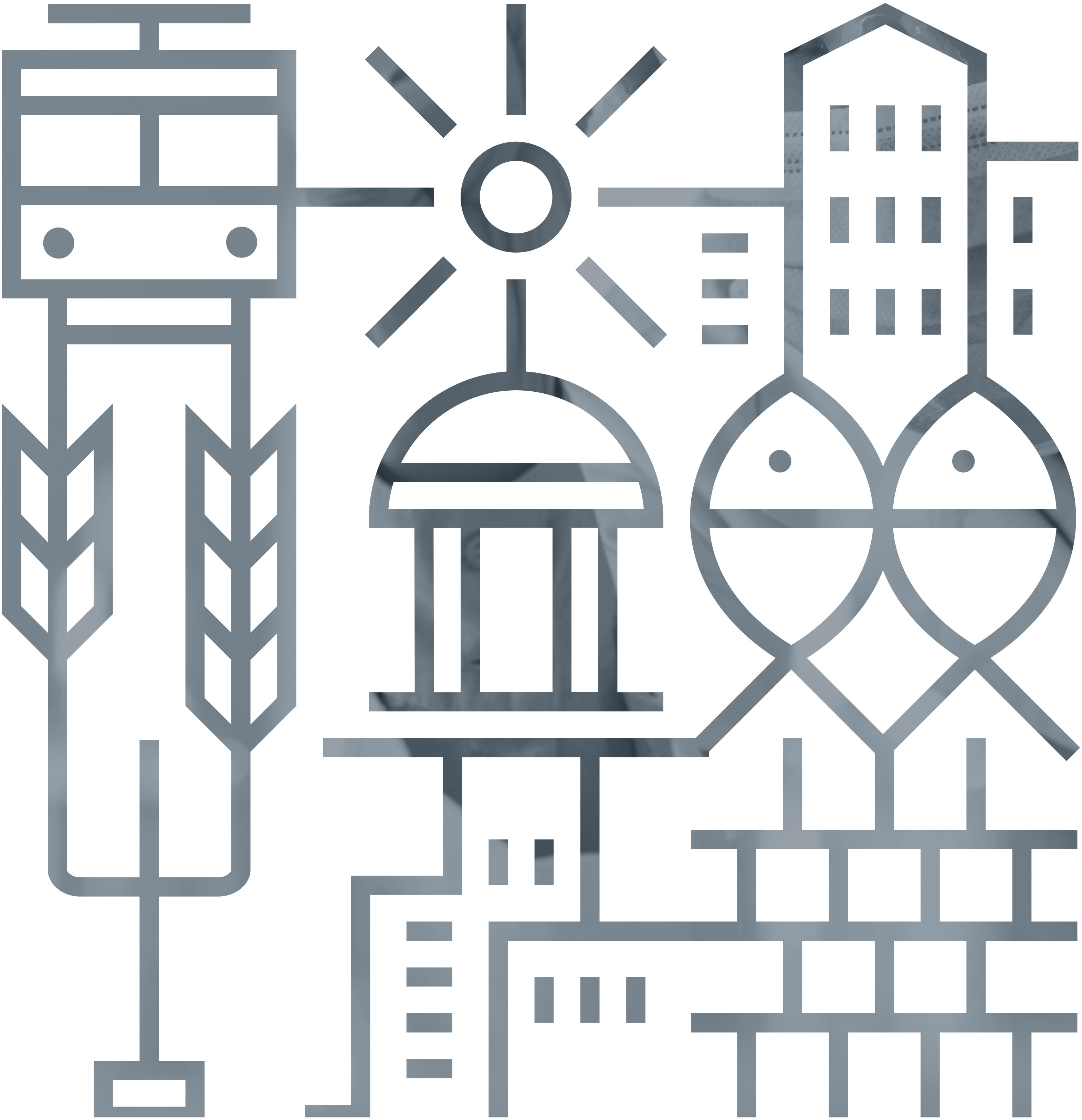
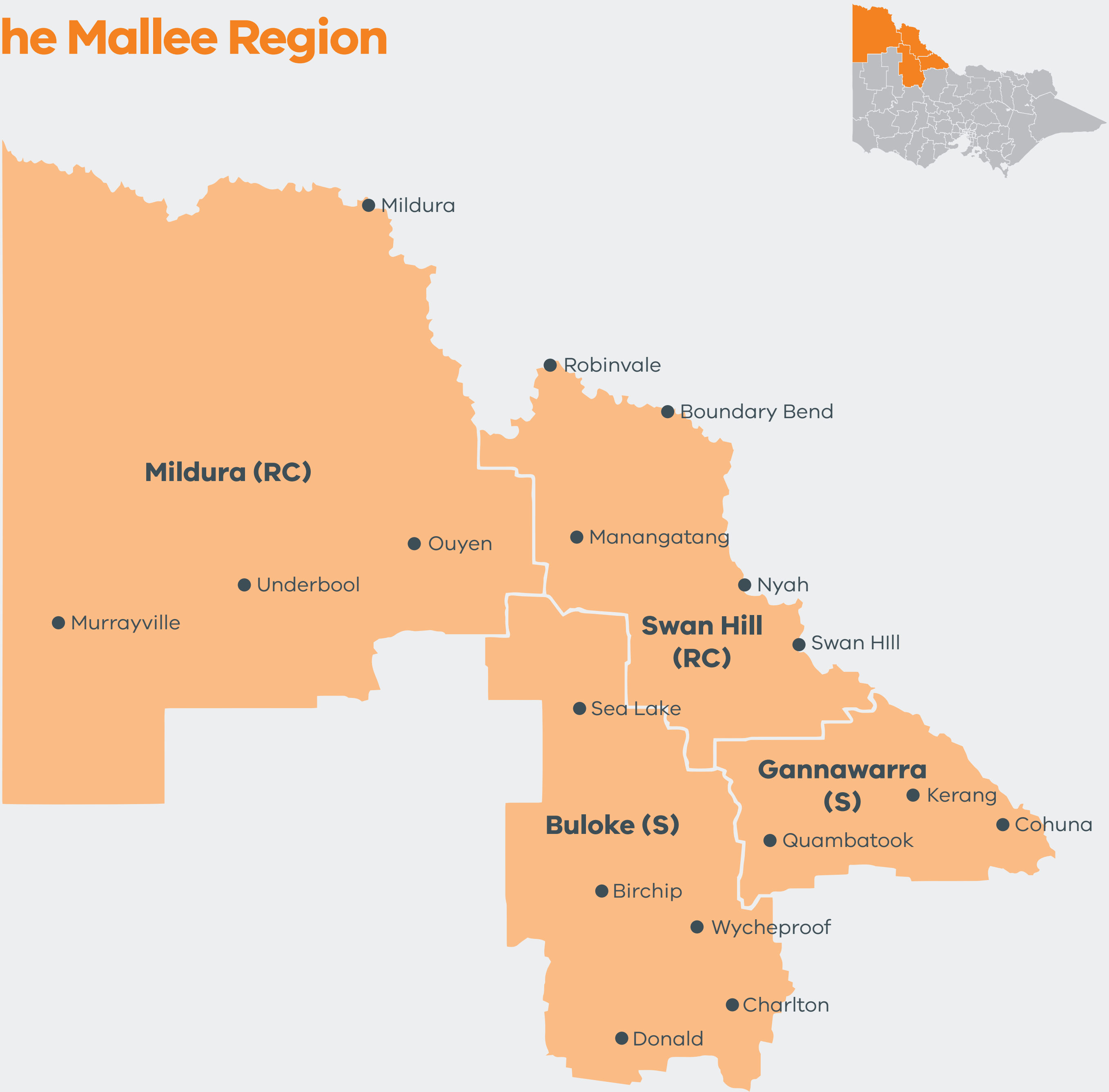
VSC Victorian Skills Commissioner

2017 Regional Skills Demand Profile

The Mallee



The Mallee Region



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VICTORIA State Government

Prepared by the Office of the Victorian Skills Commissioner for the Minister for Training and Skills, the Hon Gayle Tierney MP.

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1. Foreword

A message from the Minister for Training and Skills

The Hon Gayle Tierney MP
Minister for Training and Skills

The Victorian Government is committed to making Victoria the Education State.

Through Skills First, Victoria is leading the way in delivering a high quality training and TAFE system that delivers real skills for real jobs.

A training system that delivers quality and work relevant skills is vital to improving productivity, creating jobs and increasing Victoria's economic growth.

The alignment of training and pathways with industry need is a key priority for this government. The appointment of the first Victorian Skills Commissioner and the establishment of the Industry Engagement Framework (IEF) support this and form a key pillar of the *Skills First* reforms. As part of the IEF, the establishment of ten Industry Advisory Groups and implementation of Regional Skills Taskforces and Industry Skills Taskforces will provide a clear voice for industry to ensure that Victoria's Government-funded training system can better serve the needs of our local economy and communities.

It is important that students are given a choice when it comes to developing the skills that they need for the job they want. It is equally as important for industry and employers to have a say in this training to ensure that these students are skilled for the current and future workforce. In order to achieve this, genuine engagement with industry is required.

The Regional Skills Taskforces provide a way for industries to identify workforce training needs and promote quality training pathways that lead to skills development and jobs across regional and rural Victoria. This process was first piloted in the Mallee region of Victoria, consisting of Buloke, Gannawarra, Mildura and Swan Hill shires.

An outcome of the Regional Skills Taskforce – Mallee Region is the preparation of a Regional Skills Demand Profile. This is an important step in identifying shifts in industry and highlighting the skills and training needs of the region to support these shifts. It draws attention to the value of qualifications and pathways, and identifies obstacles in training and skills that industry is currently facing or is likely to face in the future.

The profile will provide an evidence base for us to shape and fund required training and pathways, as well as overcome challenges.

I would like to thank the Regional Skills Taskforce – Mallee Region for their leadership and commitment to strengthen training and employment outcomes for Victorians.

Continued collaboration from all users of the vocational education and training system is paramount to sustaining the momentum of outcomes and benefits delivered under *Skills First* reforms. The Victorian Government will continue to partner closely with industry, TAFEs and other training providers to deliver on our shared aspirations as the Education State, where every Victorian has the opportunity to train for a brighter future.

The Hon Gayle Tierney MP
Minister for Training and Skills

2. Executive Summary

Neil Coulson
Victorian Skills Commissioner

The Mallee Region (the Region), encompassing Buloke, Gannawarra, Mildura and Swan Hill shires, is poised for growth. A supply of locally skilled workers to underpin this growth is critical. However, the Vocational Education and Training (VET) system is not always aligned with the current and future skill needs of local employers. A demand driven response can help strengthen this alignment to ensure current and emerging skill shortages are addressed and workers are skilled, productive and employable.

The Regional Skills Taskforce – Mallee Region (the Taskforce) is a pilot led by the Victorian Skills Commissioner (VSC) independently of, but in parallel to, the Regional Partnerships established by Regional Development Victoria (RDV). The focus of the Taskforce is on the skilling needs of the region and the development of a Regional Skills Demand Profile (the Profile). Over the duration of the Taskforce, it engaged representatives of the demand side of the market (local employers) to identify where future jobs may be coming from. From that, it explored appropriate pathways and skills requirements.

The future prosperity of regional centres is dependent on making them attractive places to live, learn and work. Skilled local jobs create new opportunities for youth and other residents to find rewarding careers with flow-on benefits across the region's economy and community. Without this, economic growth will either stall or become dependent on outside labour. It follows that alignment of skills and training provision to industry demand is critical to realise the benefits for the Region that flow from a strong local labour force and regional economy.

The Taskforce supports this aspiration for a strong future for Victoria's regions by working locally to identify job opportunities, create pathways and gear the VET system to support and promote future local careers. This includes working with the region to identify skills gaps and thin markets and, where appropriate, link up with local training providers, provide feedback and create partnership opportunities with employers to address these.

Industry, TAFE, other training providers, schools and government will be integral to providing the skills and pathways required to meet future economic demand. Strong partnerships, linkages and sustained collaboration are required to address systemic challenges and ensure the efficacy and equity of training and alignment to employment outcomes for all students in the Region.

The Mallee region's economy and workforce are highly interconnected

The Region's economy is highly interconnected, where strong local and international demand for agriculture is reflected in thriving manufacturing, transport and construction industries. The flow of income from the workforce and households creates demand for service industries in the Region. This includes retail and wholesale trade, healthcare and social assistance, education and training, and professional services such as financial and accounting services. Growth in one industry often has flow-on benefits to other industries, leading to increased opportunities for investment and local employment.

While population growth is low, real gross regional product has grown at approximately 2-3% per annum in recent years and is forecast to continue. This is reflected in strong export demand, continued public investment and low unemployment rates. However, the Region's population is ageing and the population of people aged 65 or older is forecast to grow at approximately 2% per annum. To address labour shortages, some sectors within the Region have come to rely on backpackers, nomads or workers with 457 visas on short term contracts. This emphasises the imperative for a demand-driven response to vocational education and training, to ensure that training pathways and future supply of workers are aligned with industry need and direction.

The Mallee region's labour force is forecast to grow in the near term

Fuelled by investment in horticulture, solar and other industries, the Region is forecast to experience strong near term growth in demand for labour. Taskforce estimates identify future workforce demand of between 2,900 and 4,400 new workers from 2017 to 2020 to support growth and replace anticipated retirements. Table 1 provides estimates of where growth is projected.

It should be noted that should estimates be realised, the Region is likely to face significant labour shortages. High labour market participation, low unemployment rates and the ageing workforce present challenges to filling vacancies. Without continued workforce growth and attraction of new resources, economic progress in the Region will stall. As such, sustained and collaborative action from industry, schools and training providers is imperative.

The estimates outlined in Table 1 represent an order of magnitude for future skills demand and are not intended to be precise. The value in this model is in drawing on available data, with validation from industry to understand variables not captured or where data is not current. This exercise accessed industry leadership and expertise to provide indicative industry labour ratios based on planned investment and flow-on effects to strengthen the projections. This provides a complement to planning underpinned by activity on the training supply side of the market.

Table 1: Preliminary outlook on job growth by industry#

Industry group	Estimated FTE	Taskforce estimate of 2017-2020 workforce growth (CAGR)	Total required workforce growth (including replacements)	Jobs identified to be created during consultations over next three years
Horticulture	~4,300	3.5%-7.0%	+600-1100	~300 skilled[1] ~600 contract
Other agriculture	~2,400	0.5%-1.5%	+100-200	~70[2]
Hospitality and tourism	~2,900	2.0%-2.5%	+250-300	NA
Construction	~2,300	1.8%-3.5%	+200-300	NA
Manufacturing	~2,300	2.5%-4.5%	+250-400	~275[3]
Transport, logistics & automotive	~3,300	2.6%-4.5%	+350-550	NA
Retail trade	~5,500	1.5%-2.0%	+400-500	NA
Healthcare and social assistance	~6,200	2.9%-4.2%	+750-1000	~400[4]

 # CAGR (compound annual growth rate) provided in Column 3 refers only to new additional growth above current workforce estimates.
 # FTE ranges (2nd last column) includes additional workers required due to estimated workforce exits (e.g. retirement) and net regional migration.
 # Forecasts excludes FTE associated with large short-term projects (e.g. solar construction, sand mining, etc.).
 # Forecasts focus on the top 8 industry groups for the Region only. Other industries such as professional services, education and training, etc. are excluded from this outlook.

Industries share common challenges and opportunities

The VET system has an important role in meeting forecast workforce demand. Employers identified the importance of training to deliver skill sets and flexible pathways to facilitate entry-level employment. They also noted the importance of the opportunity for students and workers to build competencies, in line with industry demand, through vocational qualifications. However, common training and skilling challenges and opportunities were identified that could undermine efforts if not addressed.

Themes include:

1. students can benefit from greater awareness, interest and exposure to careers in industry
2. changes and opportunities in the labour market take time to filter down to trainers, schools, students and their parents
3. there is unmet demand for various skilled trades, including boilermakers, diesel mechanics and machine operators
4. strong language, literacy and numeracy skill levels and transferable skills are important to employers
5. licences and certificates can better signal the accumulated experience and competence of workers to employers
6. there is variability in the level of proficiency achieved by students against key competencies required by industry
7. government and industry data can support medium term planning.

Addressing these challenges and opportunities through the VET system is both an economic and social imperative, particularly in light of forecast economic growth across the Region. Collaboration between industry, trainers and educators will be required with obligations shared across all. Section 7 outlines several opportunities to address these common challenges, although further exploration is required.

[1] Includes planned approvals, developments and expansions across almonds, citrus, olives, table grapes, etc. (excludes contract labour)
[2] Includes planned growth in hay exports, intense farming (pigs and chicken) and beef cattle feedlot
[3] Includes various investments and expansions in abattoirs, almond cracking plants, winery and sewage infrastructure developments
[4] Includes the transition into NDIS, workforce response to the Family Violence Royal Commission and reported growth from some aged-care providers

Growth and specific opportunities vary by industry

The consultation process also identified a number of key challenges and opportunities unique to each industry group in the Region. The VET system, in collaboration with industry, will play an important role in addressing these challenges to ensure the nuanced training and skilling needs of industry are met. Key findings are summarised below:

Table 2: Key challenges and opportunities in vocational training by industry

Industry	Challenge	Opportunity
Horticulture	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)
	Lean operations, ageing workforce and limited supply can create skill gaps in middle management	Increase support for succession planning and related training
	Geography creates challenges to participation in standard vocational training models	Adopt models that take training to individual employers where possible
Other agriculture	Training does not always develop transferable baseline skills for entry-level staff	Develop local entry-level training options and pathways to address sector challenges
	Geography creates challenges to participation in standard vocational training models	Provide training onsite to individual employers to overcome geographic challenges
	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
Transport, logistics and automotive	Barriers to entry for young people (e.g. minimum age for young drivers to obtain a MC licence is 21)	Develop a pre-employment/cadetship-type model for young people
	Shortage of pathways to support career changers transitioning into transport	Strengthen pathways for career changers interested in transport
	Geographic barriers to participation in training	Review and minimise geographic barriers to training for students
	Shortage of training in leadership and management for middle managers	Provide modularised training to support skills development for middle managers
Manufacturing	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)
	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
Construction	Young workers can benefit from greater exposure to broader trades in construction	Embed a construction taster in secondary school
	VET activity is not always aligned with industry demand	Realign VET activity in construction with industry demand
	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
Retail	Shortage of skills in customer service, digital marketing and visual merchandising	Strengthen skills in customer service, digital marketing and visual merchandising
	Shortage of training and support for small business	Develop short in-location courses for small business to upskill
Hospitality and tourism	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)
	Shortage of locally skilled chefs and cooks	Increase and modernise training for local cooks and chefs
	Shortage of training and support for locals starting their own businesses in hospitality	Develop short in-location courses for small business to upskill in hospitality
	Differences in licence and training requirements for service of liquor and gaming can create barriers to participation	Refer challenges to relevant ministers and departments for action

Table 3: Key challenges and opportunities in vocational training by industry (continued)

Industry	Challenge	Opportunity
Healthcare and social assistance	Prior to the latest training package, some graduates did not complete certain units critical for employment as an enrolled nurse	Work with enrolled nurses to upskill in administering and monitoring medicines and IV therapy
	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
	Shortage of training in people management and leadership for team leaders, supervisors and middle managers	Increase training in people leadership and management
	Reforms in domestic violence, child protection and corrections require workers with a bachelor degree or higher	Design pathways into higher education and employment in social work
	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

A mechanism to support implementation is recommended

The future legacy of the Taskforce will be dependent on continued industry engagement to ensure implementation success. Success will also require collaboration to extend to TAFEs, other training providers, schools, universities and government to fully realise the benefits for the regional economy and local community. Guided by the advice of the Taskforce, it is recommended that the Office of the Victorian Skills Commissioner (OVSC) embed a Project Manager in the Region to establish the Mallee Region Skills Advisory Group. This Advisory Group would monitor the Profile and support ongoing industry engagement, including supporting the development of region relevant career advice that is contextualised to the skilling demands of the region.

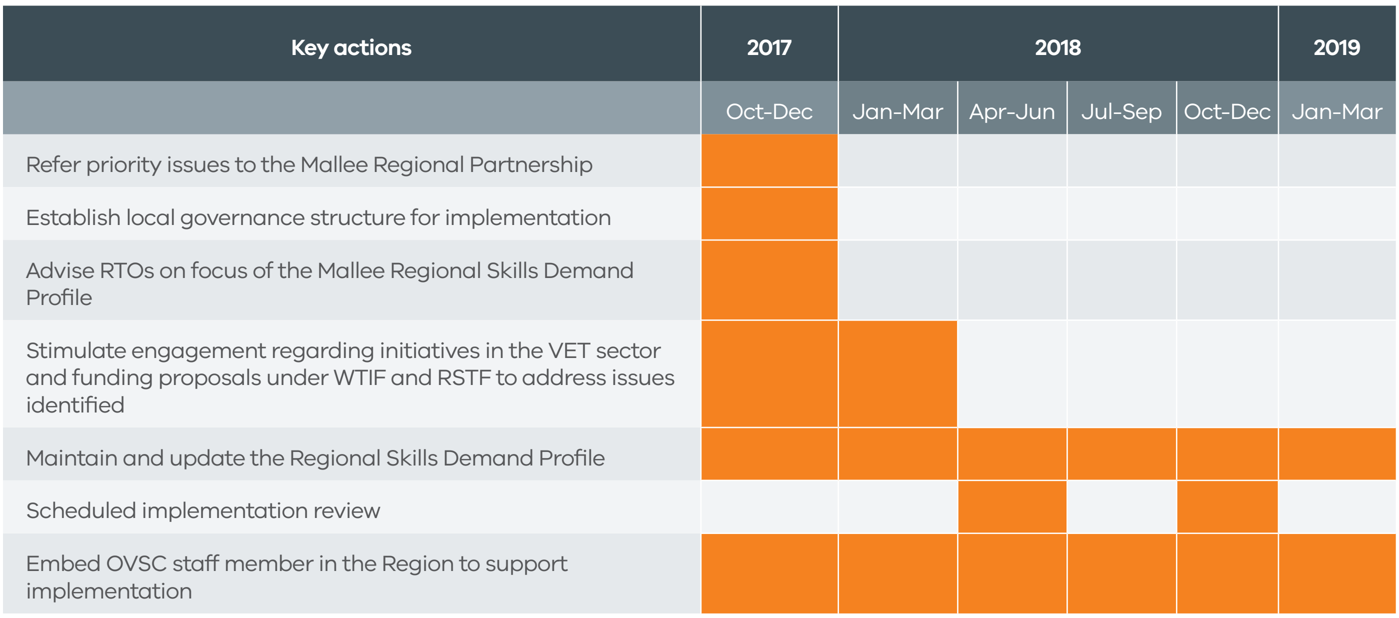
A roadmap to implementation is proposed

There is an imperative for implementation to begin and progress quickly. The potential of the region is significant but the workforce must be available to realise that potential. A series of steps are proposed over the next 18 months to begin addressing the challenges and opportunities in training for industries in the Region (Figure 1).

Industry is a key stakeholder in Victoria's VET system. The Profile outlines industry's understanding of the skills needs and challenges for the Region and where the focus is required to ensure the economic potential of the Region is realised.

The Taskforce has provided the first step in better aligning the VET system with the current and future demand of industry in the Region. Implementation of initiatives to address the findings raised in this profile represents the next step in developing relevant skills and pathways that can underpin the Region's future economic prosperity.

Figure 1: Roadmap for implementation



3. Introduction

Demographic, policy, technological and industry change will impact the nature of work and the skills required across Victoria. It is an economic imperative that the VET system is aligned with the current and future skill demands of industry. A demand driven response is required to address current and emerging skill shortages and ensure workers are skilled, productive and employable.

To support this direction, the OVSC established and piloted the Taskforce in the Region as a key component of its Industry Engagement Framework (IEF). Comprising of industry leaders across the Region, the Taskforce provides a structured avenue for industry to provide advice on the regional outlook and future skill and training needs of the Region. This includes surfacing key training barriers that can be overcome through projects that may be eligible for funding under programs such as the Workforce Training Innovation Fund (WTIF) and the Regional and Specialist Training Fund (RSTF).

In collaboration with the Taskforce, the OVSC has prepared the Profile for the Region. The Profile provides an economic outlook for the Region, including a short to medium term view on labour, skills and training requirements by industry groups. This process was conducted independently and in parallel to the Victorian Government's Regional Partnerships. It is intended to provide an evidence base, from the perspective of industry, on:

- how the training system can better support the local economy and jobs,
- potential investments and interventions to meet regional skills demand, and
- opportunities to address pathways, thin markets and skill gaps to improve employment and skills development.

Additionally, a series of broader consultations with industry were conducted to provide a richer industry perspective on the challenges and opportunities for the Region. To support future policy and planning, industry workforce forecasts were also developed in consultation with, and validated by, the Taskforce.

The Profile draws on the rich level of data between governments and industry. It is noted that the economy is highly dynamic with predictions made in the past not always reflective on what is likely to happen in the future. Employer forecasts of investment and labour market implications, made possible through the independence of this process, have been an important point of validation to historic data on demographics and training supply. Without which, the risk of further misalignment would have been amplified.

This process represents a step in better aligning the VET system with the current and future needs of local industry. The onus remains on all stakeholders to sustain ongoing collaboration and ensure implementation success. While student choice remains a feature of the VET system, it is also important to present a profile of the Region's future, including demand, to allow local people/ students the opportunity to make informed decisions about their pathways.

This process represents a step in better aligning the VET system with the current and future needs of local industry. The onus remains on all stakeholders to sustain ongoing collaboration and ensure implementation success.

4. Acknowledgements

The OVSC would like to acknowledge the time, contribution and insights of the Taskforce (Table 4) and additional representatives from industry, local government, training providers and related agencies. The findings in this report would not be possible without their openness, generosity, expertise and commitment to the regional economy and community.

Table 4: Regional Skills Taskforce members

Member	
Anne Mansell	Chief Executive Officer, Dried Fruits Australia
Darren Midgley	Chief Executive Officer, Chaffey Aged Care
John McLinden	Chief Executive Officer, Swan Hill Rural City Council
Ken Wakefield	Managing Director, Wakefield Transport
Peter Devilee	Managing Director, Devilee Air Conditioning and Refrigeration
Peter O'Donnell	Executive Director, Southern Cross Farms
Phil Endley	Managing Director, Lower Murray Water
Rob Saunders	Nominee, Sunraysia Trades & Labour Council
Rob Wheatley	General Manager, Olam Orchards Australia Pty Ltd
Rod Markwell	Managing Director, Markwells Auto Group
Roger Griffiths	Economic Development Manager, Gannawarra Shire
Ryan Casey	Proprietor, Stefano's Cafe / Spanish Grill
Steve Timmis	Proprietor, Fosseys Gin / Board Member of Murray Regional Tourism
Tania Chapman	Chair, The Voice of Horticulture
Ted Rayment	Chief Executive Officer, Swan Hill District Health
Terry Jennings	Proprietor, Jennings Northern Shoe Store
Trevor Adem	Chief Executive Officer, East Wimmera Health

* Peter Ebner, Business Development Manager, Lower Murray Water, represented Phil Endley on the Taskforce as required.

* Scott Wishart, Business Liaison Officer, Gannawarra Shire, represented Roger Griffiths on the Taskforce as required.

5. Industries are interconnected and the workforce is ageing

The Region's economy is highly interconnected, where strong local and international demand for agriculture is reflected in its thriving manufacturing, transport and construction industries. The flow of income from the workforce and households creates demand for service industries in the Region. This includes retail and wholesale trade, healthcare and social assistance, education and training and professional services such as financial and accounting services.

While population growth is low, real gross regional product has grown at approximately 2-3% per annum in recent years and is forecast to continue. This is reflected in strong export demand, continued public investment and low unemployment rates. However, the Region's population is ageing, and the population of people aged 65 or older is forecast to grow at approximately 2% per annum. This emphasises the imperative for a demand-driven response to vocational education and training, to ensure that training pathways and future supply of workers are aligned with industry demand and direction.

The Mallee region's economy and workforce are highly interconnected

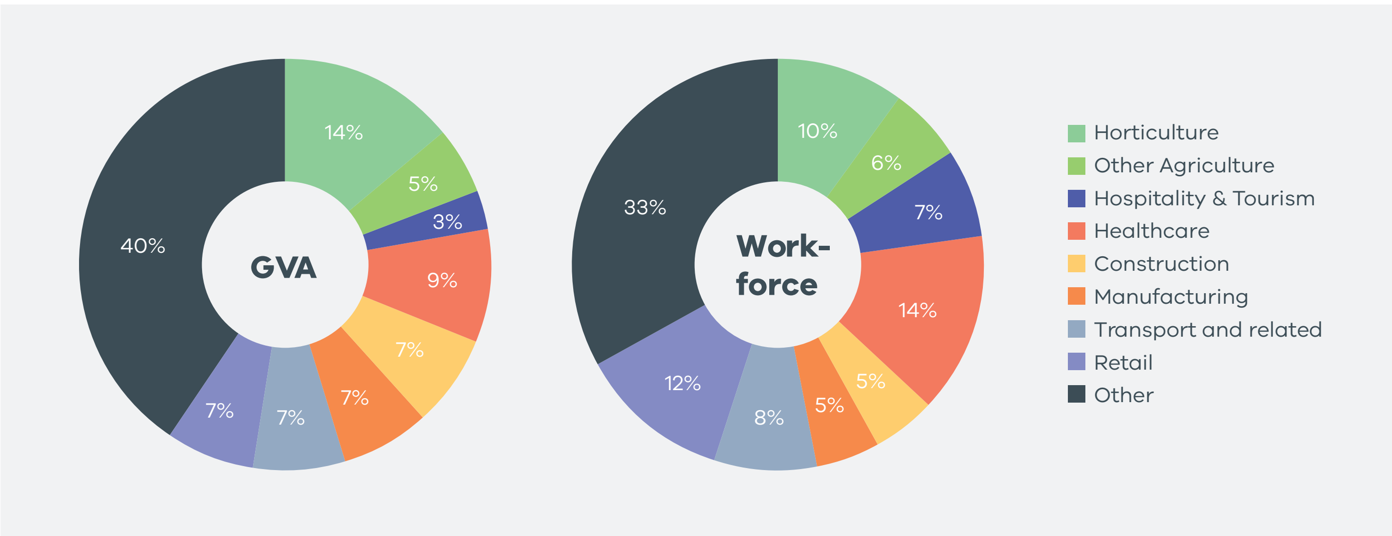
The Region is characterised by a diverse agriculture sector, from horticulture along the Lower Murray-Darling to irrigated dairy. Key horticultural industries include almond, citrus, stone fruit, olive, wine, dried fruit and table fruit. The Region also enjoys activity in other seasonal crop industries, intensive agriculture and dryland farming. Agriculture is the largest sector of the Region, accounting for almost 20% of the Region's gross value added (GVA) and 16% of the Region's employment (Figure 2).

Figure 2: Current industry share by gross value added and labour force (%)[5]

As noted above, the Region's economy is highly interconnected (Figure 3). The Region has significant activity in food processing and beverage manufacturing. This includes the packaging of premium fruits and vegetables, sun drying of grapes, nut processing and wine manufacturing. Significant agriculture and manufacturing activity translates to an active transport and logistics sector as inputs and outputs are moved between industries and locations. Manufacturing, transport and related industries account for 14% of GVA and 13% of employment.

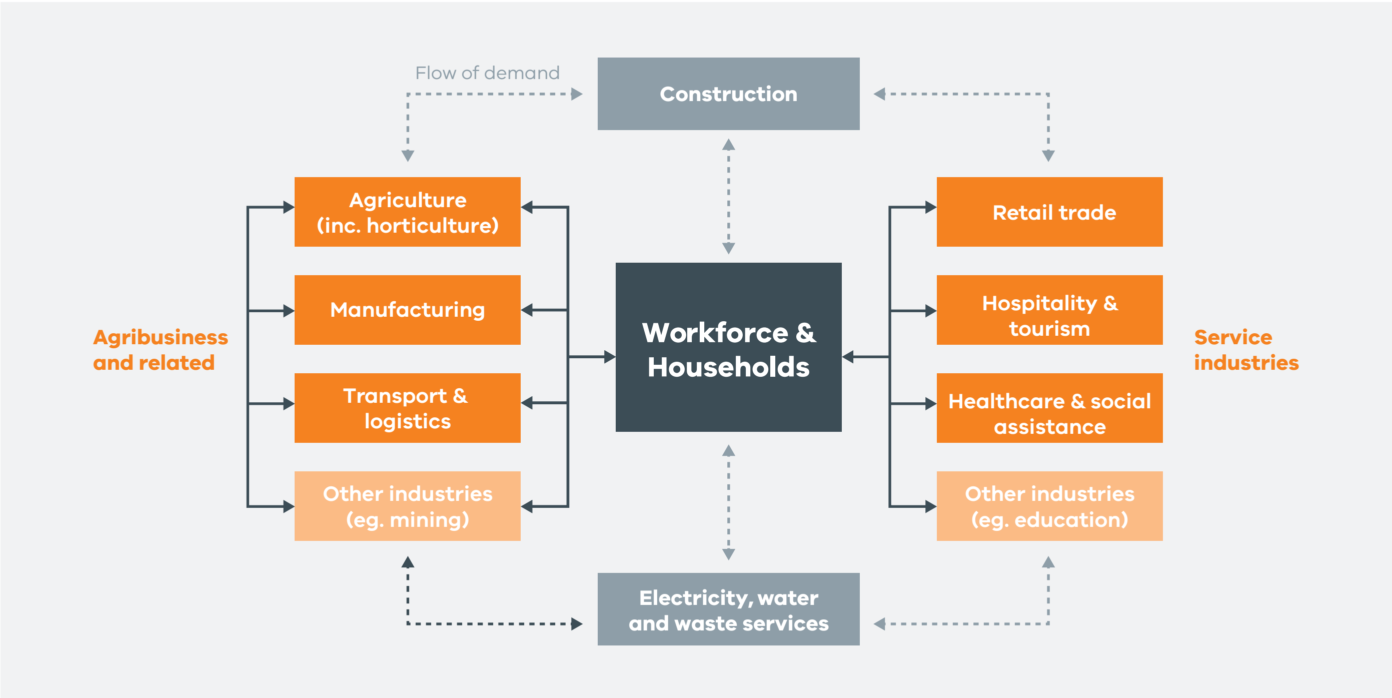
As previously stated, the flow of income from businesses, their workforce and households creates demand for service industries in the Region. This includes retail and wholesale trade, healthcare and social assistance, education and training and other professional services such as financial and accounting services. Natural assets such as the Murray River and various national parks contribute to the Region's tourism, hospitality and retail industries. The provision of goods and services for these industries are often supplied locally due to the geographic positioning of the Region's economic hubs and rural towns. Retail, healthcare and social assistance, and hospitality and tourism account for approximately 20% of GVA and 33% of employment.

Similarly, the Region's economic activity in agriculture, manufacturing and various service industries creates demand for construction, electricity, water and waste management industries. Significant projects in the Region include Lower Murray Water's Sunraysia Modernisation Project (SMP2) and investment in solar infrastructure across the region. Activity in these industries will contribute to the visitor economy and related service industries.



[5] Cadence Economicss, Gross value added and labour force by key industry groups in the Mallee, 2017

Figure 3: Overview of Mallee's interconnected economy

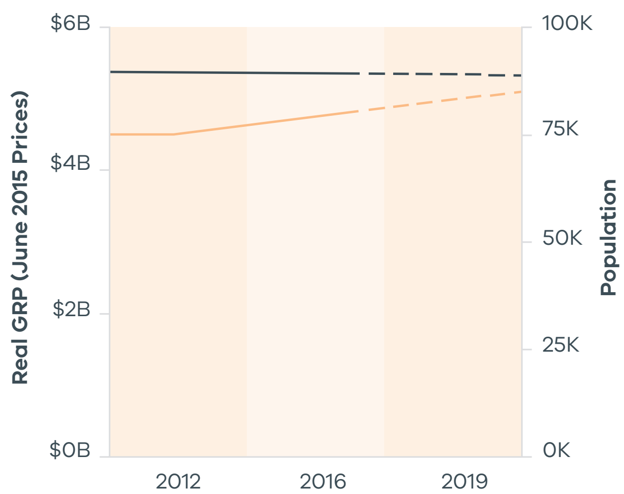


The outlook on broader economic and labour market conditions is positive

The Region's gross regional product was estimated at approximately $4.9B in 2016 (Figure 4). In particular, the Region recorded $3.2B in regional exports and $5.6B in imports (where approximately 14% of imports came from overseas markets). Gross regional product has grown annually between 2% and 3% in recent years. This is forecast to continue with some degree of variation and cyclicality between sectors.

Broader economic activity across the Region is also reflected in the level of building approvals. The five-year average annual level of residential and non-residential building approvals in the Region is approximately $122M and $78M respectively.[6] New Victorian Government policies will contribute to this. For instance, the 25% reduction in the payroll tax rate for regional businesses and the $50M investment to double the First Home Owner Grant to $20,000 for new homes in regional areas should also support residential and economic growth in the Region.[7]

Figure 4: Real GRP and population in the Mallee, trend and forecast[8]



[6] Australian Bureau of Statistics, Building Approvals, Cat. 8731.0
[7] Regional Development Victoria, Regional Partnerships Mallee – 2017/2018 Budget outcomes for Mallee, 2017
[8] Latest REMPLAN data incorporating Australian Bureau of Statistics June 2016 Gross State Product, 2013/2014 National Input Output Tables and 2011 Census Place of Work Employment Data

Workforce participation rates in the Region have improved by seven percentage points, from 59% in 2011 to 66% in 2015, where the regional state average is approximately 62%.[9] Unemployment rates have fluctuated between 4% and 7% in recent years.[10] Unemployment rates are generally lower in Buloke, Gannawarra and Swan Hill (approximately 4.1%) than in Mildura (approximately 6.4%), reflecting Mildura's relatively higher share of service industries.[11] However, the unemployment rate for young workers, aged between 15 and 24 years, is relatively higher at approximately 11%.[12] Various initiatives such as the $1.7M investment in the re-establishment of the Victorian Rural Women's Network (RWN) are anticipated to promote economic participation and professional development in the Region, and in regional Victoria more broadly.[13]

Continued public investment and technological advancement will also contribute to the Region's economy and productivity. For instance, upgrades to key road freight routes, including the wider centre line trial on the Calder Highway, between Ouyen and Mildura, will support the transport sector and broader linkages between industries and the state.[14]

While the Region is many years away from the full effects of automation and related technologies, industries can expect some lift in productivity. The $45M investment in the Connecting Regional Communities Program across regional Victoria can support digital initiatives such as broadband trials, digital agricultural applications and blackspot minimisation.[15] Activities such as dry land farming are also continuing to explore options in digitisation and automation. Operations in other areas such as stone fruits, table grapes and dried fruits are still difficult to automate.

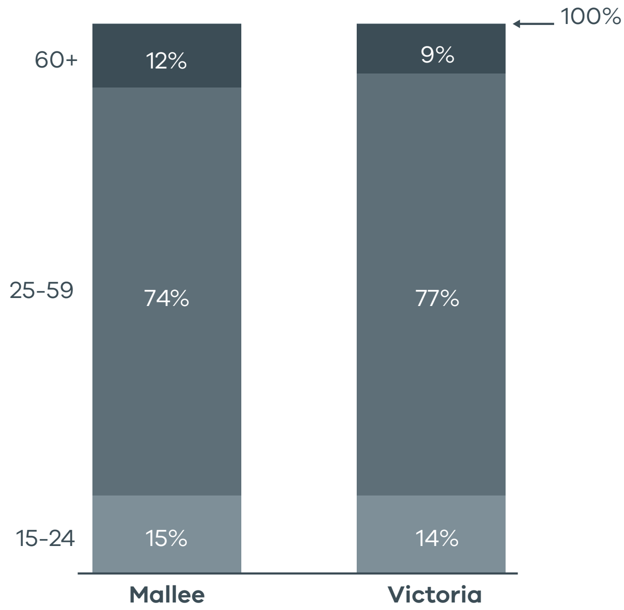
The Mallee region's ageing population will create challenges

The Region's population in 2016 is estimated at 89,500 persons.[16] Growth between 2011 and 2016 was relatively flat at an annual growth rate of -0.1% per annum.[17] The population is forecast to remain relatively stable with annual growth at approximately 0.3%.[18] This is significantly lower than the state-wide average of 1.8% per annum.[19] Intrastate and interstate migration and the Region's contract-workforce are important influencers of the Region's population level. School leavers and young workers often leave the Region for higher education or work in Melbourne and other regional cities.

Low birth rates and intrastate migration for young people will contribute to the Region's ageing population and workforce. The Region's population of 0 to 14 and 15 to 64 year olds are expected to decline at approximately -0.5% and -0.2% per annum between 2016 and 2019.[20] In contrast, the population of 65+ year olds is anticipated to grow at 2.3% per annum for the same period.[21] The Region's ageing workforce will increase demand for young workers. This includes retaining young local workers and attracting other workers from neighbouring local government areas and states.

Available data suggests that these challenges are more pronounced for the Region, where its proportion of workers aged 60 and over are approximately three percentage points higher than the Victorian workforce average (Figure 5). Higher rates of anticipated permanent workforce exits and retirements create an imperative for a demand-driven response to vocational training. This is to ensure that training pathways and the future supply of workers are aligned with industry demand and direction.

Figure 5: Workforce age distribution[22]



[9] Victoria in Future 2015, Small Area Labour Market and Cadence Economics estimates, 2017
[10] Department of Employment, Small Area Labour Markets (SALM)
[11] Ibid
[12] Labour Force Australia, ABS Cat.6202.0, 12 month youth unemployment by age cohort 2015-16, 2016; Local youth unemployment rates are based on reported rates for Victoria – North West
[13] Regional Development Victoria, Regional Partnerships Mallee – 2017/2018 Budget outcomes for Mallee, 2017
[14] Ibid
[15] Ibid
[16] Australian Bureau of Statistics, Regional Population Growth, 2011 Census – Persons by industry, place of usual residence and age in five year groups
[17] Australian Bureau of Statistics, Regional Population Growth, Cat. 3218.0
[18] Cadence Economics Forecasts, 2017
[19] Ibid
[20] Cadence Economics, Population forecasts for the Mallee, 2017
[21] Ibid
[22] Australian Bureau of Statistics 2011 Census Place of Work Employment Data

6. The Mallee region's labour force is forecast to grow in the near term

In this section, a summary of the three-year labour market forecast is provided in Table 5. These forecasts are intended to provide a high-level direction on anticipated job growth. Preliminary estimates (column 3) describe initial forecasts prior to consultation with the Taskforce and industry. Taskforce estimates (columns 4, 5 and 6) build upon existing work and are revised in consultation with, and using data provided by, the Taskforce and broader representatives from industry. Refer to Section 7 for a snapshot of key industries in the Region and Appendix A for more detail on each industry group's outlook, challenges and opportunities.

Based on the current industry outlook, projects undergoing approval and developments underway, horticultural activities in the Region are anticipated to double over the next decade.[23] Due to its linkages, growth in transport, automotive and manufacturing industries are expected to follow closely. Growth in these industries will gain momentum in the latter half of the 2017-2020 period as demand from horticulture flows in and required infrastructure, such as additional freights across agriculture, come online.

Key service industries such as retail, hospitality and tourism are forecast to remain relatively stable, where weak population growth is offset by stronger economic conditions, economic inflow from high growth industries (i.e. horticulture), a growing visitor economy and increased consumption. Similarly, the Region's ageing population and transition into the National Disability Insurance Scheme (NDIS) means demand for services in healthcare and social assistance will be above trend. Growth in construction will follow general residential and commercial cycles. Some peaks are anticipated due to emerging industries such as solar construction and sand mining. As discussed previously, the ageing workforce will increase demand for new workers to replace anticipated retirements.

It should be noted that should estimates be realised, the Region is likely to face significant labour shortages. This is reflected in its high labour market participation, low unemployment rates, ageing workforce and reported challenges to filling vacancies. Without continued workforce growth and attraction of new resources, economic progress in the Region will stall. It follows that alignment of skills and training provision to industry demand is critical for realising benefits in the Region that flows from a strong local labour force and regional economy. Sustained and collaborative action from industry, schools, government, TAFEs and other training providers will be imperative going forward.

Broader enablers and barriers will also affect the Region's capacity to sustain continued economic growth. Current challenges around the availability of affordable accommodation, transport, healthcare and childcare across the Region will need to be addressed to support workforce participation and growth. Growth in horticulture and related industries will also be underpinned by the availability and cost of water, future export demand and supply of highly skilled and specialist workers across the Region.[24]

Similarly, the Region's capacity to attract and retain young workers across industries will be important for managing challenges with the ageing population. Changes in demographics and industries in neighbouring towns in New South Wales and South Australia will also impact on employment in the Region. Those towns will utilise infrastructure from the Region and contribute to the demand and supply of workers.

Further effort is also required to understand the type of jobs that industry will create due to future growth, policy and technology. While there is strong focus on the number of jobs required, insight into the nature of jobs and what that might mean for the training system is historically limited. As such, an outlook of required industry growth and the type of jobs required is important for future planning and policy.

[23] Based on planned and/or approved developments and consultations to date with horticultural industry leaders across the Region, 2017

[24] Training for these positions is often supplied by higher education providers. While out of this report's scope, it is an important consideration for sustaining growth across the Region's economy.

Table 5: Preliminary outlook on job growth by industry#

Industry group	Estimated FTE	Preliminary estimate of 2017-2020 workforce growth (CAGR)	Taskforce estimate of 2017-2020 workforce growth (CAGR)	Total required workforce growth (including replacements)	Jobs identified to be created during consultations over next three years
Horticulture	~4,300	-0.6%	3.5%-7.0%	+600-1100	~300 skilled[25] ~600 contract
Other agriculture	~2,400	-0.6%	0.5%-1.5%	+100-200	~70[26]
Hospitality and tourism	~2,900	2.3%	2.0%-2.5%	+250-300	NA
Construction	~2,300	1.6%	1.8%-3.5%	+200-300	NA
Manufacturing	~2,300	-1.1%	2.5%-4.5%	+250-400	~275[27]
Transport, logistics & automotive	~3,300	1.7%	2.6%-4.5%	+350-550	NA
Retail trade	~5,500	1.6%	1.5%-2.0%	+400-500	NA
Healthcare and social assistance	~6,200	3.1%	2.9%-4.2%	+750-1000	~400[28]

 # CAGR (compound annual growth rate) provided in column 3 refers only to new additional growth above current workforce estimates.
 # FTE ranges (second last column) includes additional workers required due to estimated workforce exits (e.g. retirement) and net regional migration.
 # Forecasts excludes FTE associated with large short-term projects (e.g. solar construction, sand mining, etc.).
 # Forecasts focus on the top 8 industry groups for the Region only. Other industries such as professional services, education and training, etc. are excluded from this outlook.
 # Source: Office of the Victorian Skills Commissioner, Nous Group and Cadence Economics (in consultation with the Regional Skills Taskforce and industry representatives) 2016-2020 Workforce Forecast Growth by Industry in the Mallee, 2017; Australian Bureau of Statistics (ABS) June 2016 Gross State Product, 2013/2014 National Input Output Tables and 2011 Census Place of Work Employment Data

This report notes that the forecast provided represents an anticipated order of magnitude and direction around future skills demand and is not intended to be precise. The value of this approach is in combining the richness of available data, in validation with industry leaders, to understand likely variables that are not always captured in historical trends and analysis. This exercise accessed industry leadership and expertise to provide indicative workforce ratios, planned investments and related evidence to assess and validate labour force projections. In combination with existing ABS labour force, population and economic data, a view on where demand is now and will be in the future is constructed. This is in contrast to prior planning that has often been too reliant on the direction of the training supply side of the market.

The scope of this process, and of the Profile, focuses on issues and opportunities related to vocational skills, training and pathways. Broader economic, social and demographic issues to labour supply raised during consultations will be referred to RDV and the Mallee Regional Partnership for consideration and future action.

[25] Includes planned approvals, developments and expansions across almonds, citrus, olives, table grapes, etc.
[26] Includes planned growth in hay exports, intense farming (pigs and chicken) and beef cattle feedlot
[27] Includes various investments and expansions in abattoirs, almond cracking plants, winery and sewage infrastructure developments
[28] Includes the transition into NDIS, workforce response to the Family Violence Royal Commission and reported growth from some aged-care providers

7. Industries share common challenges and opportunities

Industries in the Region face common challenges and opportunities in relation to training and employment. This includes improving student awareness, interest and exposure to careers in industry across the Region. Providing a demand-driven response and direction for the education system (including VET) will ensure graduate skills and outcomes are in line with current and future industry need. Consultations-to-date with the Taskforce and industry leaders across the Region have identified several opportunities to address the common challenges that industry and the education system face. Many of these opportunities will require partnerships and sustained collaboration between industry, TAFE, other training providers, schools, universities and government. This is summarised in Table 6.

Table 6: Common challenges and opportunities for industry in the Region

Challenge	Opportunity
Students can benefit from greater awareness, interest and exposure to careers in industry Changes and opportunities in the labour market take time to filter down to trainers, schools, students and their parents There is unmet demand for various skilled trades, including boilermakers, diesel mechanics and machine operators	**Highlight industry career opportunities and skill requirements to students and future workers** Broader industry marketing and engagement, with government backing, in schools and on social media can help to sustain student awareness, understanding and interest. Strategies should focus on building the attractiveness of careers and industry in the Region. Ideas include changing names of roles to appeal more to youth, short five-minute industry snapshot videos on Facebook and YouTube to highlight the exciting aspects and opportunities for jobs in industry, and engagement with the wider community through the utilisation of industry experts as career mentors in schools.
	Improve student on-the-job exposure to regional careers in secondary school This requires greater 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. For instance, a two-week rotation program that allows students to observe and learn about careers across a cluster of industries.
	Specify, provide and support a model for providing career advice to students in schools Industry should play a greater 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, employment pathways and preferred training for careers in industry.[29]
	Ensure students complete qualifications appropriate to their experience level Industry, RTOs and schools have an important role in helping students make informed decisions around training and skills. This includes advice on appropriate pathways and training, as well as insights into likely employment outcomes based on student options and choices. Industry should partner, support and encourage employees when higher level qualifications are necessary or favourable (e.g. Certificate III, IV or Diploma). In many cases engagement with the training system might be more appropriate after a period of employment.
	Strengthen vocational training and employment pathways in Year 11/12 This includes increasing awareness and support for pathways via Vocational Education and Training in Schools (VETiS) and School-based Apprenticeships and Traineeships (SBATs). In particular, vocational training activity in schools should be better aligned with local industry needs where appropriate.[30]

[29] Additional opportunities (with industry support) might include increasing training in the Bachelor of Education, Certificate IV in Career Development or related training, on modules/topics that prepare teachers and career advisors for advising students on training pathways and career opportunities. Ideally, this training can also be delivered in the context of the Region's industry profile and trends

[30] This includes reducing training activity in VETiS programs and SBATs with weaker employment prospects and pathways to industry such as the Certificate I and Certificate II in Sports and Recreation

Challenge	Opportunity
Strong language, literacy and numeracy standards and transferable skills are important to employers	**Raise the language, literacy and numeracy (LLN) standards of students and improve training in general skill sets** RTOs must investigate methods to lift language, literacy and numeracy standards of all students in vocational education. This includes enforcing Industry appropriate minimum LLN standards and ensuring the efficacy of LLN support programs. As importantly, providers must ensure entry-level qualifications build baseline knowledge and skills that are transferable across industry groups. This includes communication, organisational, basic software skills, etc.
There is variability in the level of proficiency achieved by students against key skills required by industry	**Ensure training challenges and extends students to develop and improve** Greater consideration of the methodology and standard of assessment is important to ensuring high quality learning and outcomes for students. Employers have expressed that this is particularly important for motivated, capable and/or experienced students, where the potential value of vocational training is not always maximised for them.[31]
Licences and certificates can better signal the accumulated experience and competence of workers to employers	**Revise licensing models to incentivise and recognise higher levels of competence** A licensing and training model that emulates the driver's licence model can address these challenges. For instance, different licensing grades (e.g. learner to probationary to full licence) can help employers to determine the job-readiness of prospective employees and the required level of on-the-job support. The model could include a log book that records the level (hours), type and date of competency application in a real world setting.[32]
Government and industry data can support medium term planning	**Maintain and update the Regional Skills Demand Profile** This Profile aims to provide a two to five year outlook on industry growth and change across the Region to support medium-term strategic planning, policy and programs for industry, schools, RTOs and government should be developed. This should be updated on an ongoing basis as new data, market shocks and trends emerge. It should be updated independently, where consultation with industry and access to government data are critical inputs into the process. There is scope for broader application of the Profile such as a marketing tool for other businesses, investments and broader regional development opportunities.

[31] This includes students with RPL and students with many years of experience on the job
[32] It should also distinguish between application on-the-job versus application as part of training

8. Growth and specific opportunities vary by industry

Consultations with leaders and representatives across key industry groups in the Region has identified opportunities to better align the vocational training system with their industry's skills requirements and forecast workforce demand. This section provides a snapshot of each industry's outlook, job requirements, challenges and opportunities. The following industries are addressed:

Horticulture

Other Agriculture

Transport, logistics and automotive

Manufacturing

Construction

Retail trade

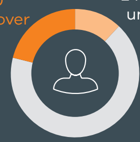
Hospitality and tourism

Healthcare and social assistance

Please refer to Appendix A for more detailed commentary on each industry.

Horticulture

Horticulture is diverse, central to the Mallee region's economy and forecast to double over 10+ years

Snapshot	**~4,300** workers currently employed in 2017	**+600-1100** new workers required by 2020	 **10%** share of Mallee's workforce	 **21%** workers aged 60 and over
Profile	Horticultural industries are supported in part by the Murray River, enjoying ~1000 km^2 of irrigated horticulture along the corridor from Nyah in the south-east to the South Australian border in the north-west. Key horticultural industries include almond, citrus, stone fruit, olive, wine, dried fruit and table fruit. The sector also enjoys a variety of large seasonable crops such as carrot and potato and smaller crops such as mandarin, avocado and asparagus.			
Outlook	Horticultural industries in the Region are forecast to double in size over the next decade or so. This is reflected in approved or planned expansions and developments over the medium term. Lower Murray Water's service region for instance has more than 20,000 hectares of development either approved or going through an approval process across commodities such as almonds, olives, citrus, stone fruit, dried fruit and table grapes. The outlook on overseas demand, particularly from South East Asia and China is positive. Broader forces, including the Australia-China Free Trade Agreement and a relatively weaker Australian dollar should also contribute to higher export levels. Forecast growth will be underpinned by a shift to larger corporate farms, with new roles and greater utilisation of modern technology (in contrast to the traditional family-owned model). Hence, the supply of workers skilled for the changed farming business model will be the primary enabler of growth for the sector.			

Top occupations (based on ANZSCO classifications)	Current workforce (FTE) #	Forecast 3y growth (FTE)
Crop Farmers (e.g. Farm Managers, Supervisors, Leading Hands and experienced field staff)*	2570	+400-700
Crop Workers (e.g. Pickers and related)*	740	+100-200
Agricultural, Forestry and Horticultural Plant Operators	220	+30-60
Packers*	120	+20-30

#ABS classification methodology means field staff can be counted as a crop farmer or worker depending on training, years of experience and related factors. FTE is likely to underrepresent the number of people involved in the sector due to prevalence of casual or short term roles associated with seasonality of labour demand. Occupations with a relatively larger share of casual and/or part-time workers are marked with an asterisk (*).

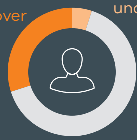
VET should develop breadth and depth of skills at appropriate levels and locations

Skills and training	Due to current workforce shortages, employers will look for entry-level workers who are highly motivated, can meet the physical demands of the job and possess skill sets or potential in their role over a qualification itself. VET will play a role in attracting young workers and facilitating pathways into jobs in horticulture. Training is valuable when workers can develop transferable competencies between industries and roles in horticulture (e.g. communication skills, driving tractors, etc.). However, entry-level experience can also guide a worker's choice around further training. Orchard hygienists may pursue a Certificate III in Horticulture Production while machine operators may lean towards a Certificate III in Rural Operations. Other trades, such as diesel mechanics, fitters and metal fabricators may look at broader courses and apprenticeships to gain skills for their role on the farm. Similarly, managers, supervisors or specialists may pursue training at the Certificate IV or higher level to upskill or address specific skill set deficiencies in their role and organisation.

Current challenges to vocational training and skills	Opportunities for the VET system
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
Lean operations, ageing workforce and limited supply can create skill gaps in middle management	Increase support for succession planning and related training
Geography creates challenges to participation in standard vocational training models	Adopt models that take training to individual employers where possible

Other agriculture

Positive growth is forecast but some organisations are scaling back

Snapshot	**~2,400** workers currently employed in 2017	**+100-200** new workers required by 2020	 **6%** share of Mallee's workforce	 **30%** workers aged 60 and over
Profile	Outside horticulture, the Region is also characterised by strong agricultural industries such as intensive agriculture, dryland farming and dairying. Intensive agriculture includes poultry, eggs, pork, sheep production, feedlot beef, aquaculture, hydroponics and various greenhouses. Gannawarra and Buloke shires include established operations in intensive animal husbandry. Dry land cropping and grazing in the outer regions includes sheep and cattle grazing, as well as various productions of cereals, legumes, pulses and oilseeds.			
Outlook	Relative to horticulture, the outlook on other agricultural industries is positive but conservative, with growth varying by industry type. Farm sizes in dryland farming and intensive agriculture are anticipated to grow over the medium term. With the exception of Gannawarra Shire, dairying has become more of a niche industry for the sector due to global oversupply of dairy products and low farmgate prices. Several businesses in livestock are also anticipated to scale back operations over the next few years. General growth will also depend on available soil types, climate and access to future infrastructure (e.g. water and electricity) and available markets and processing facilities. The ageing workforce will also be a likely driver of demand for new workers.			

Top occupations (based on ANZSCO classifications)	Current workforce (FTE)#	Forecast 3y growth (FTE)
Mixed Crop and Livestock Farmers (e.g. Managers, Supervisors, Leading Hands and experienced field staff)*	1830	+80-140
Mixed Crop and Livestock Workers*	370	+20-30
Bookkeepers	50	+0-10
Agricultural, Forestry and Horticultural Plant Operators	30	+0-10

#ABS classification methodology means field staff can be counted as a farmer or worker depending on training, years of experience and related factors. FTE is likely to underrepresent the number of people involved in the sector due to prevalence of casual or short term roles associated with seasonality of labour demand. Occupations with a relatively larger share of casual and/or part-time workers are marked with an asterisk (*).

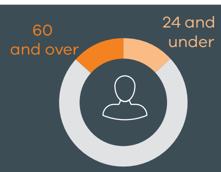
VET should develop breadth and depth of skills at appropriate levels and locations

Skills and training	While vocational training is not widely used in other agricultural industries, entry-level experience can guide a worker's choice around further training. In addition to required entry-level licences (e.g. forklift licence), crop-growers may pursue a Certificate III in Agriculture to strengthen competencies in their roles. Other workers interested in occupations such as a diesel mechanics, fitters and metal fabricators, may look at broader courses and apprenticeships to gain skills for their role on the farm. Similarly, managers, supervisors or specialists may pursue training at the Certificate IV or higher level to upskill, particularly in areas such as agronomy, people management and business management.

Current challenges to vocational training and skills	Opportunities for the VET system
Training does not always develop transferable baseline skills for entry-level staff	Develop local entry-level training options and pathways to address sector challenges
Geography creates challenges to participation in standard vocational training models	Provide training onsite to individual employers to overcome geographic challenges
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

Transport, logistics and automotive

Significant growth is forecast, linked closely to horticulture and reflected in planned investments

Snapshot	**~3,300** workers currently employed in 2017	**+350-550** new workers required by 2020	 **8%** share of Mallee's workforce	 **12%** workers aged 60 and over
Profile	Transport, logistics and automotive 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.			
Outlook	Forecast growth is linked closely to growth in horticulture, and is anticipated to gain momentum in the latter half of the 2017 to 2020 period as benefits from growth in export demand, expansion of horticultural industries and planned infrastructure flow into the sector. Automotive industry employers are already reporting increased demand for additional vehicles and related automotive services in response to large developments and plantations in horticulture that are currently being rolled out across the Region. Anticipated growth is reflected in broader industry and public investment to ensure sector capacity can service forecast demand, including various road upgrades, the $440M Murray Basin Rail Project, and Mildura Airport's $25M Runway Extension Project.			

Top occupations (based on ANZSCO classifications)	Current workforce (FTE)#	Forecast 3y growth (FTE)
Truck Drivers	630	+80-130
Motor Vehicle Technicians and Related	480	+60-100
Motor Vehicle and Vehicle Parts Salespersons	160	+20-30
Retail Managers	120	+10-30

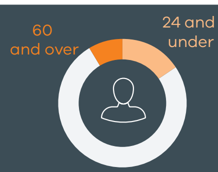
Demand for training will grow, particularly as qualifications and licences are required for participation

Skills and training	Due to licences and accredited qualifications required for employment in transport and automotive, forecast workforce growth will correspond to an increase in demand for vocational training and apprenticeships. For instance, truck drivers in agriculture-related industries will require a Multi-combination (MC) licence for employment. In automotive, qualified vehicle technicians and automotive electricians will complete an apprenticeship and accredited training in vehicle mechanical technology and automotive electrical technology respectively, usually at the Certificate III level. More generally, employers look for workers that have a good attitude, strong work ethic, capacity to meet the physical requirements of their role and are 'mechanically minded'. Other licences (e.g. forklift) are also valuable for some entry level roles (e.g. yard staff). Demand for pre-employment may increase as employers in transport look to bridge the period between leaving school and gaining an MC licence for young workers interested in transport. Managers and supervisors may pursue training at the Certificate IV level or higher to upskill in their role and address organisational needs.

Current challenges to vocational training and skills	Opportunities for the VET system
Barriers to entry for young people (e.g. minimum age for young drivers to obtain a MC licence is 21)	Develop a pre-employment/cadetship-type model for young people
Shortage of pathways to support career changers transitioning into transport	Strengthen pathways for career changers interested in transport
Geographic barriers to participation in training	Review and minimise geographic barriers to training for students
Shortage of training in leadership and management for middle managers	Provide modularised training to support skills development for middle managers

Manufacturing

Manufacturing is forecast to grow due to linkages with agriculture and strong export demand

Snapshot	**~2,300** workers currently employed in 2017 ; **+250-400** new workers required by 2020 ;  **5%** share of Mallee's workforce ;  **8%** workers aged 60 and over
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, vodka, olive oil, health foods and related goods. Several engineering businesses and generalist manufacturing activity occur in the Region too. This includes manufacturing of farm machinery, marine and road transport equipment, transportable homes, sheet metals, air conditioning, construction fabrication, specialised truck trailers, commercial doors, fibre reinforced plastics, palletised animal feed and storage containers.
Outlook	Growth in horticulture, transport, automotive, construction and related industries is anticipated to flow into manufacturing industries in the Region. Forecast growth is anticipated to gain momentum in the latter half of the 2017 to 2020 period as benefits from growth in export demand, expansion of horticultural industries and planned infrastructure flow into the sector. This growth is reflected in planned developments, expansions and approvals in processing and power plants, wineries, almond cracking plants and abattoirs across the Region. The supply of workers will be an important enabler of growth, where there are already reported shortages of entry-level staff and a high reliance on backpackers or workers with 457 visas on short term contracts.

Top occupations (based on ANZSCO classifications)	Current workforce (FTE)#	Forecast 3y growth (FTE)
Structural Steel and Welding Trades Workers	240	+30-40
Packers*	140	+10-20
Food and Drink Factory Workers*	140	+10-20
Production Managers	90	+10-20

 # FTE is likely to underrepresent the number of people involved in the sector due to prevalence of casual or short term roles associated with seasonality of labour demand. Occupations with a relatively larger share of casual and/or part-time workers are marked with an asterisk (*).

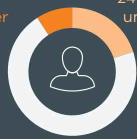
Training is required to support lean operations and improve pathways between career transition points

Skills and training	Training in manufacturing related roles currently account for 6% of total vocational training activity in the Region. Apprenticeships and training in the Certificate III in Engineering – Fabrication Trade are common pathways for boiler makers, welders, machinists, fitters and related roles in manufacturing. Training is not necessarily required for general process workers and packers if they demonstrate a positive attitude, work ethic, capacity to meet the physical requirements and necessary licences (e.g. forklift). However, training in the Certificate III in Warehousing Operations for instance can build broader knowledge in manufacturing for entry-level workers. Demand for training and required licences is likely to increase with forecast growth. Supervisors and middle managers may also exhibit greater demand for training and support in their role. Employers are increasingly seeking expertise in topics such as lean operations, improving processing efficiency, increasing workforce productivity and continuous improvement methodologies. This is important for middle managers, as well as entry level staff, particularly as local and global competition in manufacturing grows.

Current challenges to vocational training and skills	Opportunities for the VET system
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)
Shortage of pathways and support 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

Construction

Broader economic activity will drive demand for both residential and commercial construction

Snapshot	**~2,300** workers currently employed in 2017 · **+200-300** new workers required by 2020 ·  **5%** share of Mallee's workforce · 60 and over · 24 and under ·  **9%** workers aged 60 and over
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, work health and safety (WH&S), etc.).
Outlook	The outlook on growth is positive but subject to levels of volatility. While forecast population growth is low, residential construction should continue due to reported shortages of accommodation, particularly as the labour force and visitor economy grows. For instance, the proposed Mildura Riverfront Development – Stage 2 will invest in infrastructure to showcase Mildura's heritage and environmental assets, as well as support capacity and demand for residential investment. Similarly, commercial construction and related infrastructure should remain strong due to high forecast growth in horticulture, manufacturing, transport and healthcare and social assistance. Several large-scale construction projects are also in the pipeline. This includes solar construction and sand mining across the Region.

Top occupations (based on ANZSCO classifications)	Current workforce (FTE)#	Forecast 3y growth (FTE)
Electricians	350	+30-50
Plumbers	280	+20-40
Construction Managers	240	+20-30
Carpenters and Joiners	170	+10-20

 # excludes workforce requirements due to expected large short-term projects in the Region (e.g. solar construction and sand mining)

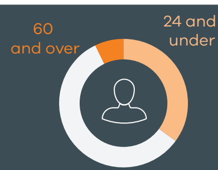
Training should build exposure, align with business need and support career transition points

Skills and training	Construction industries are the largest users of VET, accounting for ~20% of total training activity in the Region. Apprenticeships are the standard pathway to employment in most trades across construction. This is expected to continue with forecast workforce growth. Forecast workforce growth will also increase demand for training during career transition points (e.g. from worker to subcontractor), where broader skill sets such as project management and financial literacy are required. VET will have a role in supporting reported shortages in local A-grade electricians for solar maintenance and trades such as painters in residential markets.

Current challenges to vocational training and skills	Opportunities for the VET system
Young workers can benefit from greater exposure to broader trades in construction	Embed a construction taster in secondary school
VET activity is not always aligned with industry demand	Realign VET activity in construction with industry demand
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

Retail trade

Retail has scope for growth but is dependent on broader drivers and its competitive advantage

Snapshot	**~5,500** workers currently employed in 2017	**+400-500** new workers required by 2020	 **12%** share of Mallee's workforce	 **7%** workers aged 60 and over
Profile	Retail is characterised largely by traditional shopfronts, boutiques and family owned businesses. There are several large retailers in larger regional centres, such as the Country Target in Kerang and Harvey Norman at Mildura. There are also several specialist retailers that operate in business-to-business models, dealing directly with various agribusinesses. 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.			
Outlook	While forecast population growth is low, high growth in agribusiness and the visitor economy will contribute to growth in retail. Demand will be greatest for retailers in essential non-durable goods and services. This includes local supermarkets and grocery stores, hairdressers, pharmacists, service stations and related retailers. Aldi for instance has met with Mildura Rural City Council to discuss a $3.5M development in Mildura. In contrast, demand for retailers in luxury goods and services, such as fashion designer materials, are mixed due to growth in global competition, online shopping, volatility in commodity prices and exchange rates. Furthermore, limited weekend trading means retail demand from locals and visitors is sometimes lost to neighbouring towns such as Echuca. Sustained growth in these industries is dependent on the sector's capacity to maintain its competitive advantage.			

Top occupations (based on ANZSCO classifications)	Current workforce (FTE)#	Forecast 3y growth (FTE)
Sales Assistants (General)*	2050	+180-200
Retail Managers	800	+60-70
Checkout Operators and Office Cashiers*	490	+30-40
Hairdressers	240	+10-20

 # FTE is likely to underrepresent the number of people involved in the sector due to prevalence of casual or short term roles associated with labour demand. Occupations with a relatively larger share of casual and/or part-time workers are marked with an asterisk (*).

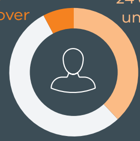
Tailored training in customer service, digital marketing, small business and related is required

Skills and training	While pathways for career development are limited in family-owned retail businesses, vocational training in customer service, digital marketing and visual merchandising is highly valuable to employers. These skills will be increasingly important for retail businesses due to forecast growth in regional competition and online shopping. Vocational training can also play a greater role in supporting small retail businesses. This includes development of valuable skill sets such as planning and financial management. However, unless delivery models are revised, demand for vocational training will be mixed. Small businesses for instance cannot afford significant time away from standard business hours to pursue structured training.

Current challenges to vocational training and skills	Opportunities for the VET system
Shortage of skills in customer service, digital marketing and visual merchandising	Strengthen skills in customer service, digital marketing and visual merchandising
Shortage of training and support for small business	Develop short in-location courses for small business to upskill in retail

Hospitality and tourism

Growth in agribusiness and the visitor economy will flow into hospitality and tourism industries

Snapshot	**~2,900** workers currently employed in 2017 · **+250-300** new workers required by 2020 ·  **7%** share of Mallee's workforce · 60 and over / 24 and under  **8%** workers aged 60 and over
Profile	Region's hospitality and tourism industries are diverse. Businesses range from many family owned cafes, restaurants and motels to larger hotels and tourism operators. The Region's environmental assets, cultural heritage, landscapes and various recreational activities including major regional events have also contributed to Region's growing visitor economy, which has flow-on effects to service industries in food and accommodation.
Outlook	While forecast population growth is low, high growth in agribusiness and the visitor economy will contribute to growth in hospitality and tourism. This is reflected in several planned developments and investments, including funding to deliver the Next Stage Riverfront Development in Swan Hill and current planning underway for a waterfront hotel in the heart of Mildura's marina. Similarly, Mildura Airport's $25M Runway Extension Project signals a positive outlook for the Region's economy, where the number of annual passengers is forecast to double over the next 10 years. Over a 100,000 visitors are expected to visit Mildura annually by 2030.

Top occupations (based on ANZSCO classifications)	Current workforce (FTE)	Forecast 3y growth (FTE)
Sales Assistants (General)*	330	+30-40
Waiters*	310	+20-30
Cooks / Chefs	300	+20-30
Kitchenhands	250	+10-30

 # FTE is likely to underrepresent the number of people involved in the sector due to prevalence of casual or short term roles associated with labour demand. Occupations with a relatively larger share of casual and/or part-time workers are marked with an asterisk (*).

Skill shortages, support for small business and legislative barriers to training should be addressed

Skills and training	Vocational training will play an important role in addressing the reported skill shortages in the sector. In particular, demand for traineeships and training in the Certificate III in Commercial Cookery will increase to address the insufficient supply of locally skilled cooks and chefs. Skill sets in customer service and digital marketing will be increasingly important as businesses look to sustain their competitive advantage and connect with the customers. Similarly, tourism industries will look for support for new entrants to develop tourism products that enrich the visitor experience as the visitor economy grows. Vocational training may also play a role in supporting small business owners and middle management at larger organisations that are looking to upskill. Competencies required include people management, financial management and planning.

Current challenges to vocational training and skills	Opportunities for the VET system
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)
Shortage of locally skilled chefs and cooks	Increase and modernise training for local cooks and chefs
Shortage of training and support for locals starting their own businesses in hospitality	Develop short in-location courses for small business to upskill in hospitality
Differences in licence and training requirements for service of liquor and gaming can create barriers to participation	Refer challenges to relevant ministers and departments for action

Healthcare and social assistance

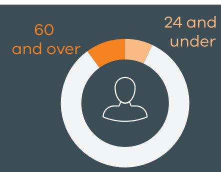
The Mallee region's ageing population, NDIS and related forces will drive growth in healthcare and social assistance

Snapshot

~6,200 workers currently employed in 2017

+750-1000 new workers required by 2020

14% share of Mallee's workforce



10% workers aged 60 and over

Profile

Healthcare and social assistance represents the largest workforce in the Region by industry (14%). The sector includes a variety of small and large organisations across the Region. The Primary Health Medical Centre was established in Swan Hill for instance, to provide various allied health, hospital, health promotion and community services to the local region and has become a more attractive destination for prospective practitioners.

Outlook

Transition to the NDIS and reforms in ageing will increase demand for aged care, disability support and mental health services across the Region. This represents the largest driver of growth for the sector. For instance, Chaffey Aged Care has received approval for a new $4M, 22-bed expansion (~30% increase). Region's ageing population and higher rates of obesity, chronic disease, disability and high-risk behaviours (e.g. smoking) relative to the Victorian population average will increase demand for services more broadly. Providers are also looking to increase service offerings for complex healthcare needs to reduce out-of-region transfers. Response to the Family Violence Royal Commission will also create demand for related support services and programs locally.

Top occupations (based on ANZSCO classifications)	Current workforce (FTE)	Forecast 3y growth (FTE)
Aged and Disabled Carers*	620	+300-500
Nursing Support and Personal Care Workers*	320	+90-120
Registered Nurses	1360	+80-100
Receptionists	400	+20-30

 # Occupations with a relatively larger share of casual and/or part-time workers are marked with an asterisk (*).

VET is critical for skilling and supplying the required workforce, particularly in aged and disability care

Skills and training

VET will play a critical role in training the required future supply of aged-care workers, disability support workers and personal care workers through the Certificate III in Individual Support. Enrolled nurses, allied health assistants and other health service assistants will pursue the Diploma of Nursing, Certificate III in Allied Health Assistance and Certificate III in Health Service Assistance respectively. Competencies such as emotional intelligence, communication skills, manual handling, applying WH&S standards, infection control, following hygiene protocols and assisting with/administering medications will remain essential across various roles. In particular, employers will require carers and aides to be increasingly adaptable across different environments under the NDIS and demand-driven model. Workforce growth will also increase demand for team leaders, supervisors and managers with competencies in people management and leadership. In contrast, vocational training will be less relevant for domestic violence, child protection and related social work due to recent reforms.

Current challenges to vocational training and skills	Opportunities for the VET system
Prior to the latest training package, some graduates did not complete certain units critical for employment as an enrolled nurse	Work with enrolled nurses to upskill in administering and monitoring medicines and IV therapy
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
Shortage of training in people management and leadership for team leaders, supervisors and middle managers	Increase training in people leadership and management
Reforms in domestic violence, child protection and corrections require workers with a bachelor degree or higher	Design pathways into higher education and employment in social work
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

9. Cross-industry governance can support implementation

The Taskforce have emphasised that there should be mechanisms to monitor, review and revise the implementation and efficacy of skills initiatives that emerge from this process. This is critical as future economic shocks and industry events will affect the currency of existing analysis and recommendations to date.

Industry, TAFE, other training providers, school and government will play an essential role in aligning the VET system with future economic demand and realising benefits for the regional economy and communities. It is expected that key leaders in the Region will continue the conversation within and between their industries to support implementation. Key elements of a governance structure for implementation were identified:

1. A cross-industry approach is valued

There is scope for the Taskforce to reconvene every six months to review implementation of training initiatives to-date, discuss cross-industry challenges for the Region and outline further recommendations for action.

2. Industry focused discussions provide a richer perspective

Industry roundtables, held once per year for each industry group, can ensure industry trends, challenges and training needs are captured and addressed.

3. Sustained collaboration with RTOs, schools and government is important

To sustain ongoing collaboration with key stakeholders, the Taskforce members can invite representatives from RTOs, schools and government to suitable meetings with the Taskforce or out of session.

4. Better data can support planning and policy

There is an opportunity to leverage the richness of training and workforce data to support planning and policy for industry, schools, RTOs and government. The maintenance and updating of the Profile will provide information on the current and predicted climate, job prospects, the nature of jobs and the best way to obtain them. An industry-driven input and validation process can ensure joint ownership and accountability of forward planning materials developed.

5. An independent mechanism can provide secretariat support

This includes coordination of meetings, preparation of agendas, facilitation of discussions and preparation of agreed outputs.

A mechanism supported by an OVSC staff member embedded in the Mallee region is recommended

Guided by the advice of the Taskforce it is recommended that the OVSC embed a project manager in the Mallee Region to establish the Mallee Region Skills Advisory Group. This Advisory Group would monitor the Skills Demand Profile and support ongoing industry engagement, including supporting the development of region relevant career advice that is contextualised towards the skilling demands of the region.

Industry, TAFE, other training providers, school and government will play an essential role in aligning the VET system with future economic demand and realising benefits for the regional economy and communities.

10. A roadmap to implementation is proposed

This process represents a step in aligning the VET system with the current and future needs of industry in the Region. The onus remains on industry, government, schools, TAFEs and other training providers to sustain ongoing collaboration and ensure implementation success. A series of next steps is proposed over the next 18 months to begin addressing the challenges and opportunities in training for industries in the Region (Figure 6).

Some initiatives will take several years to implement, where broader challenges will be referred to Mallee Regional Partnership for consideration and action. An appropriate governance structure will be established to monitor implementation and support the maintenance and updating of the Profile for the Region.

Industry will also advise training providers on the recommendations identified and collaborate with the OVSC and government to progress projects, including potentially seeking support from WTIF and RSTF. Priority recommendations for implementation include existing funding proposals currently underway (as outlined in Appendix B). Broader training opportunities in horticulture, healthcare and social assistance, construction and transport are also high priorities due to the immediacy and size of required workforce growth, as well as the ageing workforce and reported skill shortages.

Figure 6: Roadmap for implementation

Key actions	2017	2018				2019
	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar
Refer priority issues to the Mallee Regional Partnership	■					
Establish local governance structure for implementation	■					
Advise RTOs on focus of the Mallee Regional Skills Demand Profile	■					
Stimulate engagement regarding initiatives in the VET sector and funding proposals under WTIF and RSTF to address issues identified	■	■				
Maintain and update the Regional Skills Demand Profile	■	■	■	■	■	■
Scheduled implementation review			■		■	
Embed OVSC staff member in the Region to support implementation	■	■	■	■	■	■

Appendix A: Regional skills demand profiles by industry

This section synthesises the consultation outcomes, employment projections and broader research to date for key sector groups in the Region. Commentary is provided on the industry outlook and implications for the workforce and training requirements over the short to medium term. This includes an outline of the challenges and opportunities in vocational training unique to the industry. The following industries are addressed:

Horticulture

Other Agriculture

Transport, logistics and automotive

Manufacturing

Construction

Retail trade

Hospitality and tourism

Healthcare and social assistance

Horticulture

The horticulture industry is the cornerstone of the Region's economy and is forecast to double over the next decade. Continued growth will increase demand for various roles and expertise across the horticulture workforce. Vacancies will primarily be in field staff roles such as pickers, packers, irrigation technicians, machine operators and orchard hygienists. Demand for managers, specialists and support roles such as administration staff should grow in proportion.

Due to current workforce shortages, employers will look for entry-level workers who are highly motivated, can meet the physical requirements and possess skill sets or potential in their role over a qualification itself. Training at the entry-level is valuable when workers can develop transferable competencies between industries and roles in horticulture (e.g. communication skills, driving tractors, etc.).

Entry-level experience can also guide a worker's choice around further training. Orchard hygienists may pursue a Certificate III in Horticulture Production whilst machine operators may lean towards a Certificate III in Rural Operations. Other trades, such as diesel mechanics, fitters and metal fabricators, may look at broader courses and apprenticeships to gain skills for their role on the farm. Similarly, managers, supervisors or specialists may pursue training at the Certificate IV or higher level to upskill or address specific skill set deficiencies in their role and organisation.

Horticulture is central to the Mallee region's economy and forecast to double

The Region's horticultural industries are supported in part by the Murray River, with ~1000 km2 of irrigated horticulture planted along the corridor from Nyah in the south-east to the South Australian border in the north-west.[33] Key industries include almond, citrus, stone fruit, olive, wine, dried fruit and table fruit. In particular, the sector also enjoys a variety of large seasonable crops such as carrot and potato and smaller crops such as mandarin, avocado and asparagus.

Horticulture is the largest sector in the Region by GVA, accounting for 14% of GVA and 10% of labour market share in 2016. This in part reflects the level of expansion and irrigation development that has occurred across the Region over the last decade. The area of nut trees in the Lower Murray-Darling region for instance, has grown by 19,000 ha (~1000%) between 1997 and 2015.[34] While the Region's horticulture businesses are primarily family-owned, corporate agriculture has also been a significant driver of recent growth.

Current forecasts project the Region's horticulture industries to double in size over the next decade. Lower Murray Water's service region for instance has more than 20,000 hectares of development either approved or going through an approval process across commodities such as almonds, olives, citrus, stone fruit, dried fruit and table grapes. A lot of trees in nurseries are being propagated due to orders being placed and will be planted out over the next two to three years. Continued growth will be underpinned by a relatively greater shift to larger corporate farms, with new roles and greater utilisation of modern technology. Planned growth across horticulture suggests that an additional 600-1,100 workers (FTE), including both permanent staff and contract workers, might be required by 2020.

Growth is dependent on the level of overseas demand, particularly from South East Asia and China. The sector's outlook on expected international demand is generally positive. Dried Fruits Australia, for instance, reported strong recent success in the Chinese market, shipping 40,000 tons of citrus in 2016 when there was little-to-no market just five years ago. Various market forces such as the Australia-China Free Trade Agreement and the accessibility and cost of water will also affect demand and subsequent growth in the medium term.

Table 7: Key labour market indicators 2017-2020[35 36]

Current share of region GVA	Current share of total workforce	% of workers aged between 15-24	% of workers aged 60 and over	Current workforce size (FTE)#	Estimated 3y growth (FTE)	Estimated 3y growth (CAGR)
14%	10%	7%	21%	~4,300	+600-1,100	3.5%-7.0%

#FTE is likely to underrepresent the number of people involved in the sector due to prevalence of casual or short term roles associated with seasonality of labour demand

[33] Mallee Catchment Management Authority, Irrigated Horticulture in the Victorian Murray-Mallee, 2017
[34] Sunrise Mapping and Research, Summary report: irrigated crops of the Lower Murray-Darling 1997-2015, 2015
[35] Office of the Victorian Skills Commissioner, Nous Group and Cadence Economics (in consultation with the Regional Skills Taskforce and industry representatives), 2016-2020 Workforce Forecast Growth by Industry in the Mallee, 2017
[36] Australian Bureau of Statistics June 2016 Gross State Product, 2013/2014 National Input Output Tables and 2011 Census Place of Work Employment Data

Growth will increase demand for various roles and expertise across the workforce

The horticulture workforce comprises primarily of field staff in roles such as pickers, packers, irrigation technicians, machine operators and orchard hygienists. Pickers and packers are typically employed on a seasonal basis. Machine operators and irrigation workers are generally employed full time whilst the employment structure for orchard hygienists are crop-type dependent. Entry-level staff may often work across a variety of roles and horticultural industries, particularly as businesses in the sector become increasingly diversified to manage risk and optimise operations.

High performing field staff may transition into a leading hand role, where they manage a small group of people. Over time, these workers may transition into supervisory and managerial roles. This includes farm managers, irrigation managers, maintenance managers and technical officers. The workforce will also include various support roles and specialists such as agronomists, horticultural scientists, arborists, water brokers, boiler makers, diesel mechanics, electricians, administration staff, etc.

Demand for field staff, managers and specialists is anticipated grow proportionately and in line with forecast economic growth in the medium term. The expertise that managers and specialists bring to farms will be an important enabler of sustained growth. Significant productivity and technological change are not anticipated in the short-medium term. In particular, operations in stone fruits, table grapes and dried fruits are still relatively difficult to mechanise at scale.

The remuneration and working conditions in the sector create challenges to local recruitment and retention. In particular, vacancies in field staff roles are often filled by 457 visa workers, skilled migration programs and nomads. There are some opportunities to reduce demand on external labour but the seasonality of work will continue to create peaks in labour demand that exceed local labour market capacity. Recruitment challenges are reflected in the ageing workforce, where only 6% of workers are aged between 15 and 24 compared to 61% aged 45 and over.

Table 8: Top occupations and forecast growth[37]

Top occupations (based on ANZSCO classifications)	Estimated workers in 2017 (FTE)	3y forecast growth (FTE)
Crop Farmers (e.g. Farm Managers, Supervisors, Leading Hands and experienced field staff)*	2570	+400-700
Crop Workers (e.g. Pickers and related field staff)*	740	+100-200
Agricultural, Forestry and Horticultural Plant Operators	220	+30-60
Packers*	120	+20-30
Bookkeepers	100	+10-20
Other	40	+0-10
General Clerks	40	+0-10
Nurserypersons	40	+0-10
Metal Fitters and Machinists	30	+0-10
Garden and Nursery Labourers	30	+0-10
Agricultural and Forestry Scientists	30	+0-10
Product Quality Controllers	30	+0-10

#ABS classification methodology means field staff can be counted as a crop farmer or worker depending on training, years of experience and related factors
#FTE is likely to underrepresent the number of people involved in the sector due to prevalence of casual or short term roles associated with seasonality of labour demand. Occupations with a larger share of casual and/or part-time workers are marked with an asterisk (*).

Demand for training and a diversity of skills will grow in line with workforce growth

While horticulture accounts for 10% of the workforce, enrolments in horticulture related vocational qualifications account for only 5% of the Region's training activity.[38] Due to supply shortages and the nature of work, employers in horticulture are not actively looking for field staff that hold VET qualifications. Instead, employers tend to look for workers who are highly motivated, can meet the physical requirements and possess the relevant skill set for their role.

Entry-level experience can guide a worker's choice around further training.[39] Orchard hygienists may pursue a Certificate III in Horticulture Production whilst machine operators may lean towards a Certificate III in Rural Operations. Other trades, such as diesel mechanics, fitters and metal fabricators, may look at broader courses and apprenticeships to gain skills for their role on the farm. Similarly, managers, supervisors or specialists may pursue training at the Certificate IV or higher level to upskill or address specific skill set deficiencies in their organisation.

[37] Ibid

[38] The Department of Education and Training, VET enrolment data, 2016

[39] Employers are also reportedly more likely to invest in training or apprenticeships if they can evaluate the prospective employee's fit, work ethic and potential to succeed with the organisation more accurately

The Certificate II in Rural Operations and Certificate III in Production Horticulture have been identified as valuable pathways for building baseline skills and knowledge for new entrants in horticulture. Common baseline skills include chemical handling on farms, irrigation maintenance, quality assurance, standard WH&S practices, communication skills, organisational skills and computer skills (e.g. Microsoft Outlook and Excel). Driving tractors, 4WDs and forklifts are also valuable transferable skills across sectors. The inclusion of introductory plant science can also be useful for building broader understanding of the sector. Regardless of prior training, new entrants in field roles will typically receive some level of in-house training with their employer as each farm will have unique systems, requirements and processes. However, vocational training will play a role in attracting young workers and facilitating pathways into jobs in horticulture.

Prior experience, motivation and attitude are also the primary metrics that experienced hires and managers are evaluated against during recruitment. Many employers in horticulture do not necessarily view qualifications as a signal of the candidate's competency. However, a manager, supervisor or specialist may pursue training at the Certificate IV or higher level to upskill or address specific skill set deficiencies. Potential areas include plant health, irrigation management, irrigation design, soil interpretation, record keeping, strategic decision making, project management and people management. The sector's ageing population creates urgency for appropriate training and succession planning. Growth in the sector may also create demand for specialist knowledge in fields such as biosecurity and carbon management in which both the vocational and higher education sector have scope to support.

Demand for training is also likely to grow in line with sector growth. At the entry-level, field-staff will seek qualifications that provide training in transferable competencies across horticultural industries and roles such as the Certificate II in Rural Operations and Certificate III in Production Horticulture. Training in amenity horticulture, such as the Certificate II and III in Horticulture is not considered relevant to the industry. Demand for Certificate IV and Diploma level qualifications in agriculture and production horticulture should also improve as the general volume of experienced hires and managers in the sector grow.

Some sectors in horticulture have reported investing in training and education qualifications to deliver accredited in-house training to upskill its workers in the context of the organisation and operations. This approach was intended to address skill deficiencies specific to the organisation and to circumvent resourcing and geographic challenges that the organisation and workers face in accessing contextualised training.

Table 9: Key qualifications and anticipated training requirement[40]

Occupation groups (ANZSCO 2-digit classification)	Top qualifications	Share of industry training activity (%)	Anticipated training requirement
• Farm, forestry and garden workers • Mobile plant operators • Factory process workers • Farmers and farm managers	Certificate II in Agriculture	4%	No change
	Certificate III in Agriculture	59%	No change
	Certificate III in Horticulture	12%	Decrease
	Certificate II in Horticulture	5%	Decrease
	Certificate II in Production Horticulture	1%	Increase
	Certificate III in Production Horticulture	3%	Increase
	Certificate II in Rural Operations	2%	Increase
	Certificate III in Rural Operations	2%	Increase
• Farmers and farm managers • Skilled horticultural workers and professionals	Certificate IV in Agriculture	6%	Increase
	Diploma of Production Horticulture	4%	Increase

[40] Cadence Economics and the Department of Education and Training, Share of Industry Training Activity in the Mallee, 2016; Office of the Victorian Skills Commissioner and Nous Group (in consultation with the Regional Skills Taskforce and industry representatives), Anticipated Training Requirements in the Mallee, 2017

Training should lift baseline skills, support lean operations and address geographic barriers

Consultations with industry leaders and employers in the Region identified specific challenges and opportunities for the sector in vocational training. The table below provides an outline of key findings, as well as training projects that are already underway. Identified challenges and opportunities for the sector will be referred to relevant stakeholders for consideration and future action.

Table 10: Identified challenges and opportunities

Challenge	Opportunity
Current training does not adequately develop baseline skills that are transferable across horticulture for entry-level staff	**Develop local training options and pathways at the entry-level that address sector challenges** Options should ensure that entry-level pathways continue to foster baseline skills and knowledge that are transferable within employers and across sectors in horticulture. For instance: • a rotation-based traineeship which spans multiple horticultural and/ or agricultural sectors can address the seasonal nature of work and build a breadth of experience for entry-level students. The student might rotate between different crop farms based on the season and corresponding forecast workforce demand • an entry level program that provides exposure to different field staff roles over a 12 – 18 month period might support sustained employment at a single employer. It can also provide the broad based experience that employers seek as employee's progress through their organisation. This model may then be followed by a traineeship or apprenticeship in a particular area of interest. *Related training initiative(s) underway: In collaboration with the Robinvale Employment Network (REN) and with support from RSTF, Sunraysia Institute of TAFE will deliver a Certificate II in Rural Operations. This training will form part of a Skills Passport that the REN intends to implement in the Robinvale region.*
Lean operations, the ageing workforce and limited supply can create skill gaps in middle management for horticultural industries	**Increase support for succession planning and related training** While the sector is growing, current operations in most horticulture industries are lean. This means that it can be difficult for farms to fill new vacancies created by required workforce growth and/ or turnover of existing staff. This creates a need, both at the employer and sector level, to manage workforce succession. The provision of resources, pathways, frameworks and best practice to enhance succession planning in horticulture can support this. Integrating the support mechanisms with existing or future training programs is likely to be required.
Geography creates challenges to participation in standard vocational training models	**Adopt models that take training to individual employers where possible** Many employees face geographical challenges in reaching facilities of training providers. At the same time employers have invested in customised equipment and processes to support farm operations. Training effectiveness would improve if training models contextualise learning based on employer operations and needs. Decentralised delivery models that provide in-house training to employees' onsite and with oversight from a *Skills First* provider can support this. Some employers may opt to work together to provide scale to training. *Related training initiative(s) underway:* • *The OVSC is currently collaborating with the Department of Education and Training, Swan Hill Rural City Agribusiness Advisory Committee and Sunraysia Institute of TAFE to pilot the Certificate IV in Agribusiness across several farms in the Region. The program will leverage the benefits of small class sizes and training delivered in-location.* • *Similarly, Sunraysia Institute of TAFE has also signed a MOU with Irrigation Australia Limited to deliver the Certificate IV in Irrigation to address existing challenges around the regional supply of trainers and graduates with expertise in irrigation.*

Agriculture (other)

The outlook on other agricultural industries is positive but conservative, where growth will vary by industry. Dryland farming and intensive agriculture are anticipated to grow. Some operations in livestock are likely to scale back and dairying is anticipated to remain relatively niche. The workforce is diverse, comprising of both small family businesses and large corporate farms. Key roles include field staff such as crop growers, grain handlers and machine operators, as well as middle managers, specialists and required support staff.

While vocational training is not widely used in industry, entry-level experience can guide a worker's choice around further training. In addition to required entry-level licences (e.g. forklift), crop-growers may pursue a Certificate III in Agriculture to strengthen competencies and knowledge in their roles. Other workers interested in occupations such as a diesel mechanics, fitters and metal fabricators, may look at broader courses and apprenticeships to gain skills for their role on the farm. Similarly, managers, supervisors or specialists may pursue training at the Certificate IV or higher level to upskill, particularly in areas such as agronomy, people management and business management.

The outlook on other agricultural industries is positive, with some organisations scaling back

Outside horticulture, the Region is also characterised by strong agricultural industries such as intensive agriculture, dryland farming and dairying. These industries accounts for 5% of GVA and 6% of the labour market share. Intensive agriculture includes poultry, eggs, pork, sheep production, feedlot beef, aquaculture, hydroponics and various greenhouses. Gannawarra and Buloke shires include established operations in intensive animal husbandry. Dry land cropping and grazing in the outer regions includes sheep and cattle grazing, as well as various productions of cereals, wheat, lentils, legumes, pulses and oilseeds.

Relative to horticulture, the outlook on other agricultural industries is positive but conservative, with growth varying by industry type. Farm and establishment sizes in dryland farming and intensive agriculture are anticipated to grow over the medium term. With the exception of Gannawarra Shire, dairying has become a relatively niche industry due to the reported over-supply of dairy products and low farm gate prices. Several businesses in livestock are also anticipated to scale back operations over the next few years. General growth will also depend on available soil types, climate and access to future infrastructure (e.g. water and electricity) and available markets and processing facilities. Collectively, additional 100-200 additional workers are anticipated to be required by 2020.

New workers are required due to forecast growth and the ageing workforce

Similar to horticultural industries, operations and workforce compositions in other agricultural industries are very diverse. Dryland farming for instance comprise primarily of family-owned businesses and often require workers / family members with a mix of skills to work across a variety of roles. Industries such as pig farming and dairying can vary, with many large corporate farms employing between 20-30 employees at a time.

Permanent roles in agriculture include agronomy, growing crops, welding, fabrication and machinery operation and maintenance. Other field positions such as grain handlers, milkers, tractor drivers and machine operators are also important to agricultural operations and dependent on seasonal requirements. These are typically casual vacancies filled by backpackers and 457 visa workers. Farm operations will be led by a manager and/or business owner, with support from supervisor(s) and leading hand(s) depending on the scale of operations. Employers note in particular that experienced managers and specialists will be important enablers of growth for agricultural industries in the Region.

Collectively, an additional 100 to 200 workers are estimated to be required over the next few years. There are already reported challenges with filling casual entry-level positions locally, particularly during the harvest season. As such, there is a heavy reliance on backpackers to fill these entry level positions. Indeed, employers have noted that it is usually easier and more cost effective to recruit a backpacker from Melbourne over local worker via a job advertisement to fill an entry-level vacancy.

Employers note that relatively higher levels of scalable automation observed in dryland farming and dairying can offset some of these recruitment challenges. The future cost of capital will have implications for routine-based labour demand in the medium to long term. More challenging is finding experienced staff and specialists with expertise in agronomy.

Table 12: Key labour market indicators 2017-2020[41 42]

Current share of region GVA	Current share of total workforce	% of workers aged between 15-24	% of workers aged 60 and over	Current workforce size (FTE)#	Estimated 3y growth (FTE)	Estimated 3y growth (CAGR)
5%	6%	5%	30%	~2,400	+100-200	0.5%-1.5%

#FTE is likely to underrepresent the number of people involved in the sector due to prevalence of casual or short term roles associated with seasonality of labour demand

[41] Office of the Victorian Skills Commissioner, Nous Group and Cadence Economics (in consultation with the Regional Skills Taskforce and industry representatives), 2016-2020 workforce forecast growth by industry in the Mallee, 2017

[42] Australian Bureau of Statistics (ABS) June 2016 Gross State Product, 2013/2014 National Input Output Tables and 2011 Census Place of Work Employment Data

Table 13: Top occupations and forecast growth[43 44]

Top occupations (based on ANZSCO classifications)	Estimated workers in 2017 (FTE)#	3y forecast growth (FTE)
Mixed Crop and Livestock Farmers (e.g. Managers, Supervisors, Leading Hands and experienced field staff)*	1830	+80-140
Mixed Crop and Livestock Workers (e.g. Grain Handlers and other field staff)*	370	+20-30
Bookkeepers	50	+0-10
Agricultural, Forestry and Horticultural Plant Operators	30	+0-10
Agricultural Technicians	20	+0-5
Secretaries	20	+0-5
Shearers	10	+0-5
Auctioneers, and Stock and Station Agents	10	+0-5

#ABS classification methodology means field staff can be counted as a crop farmer or worker depending on training, years of experience and related factors
#FTE is likely to underrepresent the number of people involved in the sector due to prevalence of casual or short term roles associated with seasonality of labour demand. Occupations with a larger share of casual and/or part-time workers are marked with an asterisk (*).

Vocational training will support skill requirements across various roles and levels

While other agricultural industries account for 6% of the labour force, vocational training accounts for only 2% of total training activity in the Region. Industry associations have played an increasing role, outside the vocational system, in meeting the training and skilling needs of businesses. This is in part attributed to concerns expressed by employers around mixed training and assessment practices and outcomes in the past.

Like horticultural industries, employers tend to look for workers that are highly motivated, can meet the physical requirements of the role and possess the necessary licences. Depending on the role, valuable licences include a forklift licence, light to multi-combination vehicle licence and competencies associated with chemical handling, WH&S requirements, animal husbandry and food handling.

Entry-level experience can guide a worker's choice around further training. Crop-growers may pursue a Certificate III in Agriculture to strengthen competencies and knowledge in their roles. Other workers interested in occupations such as a diesel mechanics, fitters and metal fabricators, may look at broader courses and apprenticeships to gain skills for their role on the farm.

Similarly, leading hands, supervisors, managers, business owners and/or specialists may pursue training at the Certificate IV or Diploma level to upskill or address specific skill set deficiencies in their organisation. Expertise in areas such agronomy, business management, financial management, storage management, contract management, logistics and biosecurity become more important in these roles. The sector's ageing workforce creates urgency for appropriate training and succession planning.

Table 14: Key qualifications and anticipated training requirement[45]

Occupation groups (ANZSCO 2-digit classification)	Top qualifications	Share of industry training activity (%)	Anticipated training requirement
Farm, Forestry and Garden Workers	Certificate II in Agriculture	5%	Increase
	Certificate II in Equine Studies	5%	No change
	Certificate III in Agriculture	72%	Increase
	Certificate III in Poultry Production	3%	Increase
Farmers and Farm Managers	Certificate IV in Agribusiness	1%	Increase
	Certificate IV in Agriculture	7%	Increase
Other Technicians and Trades Workers	Certificate II in Rural Operations	2%	Increase
	Certificate III in Rural Operations	3%	Increase

[43] Office of the Victorian Skills Commissioner, Nous Group and Cadence Economics (in consultation with the Regional Skills Taskforce and industry representatives), 2016-2020 Workforce Forecast Growth by Industry in the Mallee, 2017

[44] Australian Bureau of Statistics June 2016 Gross State Product, 2013/2014 National Input Output Tables and 2011 Census Place of Work Employment Data

[45] Cadence Economics and the Department of Education and Training, Share of Industry Training Activity in the Mallee, 2016; Office of the Victorian Skills Commissioner and Nous Group (in consultation with the Regional Skills Taskforce and industry representatives), Anticipated Training Requirements in the Mallee, 2017

Training should lift baseline skills, support lean operations and address geographic barriers

Consultations with industry leaders and employers in the Region identified specific challenges and opportunities for the sector in vocational training. The table below provides an outline of key findings, as well as training projects that are already underway in response. Identified challenges and opportunities for the sector will be referred to relevant stakeholders for consideration and future action.

Table 15: Identified challenges and opportunities

Challenge	Opportunity
Current training does not adequately develop baseline skills that are transferable across agriculture industries for entry-level staff	**Develop local entry-level training options and pathways to address sector challenges** Options should ensure that entry-level pathways continue to foster baseline skills and knowledge that are transferable within employers and across sectors in agriculture. For instance: • a rotation-based traineeship which spans multiple agricultural sectors can address the seasonal nature of work and build a breadth of experience for entry-level students. The student might rotate between different crop and livestock farms based on the season and corresponding workforce demand. • an entry level program that provides exposure to different field staff roles over a 12 – 18 month period might support sustained employment at a single employer. It can also provide the broad based experience that employers seek as employee's progress through their organisation. This model may then be followed by a traineeship or apprenticeship in a particular area of interest.
Geography creates challenges to participation in standard vocational training models	**Provide training onsite to individual employers to overcome geographic challenges** Many employees face geographical challenges in reaching facilities of training providers. At the same time employers have invested in customised equipment and processes to support farm operations. Training effectiveness would improve if training models contextualise learning based on employer operations and needs. Decentralised delivery models that provide in-house training to employees' onsite and with oversight from a *Skills First* provider can support this. Some employers may opt to work together to provide scale to training.
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** Employers have noted that additional training hours on the latest technologies, equipment and plant machinery can increase the proficiency levels of workers and improve their job readiness in the work place. Increased engagement with industry can lift the rigour of training and improve accessibility to modern technology, plant machinery and practices during training for students.

Transport, logistics and automotive

Transport, logistics and automotive is forecast to grow due to its close linkages with agriculture and related industries. Growth is anticipated to gain momentum in the latter half of the 2017-2020 periods as benefits from growth in export demand, expansion of horticultural industries and planned infrastructure flow into the sector. This will increase demand for Multi-Combination (MC) truck drivers, yard staff, vehicle technicians (light, heavy diesel and auto electrical) and related staff. Demand for middle managers and administrative staff will also increase.

Due to minimum licences and qualifications required for employment in transport and automotive, forecast workforce growth will correspond to an increase in demand for vocational training and apprenticeships. For instance, truck drivers in agriculture-related industries will require a Multi-combination licence for employment. In automotive, qualified vehicle technicians and automotive electricians will complete an apprenticeship and accredited training in vehicle mechanical technology and automotive electrical technology respectively, usually at the Certificate III level.

More generally, employers look for workers that have a good attitude, strong work ethic, capacity to meet the physical requirements of their role and are 'mechanically minded'. Other licences such as forklift licences are also valuable for some entry level roles (e.g. yard staff). Demand for pre-employment may increase as employers in transport look to bridge the period between leaving school and gaining a MC licence for young workers interested in transport. Managers and supervisors may pursue training at the Certificate IV or higher level to upskill or address specific skill set deficiencies in their role and organisation.

Significant growth is forecast, linked closely to horticulture and reflected in planned investments

Transport, logistics and automotive are key industries and closely linked with broader agribusiness and construction industries in the Region. The sector accounts for approximately 7% of GVA and 8% of the Region's total workforce.

Transport industries are characterised by locally owned and multinational transport companies that move inputs and outputs for agriculture, manufacturing, mining and construction companies. Key industries and services include road transport, warehousing & logistics, intermodal transport and international freight. A broad gauge rail network for instance, connects the Swan Hill Region with the Ports of Melbourne and Geelong. Broader transport activity is linked closely with the Region's visitor economy and local population. This includes local bus and taxi networks, Mildura Airport and various operators in tourism.

Activity in horticulture, transport and related industries creates commercial demand for automotive industries, which plays an important role in servicing and supporting the motor vehicle and mechanical and equipment requirements across these industries. The Region's geographic positioning and dependence on private transport also creates strong retail demand for motor vehicles and automotive services.

Due to its linkages, growth in transport, automotive and manufacturing industries are expected to follow growth in horticulture and other agricultural industries. Growth is anticipated to gain momentum in the latter half of the 2017-2020 period as demand from horticulture flows in and required infrastructure, such as additional freight across agriculture, come online. Employers in automotive are already reporting increased demand for additional vehicles and related automotive services in response to large developments and plantations in horticulture that are currently being rolled out across the Region. The sector is forecast to require an additional 350 to 550 workers by 2020.

Forecast growth is reflected in broader industry and public investment to ensure sector capacity can service forecast demand. For instance, upgrades to key road freight routes, including the wider centre line trial on the Calder Highway (between Ouyen and Mildura), will support the transport sector and broader linkages between industries and the state.[48] Similarly, the $440M Murray Basin Rail Project is anticipated to provide important upgrades to Murray Basin Region's rail freight network.[49] This will support future demand and export volumes via freight services and reduce transport logistic costs for industries in the area. Mildura Airport's $25M Runway Extension Project will also improve support for freight demand and is anticipated to support the agricultural supply chain more broadly.[50]

Table 17: Key labour market indicators 2017-2020[46][47]

Current share of region GVA	Current share of total workforce	% of workers aged between 15-24	% of workers aged 60 and over	Current workforce size (FTE)	Estimated 3y growth (FTE)	Estimated 3y growth (CAGR)
7%	8%	12%	12%	~3,300	+350-550	2.6%-4.5%

[46] Office of the Victorian Skills Commissioner, Nous Group and Cadence Economics (in consultation with the Regional Skills Taskforce and industry representatives), 2016-2020 Workforce Forecast Growth by Industry in the Mallee, 2017

[47] Australian Bureau of Statistics June 2016 Gross State Product, 2013/2014 National Input Output Tables and 2011 Census Place of Work Employment Data

[48] Victorian Government, Victorian Budget 2017/18 – Mallee, 2017

[49] Department of Economic Development, Jobs, Transport and Resources, Murray Basin Rail Project, 2017

[50] Victorian Government, Mildura Airport Upgrade Set To Take Off, 2016

Workforce growth is required across a variety of positions to service forecast demand

The transport, logistics and automotive workforce is diverse. Agriculture-related transport industries will employ a large number of Multi-Combination (MC) truck drivers. Operations will be supported by qualified motor vehicle technicians, as well as a variety of yard staff on local deliveries, short hauls and loading. Automotive businesses will employ a variety of qualified vehicle technicians (light, heavy diesel and auto electrical), steel fabricators/engineers and vehicle preparation and delivery staff. Employers will also recruit administrative staff, accountants, retail sales persons and related personnel to support broader functions of the business. Many workers will first enter employment in transport, logistics and automotive as an apprentice or trainee. In addition to parallel hires, experienced workers with suitable potential can also transition into middle, senior and executive management over time.

Forecast growth will increase demand for workers in transport, logistics and automotive industries, both at the operational level and middle management. Industries are already reporting shortages of licensed drivers, qualified vehicle technicians and automotive electricians. Challenges with recruiting young workers locally are particularly pronounced. This is reflected in the sector's ageing workforce, where only 7% of workers are aged between 15 and 24 years old. Employers highlighted several barriers to entry for young people, including the perceived attractiveness of industry and the age requirements and timeframes associated with acquiring required workforce licence (e.g. MC licences). Insufficient local supply of qualified workers in automotive for instance means that employers often recruit outside the region and abroad, including countries such as Sri Lanka and Philippines. Similar shortages are faced in unskilled entry level positions, where vacancies for various yard staff are often filled by backpackers and nomads on short term contracts.

Demand for training will grow, particularly as qualifications and licences are required for participation

Completion of relevant qualifications and licences are often important for gaining entry-level employment in transport, logistics and automotive. In transport, employees must obtain their MC licence to operate as a truck driver in most agriculture-related transport businesses across the Region. For bus drivers and tour operators, heavy rigid licences are typically sufficient. Similarly, accredited training in relevant automotive fields is required to gain employment as a motor vehicle technician, automotive electrician and related roles. Other licences, such as a forklift licence and manual handling, are commonly required for yard staff and related positions. They are viewed as valuable skill sets that are transferable across industries.

In addition to their qualification and/or required licences, employers in transport and automotive will take on entry-level workers and apprentices on the basis of their attitude, motivation, work ethic, communication skills and capacity to meet the physical requirements of the role. Employers are looking for employees who are 'mechanically minded', which includes strong numeracy skills and understanding of WH&S requirements. Other important skill sets include time management and organisational skills.

Most entry level employees will enter the sector through an apprenticeship and training at the Certificate III level. Common qualifications include the Certificate III in Driving Operations for transport and Certificate III in Light Vehicle Mechanical Technology. Training at the Certificate I and II level are sometimes used to build exposure to industry or as a pre-employment pathway for young students. Transport and automotive industries are significant users of vocational training and apprenticeships, accounting for 12% of vocational training activity in 2016.[51]

Table 18: Top occupations and forecast growth[52]

Top occupations (based on ANZSCO classifications)	Estimated workers in 2017 (FTE)	3y forecast growth (FTE)
Truck Drivers	630	+80-130
Motor Vehicle Technicians and Related	480	+60-100
Motor Vehicle and Vehicle Parts Salespersons	160	+20-30
Retail Managers	120	+10-30
Car Detailers	90	+10-20
Sales Assistants (General)	70	+0-10
Vehicle Painters	60	+0-10
Panel Beaters	60	+0-10
Bus and Coach Drivers	170	+0-20
Couriers and Postal Deliverers	140	+0-10
Transport Services Managers	90	+0-10
Other Stationary Plant Operators	80	+0-10
Automobile Drivers	60	+0-10
Delivery Drivers	60	+0-10

[51] The Department of Education and Training, VET enrolment data, 2016
[52] Ibid

It is common for employees in administrative and support roles to enter the workforce via a traineeship and/or vocational qualification in retail services, business administration, bookkeeping and other relevant fields. Trainees are expected to have strong computer literacy, including use of Microsoft EXCEL, Word, Outlook and related software. In addition to being 'mechanically minded', employees in sales, retail and related front-office positions should also possess strong communication and customer service skills.

Supervisors and middle managers may sometimes pursue a Certificate IV, Diploma or short course in their field or in management to develop broader competencies to support them in their roles. This includes developing skills in basic financial literacy, people management, business management, negotiation and conflict resolution. Supervisors and middle managers will also require a deeper understanding of their operations as a business.

Due to minimum training and qualifications required for employment in transport and automotive, forecast workforce growth will correspond to an increase in demand for vocational training and apprenticeships. Demand will be concentrated at the Certificate III level, particularly in driving operations, automotive body repair technology, automotive refinishing, automotive electrical technology and light vehicle mechanical technology.

Demand for pre-employment programs between the Certificate I and III level may also increase as employers in transport look to bridge the period between leaving school and gaining an MC licence for young workers interested in transport. The minimum age for young drivers to obtain a MC licence is 21.[54]

Similarly, employers in automotive have noted that demand for training and related skills in the Certificate III in Automotive Electrical Technology is greater than the current share of training activity, particularly as relatively higher demand for services in this field is anticipated.

Training should reduce participation barriers and improve employment pathways

Consultations with industry leaders and employers in the Region identified specific challenges and opportunities for the sector in vocational training. The table below provides an outline of key findings, as well as training projects that are already underway in response. Identified challenges and opportunities for the sector will be referred to relevant stakeholders for consideration and future action.

Table 19: Top qualifications and anticipated training requirements[53]

Occupation groups (ANZSCO 2-digit classification)	Top qualifications	Share of training activity (%)	Anticipated training requirement
Road and Rail Drivers	Certificate II in Driving Operations	15%	Increase
	Certificate III in Driving Operations	23%	Increase
	Certificate IV in Driving Operations	3%	Increase
Automotive and Engineering Trades Workers	Certificate III in Automotive Body Repair Technology	5%	Increase
	Certificate III in Automotive Electrical Technology	2%	Increase
	Certificate III in Automotive Refinishing Technology	5%	Increase
	Certificate III in Light Vehicle Mechanical Technology	27%	Increase
Other	Certificate III in Business Equipment	3%	No change
	Certificate II in Automotive Studies (Pre-vocational)	4%	Increase
	Certificate III in Automotive Glazing Technology	3%	Increase

[53] Cadence Economics and the Department of Education and Training, Share of Industry Training Activity in the Mallee, 2016; Office of the Victorian Skills Commissioner and Nous Group (in consultation with the Regional Skills Taskforce and industry representatives), Anticipated Training Requirements in the Mallee, 2017

[54] VicRoads, Licence and permit types, 2017

Table 20: Identified challenges and opportunities

Challenge	Opportunity
Significant barrier to entry for young people with a career interest in transport	**Develop a pre-employment/cadetship-type model for young people** The sector can explore a cadetship type model that places and rotates young workers (18-22yo) across multiple roles within an organisation or industry group.[55] The model provides an opportunity for students to experience different opportunities in industry and for employers to better identify suitable candidates for employment and further training.[56] The model can also be extended to administrative, retail and technical roles in in transport, logistics and automotive industries such as sales, information technology and finance.[57] *Related training initiative(s) underway: Transport and logistic industries are developing a cadetship program for senior-level entry into the sector. The program has expanded in scope to explore pre-employment traineeship opportunities in driving operations and general transport & logistics. The cadetship model will include some focus in leadership and management and has received positive buy-in from industry. The pre-employment program is being developed in partnership with the NMLLEN, Aust-Link and Sunraysia Institute of TAFE.*
Lack of formal pathways to support career changers transitioning into transport	**Strengthen pathways for career changers interested in transport** This can involve the development and delivery of an apprenticeship, traineeship or internship type model that is targeted specifically at career changers from alternative industries and higher education. Transition opportunities for career changes should range from driver and technician roles to office-based positions in sales, finance, etc. Training should include a short introductory module to help new students realign their career expectations and understanding of opportunities that are available to them. This program can strengthen the opportunity for industry to access an alternative supply of new talent.[58]
Barriers to participation in training due to geography[59]	**Review and minimise geographic barriers to training for students** Ensure training in automotive electrical, automotive heavy and automotive light is available in both Swan Hill and Mildura in the first and subsequent years. There was acknowledgement that specialisation of equipment will limit the level of flexibility in delivery mode. However, a delivery model that moves teachers between training sites for a portion of training may improve learning outcomes and is potentially cost effective. Revision of delivery models in areas such as heavy automotive vehicle training will require careful planning due to specialised equipment and infrastructure requirements. This may lead to applications for support under WTIF and/or RSTF, as well as increased engagement with industry.[60]
Insufficient training in leadership and management for middle managers	**Provide modularised training to support skills development for middle managers** Transport and automotive businesses exhibit demand for training in leadership and management for middle managers. Training should combine classroom theory with on-site application, and be completed in modules (part-time) over several years. Competencies in demand include people management, business management, negotiation, conflict resolution and financial literacy in the context of transport and/or automotive industries. Employers cited Toyota Institute Australia's Future Dealer Leaders Program as a potential model for the sector. In collaboration with the Australian Institute of Management, the program provides top-performing Toyota dealer employees with training in core competencies required to be a dealership leader.[61] The program involves multiple weeks of training spread across several years and forms an important part of the Toyota Australia's succession planning. Upon completion, workers will receive and Advanced Diploma in Management.

[55] For instance, a young worker under this model may gain exposure to work on the road, yard or warehouse as he/she completes an entry-level certification in transport, logistics, automotive or related studies. Selected qualifications are typically at the Certificate I or II level, such as the Certificate II in Driving Operations and the Certificate II in Automotive Studies (Pre-Vocational)

[56] Additionally, as a bridging program for students between leaving school and obtaining their multi-combination licence, it also provides an opportunity to better sustain their interest in the sector

[57] Entry level qualifications for these qualifications may occur at the Certificate IV or Diploma level

[58] Careers in transport are suitable for career changers from alternative industries and higher education. 25+ year olds career changers pursuing a driving role for instance, do not face the same barriers to entry as young people (e.g. Minimum age-requirements, high insurance premiums, etc.). Similarly, prior experiences in sectors such as horticulture, retail or finance provide career changers with transferable skills into various roles in transport, logistics, automotive and related

[59] For instance, automotive electrical students in trade schools will spend their first year of study in Mildura but are required to complete their subsequent years in Swan Hill

[60] Employers note that training engagement with and proximity to industry is critical. For instance, heavy automotive training in Swan Hill has access to high quality technology and equipment due to its engagement with and generosity of industry located nearby

[61] Toyota Australia; Guests, Dealers & Community – Dealer Support; 2016

Manufacturing

Manufacturing is forecast to grow due to its close linkages with agriculture and related industries. Growth is anticipated to gain momentum in the latter half of the 2017-2020 periods as growth in export demand and benefits from expansion in horticulture flow into food and beverage processing, as well as generalist manufacturing and engineering businesses. This will increase demand for operational workers, including welders, fitters, machinists and packers, as well as demand for middle managers and support staff.

Training in manufacturing related roles currently accounts for 6% of total vocational training activity in the Region. Apprenticeships and training in the Certificate III in Engineering – Fabrication Trade are common pathways for boiler makers, welders, machinists, fitters and related roles in manufacturing. Training is not necessarily required for general process workers and packers if they demonstrate a positive attitude, work ethic, capacity to meet the physical requirements and necessary licences (e.g. forklift licence). However, training in the Certificate III in Warehousing Operations for instance can build broader knowledge in manufacturing for entry-level workers.

Demand for training and required licences is likely to increase with forecast growth. Supervisors and middle managers may also exhibit greater demand for training and support in their role. Employers are increasingly seeking expertise in topics such as lean operations, improving processing efficiency, increasing workforce productivity and continuous improvement methodologies. This is important for middle managers, as well as entry level staff, particularly as local and global competition in manufacturing grows.

Manufacturing is forecast to grow due to linkages with agriculture and strong export demand

Manufacturing in the Region is closely linked to the region's economic activity in agriculture, transport, automotive, construction and related industries. Manufacturing currently accounts for 7% of GVA and 5% of the total workforce in the Region. 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, vodka, olive oil, health foods and related goods. Several engineering businesses and generalist manufacturing activity occur in the region too. This includes manufacturing of farm machinery, marine and road transport equipment, transportable homes, sheet metals, air conditioning, construction fabrication, specialised truck trailers, commercial doors, fibre reinforced plastics, palletised animal feed and storage containers.

Growth in horticulture, transport, automotive, construction and related industries is anticipated to flow into manufacturing industries in the Region. Demand for food processing and packaging industries for instance will grow in line with increased national and international demand for almond, table grapes and citrus. This growth is reflected in planned developments, expansions and approvals. This includes Select Harvests' $30M investment in a new processing and power plant, Weilong Wines' $80M investment in Mildura Winery and Brownport Almond's $40M plan for an almond cracking plant in Wemen. Similarly, permits have been approved and expansions planned for abattoirs in Mildura and Swan Hill respectively. AWMA has also signed a contract to manufacture sewage infrastructure for China. An additional 250 to 400 workers are estimated to be required by 2020.

The manufacturing workforce is diverse and anticipated to grow

There are many pathways and general trades in manufacturing. Local workers will enter the sector through an apprenticeship in entry-level positions such as general process workers, packers, welders, quality controllers, boiler makers, forklift drivers and fabricators. Employers in generalist manufacturing and engineering businesses (e.g. air-conditioning) will also look for skilled electricians, fitters, machinists, engineers and related. In addition to parallel hires, experienced workers with high potential will transition into supervisory and managerial positions in areas such as line or sales management. Manufacturing operations will also comprise of workers in customer support, bookkeeping and related support roles.

Growth in manufacturing will increase demand for manufacturing workers, supervisors, managers and support staff. There are already reported shortages of staff at the entry-level, where many employers rely on labour hire firms and employment agencies to cover shifts and fill seasonal shortages. As such, the workforce has a high representation of backpackers or workers with 457 visas on short term contracts.

Table 22: Key labour market indicators 2017-2020[62 63]

Current share of region GVA	Current share of total workforce	% of workers aged between 15-24	% of workers aged 60 and over	Current workforce size (FTE)	Estimated 3y growth (FTE)	Estimated 3y growth (CAGR)
7%	5%	14%	8%	~2,300	+250-400	2.5%-4.5%

[62] Office of the Victorian Skills Commissioner, Nous Group and Cadence Economics (in consultation with the Regional Skills Taskforce and industry representatives), 2016-2020 Workforce Forecast Growth by Industry in the Mallee, 2017

[63] Australian Bureau of Statistics June 2016 Gross State Product, 2013/2014 National Input Output Tables and 2011 Census Place of Work Employment Data

Table 23: Top occupations and forecast growth[64 65]

Top occupations (based on ANZSCO classifications)	Estimated workers in 2017 (FTE)	3y forecast growth (FTE)
Structural Steel and Welding Trades Workers	240	+30-40
Packers*	140	+10-20
Food and Drink Factory Workers*	140	+10-20
Production Managers	90	+10-20
Forklift Drivers	90	+10-20
Metal Fitters and Machinists	70	+0-10
Crop Farmers	70	+0-10
Sales Assistants (General)*	70	+0-10
Crop Farm Workers*	60	+0-10
Bakers and Pastry Cooks	50	+0-10
Manufacturers	50	+0-10
Cabinetmakers	50	+0-10
Truck Drivers	40	+0-10
Advertising, Public Relations and Sales Managers	40	+0-10
General Clerks	30	+0-10

#FTE is likely to underrepresent the number of people involved in the sector due to prevalence of casual or short term roles associated with seasonality of labour demand. Occupations with a larger share of casual and/or part-time workers are marked with an asterisk (*).

Demand for training and skills in areas such as lean manufacturing will grow

Aside from relevant licences (e.g. forklift licence), employers do not require accredited training from employees in general process and packing entry level positions. Welders, fitters, machinists, electricians and related trades workers will often enter the sector through an apprenticeship. Like other industries, an apprentice's attitude, interest in manufacturing, communication skills, self-management skills and capacity to learn and demonstrate resilience are critical for gaining employment in manufacturing.

Experienced employees, supervisors and managers are expected to have deeper expertise in their trade and a broader understanding of manufacturing operations. Particular topics include lean operations, improving processing efficiency, increasing workforce productivity and continuous improvement methodologies in manufacturing. This is particularly important as competition in manufacturing grows, both locally and internationally. Ideally, apprentices and entry-level workers will also understand and appreciate some of these concepts to contribute to the business' operations more effectively.

Supervisors and managers in manufacturing will also require expertise in people management, leadership, negotiation and conflict management, business acumen, compliance requirements and related competencies. Supervisors and managers will usually look at short courses or modularised programs to address skill deficiencies based on business needs at the time.

Forecast growth in manufacturing will increase demand for training and apprenticeships. In addition to entry-level licences such as forklift licences, the Certificate III in Engineering – Fabrication Trade, Certificate III in Warehousing Operations and Certificate III in Food Processing are likely to increase in demand. Prospective and current supervisors and middle managers may also exhibit greater demand for training and support in their role. Training in manufacturing related roles currently account for 6% of total vocational training activity in the Region.[67]

[64] Office of the Victorian Skills Commissioner, Nous Group and Cadence Economics (in consultation with the Regional Skills Taskforce and industry representatives), 2016-2020 Workforce Forecast Growth by Industry in the Mallee, 2017

[65] Australian Bureau of Statistics (ABS) June 2016 Gross State Product, 2013/2014 National Input Output Tables and 2011 Census Place of Work Employment Data

[66] ANZSCO defines manufacturers as workers, managers or business owners that 'plan, organise, direct, control and coordinate the operations of small manufacturing operations'. Source: Unit Group 1334 Manufacturers – ANZSCO, Australian Bureau of Statistics, accessed 2017

[67] The Department of Education and Training, VET enrolment data, 2016

Table 24: Top qualifications and anticipated training requirements[68]

Occupation groups (ANZSCO 2-digit classification)	Top qualifications	Share of industry training activity (%)	Anticipated training requirement
Automotive and Engineering Trades Workers	Certificate III in Engineering - Fabrication Trade	20%	Increase
Factory Process Workers	Certificate II in Engineering Pathways	3%	Increase
	Certificate II in Meat Processing (Abattoirs)	3%	Increase
	Certificate III in Food Processing	5%	Increase
	Certificate III in Wine Industry Operations	5%	Increase
	Certificate IV in Process Manufacturing	7%	Increase
Machine and Stationary Plant Operators	Certificate II in Furniture Making	4%	No change
Mobile plant operators	Certificate II in Warehousing Operations	4%	Increase
	Certificate III in Warehousing Operations	12%	Increase
Other technicians and trades workers	Certificate III in Cabinet Making	11%	No change

 # Vocational training in hospitality industries, such as the Certificate III in Commercial Cookery, is likely to support some of the skilling requirements for other top occupations counted in manufacturing (i.e. bakers and pastry cooks).

Training should support lean operations and improve pathways between career transition points

Consultations with industry leaders and employers in the Region identified specific challenges and opportunities for the sector in vocational training. The table below provides an outline of key findings, as well as training projects that are already underway in response. Identified challenges and opportunities for the sector will be referred to relevant stakeholders for consideration and future action.

Table 25: Identified challenges and opportunities

Challenge	Opportunity
Gaps in broader knowledge and awareness of manufacturing operations (e.g. lean operations)	Update entry-level training to foster understanding of manufacturing operations Qualifications at the Certificate III and Certificate IV level should include a module that develops student understanding of the broader operations and requirements in manufacturing.[69] Key topics include lean operations, improving efficiency and increasing productivity in manufacturing. This can help apprentices and other workers build a deeper appreciation for the challenges and opportunities in manufacturing and improve their capacity to support or prepare for decision making at the managerial level.
Lack of formal pathways and support to transition high quality workers into supervisory and managerial positions	Develop a short course for workers transitioning into supervision roles The program should build on key topics such as lean operations, increasing productivity, operations management, people management and negotiation in manufacturing to prepare talented workers for supervisory positions. The program will likely involve a blend of in-class and on-the-job learning, with scope for employers to select the packaging of units/subjects that best meet their organisation's needs. An explicit focus should be the supervision of a seasonal labour force.
	Develop a modular program for managers to upskill over time This model provides an opportunity for existing managers or workers transitioning into management roles to upskill and address skill deficiencies based on organisational needs. Participants select and complete discrete training module(s) at their own pace (e.g. part time or intensive). Each module(s) selected will combine theory with on-the-job application. The manager can also convert their packaging of completions into an accredited Diploma or Certificate IV qualification when agreed requirements are met.

[68] Cadence Economics and the Department of Education and Training, Share of Industry Training Activity in the Mallee, 2016; Office of the Victorian Skills Commissioner and Nous Group (in consultation with the Regional Skills Taskforce and industry representatives), Anticipated Training Requirements in the Mallee, 2017
[69] Relevant qualifications include the Certificate III in Engineering – Fabrication Trade, Certificate III in Warehousing Operations, Certificate IV in Process Manufacturing and Certificate III in Food Processing

Construction

Broader economic activity will drive demand for construction over the next few years. High growth in horticulture, manufacturing, healthcare and related industries will create strong demand for commercial construction. Similarly, reported shortages of accommodation across the Region suggest that demand for residential construction will continue. Forecast growth will require a variety of construction trades workers. This includes growth in popular licensed trades such as electricians, carpenters and plumbers, and in less well known licensed trades such as brick layers, plasterers and concreters. Other construction trades such as painters will also grow. Short large-scale projects in industries such as solar and sand mining will also create demand for a large contract workforce for construction and a small ongoing local workforce for maintenance.

Construction industries are the largest users of vocational training, accounting for ~20% of total training activity in the Region. Apprenticeships are the standard pathway to employment in most trades across construction. This is expected to continue with forecast workforce growth. Forecast workforce growth will also increase demand for training during career transition points (e.g. from worker to subcontractor), where broader skill sets such as project management and financial literacy are required. VET will have a role in supporting reported shortages local A-grade electricians for solar maintenance and in less popular trades such as painters in residential markets.

Broader economic activity will drive demand for both residential and commercial construction

Construction is a significant industry in the Region, accounting for 7% of GVA and 5% of the labour force. The sector is active both in the residential and commercial markets, comprising a combination of sole traders, small businesses, subcontractors and large corporations. 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, WH&S, etc.). Projects are often led by a principal builder in collaboration with many subcontractors and apprentices.

The outlook on growth is positive but subject to high levels of volatility. While forecast population growth is low, residential construction should continue due to reported shortages of accommodation requirements, particularly as the labour force and visitor economy grows. For instance, the proposed Mildura Riverfront Development – Stage 2 will invest in infrastructure to show case Mildura's heritage and environmental assets, as well as support capacity and demand for residential investment.[72] Similarly, commercial construction and related infrastructure should remain strong due to high forecast growth in horticulture, manufacturing, transport and healthcare and social assistance. Collectively and across both retail and commercial markets, an anticipated 200 to 300 additional workers are anticipated to be required by 2020.

Workforce growth described above excludes the contract workforce associated with large short-term projects that have been approved, are undergoing approval or are in conceptual planning stages. In particular, ~$4.3B in large scale solar projects across the Region are currently in scope with about one in four projects anticipated to progress due to existing grid and transmission capacity.[73] Similarly, sand mining in Balranald (NSW) and Lalbert has also been proposed with growth dependent on global economic trends such as world commodity prices.[74]

Table 26: Key labour market indicators 2017-2020[70] [71]

Current share of region GVA	Current share of total workforce	% of workers aged between 15-24	% of workers aged 60 and over	Current workforce size (FTE)	Estimated 3y growth (FTE)	Estimated 3y growth (CAGR)
7%	5%	20%	9%	~2,300	+200-350	1.8%-3.5%

 # excludes workforce requirements due to expected large short-term projects in the Region (e.g. solar construction and sand mining)

[70] Office of the Victorian Skills Commissioner, Nous Group and Cadence Economics (in consultation with the Regional Skills Taskforce and industry representatives), 2016-2020 Workforce Forecast Growth by Industry in the Mallee, 2017
[71] Australian Bureau of Statistics June 2016 Gross State Product, 2013/2014 National Input Output Tables and 2011 Census Place of Work Employment Data
[72] Mildura Rural City Council, Mildura Future Ready – Mildura Riverfront Redevelopment – Stage 2, 2017
[73] VIC Solar Ombudsman
[74] Regional Skills Taskforce, Syncline Energy, SHRCC, Gannawarra Shire, MRCC, Powervault Global

Table 27: Top occupations and forecast growth[75 76]

Top occupations (based on ANZSCO classifications)	Estimated workers in 2017 (FTE)	3y forecast growth (FTE)
Electricians	350	+30-50
Plumbers	280	+20-40
Construction Managers	240	+20-30
Carpenters and Joiners	170	+10-20
Earthmoving Plant Operators	150	+10-20
Painting Trades Workers	90	+0-10
Building and Plumbing Labourers	70	+0-10
Architectural, Building and Surveying Technicians	50	+0-10
Plasterers	50	+0-10
Truck Drivers	50	+0-10
Concreters	40	+0-10
Fencers	40	+0-10
Bookkeepers	40	+0-10
Handypersons	40	+0-10
Secretaries	40	+0-10

 # excludes workforce requirements due to expected large short-term projects in the Region (e.g. solar construction and sand mining)

The building and construction workforce is diverse and forecast to grow

The workforce in construction is very diverse. Depending on the trade and project requirements, this can comprise of electricians, plumbers, carpenters, joiners, brick layers, plasters, fencers, painters, surveyors, crane operators, riggers, dogman, concreters and related trades workers and technicians. Apprenticeships are the most common entry-level pathway into employment in construction. In the longer term, many experienced workers in construction will transition into a subcontracting, management or builder role. Opportunities at this level are as diverse, including consulting, sales, estimation and accounts management. Businesses in construction will also employ a variety of support staff, including personal assistants, accountants and related workers.

Forecast growth in construction will increase demand for workers and apprentices across a variety of trades, both in residential and commercial markets. Already, many employers are reporting a shortage of bricklayers, carpenters, skilled painters and pavers. Skill shortages in licensed trades are reportedly less pronounced. Employers attribute this discrepancy primarily to the relative awareness and attractiveness of broader trade opportunities in construction.

The forecasts above exclude the short large-scale projects such as construction in solar and sand mining. These projects are likely to be handled by organisations outside of the Region who engage contract workforces due to the relatively lower commercial capacity of the region. However, a local workforce for ongoing maintenance and support are anticipated to be required over a broader horizon.

In solar industries, an additional 250 jobs per annum are estimated to be required for the construction phases of large scale projects and over a four year construction cycle.[77] This is under the expectation that approximately a quarter of the planned $4.3B solar projects will progress over the next few years. This workforce will comprise a combination of solar accredited electricians, apprentices on related training pathways and labourers (e.g. for cleaning, cutting grass, etc.).[78] Approximately 100 local workers are anticipated to be required for maintenance and related work after these projects come online.[79 80]

[75] Office of the Victorian Skills Commissioner, Nous Group and Cadence Economics (in consultation with the Regional Skills Taskforce and industry representatives), 2016-2020 Workforce Forecast Growth by Industry in the Mallee, 2017

[76] Australian Bureau of Statistics June 2016 Gross State Product, 2013/2014 National Input Output Tables and 2011 Census Place of Work Employment Data

[77] Regional Skills Taskforce, Syncline Energy, SHRCC, Gannawarra Shire, MRCC, Powervault Global

[78] Ibid

[79] Ibid

[80] Sandmining in the Region also has potential for similar workforce growth. For instance, proposed sand mining construction in Balranald is anticipated to create several hundred jobs, during construction and ongoing, over a mine life of approximately 6 to 10 years (Regional Skills Taskforce, 2017)

Construction is forecast to continue as the largest users of VET in the Mallee region

Construction is the Region's largest user of vocational education and apprenticeships, accounting for ~20% of total training activity in the Region.[81] Similar to other industries, apprentices are often employed on the basis of their attitude, motivation, work ethic and capacity to meet the physical requirements of the role. Relevant qualifications at the Certificate III and IV level are expected to develop the apprentice's technical competencies, where on-the-job training is central to their training and employment outcomes. Employers have an expectation that VETiS and training at the Certificate I and II level will provide students with an understanding and exposure to the different trades and opportunities in construction.

Employers require apprentices and new workers to be flexible in their approach to work and have the capacity and willingness to learn or relearn new techniques and trades in a manner suitable to the employer's operations. In addition to strong communication skills, computer literacy and numeracy standards, apprentices should also have a strong understanding of WH&S requirements and possess the appropriate licences for machine operation and equipment use.

Experienced workers, subcontractors and builders will require more diverse skill sets to engage more effectively in their business and broader operations. This includes skills in leadership, people management, project management, financial and legal literacy, compliance requirements, business management and risk management in the context of construction.

Lastly, there is an expectation that classroom training undertaken is relevant to trades in the Region. For instance, demand for skills in roof tiling is low as most roofing is of steel construction. In contrast, demand for A-grade electricians to connect solar farms to the grid will be critical to ensuring that a local workforce can service the emerging solar industry in the Region. Similarly, employers expect demonstrable and proven skill sets across trades and roles. Painters for instance should not be starting their own business if they do not have prior experience or training on the appropriate techniques and required competencies.

Table 28: Top qualifications and anticipated training requirement[82]

Occupation groups (ANZSCO 2-digit classification)	Top qualifications	Share of industry training activity (%)	Anticipated training requirement
Construction trades workers	Certificate III in Carpentry	38%	Increase
	Certificate III in Painting and Decorating	3%	Increase
	Certificate III in Roof Tiling	14%	Decrease
	Certificate III in Wall and Ceiling Lining	3%	Increase
	Certificate IV in Building and Construction (Building)	5%	Increase
	Construction Induction	5%	Increase
Electro-technology trades workers	Certificate III in Electro-technology Electrician	3%	Increase
Machine and stationary plant operators	Certificate IV in Mobile Crane Operations	3%	Increase
Mobile plant operators	Certificate III in Civil Construction Plant Operations	5%	Increase
Other	Certificate III in Landscape Construction	3%	Increase

[81] The Department of Education and Training, VET enrolment data, 2016

[82] Cadence Economics and the Department of Education and Training, Share of Industry Training Activity in the Mallee, 2016; Office of the Victorian Skills Commissioner and Nous Group (in consultation with the Regional Skills Taskforce and industry representatives), Anticipated Training Requirements in the Mallee, 2017

Training should align with business need, build exposure and support career transition points

Consultations with industry leaders and employers in the Region identified specific challenges and opportunities for the sector in vocational training. The table below provides an outline of key findings, as well as training projects that are already underway in response. Identified challenges and opportunities for the sector will be referred to relevant stakeholders for consideration and future action.

Table 29: Identified challenges and opportunities

Challenge	Opportunity
Young workers have insufficient exposure to broader trades in construction	**Embed a construction taster in secondary school** In addition to the popular trades (e.g. plumber, carpenter, electrician, etc.), there should be opportunities for young people to gain exposure to broader opportunities in industry (e.g. painter, plasterer, brick layer, glazier, etc.). This might involve an expanded work experience program for Year 9 students interested in construction and/or a more collaborative clustered approach to VETiS.
Current training activity is not always aligned with industry needs in construction	**Realign vocational training activity in construction with industry demand** This involves increasing the level of apprenticeships, subsidised training and related programs for in-demand skills and trades. This includes increasing the number of apprenticeships in plumbing. Providers should ensure that training is accessible, at least in key regional centres (i.e. offering plumbing in Mildura). Additionally, training in qualifications that are not in demand, such as the Certificate III in Roof Tiling, should be decreased. *Related training initiative(s) underway: Short courses for A-grade electricians to connect solar farms to the grid are being developed as an industry priority. The program is intended to address local skill and training deficiencies in solar, and support my be sought from WTIF. Various RTOs such as Box Hill TAFE and Sunraysia Institute of TAFE are being considered to support the provision of these courses. It is expected that local Skills First providers can deliver these programs in the future. Broader programs in connecting battery to the grid and storage-side training are also being explored at the state-level.*
Insufficient training and support between key career transition points[83]	**Embed a module on business operations and what it means to be a sub-contractor in apprenticeships** The final or penultimate years of an apprenticeship should include a module on introductory business elements and what is required to be a sub-contractor. This will improve an apprentice's involvement and understanding of his/her employer's business operations. Potential introductory topics include business management, legal requirements, public liability, insurance, financial management and common challenges. A short course or module to help experienced staff transition into supervisory and subcontracting positions can also be valuable. It is an opportunity for workers to expand their competencies in the aforementioned business elements.

[83] Key transition points are from school to apprenticeships, to entry-level positions, to supervisory and subcontracting positions

Retail trade

While forecast population growth is low, high growth in agribusiness and the visitor economy will contribute to growth in retail. Growth will increase demand for small business and workers across a variety of positions, including sales assistants, supervisors and retail managers. Demand for skills in customer service, digital marketing and visual merchandising will be increasingly important due to growth in regional competition and online shopping. While training is important, demand for vocational qualifications is mixed. Large retailers are likely to train employees in-house and small businesses cannot afford time away from standard business hours to complete structured training under the standard model. There are opportunities for the training system to better develop competencies in demand and to provide tailored training and support for small business.

Retail has opportunities for growth but is dependent on broader drivers and its competitive advantage

Retail is characterised largely by traditional shopfronts, boutiques and family owned businesses. There are several large retailers in larger regional centres, such as the Country Target in Kerang and Harvey Norman at Mildura. There are also several specialist retailers that operate in business-to-business models, dealing directly with various agribusinesses. Collectively, retail accounts for approximately 7% of the Region's GVA and 12% of the total workforce.

While forecast population growth is low, retail industries anticipate some growth due to flow in benefits from high-growth sectors in agribusiness and service demand from the Region's growing visitor economy. An additional 400 to 500 workers are anticipated to be required by 2020. Demand will be greatest for retailers in essential non-durable goods and services. This includes local supermarkets and grocery stores, hairdressers, pharmacists, service stations and related retailers. Aldi for instance has met with Mildura Rural City Council to discuss a $3.5M development in Mildura and is anticipated to create 18 full-time jobs during construction and 20 ongoing positions after construction is completed.[84]

In contrast, demand for retailers in luxury goods and services, such as fashion designer materials, are mixed. This is particularly due to growth in global competition, online shopping, accessibility to parcel delivery and volatility in commodity prices and relative exchange rates. Sustained growth in these industries is dependent on the sector's capacity to maintain its competitive advantage (e.g. local customer service). Furthermore, the lack of weekend trading means retail demand from locals and visitors are sometimes lost to neighbouring towns such as Echuca. Retail demands in agriculture and construction intensive regions such as Robinvale are also more exposed to seasonality and the visitor economy.

Growth in retail will translate to growth in small business and demand for workers at large retailers

Large retailers are likely to employ a combination of sales assistants, cashiers, shelf fillers and related store persons. These positions are often filled by young people (~30%) seeking casual work during their studies in high school or gap year before further study. On the other end, retail businesses also have a strong representation of workers aged 45 or over (~36%). These workers are typically shop owners of family owned businesses or career changers moving into a supervisory or managerial position at a large retailer.

While pathways for formal career development are limited in retail, there are numerous opportunities for people to start their own business.

The current industry structure suggests that an increase in demand for retail will translate to growth in small businesses and demand for employees at large retailers across the Region. However, unlike other industries, retailers are not reporting significant shortages. In many instances, short-term vacancies will be filled by backpackers or family-friends via word of mouth. However, challenges to recruitment are more likely in regions where access to accommodation, healthcare and childcare is limited.

Table 30: Key labour market indicators 2017-2020[85][86]

Current share of region GVA	Current share of total workforce	% of workers aged between 15-24	% of workers aged 60 and over	Current workforce size (FTE)	Estimated 3y growth (FTE)	Estimated 3y growth (CAGR)
7%	12%	32%	7%	~5,500	+400-500	1.5%-2.0%

[84] Sunraysia Daily, Aldi lodges plan for Mildura supermarket, 2017, < http://www.sunraysiadaily.com.au/story/4801541/deal-close-aldi-lodges-plan-for-mildura-supermarket/>

[85] Office of the Victorian Skills Commissioner, Nous Group and Cadence Economics (in consultation with the Regional Skills Taskforce and industry representatives), 2016-2020 Workforce Forecast Growth by Industry in the Mallee, 2017

[86] Australian Bureau of Statistics (ABS) June 2016 Gross State Product, 2013/2014 National Input Output Tables and 2011 Census Place of Work Employment Data

Table 31: Top occupations and forecast growth[87 88]

Top occupations (based on ANZSCO classifications)	Estimated workers in 2017 (FTE)	3y forecast growth (FTE)
Sales Assistants (General)*	2050	+180-200
Retail Managers	800	+60-70
Checkout Operators and Office Cashiers*	490	+30-40
Hairdressers	240	+10-20
Shelf Fillers*	210	+10-20
Pharmacy Sales Assistants	210	+10-20
Retail Supervisors	160	+0-10
Storepersons	100	+0-10
Butchers and Smallgoods Makers	90	+0-10
Pharmacists	90	+0-10
Service Station Attendants	70	+0-10
General Clerks	60	+0-10

#FTE is likely to underrepresent the number of people involved in the sector due to prevalence of casual or short term roles associated with labour demand. Occupations with a larger share of casual and/or part-time workers are marked with an asterisk (*).

While training is required, demand for qualifications in VET is mixed under current training models

While retail accounts for 12% of the labour force, vocational training in retail only accounts for 3% of total vocational training activity in the Region.[89] Like many other industries, qualifications such as the Certificate II in Retail Services are not necessary for gaining employment at entry-level positions in retail. Similarly, large retailers tend to provide training in-house too.

However, employers are looking for trainees or part-time workers with a good attitude, emotional intelligence, communication skills, organisational skills, computer literacy and potential to deliver high quality customer service. Training that develops a worker's competencies in customer service and visual merchandising can allow them to contribute to retail operations more immediately. Competency in digital marketing is also increasingly important as both small business and larger retailers rely more heavily on social media and related online channels to connect with their customers.

Given the high representation of small businesses in retail, it is common for new entrants and existing retailers looking to upskill to seek additional training and support. In addition to competencies in customer service, visual merchandising and digital marketing, they will require skills in small business. This includes pricing strategy, compliance, negotiation, financial management, people management and related skills.

Some businesses may also require expertise in product development and broader marketing techniques (e.g. search engine optimisation). These combinations of skills become increasingly important as retailers have to maintain a competitive advantage in response to growing competition, both locally and online.

While retail industries forecast some growth, the current training activity suggests that demand for vocational training is mixed. Large retailers are likely to continue to use in-house training programs. Similarly, small businesses report that they are unlikely to pursue structured training as they cannot afford significant time away from standard business hours. However, training in these competencies is likely to have a short payback period and high return on investment for businesses. For instance, employees building competencies in digital marketing can apply classroom lessons to their business's social media page, weekly activity and broader strategy almost immediately.

[87] Office of the Victorian Skills Commissioner, Nous Group and Cadence Economics (in consultation with the Regional Skills Taskforce and industry representatives), 2016-2020 Workforce Forecast Growth by Industry in the Mallee, 2017

[88] Australian Bureau of Statistics (ABS) June 2016 Gross State Product, 2013/2014 National Input Output Tables and 2011 Census Place of Work Employment Data

[89] The Department of Education and Training, VET enrolment data, 2016

Table 32: Top qualifications and anticipated training requirement[90]

Occupation groups (ANZSCO 2-digit classification)	Top qualifications	Share of industry training activity (%)	Anticipated training requirement
Sales Assistants and Salespersons	Certificate II in Retail Services	20%	No change
	Certificate III in Retail Operations	14%	No change
	Certificate IV in Retail Management	17%	No change
Farm, Forestry and Garden Workers	Certificate II in Horticulture	2%	No change
Hospitality Workers	Certificate II in Hospitality	7%	No change
Mobile Plant Operators	Certificate II in Warehousing Operations	5%	No change
	Certificate III in Warehousing Operations	15%	No change
Skilled Animal and Horticultural Workers	Certificate III in Floristry	3%	No change
Hairdressers	Certificate III in Hairdressing	TBD	No change

Tailored training in customer service, digital marketing, small business and related is required

Consultations with industry leaders and employers in the Region identified specific challenges and opportunities for the sector in vocational training. The table below provides an outline of key findings, as well as training projects that are already underway. Identified challenges and opportunities for the sector will be referred to relevant stakeholders for consideration and future action.

Table 33: Identified challenges and opportunities

Challenge	Opportunity
Shortage of skills in customer service, digital marketing and visual merchandising	**Strengthen skills in customer service, digital marketing and visual merchandising** Review available options and pathways to develop these competencies. Consider provision of short courses in these areas.
Insufficient training and support for locals starting their own businesses in retail[91]	**Develop short in-location courses for small business to upskill in retail** The sector has appetite for short courses that support small retailers entering the market and existing retailers looking to become more business savvy. Training needs to be delivered in-location as small businesses cannot afford significant time away from standard business hours. The mode of delivery should be primarily face-to-face as small businesses in more remote areas of the Region may not have reliable internet access. Course content will include training in customer service, digital marketing and visual merchandising (as mentioned above) as well as other essential small business skills, such as financial management, which could be offered as a Fee For Service option.

[90] Cadence Economics and the Department of Education and Training, Share of Industry Training Activity in the Mallee, 2016; Office of the Victorian Skills Commissioner and Nous Group (in consultation with the Regional Skills Taskforce and industry representatives), Anticipated Training Requirements in the Mallee, 2017

[91] Examples of potential students include a young person in the Region who is intending to start theirown hair salon

Hospitality and tourism

While forecast population growth is low, high growth in agribusiness and the visitor economy will contribute to growth in hospitality and tourism industries. Growth will increase demand for small business and workers across a variety of positions, including chefs, waiters, sales assistants and managers. Demand for training is likely to increase, particularly in qualifications such as the Certificate III in Hospitality and Certificate III in Commercial Cookery. In particular, employers are already reporting a shortage of skilled chefs and cooks across the Region. Demand for skills in customer service, digital marketing and product development are likely to grow too as competition in hospitality and tourism grows. There are opportunities for the training system to better develop competencies in demand, increase training in commercial cookery and increase training support for small business in the sector.

The sector will benefit from a growth in agribusiness and the visitor economy

The Region's hospitality and tourism industries (visitor economy) is diverse, accounting for approximately 3% and 7% of the Region's GVA and total workforce respectively. Businesses range from many family owned cafes, restaurants and motels to larger hotels and tourism businesses. The Region's environmental assets, cultural heritage and landscapes have also contributed to The Region's growing and thriving visitor economy. This includes the Murray River, Mildura, Swan Hill Pioneer Settlement and various national parks. Camping, boating, fishing, golfing, bushwalking and major region events such as the Mildura Jazz Food and Wine Festival are popular recreational activities.
The hospitality and visitor economy is also driven by a large backpacking community who often arrive at the Region for short-term or contract work, particularly in industries such as construction and horticulture. This can have cyclical flow-on effects to service industries in food and accommodation.

While forecast population growth is low, high growth in agribusiness and the visitor economy will contribute to growth in hospitality and tourism. In the short term, an additional 250 to 300 workers are anticipated to be required by 2020. Growth is reflected in several planned developments and investments, including funding to deliver the Next Stage Riverfront Development in Swan Hill and current planning underway for a waterfront hotel in the heart of Mildura's marina.[94] Similarly, Mildura Airport's $25M Runway Extension Project signals a positive outlook on the Region's economy, where the number of annual passengers is forecast to double over the next 10 years.[95] Over a 100K visitors are expected to visit Mildura annually by 2030.[96]

Table 34: Key labour market indicators 2017-2020[92 93]

Current share of region GVA	Current share of total workforce	% of workers aged between 15-24	% of workers aged 60 and over	Current workforce size (FTE)	Estimated 3y growth (FTE)	Estimated 3y growth (CAGR)
3%	7%	37%	8%	~2,900	+250-300	2.0%-2.5%

[92] Office of the Victorian Skills Commissioner, Nous Group and Cadence Economics (in consultation with the Regional Skills Taskforce and industry representatives), 2016-2020 Workforce Forecast Growth by Industry in the Mallee, 2017
[93] Australian Bureau of Statistics June 2016 Gross State Product, 2013/2014 National Input Output Tables and 2011 Census Place of Work Employment Data
[94] Regional Development Victoria, Mallee Regional Partnership, 2017; Sunraysia Daily, Hotel on the Marina, 2017
[95] Victorian Government, Mildura Airport Upgrade Set To Take Off, 2016
[96] Ibid

Growth will increase demand for workers and small business, where skilled chefs are already in shortage

The workforce is diverse, comprising of hospitality workers, food trades workers, managers and support staff. Hospitality workers include waiters, bar attendants, baristas and related workers. Food trades workers will include chefs, cooks and kitchenhands. Receptionists, commercial cleaners, sales assistants, bookkeepers and related positions will provide support to business operations in hospitality and tourism. Workers in family owned businesses will often perform a blend of roles and functions.

Employment pathways and career progression are also equally diverse. Food trade workers for instance will often commence their career as a trainee or kitchenhand before transitioning into a chef or cook. Similarly, experienced hospitality and food trade workers with high potential will often transition into managerial positions at their place of employment or by starting their own business. Like retail, hospitality and tourism industries enjoy a strong representation of young workers aged between 15 and 24 years old (~37%).

Increased demand for food and accommodation will increase demand for workers in hospitality and small business across a variety of roles. Businesses are already reporting challenges to filling vacancies, particularly for skilled chefs and cooks. The turnover of workers in cookery is particularly high as chefs and cooks look to broaden their skill sets and expertise through work at multiple restaurants. The Region's geographic positioning means it can often be difficult to attract and retain local and new trainees, chefs and cooks. Similar challenges are reported in other roles, where unskilled vacancies such as commercial cleaners are often filled by nomads and contract workers.

Table 35: Top occupations and forecast growth[97][98]

Top occupations (based on ANZSCO classifications)	Estimated workers in 2017 (FTE)	3y forecast growth (FTE)
Sales Assistants (General)*	330	+30-40
Waiters*	310	+20-30
Cooks / Chefs	300	+20-30
Kitchenhands	250	+10-30
Bar Attendants and Baristas	190	+10-20
Fast Food Cooks*	190	+10-20
Hotel and Motel Managers	190	+10-20
Cafe and Restaurant Managers	150	+10-20
Commercial Cleaners	130	+0-10
Retail Managers	120	+0-10
Caravan Park and Camping Ground Managers	90	+0-10
Housekeepers	80	+0-10
Cafe Workers*	70	+0-10
Receptionists	60	+0-10

#FTE is likely to underrepresent the number of people involved in the sector due to prevalence of casual or short term roles associated with labour demand. Occupations with a larger share of casual and/or part-time workers are marked with an asterisk (*).

[97] Office of the Victorian Skills Commissioner, Nous Group and Cadence Economics (in consultation with the Regional Skills Taskforce and industry representatives), 2016-2020 Workforce Forecast Growth by Industry in the Mallee, 2017

[98] Australian Bureau of Statistics (ABS) June 2016 Gross State Product, 2013/2014 National Input Output Tables and 2011 Census Place of Work Employment Data

Demand for training will grow but requirements will vary by role and level

Vocational training for entry-level positions in hospitality work is, reportedly, not a requisite if minimum compliance requirements for relevant positions, such as Responsible Service of Alcohol (RSA), are satisfied. However, training at the Certificate III level in Hospitality is significant, accounting for ~70% of vocational training in hospitality and tourism and almost 8% of total vocational training activity in The Region.[99]

In addition to the employee's attitude, motivation and communication skills, demonstrable competencies in customer services are highly valued across all businesses in hospitality and tourism. Demand for skills in digital marketing will grow as businesses rely increasingly on social media, company websites and related channels to connect with their customers. Forecast growth in hospitality and the visitor economy may translate to demand for training in these competencies.

Current shortages of skilled chefs and forecast demand in hospitality will require increased training in the Certificate III in Commercial Cookery and traineeships. Employers expect students in training to have access to training with proven experts on the latest techniques and technologies in cookery.

Growth in the visitor economy and increased competition in tourism industries, regionally and nationally, will also increase demand for expertise in small business service skills such as product development. Multi-skilled workers in hospitality and tourism who can contribute to product development and the business' marketing mix are high valued. Demand for training and support in these areas may grow, particularly as competition in hospitality and tourism grows, both regionally and nationally.

In addition to these skill sets, small business owners and managers at larger organisation will require broader skill sets in business. This includes knowledge in basic bookkeeping, financial management, strategic planning, computer literacy, people management, risk management, compliance requirements and related.

Table 36: Key qualifications and anticipated training requirement[100]

TOccupation groups (ANZSCO 2-digit classification)	Top qualifications	Share of industry training activity (%)	Anticipated training requirement
Hospitality Workers	Certificate II in Hospitality	5%	No change
	Certificate III in Hospitality	69%	Increase
Food Trade Workers	Certificate II in Kitchen Operations	1%	No change
	Certificate III in Catering Operations	2%	No change
	Certificate III in Commercial Cookery	19%	Increase
	Certificate IV in Commercial Cookery	2%	No change
Sales Assistants and Salespersons	Certificate II in Retail Services	1%	No change
	Certificate III in Retail Operations	1%	No change
	Certificate IV in Retail Management	1%	No change

[99] The Department of Education and Training, VET enrolment data, 2016

[100] Cadence Economics and the Department of Education and Training, Share of Industry Training Activity in the Mallee, 2016; Office of the Victorian Skills Commissioner and Nous Group (in consultation with the Regional Skills Taskforce and industry representatives), Anticipated Training Requirements in the Mallee, 2017

Skill shortages, support for small business and legislative barriers to training should be addressed

Consultations with industry leaders and employers in the Region identified specific challenges and opportunities for the sector in vocational training. The table below provides an outline of key findings, as well as training projects that are already underway. Identified challenges and opportunities for the sector will be referred to relevant stakeholders for consideration and future action.

Table 37: Identified challenges and opportunities

Challenge	Opportunity
Shortage of skills in customer service, digital media and small business (including product development)	**Strengthen skills in customer service, digital media and small business skills (including product development)** Review available options and pathways to develop these competencies. Consider provision of short courses in these areas. For business owners and managers, a shorter in-location course that provides guidance on how these competencies can be embedded in their business model is preferred. Training should be applied, in that participants are undertaking activities that serve the business and aid individual development.
Shortage of skilled chefs and cooks	**Increase and modernise training for local cooks and chefs** Increased training activity in the Certificate III in Commercial Cookery, Certificate III in Catering Operations and Certificate II in Kitchen Operations is required to increase the supply of skilled chefs and cooks. These qualifications should incorporate the latest applications, techniques and technologies in cookery and ensure that on-the-job learning and mentoring from local and international professionals occurs during training. Additionally, the training model should investigate methods to improve graduate retention in the local workforce. A post-traineeship rotation program, between or within region(s), can encourage chefs to return to the region while providing them with breadth of experience in the immediate-term.
Shortage of training and support for locals starting their own businesses in hospitality[101]	**Develop short in-location courses for small business to upskill in hospitality** Similar to retail trade (above), the hospitality sector has appetite for short courses that support small businesses entering the hospitality market and existing businesses looking to become more business savvy. Again, training needs to be delivered in-location as small businesses cannot afford significant time away from standard business hours. The mode of delivery should be primarily face-to-face as small businesses in more remote areas of the Region may not have reliable internet access. Course content will include training in customer service and digital media as well as other essential small business skills, such as financial management, which could be offered as a Fee For Service option.
Differences in licence and training requirements for service of liquor and gaming can create participation[102]	**Refer challenges to relevant ministers and departments for action** Relevant ministers and departments should investigate opportunities to address these challenges and reduce barriers to workforce participation for hospitality workers with interstate certifications, particularly for young people and nomads.

[101] Examples of potential students include a young person in the Region who is intending to start their own café or restaurant

[102] For instance, a RSA or RSG completed interstate may not necessarily be recognised for work in Victoria and vice-versa without re-training, a bridging-program or equivalent statement of attainment. Source: Responsible Service of Alcohol FAQs, Victorian Commission for Gambling and Liquor Regulation, 2017; RSA and RSG Certificates in Australia, Back Packer Job Board, 2017

Healthcare and social assistance

Transition to the NDIS and reforms in ageing will increase demand for aged-care, disability support and mental health services across the Region. This represents the largest driver of growth for the sector. The Region's ageing population and higher rates of obesity, chronic disease, disability and high-risk behaviours (e.g. smoking) relative to the Victorian population average will increase demand for services more broadly. Providers are also looking to increase service offerings for complex healthcare needs to reduce out-of-region transfers. Response to the Family Violence Royal Commission will also create demand for related support services and programs locally.

Vocational training will play a critical role in training the required future supply of aged-care workers, disability support workers and personal care workers through the Certificate III in Individual Support. Enrolled nurses, allied health assistants and other health service assistants will pursue the Diploma of Nursing, Certificate III in Allied Health Assistance and Certificate III in Health Service Assistance respectively.

Competencies such as emotional intelligence, communication skills, manual handling, applying WH&S standards, infection control, following hygiene protocols and assisting with/administering medications will remain essential across various roles. In particular, employers will require carers and aides to be increasingly adaptable across different environments under the NDIS and demand-driven model. Workforce growth will also increase demand for team leaders, supervisors and managers with competencies in people management and leadership. In contrast, vocational training will be less relevant for domestic violence, child protection and related social work due to recent reforms.

High growth is forecast due to the Mallee region's ageing population, NDIS and related drivers

Healthcare and social assistance represents the largest workforce in the Region by industry, accounting for 14% of the total workforce and 9% of GVA. The sector includes a variety of small and large organisations across its regional hubs and more isolated locations in the Region. The Primary Health Medical Centre was established in Swan Hill for instance, to provide various allied health, hospital, health promotion and community services to the local region and has become a more attractive destination for prospective practitioners.

The Region's ageing population, transition to the NDIS and reforms in ageing will increase demand for aged-care, disability support and mental health services and represents the largest driver of growth for the sector. Transition into the NDIS for instance is anticipated to increase the number of clients that demand disability support services in the Region by ~30% by 2019+.[105] The value of support demanded is anticipated to increase from $50M to ~$110M under the full scheme.[106] Similar trends are anticipated in aged-care. Chaffey Aged Care, for instance, has received approval for a new $4M 22-bed expansion, increasing its total capacity by ~30%.[107] Industry anticipates potential expansions, acquisitions and mergers for organisations to operate at scale, in addition to an influx of sole traders across the Region. Several businesses in Mildura are already positioning themselves for the roll-out of NDIS.

Demand for healthcare and social assistance is also anticipated to grow more broadly due to the Region's ageing population. The Region also currently faces higher rates of obesity, chronic disease, disability and high-risk behaviours (e.g. smoking) relative to the Victorian population average.[108] Providers are also looking to increase the breadth of services offered, both in regional centres and isolated locations, to meet the diverse service needs of patients and to reduce the volume of out-of-region transfers for complex healthcare needs. The sector will also place greater emphasis on preventative care in areas such as drug and alcohol counselling. Response to the Family Violence Royal Commission will also create demand for related support services and programs in the Region.

Table 38: Key labour market indicators 2017-2020[103][104]

Current share of region GVA	Current share of total workforce	% of workers aged between 15-24	% of workers aged 60 and over	Current workforce size (FTE)	Estimated 3y growth (FTE)	Estimated 3y growth (CAGR)
9%	14%	8%	10%	~6,200	+750-1000	2.9%-4.2%

[103] Office of the Victorian Skills Commissioner, Nous Group and Cadence Economics (in consultation with the Regional Skills Taskforce and industry representatives), 2016-2020 Workforce Forecast Growth by Industry in the Mallee, 2017

[104] Australian Bureau of Statistics June 2016 Gross State Product, 2013/2014 National Input Output Tables and 2011 Census Place of Work Employment Data

[105] This represents an increase from 1,700 to 2,200 participants, under the full NDIS scheme. Source: National Disability Insurance Agency, Victorian Market Position Statement, 2016

[106] Ibid

[107] Sunraysia Daily, Sunraysia aged care demand: Surroundings for comfort <http://www.sunraysiadaily.com.au/story/3812662/sunraysia-aged-care-demand-surroundings-for-comfort/; Chaffey Aged Care, Who We Are, 2017, <https://www.chaffeyagedcare.com.au/>

[108] Regional Development Australia, Loddon Mallee Regional Strategic Plan 2015-2018; Education for Emergency Australia, Loddon-Mallee Region Health Data

Demand for aged, disability and related carers will grow significantly

The healthcare and social assistance workforce comprise a combination of health professionals, carers and support workers. Health professionals include registered nurses, general practitioners, and midwives. They will be supported by allied health assistants, enrolled nurses, personal care workers and related health and welfare workers. There are also many aged, personal care, disability and welfare support carers who work in broader aged-care, residential, community and in-home settings. The sector also includes a variety of early year educators and child carers for young families in the region. The workforce also comprises of kitchenhands, commercial cleaners, receptionists and other back-office staff to support hospitals and social assistance workforce in broader settings.

Current estimates require the Region's disability workforce to double to meet the demand for services growth under NDIS.[109] Similar growth is anticipated in aged-care. Recruitment in VET skilled roles is likely to occur at the entry-level as the total supply of potential workers is unlikely to be significant. This is likely to increase demand for nursing support workers and personal care assistants.

Broader growth in healthcare and social assistance is also anticipated, albeit at a slower rate. Low population growth will be somewhat offset by the Region's ageing population, growing visitor economy and government legislation (e.g. ratio requirements). Increased demand for general practitioners, specialists and pharmacists will increase proportionate demand for enrolled nurses, allied health assistants and related workers. Providers in non-acute settings are anticipated to recruit relatively more personal care assistants in response to forecast growth. Similarly, while low population growth is forecast, some growth in childcare is anticipated to support reported shortages around childcare and expected growth in contract workforces.

Table 39: Top occupations and forecast growth[110]

Top occupations (based on ANZSCO classifications)	Estimated workers in 2017 (FTE)	3y forecast growth (FTE)
Aged and Disabled Carers*	620	+300-500
Nursing Support and Personal Care Workers*	320	+90-120
Registered Nurses	1360	+80-100
Receptionists	400	+20-30
Child Carers	360	+20-30
Generalist Medical Practitioners	210	+0-20
Kitchenhands	170	+0-10
Welfare, Recreation and Community Arts Workers	160	+0-10
Welfare Support Workers*	150	+0-10
Enrolled and Mothercraft Nurses	130	+0-10
Ambulance Officers and Paramedics	100	+0-10
Nurse Managers	100	+0-10
Commercial Cleaners	90	+0-10
Midwives	90	+0-10

#FTE is likely to underrepresent the number of people involved in the sector due to prevalence of casual or short term roles associated with labour demand. Occupations with a larger share of casual and/or part-time workers are marked with an asterisk (*).

[109] National Disability Insurance Agency, Victorian Market Position Statement, 2016
[110] Ibid

Increase training in individual support and related qualifications are required to enable growth

The vocational training, pathways and skilling requirements in healthcare and social assistance industries are diverse. While there are no minimum training mandates, the sector encourages the Certificate III in Individual Support as a valuable entry-level qualification for aged-carers, disability support workers and personal care assistants. However, current workforce shortages mean that organisations often hire unskilled workers with a positive attitude on a casual or part time basis to fill vacancies and spikes in demand.

Enrolled nurses, allied health assistants and other health service assistance may pursue the Diploma of Nursing, Certificate III in Allied Health Assistance and Certificate III in Health Service Assistance respectively. Traineeships are attractive pathways for students and employers across these roles, particularly in remote locations where accessibility and supply of students are more limited. In regional hubs such as Mildura, the standard model for completing training prior to employment is quite common. Workers who are transitioning into or upskilling in a team leader, supervisory or managerial positions may pursue a Certificate IV or Diploma level qualification to deepen their expertise and develop competencies in people management and leadership.

Many of these roles share common skill set requirements. This includes demonstrating cultural empathy; working adaptability across different environments; manual handling; applying WH&S requirements, hygiene protocols and infection control; and assisting, administering and monitoring medications. Enrolled nurses in particular must have endorsed training in administering medication and intravenous therapy to gain employment.

Forecast workforce growth will translate to increase demand for vocational training in these qualifications. Several competencies will also become more important for the future workforce. For instance, disability, aged and personal carers must be increasingly prepared to work across a variety of settings and environment under NDIS and a demand driven model. More broadly, competencies to respond to incidents and malpractice will be increasingly important as the number of highly vulnerable clients and risk increases.

Workforce growth will also increase demand for team leaders, supervisors and managers with strong competencies in people management and leadership. Communication, organisational and computer skills will remain essential across roles in healthcare and social assistance, both at the entry-level and senior positions.

Various skill sets and pathways in vocational training has scope for improvement

Consultations with industry leaders and employers in the Region identified specific challenges and opportunities for the sector in vocational training. The table below provides an outline of key findings, as well as training projects that are already underway in response. Identified challenges and opportunities for the sector will be referred to relevant stakeholders for consideration and future action.

Table 40: Key qualifications and anticipated training requirement[111]

Top occupation groups (ANZSCO 2-digit classification)	Relevant qualifications	Share of industry training activity (%)	Anticipated training requirement
Carers and Aides	Certificate II in Community Services	8%	No change
	Certificate III in Early Childhood Education and Care	9%	No change
	Certificate III in Health Services Assistance	17%	Increase
	Certificate III in Individual Support	16%	Increase
	Certificate IV in Community Services	3%	No change
	Certificate IV in Disability	2%	Increase
	Diploma of Community Services	3%	No change
	Diploma of Early Childhood Education and Care	5%	No change
Healthcare and welfare support workers	Diploma of Nursing (Enrolled-Division 2 nursing)	4%	Increase

[111] Cadence Economics and the Department of Education and Training, Share of Industry Training Activity in the Mallee, 2016; Office of the Victorian Skills Commissioner and Nous Group (in consultation with the Regional Skills Taskforce and industry representatives), Anticipated Training Requirements in the Mallee, 2017

Table 41: Identified challenges and opportunities

Challenge	Opportunity
Prior to the latest training package, some graduates did not complete certain units critical for employment as an enrolled nurse	**Work with enrolled nurses to upskill in administering and monitoring medicines and IV therapy** Employers in healthcare require endorsed enrolled nurses, where competencies in administering and monitoring medicines and intravenous (IV) therapy are critical to their roles. Enrolled nurses that do not complete the minimum medical administration education are unlikely to find employment, particularly in acute care. The appetite for graduates who do not meet the minimum requirements to upskill via a short course should be tested. Where demand exists, RTOs and industry should work with graduates to upskill in these areas. *Related training initiative(s) underway: Parties are looking at initiatives to support Swan Hill District Health in upskilling enrolled nurses to support midwives in after-birth care. The program is intended to be piloted with twelve enrolled nurses over a 6-8 month period.*
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** Modules in entry level qualifications such as the Certificate III of Individual Support should prepare students to for work in both aged-care and disability support. This potentially includes revising the package structure to allow dual specialisations in disability and aged-care. Providers should ensure that there are adequate infrastructures, training places and pathways in accessible locations to support the required workforce growth under the NDIS and recent aged-care reforms.[112]
Insufficient training and support in working within a team, people management and leadership	**Increase training in people leadership and management** Certificate IV and Diploma level qualifications in healthcare and social assistance, such as the Certificate IV in Disability or Diploma of Nursing (Enrolled-Division 2 nursing), should include a module for students to develop and understand the requirements of working in a team and people management. For workers transitioning into team leader, supervisory and managerial positions, appetite for short courses (~1-3 month) in people management and leadership should be tested.
Recent reforms in domestic violence, child protection and corrections will require workers in social work to hold a bachelor degree or higher in the medium term.	**Design pathways into higher education and employment in social work** Sunraysia Institute of TAFE and other local providers should review and revise their transition pathways and dual-enrolment programs with La Trobe University and other higher education partners. There should be clear pathways between VETiS, VET and higher education into social work.[113] This will be valuable for existing or future workers who need to reskill or upskill to meet the future minimum requirements in their role.
Lack of post-support and career pathways for frontline workers who can no longer meet the demands of their current role[114]	**Create training pathways for workers transitioning out of frontline roles** There is an opportunity to design transition pathways, within or between industries, to maintain their engagement with the workforce. For instance, the sector can establish collaborative partnerships with medium to large organisations in retail to undertake trainees as they complete their Certificate III in Retail Operations. Student funding eligibility under *Skills First* may discourage participation of some career changers due to the 'Two at Same Level' rule[115] This may require a rethinking of eligibility requirements to encourage participation in retail to support workers to successfully transition to the sector with appropriate training. There are similar opportunities in tourism and hospitality industries.

[112] Sunraysia Institute of TAFE for instance currently offers a Certificate IV in Disability but not a Certificate III in Individual Support or Certificate IV in Ageing Support

[113] E.g. From the Certificate II in Community Services to the Diploma in Community Services, to the Bachelor of Human Services and/or Master of Social Work

[114] Frontline workers in healthcare and social assistance work under very physical and emotionally demanding environments. This challenge is more pronounced in the medium-term as the ageing workforce will result in increasing volumes of healthcare and social assistance workers who will be unable to meet the workplace requirements of their position

[115] Under *Skills First*, students can only commence government subsidised training in the same level qualification twice in a lifetime. Some exemptions apply (e.g. commencements via SBATs are not counted towards this rule). Source: Department of Education and Training, What is *Skills First*?, 2017

Appendix B: Current training projects underway

In collaboration with government, industry, training providers and related agencies, the OVSC has stimulated several training programs in response to challenges identified across the Region. These programs are in conceptual planning stages, seeking approval and/or in formal development. An outline of key programs underway are summarised below.

1. Training initiatives to address skill shortages and thin markets in agribusiness are in development

In collaboration with the Robinvale Employment Network (REN) and with support from WTIF, Sunraysia Institute of TAFE will deliver a Certificate II in Rural Operations. This training will form part of a Skills Passport that the REN intends to implement in the Robinvale region.

The OVSC is also currently collaborating with the Department of Education and Training, Swan Hill Rural City Agribusiness Advisory Committee and Sunraysia Institute of TAFE to pilot the Certificate IV in Agribusiness across several farms in the Region. The program will leverage the benefits of small class sizes and training delivered in-location.

Similarly, Sunraysia Institute of TAFE has also signed a MOU with Irrigation Australia Limited to deliver the Certificate IV in Irrigation to address existing challenges around the regional supply of trainers and graduates with expertise in irrigation.

2. Pre-employment programs for transport and logistics are in development

Transport and logistic industries are developing a cadetship program for senior-level entry into the sector. The program has expanded in scope to explore pre-employment traineeship opportunities in driving operations and general transport & logistics. The cadetship model will include some focus in leadership and management and has received positive buy-in from industry. The pre-employment program is being developed in partnership with the NMLLEN, Aust-Link and Sunraysia Institute of TAFE.

3. Local skill shortages in solar industries will be addressed through vocational training

Short courses for A-grade electricians to connect solar farms to the grid are being developed as an industry priority. The program is intended to address local skill and training deficiencies in solar, and parties are looking at potential sources of support. Various RTOs such as Box Hill TAFE and Sunraysia Institute of TAFE are being considered to support the provision of these courses. It is expected that local *Skills First* providers can deliver these programs in the future. Broader programs in connecting battery to the grid and storage-side training are also being explored at the state-level.

4. Opportunities to address challenges in the local government training package are being explored

Shared services skilling and related programs are being explored to address current deficiencies in the local government training package. The package has not been revised since 2004 and is not widely used across the state. The OVSC is currently undertaking a mapping process with Swan Hill Rural City Council and other councils to look at various training options in areas such as book keeping, rates, civil construction, surveying and general administration. There is potential for a combined regional program with class sizes up to 15 people, depending on the number of candidates councils nominate for training. Swan Hill Rural City Council, Sunraysia Institute of TAFE and private providers are likely to be involved in the process with design mapping currently underway. It is an opportunity for local councils to address skilling pressures in specialised roles due to an ageing-workforce.

5. Work is underway to map existing and potential programs in leadership and management

Training in leadership and management has been identified as a skill need more broadly across industries. There are opportunities to replicate, adapt and learn from the Northern Mallee Leadership Program. While there are opportunities to leverage blended learning, further investment in leadership and management are likely to explore face-to-face delivery models that are embedded in the workplace. The programs will be tailored to each sector's requirements and are likely to involve a project component to demonstrate the skills and competencies being taught. Further work is required to test appetite and scope for such programs. There might be opportunities to map existing programs to an accredited process or to augment existing programs to include broader skill sets around leadership and management.

6. Training to increase support in after-birth care is under consideration

Parties are looking at initiatives to support Swan Hill District Health in upskilling enrolled nurses to support midwives in after-birth care. The program is intended to be piloted with twelve enrolled nurses over a 6-8 month period.

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