shortfall in seasonal workers prior to seasonal need and develop strategy to meet needs, including ways for domestic job seekers to access seasonal jobs.

6.2 Education and training are crucial to equip individuals for work in the region

Education and training are crucial to ensure school leavers have the right skills and qualifications to find work in the region. Three specific challenges were identified by employers:

1. **Awareness of and interest in local job opportunities**. Employers report that students are often unaware of local employment opportunities and believe they must leave the region to find work. At least 48% of university students leave to study outside of the region[19], and businesses report difficulty finding the 25-35-year-olds who will stay in the region for them to develop.
2. **Availability and capacity of in demand courses**. Popular courses like nursing have external caps imposed, and the restricted availability in the region for nursing forces students to study outside the region. While SuniTAFE has campuses in Mildura, Swan Hill, and Robinvale, in Buloke and Gannawarra the nearest providers are often in Horsham or Bendigo. Survey data reveals that satisfaction with the access to and quality of education is lowest in Buloke.
3. **Leadership and management**. Employers want leadership and management short courses that are tailored to their industry. 78% of survey respondents are willing to coordinate with other employers in the region for training delivery to overcome thin markets, and there are selective opportunities to use online delivery to address access issues. More than 3,000 people enrolled in La Trobe University's free Leadership and Management training recently offered online demonstrating the scale of demand.

[19] Higher Education Information Management System (HEIMS), EFTSL by permanent residence location, Wimmera-Mallee (SA4)

There are opportunities to address these challenges through collaboration between industry, schools, ACFE, VET and higher education providers as presented below in Table 7.

Table 7 | Opportunities for education and training

Challenge	Opportunity
Awareness of and interest in local job opportunities	**Continue to improve student on-the-job exposure to regional careers** in secondary school through industry collaboration and partnership with schools across the region. Opportunities include structured pre-employment programs and industry tasters that provide students with exposure to industries in the region.
	Continue to expand industry role in supporting the provision of career advice to students. This might include providing better information, resources and support to teachers and school career advisors on available opportunities, industry mentoring, employment pathways and preferred training for careers in industry.
Availability and capacity of in demand courses	**Local provision of high demand courses.** Explore the feasibility of offering courses that are currently unavailable locally where employers report shortages, such as the Certificate III in Hairdressing and the Certificate III in Baking at SuniTAFE, and making the Certificate III in Engineering – Mechanical and the Certificate III in Commercial Cookery available in Swan Hill.
	Explore options to increase availability and take up of digital marketing courses from short to degree. Employers indicated demand for enhanced digital marketing capability. Needs ranged from access to low cost training through to demand for digital marketing professionals.
	Develop a surge model with government and Nursing and Midwifery Board to **enable over-enrolment on the Diploma of Nursing and Bachelor of Nursing courses** for a period of time to address demand. In 2018 71 students (EFTSL) studied the Bachelor of Nursing outside of the region, which exceeds those studying in the region at La Trobe University and Federation University Australia. A surge model would include consideration of availability and funding of training, graduate and supervisory positions. This model could apply to other courses where similar issues exist.
	Advocate for funding changes to **support students to obtain high risk licences** in parallel with their qualifications when not included in qualification (e.g. forklift truck, dogging licence, Occupational Health and Safety) to ensure they are job ready.
	Continue shift to hybrid models of delivery that combine, online, on the job and face to face delivery. Advocate for funding models that **support regional providers (universities and RTOs) to supply face to face delivery** in locations that do not have a local provider or demand to support normal delivery. Thin markets are most prevalent in Gannawarra and Buloke but there are opportunities to take advantage of existing infrastructure to support delivery such as Charlton Trade Centre, Kerang Technical High School, and ACFE in the Mallee.
	Consider the introduction of a **Mallee Regional Skills Training fund** that industry and training providers can apply to for subsidised training and upskilling in thin markets. This model builds on the success of the Regional and Specialist Training Fund which was used and valued by the region. The Mallee Region saw the third highest uptake of free TAFE courses in Victoria, suggesting that current fees inhibit access and illustrating the opportunity for a training fund.
	Advocate to government for **greater flexibility by TAFEs to tailor courses** which are out of date or not meeting local industry needs. Courses should be packages that integrate more on the job learning. This could include microcredentials where there is industry demand.
Leadership and management	**Expand and support availability of modular leadership and management short courses** available in the region e.g. as currently on offer by La Trobe.

Challenge	Opportunity
	Facilitate **networks of employers** to support industry tailored leadership and management programs. The recent collaboration between four local aged care facilities and SuniTAFE to contextualise leadership and management training for a specific industry is a good example of this approach, which can be expanded to other industries.

Appendix A Industries have unique education and training needs

Our work focused on nine key industries in the region which collectively account for 73.9% of jobs and 56.8% of the region's value added. Consultations and surveys with employers from each industry group identified opportunities to strengthen the education system to address specific challenges and skills and workforce requirements. This appendix provides a snapshot of each industry's including current profile, COVID-19 impact, outlook for the next three years, and training and skills requirements.

Profile summaries for each of the key industries in Figure 10 are provided overleaf.

Figure 10 | Key industry groups in the Mallee



Horticulture: Export markets and increasing automation will shape the industry's future

Snapshot: Horticulture	2,736 workers employed in 2019	9.7% GVA	7.2% workforce	2.0% to 3.0% forecast employment CAGR 2020-22





Profile	Horticulture is one of the largest and most prosperous industries in the region and is current going through a period of strong growth. The sector is highly mechanised and consists primarily of almond farming, table grapes, wine grapes, and to a lesser extent citrus fruit, stone fruit, tomatoes, and avocados. The Mallee Regional Innovation Centre (MRIC) has been working with Dried Fruit Australia to automate pruning, and Olam – one of the largest almond growers in the region – has recently invested in communications towers to manage automated spraying. The sector's growth has been driven by high international exports, principally to China facilitated by the China-Australia Free Trade Agreement. Whilst water prices remain high the costs have so far been offset by high international prices. The number of hectares committed to irrigated horticulture has stopped expanding and future growth will stem from the intensification and automation of existing land and increasing corporatisation of farms. This is reflected by only 25% of businesses reporting an expansion of their workforce over the last 12-24 months.
Impact of COVID-19	The impact of COVID-19 on the industry has so far been limited. Table grapes and similar crops were well progressed by the time COVID-19 restrictions came into place in March 2020, however farmers who harvested late were most affected by the measures. Some businesses have seen as much as a 30% reduction in harvest staff due to travel restrictions and backpacker shortages. Expectations of a resulting consumer downturn will affect luxury goods like table grapes and avocados the most. Most concerning is the industry's heavily reliance on backpackers to meet seasonal demand. Restrictions on international travel will undermine this labour source if not addressed by harvest time.
Outlook	The outlook for the industry is very positive, albeit tempered slightly from six months ago due to the immediate and expected impacts of COVID-19. The price of almonds has dipped slightly in recent months but that comes from an all-time high, and while table grapes have struggled recently wine grapes have seen a resurgence. 63% of horticulture businesses plan to increase their workforce over the next 2 years, but the success of the horticulture industry is tied heavily to international trade agreements. Deteriorating relations with China could undermine recent boom years if alternative markets are not found. 40% of tables grapes go to Indonesia, and this trade will be further benefited by the Indonesia-Australia Comprehensive Economic Partnership Agreement that came into force in July 2020. Growth estimates range from 2.0% to 3.0%, equating to 150 to 250 new jobs.

Horticulture is heavily reliant on seasonal labour and vulnerable to travel restrictions

Skills and training	There is a shortage of skilled workers in the region and farms often find themselves competing for a small number of employees. Almond farms command the highest prices and pay better and can draw workers away from other industries (e.g. citrus fruits, dried fruit). Irrigation managers are a pivotal and lucrative role in irrigated horticulture but there is a lack of training provided in the region and TAFEs often lack the right equipment available to teach students. Much of the workforce is transient with a reliance on backpackers and seasonal workers. Baseline skills take a few months to teach but by that point workers are often ready to move on. Farms struggle to find 25 to 35 year olds who will stay in the region and can be trained over several years in key skills to become long-term farm managers, presenting issues for succession planning. Horticulture increasingly relies on automation to manage production which will shift the workforce profile to require more university graduates over the next five years to maintain and manage farm technology.		
High demand roles	• Irrigation managers • Agronomists • Farm managers and farm hands • Skilled pruners	**High demand courses**	• Certificate III in Horticulture • Certificate III in Production Horticulture • Bachelor of Agricultural Science

Table 8 | Key challenges and opportunities in horticulture

Challenge	Opportunity	Buloke	Gannawarra	Mildura	Swan Hill
Training does not always develop transferable baseline skills for entry-level staff	Develop local training options and pathways at the entry level that address sector challenges (e.g. a rotation-based traineeship)	x	x	x	x
Lean operations, ageing workforce and limited supply can create skill gaps in middle management	Increase support for succession planning and related training	x	x	x	x
Geography creates challenges to participation in standard vocational training models	Adopt models that take training to individual employers where possible	x	x	x	x
Employers require workers with broader knowledge and awareness of agribusiness operations	Update entry-level training to foster understanding of agribusiness operations	x	x		
Farms have an increased dependence on technology enabled machinery for farm profitability	Provide additional training hours around expensive equipment and plant machinery to increase proficiency levels of workers	x	x		

Sheep, Grains, Beef, and Dairy Cattle: Farm consolidation and new technologies will shape the industry's future

Snapshot: Sheep, Grains, Beef, and Dairy Cattle	2,697 workers employed in 2019	 7.1% GVA	 6.7% workforce	-0.8% to 1.3% forecast employment CAGR 2020-22

Profile	Outside horticulture, the region is characterised by other strong agricultural industries, in particular the broadacre cropping of wheat, barley, and pulses, sheep and cattle grazing, as well as more niche crops like cotton. The average farm size is growing larger and ownership is concentrating, which has led to a small contraction in total employment. Occupations in agriculture are diverse, including positions that require a broad and well-rounded skill set such as farm technicians, farm managers and more specialist positions such as machinery operators, agronomists, irrigation specialists, accountants, and other corporate roles.
COVID-19 Impact	The impact of COVID-19 on Sheep, Grains, Beef, and Dairy Cattle has been limited so far. There is greater automation and less reliance on seasonal labour than in horticulture which means the industry is less vulnerable to border restrictions, however grain harvesting and sheep shearing requires seasonal labour. Around 500 shearers travel each year from New Zealand to Australia to support the shearing in Spring, but border restrictions have so far prevented their travel. Shearers and woolhandlers also travel interstate between farms but state border closures may force the Mallee to rely on the small number of shearers and woolhandlers already in Victoria. Manufacturers report shortages of primary machinery produced overseas such as tractors may be an issue in the coming months.
Outlook	Farmers are very aware of the impact of climate change and are increasingly looking to diversify and move into the manufacturing value chain. Pulse farmers are moving into protein-replacement, and breweries are looking to produce malt in the region. International demand drives wheat and barley production, and the recent introduction of an eighty percent tariff on Australian Barley into China will force growers to look for new markets. The consolidation of production in the region is increasingly requiring business operations skillsets and increasing mechanisation and automation will require more specialised training. Growth estimates range from -0.8% +1.3%, equating to -50 to +100 new jobs.

Skills and training needs are dependent on new technologies

Skills and training	Farmers find entry-level workers are often not job-ready, and training providers do not teach key skills including safe driving of trucks, using self-propelled boom sprays, applying chemicals and herbicides, managing fertiliser rates, and loading silos. Employers cite high demand for agronomists but a difficulty attracting graduates to the region, and there are similar issues with job-readiness in this field. As with horticulture, irrigation and water management is a key skill, but there are few qualifications in this area and practices and equipment vary significantly between farms.		
High demand roles	• Irrigation managers • Agronomists • Farm managers • Farm hands	**High demand courses`**	• Bachelor of Agricultural Science

Table 9 | Key challenges and opportunities in Sheep, Grains, Beef, and Dairy Cattle

Challenge	Opportunity	Buloke	Gannawarra	Mildura	Swan Hill
Training does not always develop transferable baseline skills for entry-level staff	Develop local entry-level training options and pathways to address sector challenges	x	x	x	x
Geography creates challenges to participation in standard vocational training models	Provide training onsite to individual employers to overcome geographic challenges	x	x		x
Increased dependence on technology enabled machinery for farm profitability	Provide additional training hours around expensive equipment and plant machinery to increase proficiency levels of workers	x	x	x	x
Employers require workers with broader knowledge and awareness of agribusiness operations	Update entry-level training to foster understanding of agribusiness operations	x	x		

Hospitality and tourism: COVID will cause short-term disruption to the sector

Snapshot: Hospitality and Tourism

2,586 workers employed in 2019



3.0% GVA



6.8% workforce

-0.5% to 2.0% forecast employment CAGR 2020-22

Profile	The region's hospitality and tourism industries are diverse, with businesses ranging from family owned cafes, bakeries, restaurants and motels, to larger hotels and tourism businesses. The Mallee's environmental assets, cultural heritage, and various recreational activities including major regional events have also contributed to a growing visitor economy, which has flow-on effects to service industries in food and accommodation.
COVID-19 Impact	The hospitality and tourism sector have been hardest hit by the impact of COVID-19 with businesses relying very heavily on JobKeeper to stay afloat. 63% of businesses report their workforce has declined over the last 12-24 months, and COVID-19 has changed expectations of future growth for 88% of businesses. The region relies on domestic tourism, and Mildura Airport is the busiest airport in regional Victoria with over 200,000 passengers a year. but visitor numbers to the region have fallen and the usually busy Easter break was very quiet.
Outlook	Businesses are optimistic about the future but acknowledge that in the short-term things will be very difficult and many businesses will not survive. 63% of employers expect to grow their workforce over the next 12-24 months but this only reflects a return to pre-COVID-19 employment levels, and real growth will be of a more modest order ranging from -0.5% to 2.0%, equating to -50 to +150 new jobs.

Employers report significant shortages of cooks, chefs, and bakers and rely on skilled migration

Skills and training	The hospitality industry does not typically require many qualifications beyond the Responsible Serving of Alcohol. There are shortages in key roles such as cooks. Businesses rely on Skills Shortage visas to address insufficient supply in the region. Training can help to meet demand, but these roles are tough and require unsociable hours for low pay, and it is difficult to attract people into the industry. Demand also exists for digital marketing skills. There is a demand for hospitality-focused management and business operations short-courses, for example focused on bookkeeping, accounts, and payroll. Courses exist but are often not tailored to the industry.		
High demand roles	• Cooks/chefs • Cleaners • Receptionists	**High demand courses**	• Certificate III in Commercial Cookery

Table 10 | Key challenges and opportunities in Hospitality and Tourism

Challenge	Opportunity	Buloke	Gannawarra	Mildura	Swan Hill
Shortage of skills in customer service, digital media and small business skills (including product development)	Strengthen skills in customer service, digital media and small business skills (including product development)	x	x	x	X
Shortage of locally skilled chefs and cooks	Increase and modernise training for local cooks and chefs	x	x	x	X
Locals starting their own businesses in hospitality and tourism require skills and training to be successful	Develop short in-location courses for small business to upskill in hospitality and tourism. These could be non-accredited and run through Learn Locals or community resource centres	x	x	x	X
Skilled workers in holiday parks are in demand and critical to the visitor economy	Work with holiday parks to explore opportunities to collectively upskill workers		x		

Construction: The industry is vulnerable to a contraction in private investment

Snapshot: Construction

2,700 workers employed in 2019



7.1% GVA



7.1% workforce

1.5% to 3.0% forecast employment CAGR 2019-2024

Profile	Construction is significant, both in residential and commercial markets, comprising a combination of sole traders, small businesses, subcontractors and large corporations. The workforce in construction is very diverse, spanning electricians, plumbers, carpenters, joiners, plasterers, fencers, painters, surveyors, crane operators, riggers, dogman, concreters and related trades workers and technicians. Builders in the commercial market tend to be more specialised due to required economies of scale and higher barriers to entry (e.g. due to regulation, occupational health and safety etc.)
Impact of COVID-19	Expectations for the construction industry vary depending on an employer's reliance on private or public clients. Employers report private investment to have reduced significantly since COVID-19, but strong government investment in the region has ensured steady construction work including building schools, government facilities, and fire/police stations.
Outlook	While there is a shortage of housing in the region and homebuilding is expected to continue, historical growth has occurred at a moderate 0.9% CAGR for new residential water connections.[20] 43% of construction businesses plan to increase their workforce over the next 12-24 months, and businesses report high demand for plumbers, electricians, and tilers. Growth estimates range from 1.5% to 3.0%, equating to 100 to 250 new jobs.

School leavers are not aware of the range of opportunities in the construction industry

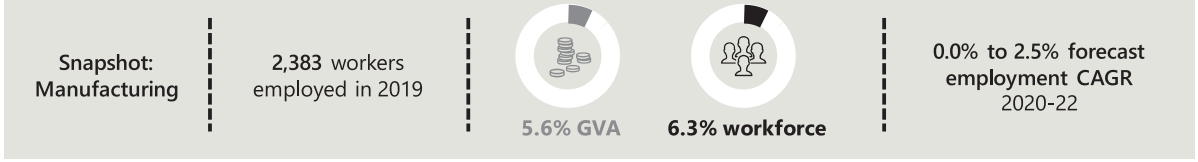
Skills and training	As raised in the previous report, there are shortages of skilled tradespeople in the region. Carpentry is a popular profession, but even here businesses are having to recruit from abroad on Skill Shortage visas where skills are not available locally. There are significant shortages of painters, tilers, and concreters, and even plumbers and electricians can be hard to recruit locally. Schools and training providers can do more to showcase less popular professions and advertise demand in the region.		
High demand roles	• Carpenters • Plumbers • Electricians • Tilers • Painters • Bricklayers • Stonemasons • Bridge saw operators	**High demand courses**	• Certificate III in Plumbing • Certificate III in Electrotechnology • Certificate III in Carpentry

[20] Data provided by Lower Murray Water, 2016-19

Table 11 | Key challenges and opportunities in Construction

Challenge	Opportunity	Buloke	Gannawarra	Mildura	Swan Hill
Young workers can benefit from greater exposure to broader trades in construction	Embed a construction taster in secondary or pre-apprenticeship program which gives young people a feel for the work they would be doing in an apprenticeship and eventually a career	x	x	x	x
VET activity is not always aligned with industry demand	Realign VET activity in construction with industry demand	x	x	x	x
Shortage of training and support between key career transition points	Embed a module on business operations and what it means to be a sub-contractor in apprenticeships	x	x	x	x
New businesses in the region require locally skilled and qualified workers for their workforce	Work with new businesses to ensure their workforce skills and training needs are met		x		

Manufacturing: Moderate growth is expected due to close linkages with agriculture



Profile	Manufacturing in the region is closely linked to its economic activity in agriculture, transport, automotive, construction and related industries. Food and beverage processing comprise a significant part of the region's manufacturing industry. This includes packaging of premium fruit and vegetables, sun drying of grapes, nut processing, abattoirs and production of wine and spirits. Several engineering businesses and generalist manufacturing activity occur in the region too. This includes the manufacturing of farm machinery and modular homes.
COVID 19 Impact	Manufacturing businesses are reporting little impact so far, particularly for those businesses that source raw materials domestically. The region has seen few COVID-19 cases and businesses have been able to continue operating with distancing measures in place.
Outlook	Growth in horticulture, transport, automotive, construction and related industries is anticipated to flow into manufacturing industries in the Region. Strong agricultural yields and high prices have driven demand for farm machinery and sheds. Manufacturing has declined in recent years, but employers are optimistic about future growth with 67% of survey respondents expecting to expand their workforce over the next 12-24 months (the highest of any industry), albeit modestly. Businesses report the greatest demand for welders, engineers, and factory hands, and growth estimates range from 0.0% to 2.5%, equating to 0 to 200 new jobs.

Training should incorporate more job ready skills to support industry growth

Skills and training	Demand for welders and fabricators (Certificate III in Engineering – Fabrication Trade) and machine operators (Certificate III in Engineering – Mechanical Trade) is high. Businesses report existing qualifications do not leave workers job ready. Apprentices studying the Certificate III in Engineering – Fabrication Trade do not gain key skills like a forklift licence, lifting, and experience working at heights. Operating cranes to move machinery in a shed requires a dogging licence from Melbourne, which should be able to be attained alongside Certificates. Back office roles like accounting are hard to fill and recruiting experienced workers into middle management positions remains challenging.		
High demand roles	• Welders • Machine operators/factory workers • Design engineers • Salespeople	**High demand courses**	• Certificate III in Engineering – Fabrication • Certificate III in Engineering – Mechanical • Forklift licence • Bachelor of Engineering

Table 12 | Key opportunities and opportunities in Manufacturing

Challenge	Opportunity	Buloke	Gannawarra	Mildura	Swan Hill
Shortage of workers with broader knowledge and awareness of manufacturing operations	Update entry-level training to foster understanding of manufacturing operations (e.g. lean operations)	x	x	x	x
Shortage of pathways to transition workers into supervisory and managerial positions	Develop a short course for workers transitioning into supervisory positions Develop a modular program for managers to upskill over time	x	x	x	x
Workers with good potential lack formal qualifications	Develop skill sets for workers transitioning from other industries which can subsequently contribute to an apprenticeship		x		
Young workers can benefit from greater exposure to broader trades	Embed a pre-apprenticeship program which gives young people a feel for the work they would be doing in an apprenticeship and eventually a career	x	x		
Employers require workers to be trained in safe food handling, food science and quality assurance.	Work with local employers to explore options to deliver affordable entry level training that fosters a greater understanding of safe food handling, food science and quality assurance and meets compliance requirements	x			



Transport and logistics: Declining margins and automation will shrink the workforce

Snapshot: Transport and Logistics	1,655 workers employed in 2019	3.8% GVA	4.4% workforce	-0.1% to 0.0% forecast employment CAGR 2020-22

Profile	Transport and logistics are closely linked with broader agribusiness industries in the region. Transport industries are characterised by locally owned and multinational transport companies that move inputs and outputs for agriculture, manufacturing, mining and construction companies, on both rail and road. Broader transport activity is linked closely with the region's visitor economy and local population. Activity in horticulture, transport and the region's general dependency on private transport also creates commercial demand in servicing and supporting the motor vehicle and mechanical and equipment requirements across these industries.
Impact of COVID-19	Transport providers delivering goods for supermarkets like Coles and Woolworths experienced very high demand initially as hoarding significantly increased the rate at which shelves were restocked, but demand has since dropped off.
Outlook	Transport and logistics employers expect to see a continued minor contraction in the number of jobs over the coming years. Businesses expect employment to reduce as transport margins tighten and efficiencies increase in the short-term, with automation further reducing employment in the medium term. Employers report the greatest demand for drivers, with particular difficulty attracting school leavers to the industry because the minimum age for a Heavy Rigid licence is 21. Growth estimates range from -0.1% to 0.0%, equating to-50 to 0 new jobs.

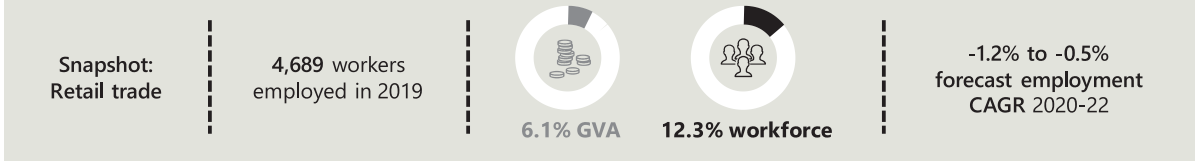
Age constraints make it difficult to recruit school leavers

Skills and training	It is difficult getting young workers into the industry because there is an age restriction of 21 years to get a Heavy Rigid (HR). Pathways programs, where businesses partner with vocational training providers and recruitment consultants, have been good at getting school leavers into the industry, but there are not enough roles to occupy young workers before they can gain their HR licence.		
High demand roles	• Drivers • Diesel Mechanics • Auto technicians	**High demand courses**	• Certificate III in Heavy Commercial Vehicle Mechanical Technology • Certificate III in Light Vehicle Mechanical Technology • MC Licence

Table 13 | Key challenges and opportunities in Transport and Logistics

Challenge	Opportunity	Buloke	Gannawarra	Mildura	Swan Hill
Shortage of pathways to support career changers transitioning into transport	Strengthen pathways for career changers interested in transport	x	x	x	x
Geographic barriers to participation in training	Review and minimise geographic barriers to training for students	x	x	x	x
Shortage of training in leadership and management for middle managers	Provide modularised training	x	x	x	x

Retail trade: Employment will continue to decline as shopping continues to move online



Profile	The retail sector is the second largest employer in the region. It is characterised largely by traditional shopfronts, boutiques and family owned businesses. There are several large retailers in bigger regional centres such as Harvey Norman at Mildura, as well as large supermarkets like Coles and Woolworths. The workforce is characterised by a large proportion of young people looking for part-time and casual work during their studies or gap year, and small business owners aged 45 and over.
Impact of COVID-19	Some stores have seen a boom during the COVID-19 restrictions with demand for goods like electricals spiking, and sales have only been curbed by access to stock. Others deemed non-essential and unable to trade have suffered and relied on JobKeeper to stay afloat. 43% of employers report a decrease in the total number of employees over the last 12-24 months, and 86% report COVID-19 has changed their expectations of future growth.
Outlook	While the retail sector's economic output has grown slightly over the last three years (1.3% CAGR), employment has declined (179 fewer jobs in 2019 than 2016). The move to online has led to the closure of high street stores in the region, and the sight of empty shopfronts is commonplace and expected to increase. Large stores are not immune from declining brick and mortar spend with Target recently announcing its decision to close their Kerang store in 2021. While 43% of retail businesses plan to increase their workforce over the next 12-24 months, like hospitality and tourism this only reflects a return to pre-COVID levels. As such actual growth estimates range from -1.2% to -0.5%, equating to the loss of 50 to 150 jobs.

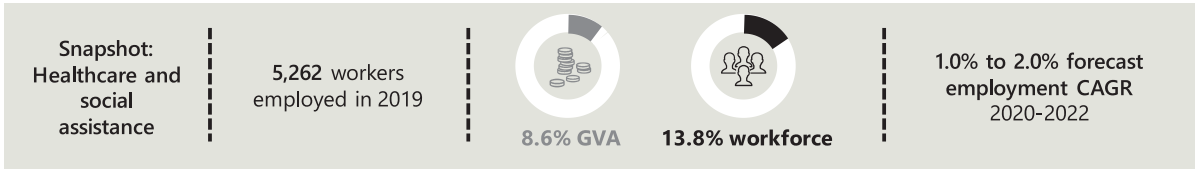
The skills to move businesses online and adapt to a changing environment are needed, as well as specific shortages of bakers and hairdressers

Skills and training	Large businesses and franchises tend to deliver their training in house. Specific skills like digital marketing and website design are in demand as businesses move to online sales to try and increase sales. Boutique providers like Mallee Rising are meeting this demand and helping new businesses get started and supporting more traditional retailers to explore social media and online sales. There is also always a need for accounting skills in back office roles. Employers cite a shortage of hairdressers and bakers in the region. Neither the Certificate III in Hairdressing nor the Certificate III in Baking are currently available in the region, and employers rely on skilled workers from overseas to meet demand. Outside of these areas most businesses do not require their staff to have specific skills or training, instead favouring personality and commitment to customer service.		
High demand roles	• Retail assistants • Accountants • Bakers • Hairdressers	**High demand courses**	• Digital marketing • Bachelor of Accounting • Certificate III in Baking • Certificate III in Hairdressing

Table 14 | Key challenges and opportunities in Retail

Challenge	Opportunity	Buloke	Gannawarra	Mildura	Swan Hill
Shortage of skills in customer service, digital marketing, visual merchandising, and small business skills (including product development)	Strengthen skills in customer service, digital marketing, visual merchandising, and small business skills (including product development)	x	x	x	x
Shortage of training and support for small business	Develop short in-location courses for small business to upskill	x	x	x	x
Retail trade businesses are largely disengaged from the training system	Partner with high performing businesses to pilot modular training that delivers clear and immediate returns to small businesses		x		
Employers lack retail training and business skills to take their small businesses to the next level	Develop short in-location courses for small businesses to upskill in retail trade and business skills. This could include customer service, digital marketing and visual merchandising		x		
Young people have limited career progression in the sector	Explore potential for school-based traineeships to enable students to get experience in retail and provide an increased pool of workers for local traders		x		

Healthcare and social assistance: Further expansion is expected as the population ages



Profile	The healthcare and social assistance industry is the largest employer in the region. Mildura Base Hospital is a Level 1 Tertiary Teaching Hospital offering a wide range of services with a large catchment area in the Sunraysia region, along with primary care, community care, and aged care providers.
Impact of COVID-19	In aged care COVID-19 restrictions have prevented family visitations, and the decline in social engagements may mean elderly residents move into residential care earlier depending on how long restrictions last. Providers have been on the frontline of Coronavirus testing and it has caused upheaval to the way services are delivered. Telehealth has been quickly adopted despite being available for a long time, which will help overcome geographic barriers to accessing services.
Outlook	The region has an ageing population which will drive demand for health and social assistance services. The aged care industry is expanding to meet current demand and in preparation for the arrival of baby boomers over the next five to 10 years. High rates of obesity, chronic disease, disability and high-risk behaviours like smoking will increase the demand for services more broadly. 63% of healthcare and social assistance employers report growing their workforce over the last 12-24 months, and 38% expect growth to continue over the next 12-24 months. Growth estimates range from 1.0% to 2.0%, equating to 150 to 300 new jobs.

Demand for nurses, Allied Health professionals, and GPs is high, along with short leadership and management courses

Skills and training	There is high demand for the Certificate III in Individual Support both in aged care and disability services. Challenges exist recruiting and training Enrolled Nurses. While the Diploma of Nursing is offered in Swan Hill and Mildura, for those based in Buloke, studying involves traveling to Horsham or Ballarat several times a week, which is difficult to balance alongside work. Similar demand exits for Registered Nurses where the workforce profile is ageing, and shortages are expected in future. Short courses in leadership and management are in demand – existing courses take a year to complete which is too long. Demand for Allied Health roles like Occupational Therapists, Physios, and Podiatrists is high but it is hard to recruit people into the region when these courses are only offered in Bendigo or Melbourne. The Certificate III and IV in Allied Health Assistance are also important qualifications. Other important training includes cultural training, trauma-informed practice, and 'Bridges out of Poverty' for engaging low socioeconomic communities.		
High demand roles	• GPs • Allied Health professionals • Nurses (registered and enrolled) • Care workers • Social workers	**High demand courses**	• Certificate III in Individual Support • Certificate III and IV in Allied Health Assistance • Certificate IV in Disability • Diploma of Community Services • Diploma of Nursing • Bachelor of Nursing • Bachelor of Social Work

Table 15 | Key challenges and opportunities in Healthcare and Social Assistance

Challenge	Opportunity	Buloke	Gannawarra	Mildura	Swan Hill
Employers will require aged and disability carers who are adaptable under NDIS and consumer directed care	Improve training quality and supply to support workforce mobility and growth	x	x	x	x
Shortage of training in people management and leadership for team leaders, supervisors and middle managers	Increase training in people leadership and management	x	x	x	x
Reforms in domestic violence, child protection and corrections require workers with a bachelor's degree or higher	Design pathways into higher education and employment in social work	x	x	x	x
Lack of post-support for frontline workers who can no longer meet the requirements of their role	Create training pathways for workers transitioning out of frontline roles	x	x	x	x
Entry-level roles lack the skills and training to provide required support	Create a skillset for workers to upskill in personal care, footcare health and in-home support	x	x		
High numbers of unqualified workers in social work, catering and maintenance roles	Employers and training providers should work together to recognise and complete training for workers	x	x		
University qualified workers are difficult to attract and retain (key areas of focus include social workers, allied health professional, nurses and early childhood educators)	Collaborate with universities to engage with current students and attract recent graduates to the region. Develop new education models that enable individuals with the right attributes to study and work in the region while gaining their higher education qualification	x	x		

Education and training: Growth is particularly needed for early years education, and STEM/creative arts teachers

Snapshot: Education and Training	3,385 workers employed in 2019	 6.2% GVA	 8.9% workforce	0.6% to 3.5% forecast employment CAGR 2020-22

Profile	Education and training includes early years education, schools, vocational education, higher education, and professional training. SuniTAFE is the largest vocational education provider in the region with campuses in Mildura, Swan Hill, and Robinvale. La Trobe university is the only university in the Mallee, operating a campus in Mildura with a particular emphasis on courses from the Rural Health School such as Social Work and Nursing. There are 68 schools in the region. Employers report finding it extremely difficult to recruit Early Childhood Educators, and 11% of Robinvale survey respondents cite the lack of childcare facilities as a structural barrier to growth in the region.
Impact of COVID-19	Delivery has been significantly disrupted by COVID-19 which has hastened the move to online delivery in schools, VET, and higher education. Access to education is limited in Buloke and Gannawarra, with the nearest providers often in Horsham or Bendigo. Satisfaction among employers with the access to and quality of education in the region was lowest in Buloke. Blended learning can go some way to addressing these disparities in access.
Outlook	Education and training providers expect modest job growth with 20% of employers expecting to increase their workforce over the next 12-24 months. The working age population in the region is declining, as is the annual school leaver cohort, which means education and training growth derives from increasing participation rates and widening access not an expanding populace. Growth estimates range from 0.6% to 3.5%, equating to 60 to 350 new jobs.

Attracting industry professional to deliver vocational education and training is crucial to meet skills gaps in the region

Skills and training	In VET, educators are typically recruited from industry and expanding VET provision to meet labour shortages is contingent on attracting educators. Because salaries are typically higher in industry this can prove difficult. Schools report a demand for professional teacher development with an emphasis on pedagogy and meeting the emotional needs of students.		
High demand roles	• Early years educators • Primary school teachers • Secondary school teachers – all areas but particularly STEM subjects and creative arts (music, visual art, drama) • Teaching assistants • VET educators in key courses	**High demand courses**	• Early Childhood qualifications • Bachelor of Education (Primary and Secondary)