



Central Highlands  
Regional Skills  
Demand Profile  
2023



**Victorian  
Skills Authority**



Jobs, Skills,  
Industry  
and Regions



Published by the Victorian Skills Authority  
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July 2023

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The Victorian Skills Authority (VSA) has a critical role to play in understanding and communicating the skills needed to ensure Victoria can meet current, emerging, and future skills and industry demands that enable inclusive growth and prosperity for all Victorians. Working together with key stakeholders across industry, employers, providers, unions, communities, and learners – the VSA seeks to deliver skills-led solutions, drive reform and collaborate to improve skills and employment outcomes.

The Central Highlands Regional Skills Demand Profile is complementary to the Central Highlands Regional Economic Development Strategy (REDS). The profile draws on the REDS in addition to other sources. Due to the specific focus and need of the profile, alternative data has been required for aspects of the analysis. As a result, some data and information may differ between the REDS and the profile. The data and information provided in the profile has been validated and adjusted with a taskforce comprised of industry leaders and education providers from across the region.

### Data in this profile

The Victorian Skills Plan provides the Victorian Government and skills and training system with high-quality information to best meet industry and community needs. The VSA is committed to building data and insights year on year through the annual Victorian Skills Plan and updates to the employment forecast dashboard.

This profile reflects most up-to-date data and statistics available in 2022, during the period of taskforce meetings and profile development. The data is aligned to the 2022 Victorian Skills Plan and various reputable sources were incorporated, as referenced throughout the profile.

The projections reflect the economic outlook and uncertainty of the time. The pace of the pandemic recovery, return of migration, supply chain issues, inflationary pressures and the Russian invasion of Ukraine have all contributed to a rapidly changing economic and labour market outlook in the last 18 months.

The VSA is currently updating its data for the 2023 Victorian Skills Plan. The update will reflect the changed economic conditions noted above, as well as improvements in the modelling techniques used to estimate employment across the regions. For this reason, the data in the profiles is likely to change with the release of the new Victorian Skills Plan, set to be released in late 2023.

To access the latest data, readers are directed to the Victorian Skills Authority employment forecast dashboard: [www.vic.gov.au/victorian-skills-plan](http://www.vic.gov.au/victorian-skills-plan) and the Regional Economic Development Strategies (REDS) interactive data dashboards: <https://www.rdv.vic.gov.au/resources/regional-economic-development-strategies>





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# Executive summary

## About Central Highlands

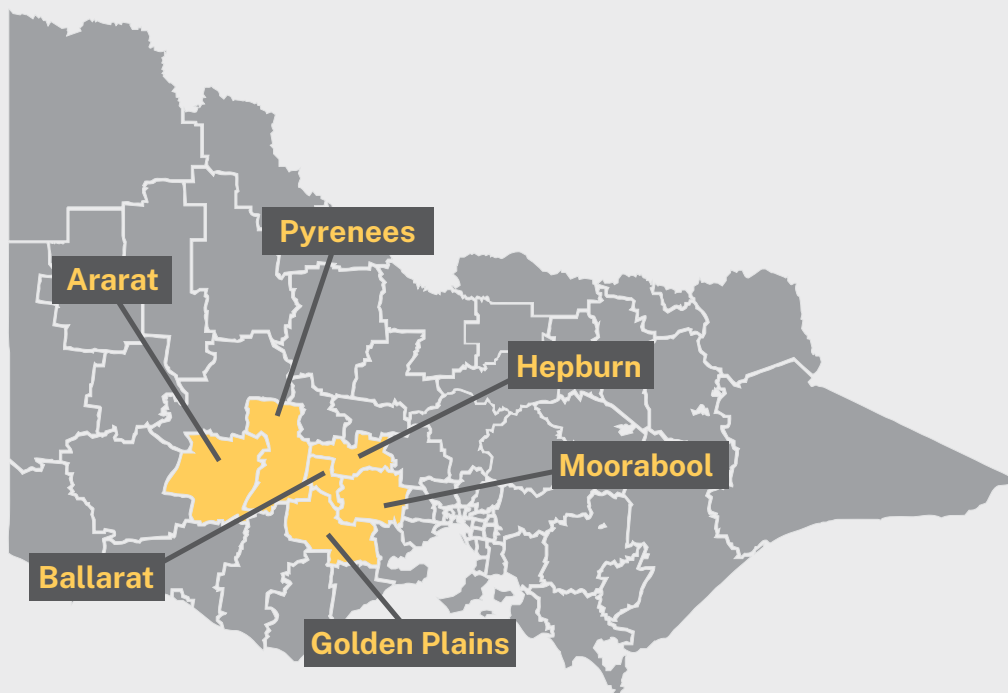
The Central Highlands region spans the east-west transport corridor connecting Melbourne to western Victoria. The region comprises 6 local government municipalities — Ararat Rural City, City of Ballarat, Golden Plains Shire, Hepburn Shire, Moorabool Shire and Pyrenees Shire.

The region is home to the Eastern Maar, Wadawurrung, Dja Dja Wurrung and Wurundjeri People, as well as the Wotjobaluk, Jaadwa, Jadawadjali, Wergaia and Jupgalk Nations, the recognised Traditional Owners who have lived, worked and cared for their Country and its resources for many thousands of years.

The region's proximity to metropolitan Melbourne means there is considerable movement between the region and Melbourne for both work and tourism (international and domestic). Ballarat and towns such as Bacchus Marsh, Ballan, and Gordon in Moorabool Shire, have good road and rail connections and are within commuting distance of Melbourne. This increases demand for services within the region for residents, workers, and visitors.

The region's main city, Ballarat, holds strong heritage value as the epicentre of the gold rush and Eureka Stockade. Ballarat means 'resting place' in the Wadawurrung language reflecting the significance of the area as home for Aboriginal communities in the region for thousands of years.<sup>1</sup>

Figure 1a: Overview of the Central Highlands region



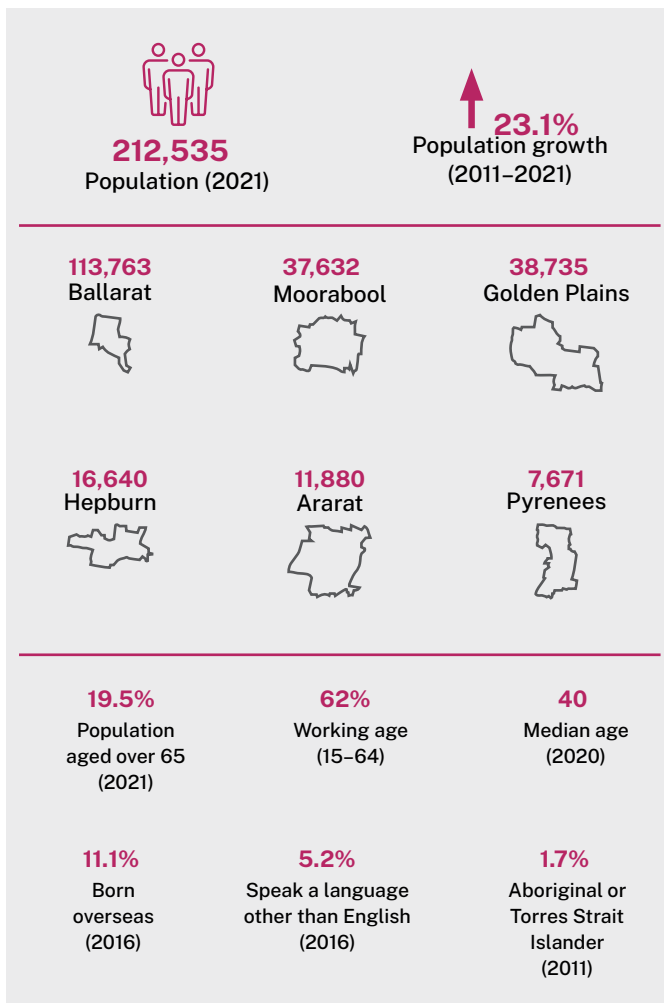


## A growing regional population

The population of the Central Highlands region has grown 23.1% in the last decade, higher than the average growth rate across Victoria of 21.5%.<sup>2</sup>

This rate of growth is expected to continue with the region's population projected to increase by 26% between 2021 to 2036, to an estimated 266,217 by 2036.<sup>3</sup> This growth will be concentrated in Ballarat and the eastern part of the region within Melbourne's peri-urban fringe.<sup>4</sup> This highlights the continued importance of developing the right supply of skills to enable the region to realise its full potential, both now and into the future.

Figure 1b: Overview of the Central Highlands region



## An evolving economy with capacity for growth

The strong economy of the Central Highlands makes it attractive for population growth and industry expansion. In 2021, the region had a gross value added (GVA) of \$8.2 billion<sup>5</sup> – the fourth largest regional economy in Victoria.

The region's economy has evolved over the years from a traditional manufacturing and agriculture base to service-based sectors, including health and education. The catalyst for this shift can be largely attributed to population growth and access to tertiary education. However, agriculture and manufacturing remain important local industries, drawing on the region's natural assets and ease of access to markets through road and rail freight networks.

The region is also experiencing growing industry investment that is leading to new employment opportunities. The attractive lifestyle in the region and access to metropolitan Melbourne creates an attractive business environment. This will lead to investment in infrastructure and services and demand for an increased number of skilled workers. Access to quality vocational and higher education is vital to support the expected growth in these areas.



**There are a range of factors and initiatives at a local, state and federal level informing and driving the strategic directions for the Central Highlands region.**

The Central Highlands Regional Economic Development Strategy (REDS) released by Regional Development Victoria in May 2022 set out 5 strategic directions for socioeconomic growth and development across the region as follows:

1. Enhance local value add and collaboration across the agri-food supply chain
2. Continue to grow and develop the visitor and creative economies
3. Strengthen the renewable energy and waste management industries
4. Realise economic opportunity in health, aged care, social assistance and education sectors
5. Enhance the innovation ecosystem.

Continued supply of local skilled workers is vital to support industry growth, drive innovation and grow productivity in most of the region's industries.

**Key to Central Highlands' continued success is a skilled local workforce that can evolve to support future industry and community needs.**

**Approach to developing Central Highlands' Regional Skills Demand Profile**

This profile has been developed in consultation with the Central Highlands Regional Skills Taskforce, which is comprised of local representatives from industry, local government, and higher and vocational education providers. The profile was developed through research, qualitative and quantitative data analysis, and a wide program of consultation with local industry through dedicated industry roundtables examining the region's economy, population, workforce, and education and skills environment. Further detail about the taskforce is included in the acknowledgements section of the introduction.







## Outlook on jobs growth

The Victorian Skills Authority (VSA) 3-year employment projections show that there is significant demand for workers in the region – with around 5,880 additional workers required in 3 years between 2022 and 2025<sup>6</sup> and a further 4,870 workers needed to replace those expected to retire in the period.<sup>7</sup> Table 1 estimates job growth across 7 key industries of the region.

These forecasts have been extensively tested with the Regional Skills Taskforce, and it is suggested that the number of additional workers may be under-estimated. This profile contains further analysis of current labour shortages and vacancies, recent government policies and industry investment across the region which are likely to drive higher demand.

Table 1: Estimated new job demand outlook for 2022–25 by industry<sup>8</sup>

Industry <sup>1</sup>	Estimated current workers 2022	New workers to fill new jobs	New workers to fill retirements	Total new workers needed <sup>2</sup>
Visitor economy	~17,460	+1,550	850	+2,440
Manufacturing	~8,500	+70	380	+490
Health care and community services	~19,360	+1,520	680	+2,230
Construction	~10,590	+590	480	+1,080
Agriculture	~5,080	-120	430	+330
Business, professional, and public administration services	~15,810	+900	820	+1,770
Education and training	~10,960	+820	470	+1,300
Other	~17,870	+550	770	+1,390
<b>TOTAL</b> Please note totals may not add due to rounding	~105,630	+5,880	4,870	+11,030





<sup>1</sup> See Appendix C for details on the mapping of Central Highlands' key industries to ANZSIC industry classifications

<sup>2</sup> Note that total new workers needed may not necessarily be the sum of new workers to fill new jobs and new workers to fill retirements. Totals may not add due to rounding.

## Priority skills needs for Central Highlands

The types of skills required by industry are becoming more complex. Most industries are reporting the need for higher level skills, driven by the increasing use of digital and automation technologies to respond to clean economy adaptation, new markets, and higher consumer expectations. Many of these emerging skills can be transferred across occupations and industries requiring a new approach to skilling that will be important to the Central Highlands region.

Education and training organisations need the flexibility to be able to design and deliver these skilling interventions. While each industry has sector-specific skills, common capability needs have been identified across all major industries in the region.

	
<p><b>Core competencies (personal and social skills)</b></p>	<p><b>Leadership skills</b></p>
<p>Core competencies and interpersonal proficiency have been identified as critical complementary skills to technical industry knowledge. Common personal and social skills include interpersonal communication skills, emotional intelligence, conflict resolution skills and an ability to collaborate and work in teams.</p>	<p>There is an identified need to uplift capabilities of existing workforces to meet current gaps in leadership and management positions, ranging from younger workers with limited experience, as well as qualified staff to step into more senior management positions.</p>
	
<p><b>Digital and technology skills</b></p>	<p><b>Strategic thinking and planning</b></p>
<p>Jobs will increasingly involve humans working with machines, which means that future work will require people with technical, digital, and interpersonal skills that empower individuals to work with new technological and communication processes.</p>	<p>There is a need for new generations of the workforce to have innovation and growth-focused mindsets, including problem-solving skills, a capacity to think critically, a commitment to continual learning and aspirations to push boundaries and take advantage of emerging opportunities.</p>



## Key challenges and opportunities

This profile has been prepared in a complex and challenging period. Like other parts of Victoria, Central Highlands is facing cost-of-living pressures, significant labour shortages, and the continued recovery from the pandemic. These issues are exacerbated by underlying challenges in the region such as housing accessibility, access to child care, teacher and trainer shortages and access to public transport. At the same time, feedback indicates that the education and skills system, as well as industry itself, need to transform to meet the changing needs of students, workers, industry, and community.

The Regional Skills Taskforce and industry roundtables raised some common challenges related to workforce skills development and training<sup>3</sup> in Central Highlands. This provides a clear set of opportunities to address cross-cutting workforce and skills needs.

Challenge	Opportunity area
<b>Limited understanding of industry growth and associated career pathways</b>	<b>1. Promote awareness of industry activity and associated career pathways</b>
Implementing targeted initiatives can increase understanding of the growth and career opportunities within industries in the region.	
<b>Barriers to accessing vocational and higher education</b>	<b>2. Identify and address barriers to participation in post-school education and the transition to employment</b>
Understanding the challenges for Central Highlands' current and prospective learners will help identify how to address the barriers to participation in vocational and higher education and successful transition to employment in the region.	
<b>Inter and intra-sector workforce competition</b>	<b>3. Enhance inter and intra-sector collaboration to attract, build and retain a skilled and diverse local workforce</b>
Facilitating greater collaboration between businesses to grow the skilled workforce, instead of increasing competition for the same limited workforce, presents an opportunity for sustainable solutions to address current labour shortages.	
<b>Alignment between vocational and higher education and workforce needs</b>	<b>4. Leverage industry experience to develop innovative approaches for preparing for work</b>
Employers and industry representatives can play a more active role in the design, planning and delivery of innovative higher and vocational education approaches, such as greater use of transferable and future skills, for easier movement between jobs in the region.	
<b>Risk of a low-skilled workforce</b>	<b>5. Increase opportunities for continual learning and development</b>
Advocating, promoting, and facilitating opportunities for life-long learning through micro-credentials <sup>4</sup> , short courses and personal and professional skills development have been identified as key to addressing skills gaps. This is particularly important in an environment where labour shortages are leading employers to recruit under-qualified employees and, or employees with no experience or relevant qualifications.	

<sup>3</sup> In this profile, 'training' refers to vocational education. It can also include other types of less formalised learning such as peer-to-peer or internal workplace delivered training.

<sup>4</sup> Micro-credentials are shorter style courses (and in some instances accredited qualifications or skill sets) that demonstrate skills, knowledge, and, or experience in a given subject area or capability.

## Next steps to address regional skills and workforce needs

The actions across the 5 opportunity areas are summarised below. The taskforce identified the time frame for each action (immediate, medium, or long term), and how complex each action may be to implement (low, medium or high).

Some are actions the Victorian Skills Authority (VSA) will seek to address over the coming year, while others will require coordinated action by industry, government and the education sector. An action plan will be developed in collaboration with the community.

		Immediate impact (1–2 years)	Complexity
Opportunity area	1.	Publication of industry data and trends for current and prospective students, parents and career counsellors	Medium
		Support the development and publication of career pathway and journey mapping examples for the Central Highlands region	Medium
		Targeted engagement with students and vulnerable communities to build awareness of higher and vocational education, skills development, and career pathway opportunities	Low
	2.	Undertake research to better understand the data, trends and factors affecting regional enrolments and completions	Medium
		Increase access to 'earn and learn' opportunities for current and prospective learners	Low
		Develop a clear pathway for prospective students to transition from non-traditional training <sup>5</sup> opportunities into higher and vocational education	Medium
		Partner with Jobs Victoria, regional, community and other industry bodies to improve access to work for learners completing their studies	Medium
	3.	Provide data and insights to support workforce planning	High
		Connect key stakeholders in the region to increase accessibility and improve the quality of education and training provided	Low
		Strengthen connections between education and training institutions and industry to raise awareness of employment pathways	Low
		Leverage industry training materials, facilities and programs across multiple organisations to increase scale	Medium
		Facilitate peer learning and cross-business mentoring	Medium
	4.	Promote micro-credential courses that can meet industry and employee skill development needs	Low
		Design and deliver micro-credential courses to upskill employees	Medium
		Review and redesign recruitment processes to prioritise core competencies, alongside technical competency	Medium

<sup>5</sup> 'Non-traditional' refers to training and upskilling that occurs outside of formal training programs such as at school or TAFE. They can include peer-to-peer, community or local government provided programs, or internal employee training programs.



Medium-term impact (2–5 years)		Complexity	
Opportunity area	1.	Expand engagement activities with students and their networks	Medium
	2.	Support businesses with shared resources and streamlined processes to increase access to work placement opportunities across the region	Medium
		Support the Senior Secondary Pathways reform agenda through facilitation of local opportunities to improve vocational education and training (VET) within the region	Medium
		Continue to consult apprentices and employers to ensure the apprenticeship model remains fit for purpose	High
	3.	Advocate for simplifying pathways for transitioning workers or mature and retiring cohorts so they can take up opportunities in other industries	High
		Shared recruitment pools across organisations where appropriate or feasible	High
	4.	Work with the VET Development Centre (VDC) and industry experts to support skills development for the teacher workforce	Medium
		Encourage industry and education providers to take a place-based approach to course design and delivery for skills and occupations in the region	Medium
	5.	Highlight the opportunities and benefits of lifelong learning to increase participation	Medium
		Improve access and provision of education, training, and employment for Aboriginal people through working closely with Traditional Owners	Medium
		Promote a culture of learning by establishing communities of practice around different industries, technological innovations, or skill level cohorts	Medium

Longer-term impact (in 5+ years)		Complexity	
Opportunity area	1.	Promote the success stories of learners, workers and businesses in the region through innovative marketing campaigns	Medium
	2.	Advocate and support local initiatives to address housing, transport and childcare accessibility that impact participation in higher and vocational education, and the employment and upskilling of current and prospective learners and workers	High
	3.	Provide local insights to support the development of the annual Victorian Skills Plan	Low
		Facilitate discussions and collaborative projects that improve design and delivery of education and training courses relevant for the region's major industries	Medium
		Facilitate a smooth flow of teachers between industry and higher and vocational education	Medium
	4.	Future skill requirement planning and mapping	High

**This profile acknowledges the issues facing the region and industry go beyond the identified workforce and skills challenges. Industry roundtables identified broader responses are required to support future growth in the region, including state and federal government policies and funding. The Victorian Skills Authority will continue to raise these with relevant areas of the Victorian Government.**

# Acknowledgements

## Acknowledgement of Country

The Victorian Skills Authority (VSA) acknowledges and recognises the Traditional Owners of the land of the Eastern Maar, Wadawarrung, Dja Dja Wurrung and Wurundjeri People, the Wotjobaluk, Jaadwa, Jadawadjali, Wergaia and Jupgalk Nations, their connections to land, sea and community. We pay our respect to their Elders past and present and extend that respect to all Aboriginal and Torres Strait Islander peoples.

## Acknowledgement of support to undertake this work

The Regional Skills Demand Profiles have been prepared with support from Regional Development Victoria. The profiles are a valuable resource for regional Victoria, the Department of Jobs, Skills, Industry and Regions, the Department of Education and broader government. The VSA will work closely with stakeholders to address the opportunities and issues identified in the profiles.

The Central Highlands profile complements and draws on the Central Highlands Regional Economic Development Strategy (REDS) and other sources.

Due to the specific focus and needs of the profile, alternative data has been required for some aspects of the analysis. As a result, some data and information between the REDS and the profile may differ. The data and information provided has been validated and adjusted with the Central Highlands Regional Skills Taskforce, education providers and other stakeholders from across the region.

The analysis and insights gathered throughout the development of this profile has also served as a critical input to the development of the inaugural Victorian Skills Plan.

Refer to the introduction section below for further information on the Regional Skills Demand Profile and connection to the Victorian Skills Plan.

## Acknowledgement of Regional Skills Taskforce members

The VSA acknowledges the time, contribution, and insights of the Central Highlands Regional Skills Taskforce (Table 2) and additional representatives from industry, local government, registered training organisations, and related agencies who contributed to the development of this profile.

The findings in this profile would not be possible without their openness, generosity, expertise, and commitment to the regional economy and community.

Table 2: Regional Skills Taskforce members

Member	Organisation	Member	Organisation
<b>Ann Foley</b>	Ballarat Regional Multicultural Council	<b>Meryn Pease</b>	Beaufort and Skipton Health Service
<b>Bradley Thomas</b>	Hepburn Shire Council	<b>Mitch Watson</b>	Regional Development Victoria (Department of Jobs, Skills, Industry and Regions)
<b>Brett Edgington</b>	Ballarat Trades and Labour Council	<b>Nick Carthew</b>	AME Systems
<b>Claire Woods</b>	Grampians Health	<b>Philippa O'Sullivan</b>	Central Highlands Water
<b>Darren Gray</b>	Federation University	<b>Steve Troon</b>	H Troon Pty Ltd
<b>Evan King</b>	City of Ballarat	<b>Steve Wroe</b>	Daylesford Macedon Tourism
<b>Graham McMahon</b>	Ballarat Group Training	<b>Stuart Benjamin</b>	Elmstone Property Group
<b>Julie Bartlett</b>	Pyrenees Hay Australia	<b>Tim Harrison</b>	Ararat Rural City Council
<b>Kez Tacar</b>	Sovereign Hill	<b>Tim Matthews</b>	Hospitality Business Owner, Chair of Business Ballarat and Chair of the Central Highlands Regional Partnerships
<b>Kylie Pinnington</b>	MaxiTrans		

The VSA also acknowledges and thanks all representatives who participated in the industry roundtables to provide direction and guidance in the development of this profile.

# Introduction

## Purpose and scope of the Regional Skills Demand Profile

**The Victorian Skills Authority (VSA) has a role in understanding and communicating the skills needed to ensure Victoria can meet current, emerging, and future skills and industry demands that enable inclusive growth and prosperity for all Victorians.**

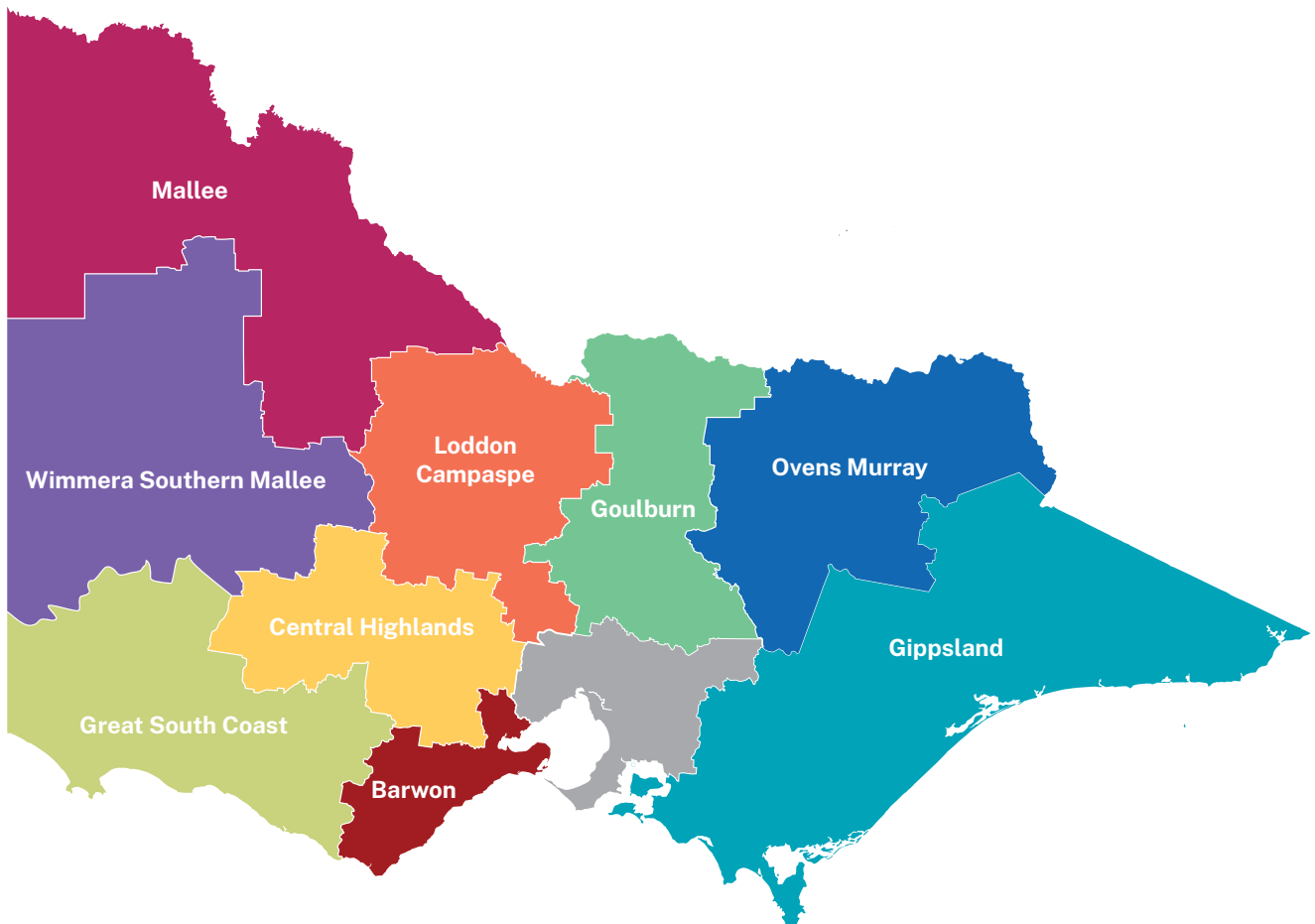
A strong regional Victoria is an integral contributor to fostering a thriving Victoria, and the Regional Skills Demand Profiles are an important element of setting the regions up for success.

The purpose of the profiles is to provide a robust evidence base that draws on a wide range of data and information that is supplemented by the valuable insights and experience of key stakeholders, brought together through dedicated taskforces and industry roundtables.

The profiles are developed through a collaborative process, with a focus on providing local insights and a tailored and actionable response to support decision-makers to understand broad workforce trends, challenges, and opportunities. This profile has been established with the intention of being accessible, practical, and valuable to a range of stakeholders, including government departments and agencies, employers, providers, local industry, and the region.

This profile focuses on the 3-year outlook for the Central Highlands region, and the education and training opportunities that can assist in developing the required workforce. While the profile acknowledges that many factors contribute to economic development, this work is centred on the skills responses (to engage, train and retain the workforce) rather than other levers that are also essential to secure labour and ensure the region's prosperity.

Figure 2: Victorian Regional Partnerships map





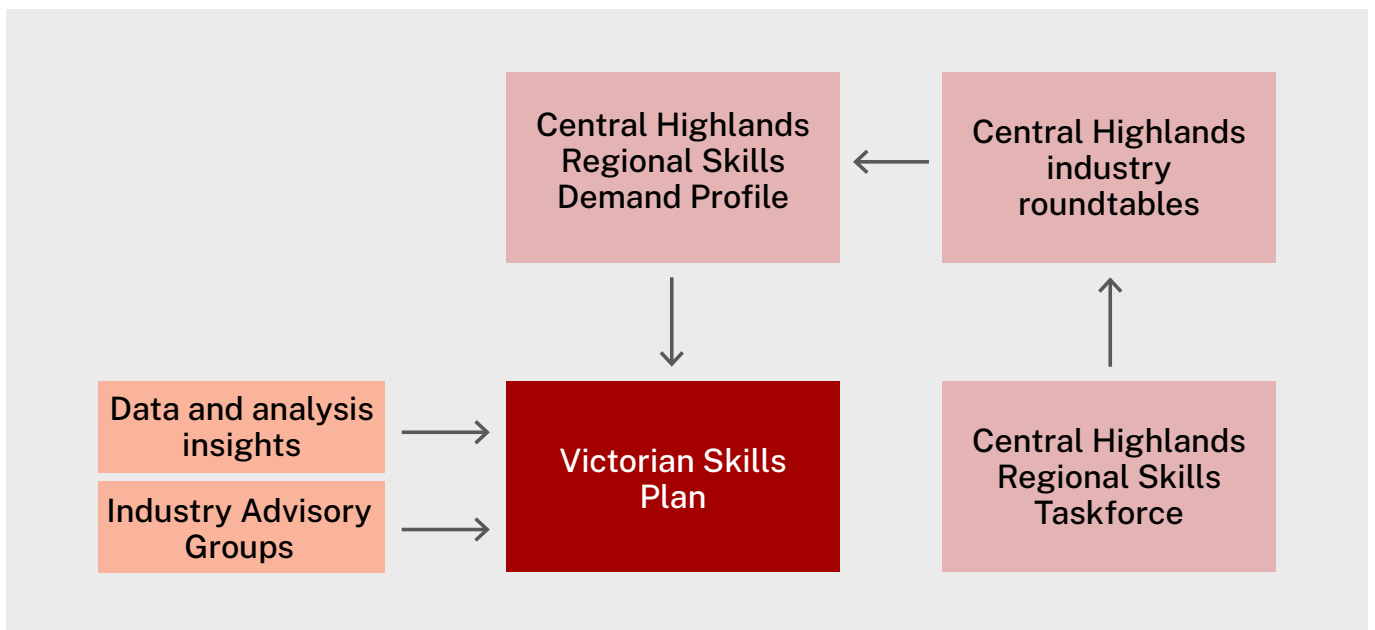


## Connection to the Victorian Skills Plan

The Victorian Skills Plan outlines current and emerging skills needs and labour market shortages across the state, at both industry and local levels, to direct more targeted investment so the Victorian skills system can meet the current and emerging demands of industry and the community.

As the first of many, the inaugural plan, alongside the profiles, highlights the need for ongoing conversation and collaboration to address current and emerging skills requirements. While the plan covers the current landscape of the Central Highlands region and industry needs, this profile focuses more deeply on the localised challenges and opportunities for the region.

Figure 3: Connections between the Regional Skills Profiles and Victorian Skills Plan



The data used in this profile is based on the latest available information at the time of its development. Updated data and insights can be accessed via the Victorian Skills Authority website or through various data sources, as referenced throughout the profile.

# Strategic context

The Central Highlands region extends west of Melbourne, encompassing the local government areas of Ararat, Ballarat, Golden Plains, Hepburn, Pyrenees and Moorabool Shires. The region has experienced a 23% increase in population between 2011 and 2021 – the second highest growth rate in Victoria’s regions and higher than population growth in Greater Melbourne.<sup>9</sup> As of 2021, over 212,000 people live in the Central Highlands region.<sup>10</sup>

The region’s proximity to Melbourne means there is considerable movement between the region and metropolitan Melbourne for work and tourism (international, domestic and seasonal). Ballarat and towns such as Bacchus Marsh, Ballan and Gordon in Moorabool Shire have good road and rail connections and are within commuting distance of Melbourne. This impacts the nature of demand for services within the region.

The regional economy has evolved over the years from a reliance on manufacturing and agriculture towards service-based sectors, including health and education, driven by population growth and maturing of key social infrastructure. Agriculture and manufacturing remain important local industries, drawing on the region’s natural assets and strategic connections to markets via road and rail freight networks. Access to quality education and training is vital for this diverse and growing region which needs a pipeline of skilled workers to support social and economic prosperity for all.

**The Victorian Government is committed to investing, planning and delivering strategic initiatives that have a positive and sustainable impact on Victorian regions**

The Skills for Growing Victoria’s Economy Review by Jenny Macklin (the Macklin Review) and the Review into Vocational and Applied Learning Pathways in Senior Secondary Schooling by John Firth (the Firth Review) highlight the need for sector reforms and transformation to ensure a system that can deliver the skills of the future. In line with key recommendations from the Macklin Review, government is prioritising improvements to Victoria’s skills system to ensure the sector can continue to innovate and meet the changing needs of students and industry in creative and collaborative ways.<sup>11</sup>

The government’s skills reform agenda seeks to transform the delivery of senior secondary education and vocational education and training. This will ensure Victorians have access to high-quality education and training to seek out meaningful jobs and careers, and industry and employers have access to a skilled workforce. In combination, these lead to individual and community wellbeing and economic prosperity.



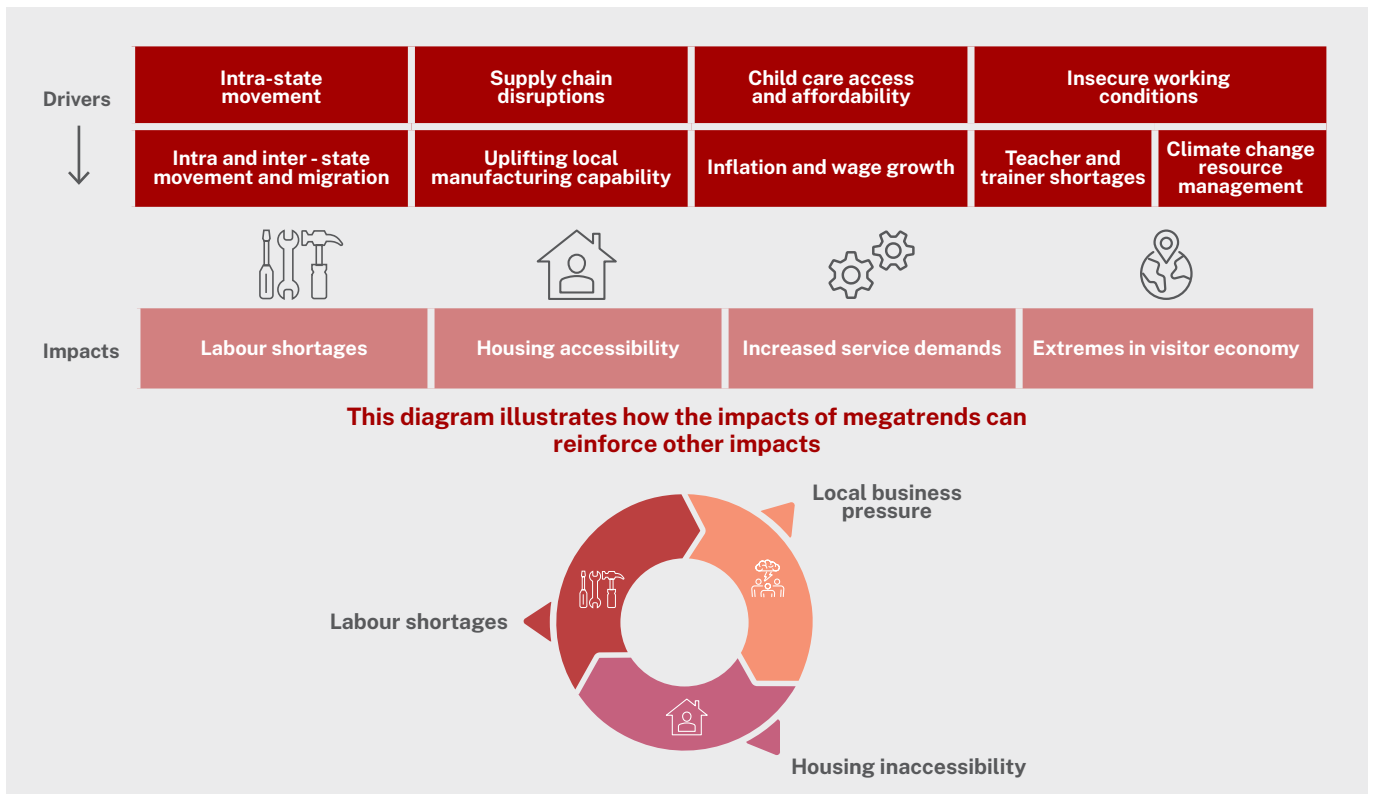


## State-wide trends and the impact on the Central Highlands region

This profile is being prepared in a complex and challenging period. The Australian and Victorian economies are being impacted by cost-of-living pressures, significant labour shortages, and the continued recovery from the pandemic that has exacerbated existing challenges.

Conditions being experienced locally result from the impact of global trends such as supply chain disruptions (refer Figure 4). These provide the context for the skills and workforce challenges outlined in this profile.

Figure 4: Megatrends impacting the Victorian economy



## Strategic directions for the Central Highlands region

The Central Highlands region is unique in its strengths and future opportunities. While this profile explores the current and emerging skills needs of the region, it is informed by the wider planning and strategic directions for the region.

Figure 5: Strategic direction of the Central Highlands region<sup>12,13,14,15,16,17,18,19,20,21</sup>

### Central Highlands local government area strategies

Local	<b>City of Ballarat</b> 'Today. Tomorrow. Together: a greener, more vibrant and connected Ballarat'	<b>Ararat Rural City Council</b> 'strong relationship to build, a diverse local economy'	<b>Pyrenees Shire</b> 'happy, connected, healthy, sustainable, welcoming'
	<b>Hepburn Shire</b> 'an inclusive rural community'	<b>Moorabool Shire Council</b> 'inspiring place for everyone to live, work and play'	<b>Golden Plains Shire</b> 'healthier, safe, vibrant, prosperous and sustainable'
State	RDV Regional Partnership: Central Highlands		DJSIR Regional Economic Development Strategy for Central Highlands (REDS), May 2022.
Federal	<b>Local jobs plan</b> Increasing participation and training programs		<b>Regional strengths and weaknesses report</b> Identifying the infrastructure pipeline.





## **The Central Highlands Regional Economic Development Strategy (REDS) identifies 5 strategic directions for the region, which have been used to support the identification of future skills needs.**

The Central Highlands REDS<sup>22</sup>, released by Regional Development Victoria in May 2022, sets out the medium to long-term strategic directions for socioeconomic growth and development across the region. These are founded in an evidence base that considers the region's unique attributes, existing and emerging industries, and socioeconomic context.

### **1. Enhance local value add and collaboration across the agri-food supply chain**

Favourable growing conditions provide the Central Highlands region opportunity to increase secondary production operations in the region which may include development of specialised crops and products. This can be further leveraged through investment in the agritourism sector, as the region is already home to several prominent dining and gastronomic destinations.

### **2. Continue to grow and develop the visitor and creative economies**

The Central Highlands region is home to an extensive array of attractions, experiences, and activities covering the natural, creative, dining, heritage, wellbeing and cultural spaces. Developing 'hero' experiences is one way for Central Highlands to differentiate itself as a destination region, including leveraging and strengthening new and existing creative events.

### **3. Strengthen the renewable energy and waste management industries**

The energy and waste sector intersects with other major industries in Central Highlands, including manufacturing, agriculture and construction. There are opportunities in each of these areas for decarbonisation, circular economy activity and innovation through technology. The Central Highlands region is already embedded within several networks committed to the promotion and implementation of renewable energies and sustainable waste management, including the Grampians New Energy Taskforce, Renewable Energy Zone (western Victoria and south west), and local government area (LGA) specific strategies and initiatives.

### **4. Realise economic opportunity in health, aged care, social assistance and education sectors**

Changing demographics is driving demand for population-based services in the region. Implementing recent reforms following the Royal Commissions into aged care and mental health provides a catalyst for developing a skilled and robust workforce in the region's health, aged care and social assistance sectors to support increasing demand. Product innovation and new modes of delivery, including telehealth, 'hub and spoke' models, and preventative care, is required to ensure that care is accessible, localised, and culturally sensitive. An increased focus on building the international education sector in Ballarat could also assist to attract skilled workers to the region on a permanent basis.

### **5. Enhance the innovation ecosystem**

There are several facilities across the region that are positioned to promote and support capacity building and research. The region also has an opportunity to be at the cutting edge of low emissions transport manufacturing. Attracting emerging and new businesses into the region is essential for agglomeration of skills, new ideas and developing innovative products.

## More broadly, a range of initiatives at a local, state and federal level are informing and driving the strategic directions for the Central Highlands region

The Central Highlands Regional Growth Plan frames the strategic vision of the region for 2030 – ‘to provide a productive, sustainable and liveable region for its people’<sup>23</sup> which includes investment in renewable energy sources, such as wind energy.<sup>24</sup> The growth plan identifies 9 principles with a key focus on sustainable population growth supported by closer links with neighbouring regions and cities and a strengthened, more diversified and resilient economy.<sup>25</sup> The development of a sustainable and vibrant community can only be achieved with targeted support for the region’s historically strong industries, perseverance of heritage and landscapes while enabling new innovation.

### Ballarat – the city of possibilities

As the main city in the region, Ballarat plays a critical role in leading the social and economic prosperity of the broader region. The Ballarat Prosperity Framework aims to lead the region to a future that is ‘prosperous, thriving and resilient’.<sup>26</sup>

With significant cultural and historical heritage, creativity and an appetite for innovation, and entrepreneurship the region is committed to passing on knowledge, inspiring change and attracting tourists, new residents and businesses to the region to support continued innovation in a sustainable way.<sup>27</sup>

Ballarat was designated a UNESCO Creative City of Crafts and Folk Art in 2019. This important designation focuses on developing a resilient and sustainable creative sector, particularly crafts and folk art, and has encouraged closer collaboration with Traditional Owner communities, and other Aboriginal and Torres Strait Islander groups who call Ballarat their home, to support traditional crafts within the region.<sup>28</sup>

Across existing strategies and priorities there is a focus on strengthening local economic opportunities, community, and sustainability activities to enable economic success for the region and its people. Taskforce members reflected on the criticality of working collaboratively to attract and retain new businesses and workers. Investment to increase accessibility and participation in education and training is vital for the region to develop and sustain skills needed now and into the future.

### Strengthening enablers of economic growth

Workforce development planning has provided critical input in the development of this profile, particularly through the Grampians New Resident and Workforce Attraction Strategy and Action Plan<sup>29</sup> and the Grampians Visitor Economy Workforce and Development Strategy.<sup>30</sup>

The Ballarat Strategy 2040 is a shared vision for the local community to improve levels of access to destinations and services as the city grows over time.<sup>31</sup> The Central Highlands Regional Partnership Pillars includes ambitions for thriving workers and businesses, and adequate housing and digital and transport connectivity to support economic vibrancy and social cohesion.<sup>32</sup> Victoria’s 30-year Infrastructure Strategy<sup>33</sup> commits to delivering critical growth infrastructure, including upgraded power supply for agriculture and manufacturing and improved transport infrastructure and digital connectivity across the Central Highlands region.

The Central Highlands communities and industries have a strong understanding of the need for a future-fit workforce and are well positioned to drive and champion skills development as a key strategy for achieving this.

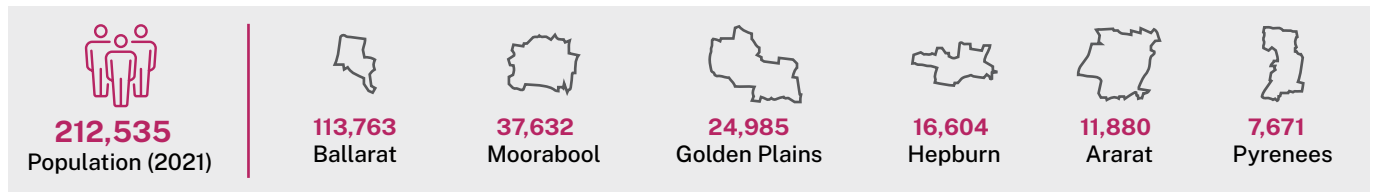


'In 2021, Central Highlands' gross value added (GVA) was worth \$8.2 billion and was the fourth largest regional contributor to the total state GVA in 2020. The industries of health care and social assistance, construction, manufacturing and agriculture are the 4 key drivers of the region's overall economic output, contributing a combined \$3.5 billion in GVA.'

# Central Highlands' current landscape

This section provides an overview of Central Highlands' current landscape with respect to its population, economy, workforce, and demographic characteristics.

## A growing regional population

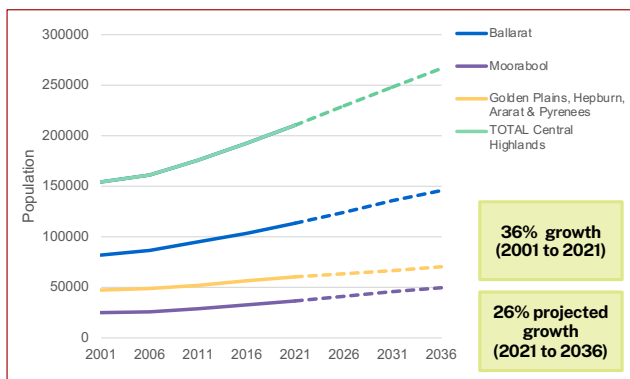


As of 2021, over 212,000 people live in the Central Highlands region.<sup>34</sup> The population increased by 23% in the decade 2011 to 2021—the second highest growth rate for the period in Victoria's regions and faster than Greater Melbourne.<sup>35</sup>

Each local government area (LGA) in Central Highlands has had steady population growth over this period. The Golden Plains Shire grew fastest at a rate of 34%, while Ballarat had the largest total population increase of 18,578 residents.<sup>36</sup>

This growth is set to continue, with current projections suggesting the Central Highlands' population will increase by 26% between 2021 to 2036, reaching an estimated population of 266,217 by 2036.<sup>37</sup> This is an average increase of 1.5% per year, which is higher than the average growth rate across Victoria (1.0%) and just below the average growth rate of Greater Melbourne (1.6%).<sup>38</sup> Ballarat, Moorabool and Golden Plains are the fastest growing LGAs in the region, with annual projected growth rates at around 1.7%, 2.1% and 2.0% respectively to 2036.<sup>39</sup>

Figure 6: Population actual and projected growth by LGA, 2001–2036<sup>40,41</sup>



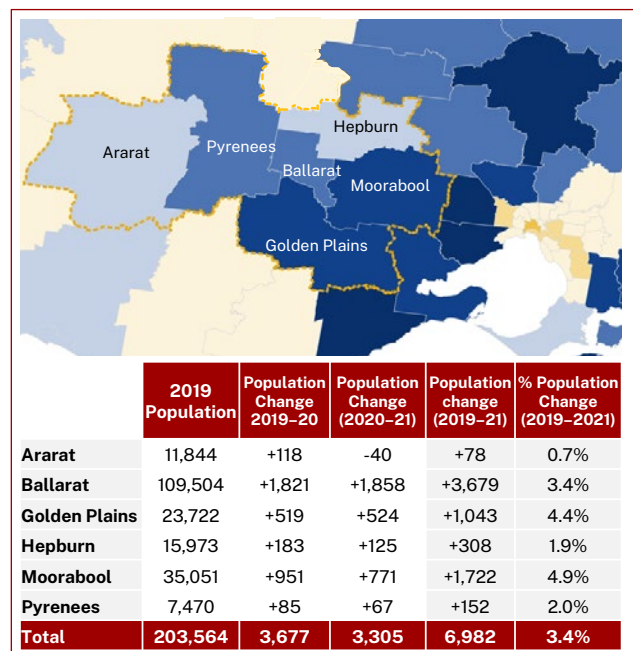
Source: Population data ABS 29 March 2022 by LGA<sup>1</sup>, Victoria in Future 2019 Report, Planning Victoria<sup>3</sup>

## Recent migration patterns have changed the trajectory of population growth in the region

More recently, between 2019 and 2021, the total population for Central Highlands increased by 3.4%, a total of 6,982 new residents across the 6 LGAs.<sup>42</sup> Moorabool, Golden Plains and Ballarat had the highest increases. In the same period, Victoria's total population decreased by 1%<sup>43</sup> which may be an indicator of increased preference for living in regional areas. This can change regional workforce composition and expectations for good jobs, but equally new residents can set up small businesses in the region.

Figure 7: Population trends in Victoria and Central Highlands (2019–2021)<sup>44</sup>

### Population trends (%) in the Central Highlands Region (2019–2021)





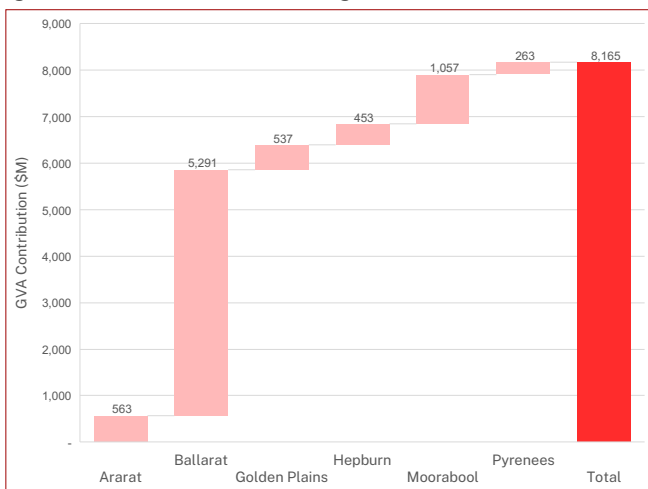
## A maturing regional economy

The economic strength of the Central Highlands region continues to make it an attractive location for population and industry growth. The economy has transitioned from a strong reliance on manufacturing and agriculture activities to construction and more service-based industries, including health care and community services, and education and training.

In 2021, Central Highlands’ gross value added (GVA) was worth \$8.2 billion and was the fourth largest regional contributor to the total state GVA in 2020.<sup>45</sup> The industries of health care and social assistance, construction, manufacturing and agriculture are the 4 key drivers of the region’s overall economic output, contributing a combined \$3.5 billion in GVA.<sup>46</sup>

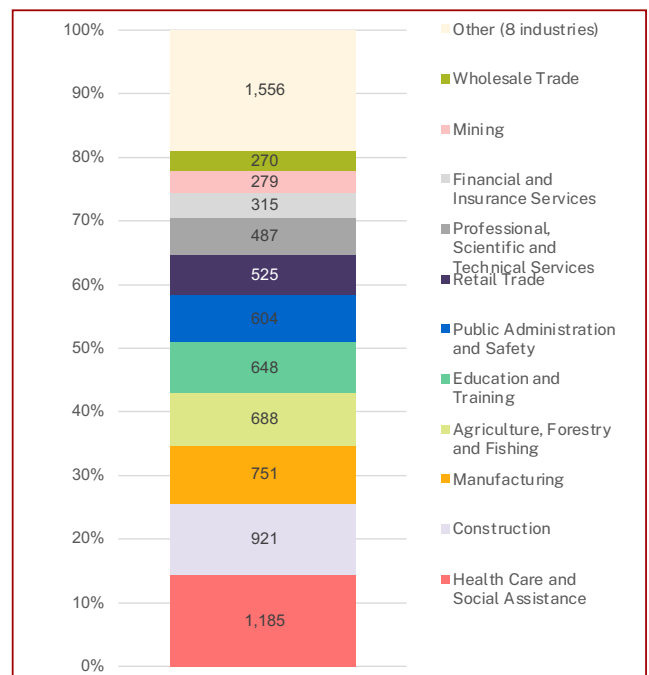
Central Highlands has experienced continued economic growth over the last 5 years due to industry activity and growth in health care and social assistance, education and training and construction – simultaneously supported and driven by the growing population. Since 2001, gross regional product (GRP) has steadily increased and, although it is below the metropolitan Melbourne average, it is consistent with productivity in other regional areas.<sup>47</sup> Regional prosperity is reflected in the relative socioeconomic advantage of residents. In 2021, average weekly household income in Central Highlands was higher than the rest of regional Victoria, with Moorabool, Golden Plains and Ballarat recording higher than average incomes.<sup>48</sup>

Figure 8: Contribution to Central Highlands’ GVA (2020)<sup>49</sup>



Economic output in the region does not include residents who commute or work remotely in jobs based outside of Central Highlands. Many towns within the region are popular as holiday or investment properties, which can also obscure a seasonal population.

Figure 9: GVA by key industries in Central Highlands (2021)<sup>50</sup>



Ballarat is the regional centre and largest local government area (LGA) by population, accounting for approximately 65% of the region’s total GVA in 2020.<sup>6</sup> Health care and social assistance and construction were the highest value industries in the LGAs of Ballarat, Golden Plains and Hepburn. Agriculture, forestry and fishing was the largest contributor to local GVA for Ararat, Pyrenees and Golden Plains, totalling \$454 million. Mining takes economic precedence in Moorabool Shire contributing \$191 million to the local economy. Health care and social assistance was the largest industry in Greater Ballarat and Hepburn (\$902 million and \$73 million respectively), while the construction industry was larger in LGAs experiencing the highest population growth. Industries that contribute towards the visitor economy, such as accommodation and food services, retail and arts and recreation, were highest in Golden Plains, Moorabool, Hepburn and Ballarat.

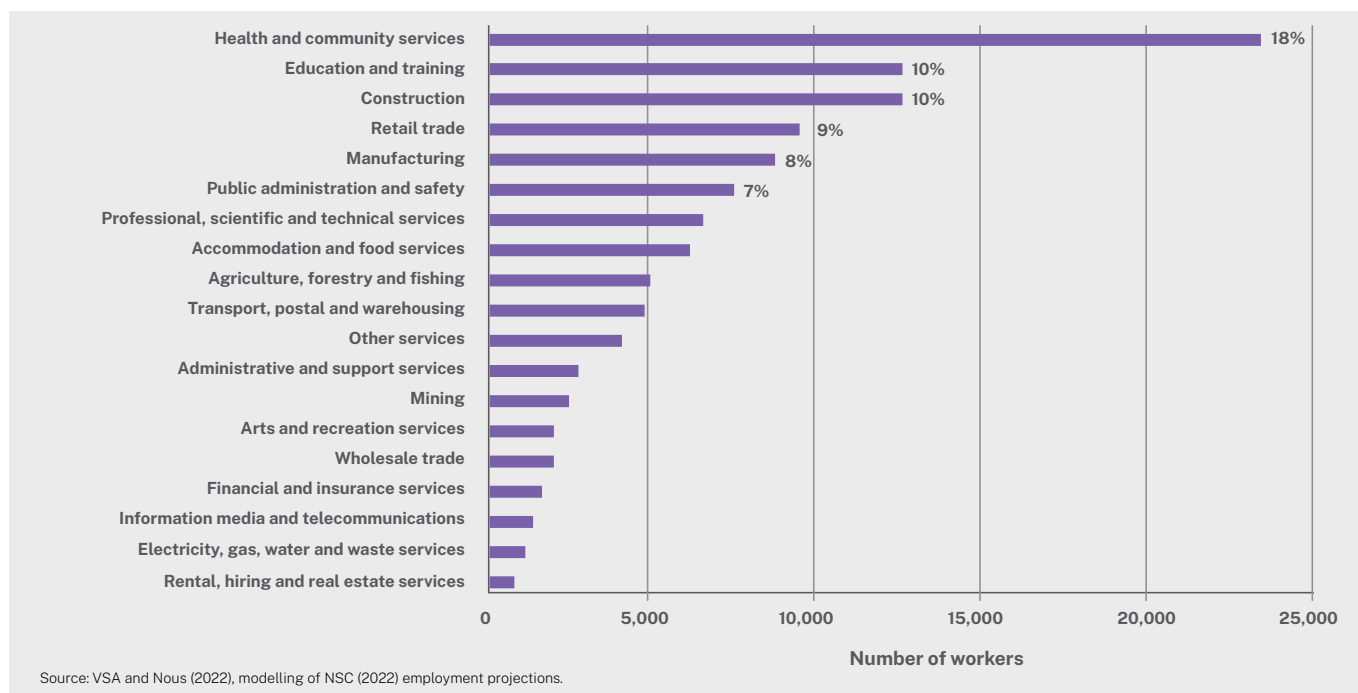
6 At the time of drafting this profile, the latest available data on gross value added (GVA) by local government area is 2020.

**There are approximately 105,600 people<sup>51</sup> employed in the Central Highlands region, comprising about 80% of the working age population and 50% of the general population.<sup>7</sup>**

In 2022, more than 50% of the working-age population in Central Highlands were employed across the top 5 employing industries. The health care and social assistance sector is the single largest employer in the region with 18% of workers. Education and training and construction each account for 10% of the workforce, while retail trade and manufacturing employ 9% and 8% of workers respectively. These industries also have a higher proportion of employment relative to the average across Victoria, highlighting the significance of these industries to the Central Highlands economy.

Between 2015 and 2020, employment growth has outpaced the state average in 7 (of 19) industries in Central Highlands. The fastest increases occurred in rental, hiring and real estate services (+48.0 percentage points compared to state levels) and arts and recreation services (+36.8 percentage points compared to state levels) which could reflect the growing population and visitor-based demands on the region.<sup>52,8</sup>

Figure 10: Industries by employment<sup>53</sup>



7 Note that this data may not account for individuals who travel to the Central Highlands region for work.

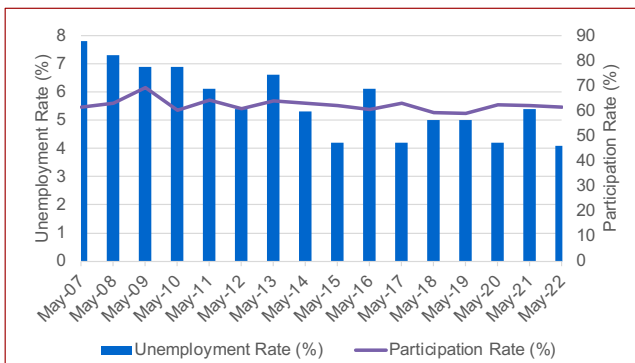
8 An increase or larger change in percentage points means that a higher proportion of workers are working in these sectors in the Central Highlands region compared to the state as a whole. However, the actual number of workers is likely to be larger in the broader state due to the larger population size.



## A region with capacity for growth and higher participation

The regional<sup>9</sup> workforce participation rate has been relatively steady since 2020. In May 2022, workforce participation was 61.5%.<sup>54</sup> In the same period, the unemployment rate was 4.1%, which is one of the lowest rates since 2007.<sup>10</sup> This has led to a tight labour market and is contributing to labour shortages across many sectors.

Figure 11: Ballarat employment region unemployment and participation rate (May 2007 to 2022)<sup>55</sup>



### Significant labour shortages across the region's industries presents opportunities to engage under-represented cohorts and increase workforce participation.

Workforce participation in Central Highlands is increasing and overall unemployment is relatively low, however, there are signs increased participation is possible. Participation is below the Victorian average of 66.9%<sup>56</sup> and unemployment remains higher than other areas - the average regional Victorian unemployment rate in May 2022 was 3.3%, and metropolitan Melbourne's was 3.8%.<sup>57</sup>

## Part-time employment and under-employment

Approximately 32% of the Ballarat region is employed on a part-time basis, which is on par with the regional Victorian average.<sup>58</sup> Part-time employment is high in some of the region's largest industries, including health care and social assistance, accommodation and food services, retail and arts and recreation, which employ upwards of 50% of staff in part-time arrangements.<sup>59</sup>

Unemployment rates also hide the rates of underemployment, where barriers may be preventing people from working more hours than desired.<sup>11</sup> These barriers may include caring responsibilities, illness, or no jobs with suitable conditions.<sup>60</sup>

## Youth unemployment

In August 2022, youth unemployment was 7.9% in the Ballarat region (SA4 Ballarat).<sup>61</sup> This is significantly higher than youth unemployment in other regional areas such as Geelong and Warrnambool South West (5.1% and 3.7% respectively), but lower than surrounding regions to the north and outer metropolitan areas (above 10%). This highlights employment challenges among younger cohorts and emphasises the need to increase access to vocational and higher education.

9 Note that the data uses Labour Market Information Portal Ballarat employment region data which is comprised of SA4 Ballarat data

10 The ABS notes that estimate variability is too high for most practical purposes.

11 The ABS defines an employed person, most generally, as a person 15 years and older working for at least one hour a week for pay or other similar benefit. A person may also be underemployed if they are willing and able to work additional hours but are unable due to find extra employment or have worked fewer hours for economic reasons including insufficient work available.

### Workforce participation by gender

There are more men in the Central Highlands workforce, with male workforce participation at 64.2% and female workforce participation at 51.4% in August 2022.<sup>12,62</sup> Female participation has been consistently lower than male participation, (13 percentage points as at August 2022).<sup>63</sup> Health care and community services, education and training and scientific, professional and technical services have significantly higher female representation in their workforces, while construction and manufacturing are male dominated industries.<sup>64</sup> Implementing strategies that support the employment of under-represented cohorts in higher and vocational education have potential benefit on participation rates for the region. These strategies can include identifying and addressing barriers to engaging work across the region.

Addressing stereotypes of women’s participation in work generally and across industries has potential to address labour shortages. Promotion of gender diversity and inclusive work practices and environments with employers is seen as the start to reducing these barriers, as is access to child care and flexible working arrangements.

Figure 12: Breakdown of participation by gender across key Central Highlands industries (May 2022)<sup>65</sup>

	Workers	Male	Female
Health care and social assistance	12,300	27%	73%
Construction	10,400	94%	6%
Retail trade	9,900	43%	57%
Education and training	8,000	25%	75%
Manufacturing	7,800	77%	23%
Accommodation and food services	6,100	38%	62%
Professional, scientific and technical services	4,300	14%	86%

12 SA4 Ballarat region data



'Addressing stereotypes of women's participation in work generally and across industries has potential to address labour shortages.'

# The continued demand for workers

**The Victorian Skills Authority's recent 3-year employment projections highlight the significant demand for workers in the region with at least 6,000 new workers required in the 3 years between 2022 and 2025.**

The employment forecasts below project the underlying demand for workers in the region over 2022–2025, based on population growth trends, changes in industry, and historical employment trends. However, there are also additional factors that need to be considered in assessing the forecasts. This includes, but is not limited to, the impact of recent investment across the region that is likely to add to the forecast demand for workers in industries.

Importantly, these forecasts do not capture the supply-side challenges in meeting current demand for workers across most industries in the region. Current labour vacancies are not captured in the projected demand. Additionally, the forecasts do not account for current vacancies and workers leaving for other industries and instead reflect the net additional labour requirements.

**With projected retirements between 2022 to 2025 of around 5,000 workers, the total number of new workers required in the period is expected to be approximately 11,000.<sup>66</sup>**

Forecasts suggest that the accommodation and food services sector will experience the largest average annual growth between 2022 to 2025 at a rate of 4.8%, while the health care and social assistance industry is forecast to experience the highest total employment growth of over 1,500 workers.<sup>67</sup> This is consistent with the region's projected population growth as key services will need to expand to keep up with demand.

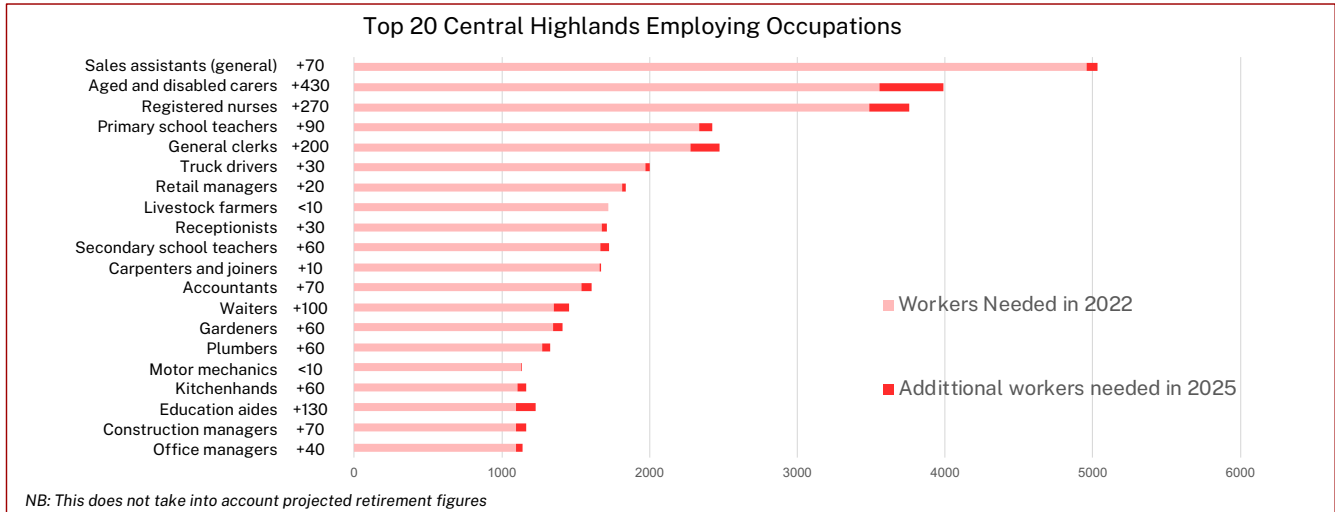
There are projected decreases in the number of new workers required across the information, media and telecommunications industry, and a projected fall in agriculture, forestry and fishing reflecting the longer-term decrease in workers needed for the industry as it intensifies and automates production processes. Projected retirements for both industries suggest a slight increase in total new workers required in the 2022–2025 period.



Table 3: Employment growth and new workers required by industry in Central Highlands

Industry	New workers required 2022–25**	Retirements between 2022–2025	Total new workers required by 2025	Employment growth 2022–25 (AAGR)**
Accommodation and food services	+1,020	320	+1,360	4.8%
Health care and community services	+1,520	680	+2,230	2.9%
Education and training	+820	470	+1,300	2.6%
Arts and recreation services	+160	100	+280	2.5%
Professional, scientific and technical services	+650	380	+1,040	2.5%
Rental, hiring and real estate services	+80	40	+130	2.1%
Transport, postal and warehousing	+280	260	+530	2.0%
Construction	+590	480	+1,080	1.9%
Electricity, gas, water and waste services	+50	40	+90	1.6%
Administrative and support services	+90	110	+230	1.2%
Retail trade	+370	430	+810	1.2%
Financial and insurance services	+60	90	+170	1.0%
Public administration and safety	+190	350	+560	0.8%
Wholesale trade	+40	90	+140	0.7%
Manufacturing	+70	380	+490	0.3%
Other services	+30	110	+160	0.3%
Mining	+ <10	40	+40	0.0%
Agriculture, forestry and fishing	-120	430	+330	-0.6%
Information media and telecommunications	-30	80	+80	-0.6%
<b>Total</b>	<b>+ 5,880</b>	<b>4,870</b>	<b>+11,030</b>	<b>1.8%</b>

Figure 13: Employment growth and new workers required across industry in Central Highlands<sup>13,68</sup>



**Industry roundtables highlighted additional factors that could contribute to higher demand across key industries. The types and profile of skills required by industry is also becoming more complex, meaning workers need to be equipped with the skills to meet the evolving needs of industries**

### Agriculture

Industry roundtable discussions highlighted the changing nature of agriculture in the region, with emphasis on higher value artisan crops in smaller quantities and a focus on provenance. Continued demand for quality and safe foods in domestic and international markets is also likely to drive demand for local production following supply chain disruptions over the past years. The Victorian Government’s plan to stop all native logging by 2030 is also likely to have a fluctuating impact on employment over the coming years.

AgTech advancements and digitisation in the sector requires a greater focus on reskilling and upskilling the current workforce as well as preparing a future workforce to replace the anticipated high numbers of retiring workers.

### Business, professional and public administration services

A growing Central Highlands population is driving increased demand for public administration and local government services.

Industry roundtables noted that a transition to higher-value and higher-tech production in the region will require more specialist technical skills (such as in engineering).

Local businesses will continue to require support services as they grow and scale, with likely demand for professional services such as legal, digital, financial and accounting services and consulting services. The Ballarat GovHub has become an employment hub for government services in the region, increasing the need for public service staff.

### Construction

In addition to high levels of private housing demand, construction in the region will grow because of planned infrastructure investments such as hotels, public administration and justice buildings, and the Ballarat Base Hospital. The development of key public infrastructure and facilities, including in the renewable energy sector, will also bring significant investment in the coming years.

### Education and training

Recent policy reforms, including the introduction of the Senior Secondary Vocational Major, kindergarten reforms announced in the 2022–2023 Victorian Budget<sup>69</sup> and the Mental Health in Primary Schools Program will likely drive demand for more teachers and trainers above current forecast requirements. In particular, school mental health practitioners, kindergarten and early childhood teachers and vocational teachers in schools and across the wider tertiary education sector.

<sup>13</sup> New workers refers to the employed persons as consistent with the ABS definition of employed persons.





### Health care and community services

The employment growth for the period 2022–25 of around 1,520 for the sector is likely to be understated. Worker demand is expected to increase because of investment in mental health services, reforms to the aged care sector and an increased demand for in-home care. There is likely to be higher demand for registered nurses and aged and disabled carers.

### Manufacturing

The transport advantages for the region make it suitable for manufacturing growth. The manufacture of 25 X'Trapolis 2.0 trains is expected to create around 750 jobs Victoria-wide,<sup>70</sup> 100 of which are predicted to be in the Central Highlands, in addition to workers for stabling and maintenance facilities in Ararat. Continued investment in defence-related technologies is likely to increase as sovereign capabilities become more important. Growing interest in specialised food products such as hemp or medicinal cannabis and strengthening of established food production business are likely to see manufacturing related employment grow.

The impact of an ageing workforce and retirements in the industry is also apparent, with around 380 replacement workers required.

Industry is seeking more complex skills and capabilities which are not reflected in the Australian Bureau of Statistics (ABS) occupation classifications that inform these forecasts. These skills are needed to support high-value manufacturing and the region's transition towards clean energy and renewable technologies. Multi-disciplinary knowledge and skills are needed to realise the innovative opportunities in the energy, waste and utilities space.

### Visitor economy

Several flagship cultural events have returned to full capacity, including Spilt Milk, Ballarat International Foto Biennale, and the Clunes Booktown Festival. Each event requires hospitality, retail, and technical staff as well as accommodation facilities for visitors. A successful bid for World Heritage status for the Central Victorian Goldfields would elevate the region's profile and increase visitors and investment. These workers, and the diversity of work required, is unlikely to be reflected in the current forecast demand for workers.

### Expected employment growth does not include current vacancies, so demand for new workers is anticipated to be higher.

Discussions with industry roundtables and the taskforce highlighted acute staff shortages across most industries – most notably in health care and community services, hospitality and education.

The number of online job advertisements<sup>14</sup> in the region has almost quadrupled between May 2020 and July 2022, from 325 to 1,320.<sup>71</sup> This is likely due to increased demand for services arising from increased domestic migration as well as new projects. However, many recent arrivals are not available to meet this demand as they have retained their employment in the area they moved from. Their take-up of housing has also led to housing shortages creating a disincentive for more people to move to the region.

The decrease in overseas migration in the past 2 years across Victoria<sup>72</sup> has reduced the number of graduates and skilled migrants which is also likely to have a flow on effect in coming years.

Figure 14: Online job advertisements across the Central Highlands region (May 2019 to July 2022)



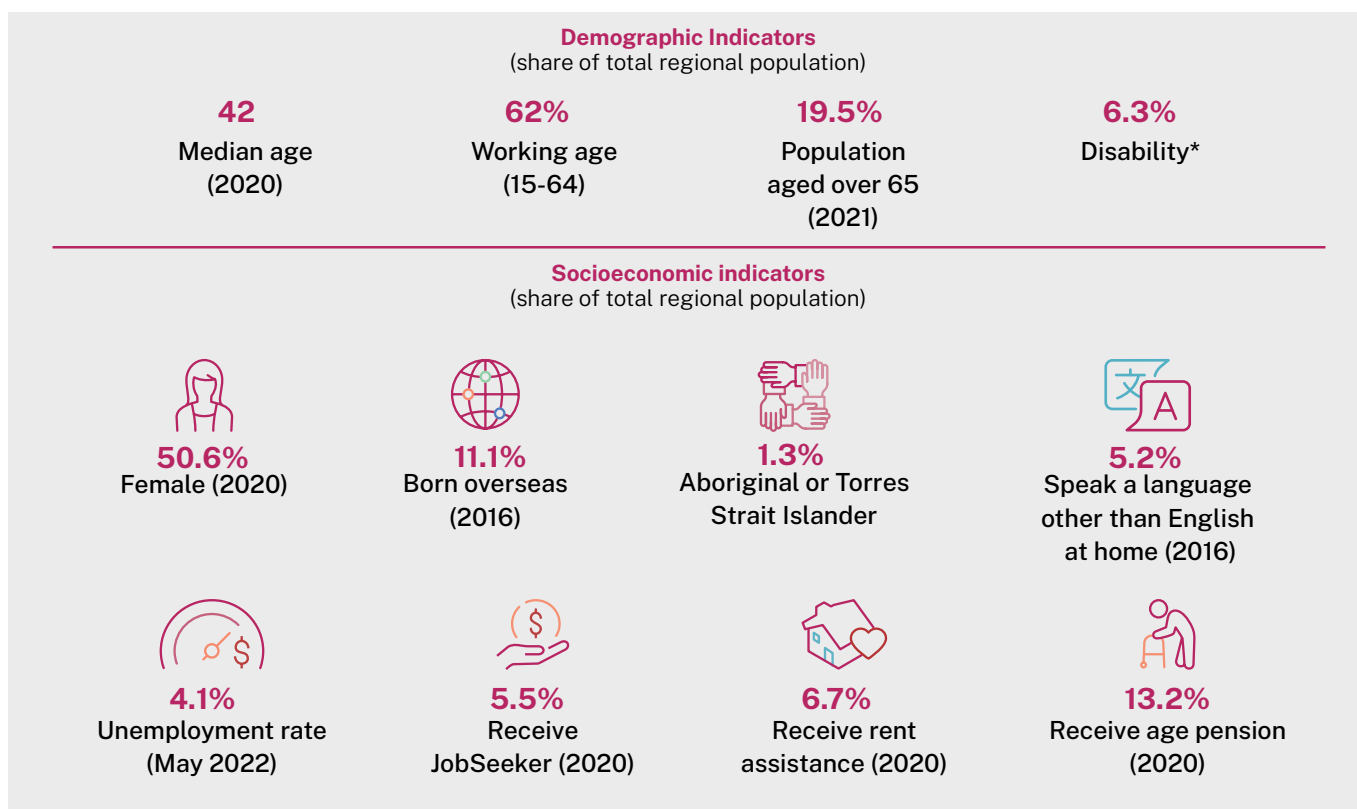
<sup>14</sup> The number of vacancies are likely to be larger than shown on this graph as the internet vacancy index does not account for jobs that are advertised or filled in other ways. For example, word of mouth, or physical job boards.

# Demographic and socioeconomic context

## Demographic considerations

While the Central Highlands is enjoying strong economic success, the region has pockets of disadvantage that need to be considered in the context of building skills across the region. Current worker shortages highlight a need to engage and upskill the existing population, while looking to increase the future workforce through population growth.

Figure 15: Overview of Central Highlands' demographic and socioeconomic context<sup>73</sup>



Central Highlands' population is older, on average, than metropolitan Melbourne and Victoria, with 19.5% of the population above the age of 65 (relative to a state average of 16.8% in 2021).<sup>74</sup> An ageing population in the region will impact workforce supply through increasing retirement and higher demands on essential services such as health care. This highlights the need to keep older residents engaged in the workforce for as long as possible and for industry to support the building of knowledge and skills for younger workers.

Approximately 6.3% of Central Highlands' population identifies as having a disability,<sup>15,75</sup> demonstrating the importance of employment opportunities that enable individuals with a disability to thrive and succeed.

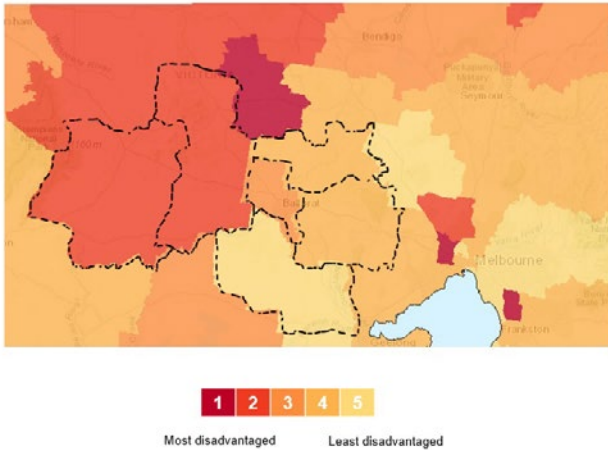
Approximately 11% of Central Highlands' population is born overseas and more than 5% speak a language other than English at home. While this is lower than the Victorian average of 28.3% and 25% respectively,<sup>76</sup> recognising and supporting multiculturalism, diversity and inclusion at work is important for Central Highlands' current and future workforce. Central Highlands, like other regions in the country, will also need to continue exploring ways to attract new people to live, work and study in the region, including skilled migrants and international students.<sup>77</sup>

<sup>15</sup> Disability is defined as a person with either a disability, a profound or severe, or a mild and core activity limitation.



## Socioeconomic considerations

Figure 16: Central Highlands by index of relative disadvantage<sup>16,78</sup>



Areas of disadvantage in Central Highlands are primarily concentrated within the Pyrenees and Ararat local government areas (LGAs).<sup>79</sup> In 2016, Ararat was the eighth most disadvantaged LGA in Victoria.<sup>80</sup> As the largest regional city, Ballarat also has pockets of disadvantage.

The areas with higher disadvantage have limited access to education and training relative to other parts of the region and limited access to public transport to access employment, education and services.

In 2016, approximately 48% of Central Highlands' population had no post-school qualifications,<sup>81</sup> compared to the rate of 44% for Victoria. This suggests there are opportunities to improve individual and community outcomes through education and training.



<sup>16</sup> Note that this data reflects the 2016 Census and may have changed. Updated information will be available with the next census data released in late 2022.

# Key industries, challenges and priority skills needs within Central Highlands

This section provides a summary of the 7 key industries of focus identified by the Central Highlands Regional Skills Taskforce and explores the common workforce and skills related challenges facing these major industries. This section also details the priority skills needs that have been identified as critical to enable these major industries to grow and thrive in the future.

## Central Highlands’ 7 key industries of focus

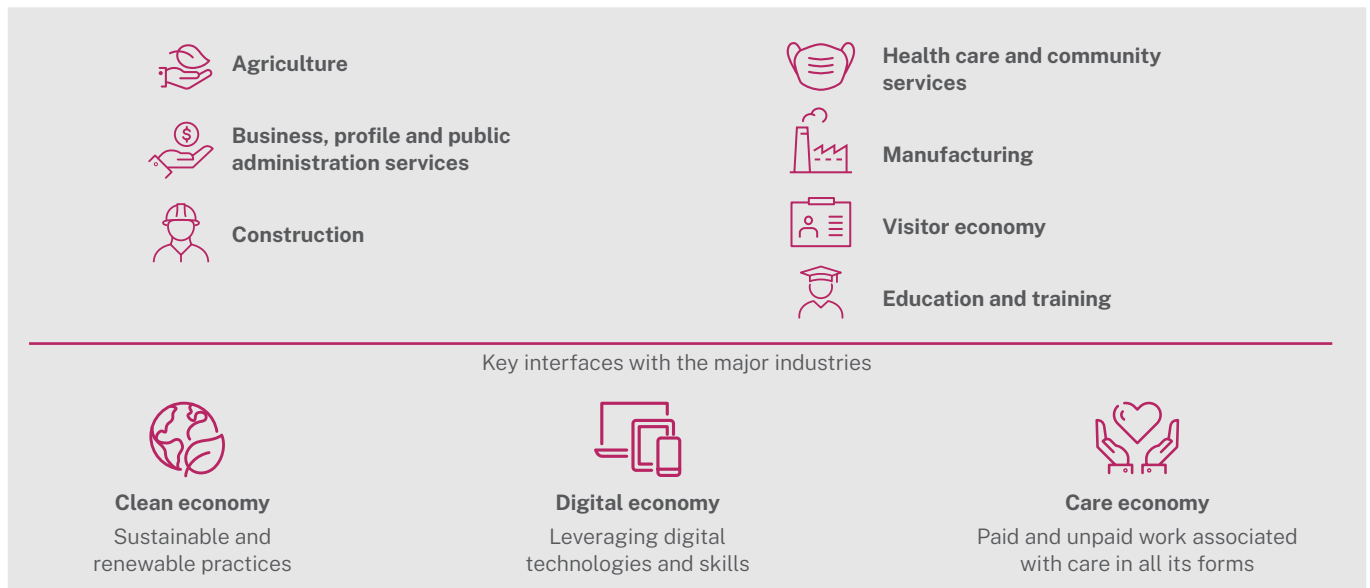
### The Regional Skills Taskforce identified 7 industries of focus within Central Highlands

The identification of 7 key industries has been informed by the current relative contribution in employment or income to the local economy, potential for future growth, and alignment with strategic growth opportunities for the region, including the Central Highlands Regional Growth Plan (2030), and the Ballarat Prosperity Framework. Further detail on each industry is provided in Appendix A as part of the detailed profile for each industry (see Appendix C for further detail on industry groupings).

### These industries are highly interconnected and intersect with other parts of the economy

Key industries in the Central Highlands region are diverse yet interconnected. There are many points of intersection and connectivity between industries that support supply chains and other outcomes for the regional community and economy. The 7 key industry groupings reflect existing local economic development strategies, supply chains and the economic and social significance of the particular industry to the broader region, its workers and their families as identified by taskforce representatives.

Figure 17 Major Industries across the Central Highlands region





## Agriculture

The Central Highlands agriculture industry covers agriculture, forestry and fishing and primary production activities. It is noted that this profile reports on regional level activity and may understate the significance of agriculture to local economies and local government areas outside of the regional centre of Ballarat.

**The agriculture industry employs over 5,000 people in the region<sup>82</sup> and generated upward of \$688 million in gross value added (GVA) in 2021, equal to about 8% of the region's GVA.<sup>83</sup>**

As the second largest contributor to regional exports, most activity in the region is from livestock, horticulture, and other crop farming exports.<sup>84</sup> Other key activities include forestry, logging and a range of support services such as quality and assurance testing, shearing and tree cutting. Although employment in these sub-sectors is relatively small, these services enable activity across the sector and region. Jobs in agriculture are also linked to scientific and technical jobs captured in other industry metrics.

Central Highlands benefits from favourable growing conditions and is one of the major food bowls in Victoria, producing 17% of sheep, 9% of grain, and 8% of poultry across the state.<sup>85</sup> The region has a reputation for high quality products in both domestic and international markets.

Food production businesses in the region vary in size and supply chain methods. Some supply directly to food manufacturing companies and others have integrated secondary production facilities on site. It was also noted that the rising cost of land has led to an increase in artisanal crops with higher returns, however further data is required to determine the overall contribution of this activity compared to other sub-sectors. Producers of food-based agriculture include Westside Meats, Boratto Farms and Pyrenees Grape Growers and Winemakers.

Beyond food-based agriculture, activity in the industry intersects with the visitor economy as sustainable, farm-to-table destination dining increases in popularity. There are also intersections with retail, manufacturing, industry suppliers and professional services with businesses like Creswick Woollen Mills, Gason, Pyrenees Hay and Broadbent Grain operating in the region.

**Current projections indicate 330 new workers will be required between 2022 to 2025 to meet expected retirements, but industry expects this to be a higher number.<sup>86</sup>**

Industry roundtable participants suggested these employment projections are unlikely to consider changes to demand and growing opportunities across the industry. The industry is likely to experience some efficiency gains due to intensification of agricultural processes, and highly trained workers are required to operate new machinery and utilise AgTech.

Workforce supply is also impacted by competition from other sectors and regions (for example, working conditions for veterinarians in Melbourne compared to livestock care in rural areas). For some lower skilled roles, employment can be seasonal.

Key areas of growth include capitalising on the demand for quality Australian produce, strengthening sustainability activities, and optimised production using technological advances and infrastructure. Realising these opportunities is likely to be dependent on attracting and retaining new workers across all areas of the industry.

### Key intersections across industries

#### Sustainability and climate change management

Responsible resource management can reduce the risk of extreme weather events

#### Hospitality and tourism

Food, wine, farm-to-table offerings and sustainable farming is a high growth tourism area

#### Transport and logistics

Expanding businesses by diversifying into transport and logistics operations

## Business, professional and public administration services



The business, professional and public administration services (BPPS) industry comprises many professional services, including legal, accounting, consulting and digital services, scientific research, and public administration, including state, federal and local government, and public safety services.<sup>17</sup>

**These industries make up 15% of Central Highlands' total workforce, employing approximately 15,800 people in the region.<sup>87</sup> It is the largest contributor of gross value added (GVA) providing over \$1.4 billion to the local economy in 2021, or about 17% of total GVA.<sup>88</sup>**

Activity in the BPPS sector is concentrated in Ballarat, which accounted for 66% of total BPPS GVA in Central Highlands in 2020.<sup>89</sup> This reflects Ballarat's status as the regional centre and the presence of local and state government offices, judicial centres, as well as professional and technical services including banking and finance, consulting, legal professionals, and management services.

Taskforce and industry roundtable participants reflected on the enabling role the BPPS sector plays in facilitating the smooth operation and growth of other industries. For example, accounting, human resource management and digital implementation are integral to all kinds of operations. Digital competencies are also becoming increasingly important to many jobs.

High rates of population growth in Central Highlands are driving increased demand for local council and government services, including administrative and community health-related services such as early childhood and maternal and child health services.

Continued population growth is generating employment in the sector. However, local employers are now competing with metropolitan businesses able to offer hybrid working arrangements.

There is opportunity, however, to transition these workers to local firms over time. Taskforce members and industry roundtable participants reflected on the need to strengthen the broader value proposition of living and working in the region as a strategy to attract and secure the necessary workforce.

**Current projections indicate the workforce will grow by 900 workers between 2022 to 2025, with an additional 820 workers required to replace anticipated retirements.<sup>18,90</sup>**

The region will continue to have a growing focus on attracting and retaining professionals with experience in strategic planning, risk management and community engagement expertise to meet the needs of the community.

Strengthening existing partnerships between industry, education providers and government, such as initiatives in the Ballarat Tech Park which connect Federation University students and researchers with IBM and Ernst & Young, among others, was identified as one way to attract and retain workers into the sector. The industry's intersection with the education and training sector is critical as continued learning allows businesses and individuals to invest and engage in best practice processes. Examples include the Ararat Jobs and Technology Precinct (the Ararat Digital Hub and Co-Working Space), clinical teaching centres, and hosting events such as for the Grains Research and Development Corporation.

Noting the increasing acceptance of remote working, and opportunities for cross border collaboration, connectivity in the Central Highlands region is another enabler for increased employment in this sector. Realising the goals of the Central Highlands Regional Digital Plan will help to increase connectivity and internet reliability in the region.<sup>91</sup>

### Key intersections across industries

#### Health and childcare services

Intersects with local government community service delivery

#### Research and education

Home to education and research, and industry development alliances

#### Construction

Planners, architects, and engineers are a critical component of the construction sector

<sup>17</sup> Note that employment and GVA data includes the total scientific, professional, and technical services ANZSIC industry classification, which includes architecture and design, engineering and planning, which are discussed in the Infrastructure section.

<sup>18</sup> Note that the BPPS sector and this workforce projection includes workers needed across financial and insurance services, professional, scientific and technical services, and public administration and safety services



# Construction

The construction industry in Central Highlands is comprised of private and commercial building construction, construction services such as plumbing and electrical, transport infrastructure, and heavy and civil engineering construction.<sup>19</sup>

**The construction industry is one of the largest employers and contributors to gross value added (GVA) in Central Highlands, employing 10,500 workers<sup>92</sup> and contributing 11% (\$921 million) of the region's GVA in 2021.<sup>93</sup>**

The largest sub-sector by GVA is construction services which includes installation, structure, and land development services. It contributes more than double the level of GVA than the building construction sub-sector which is comprised of general residential and nonresidential construction.<sup>94</sup>

As the region's largest economy, Ballarat has the highest value of construction activity worth \$656.5 million in 2020. Construction is the largest industry in Golden Plains, accounting for 17% of the local GVA.<sup>95</sup> The high value of construction activity can be explained by higher levels of intra-state migration, and greater connectivity to workers in metropolitan areas.

Demand is also driven by activity across other industries, including health, renewable energy, and the visitor economy.

Industry roundtable participants noted that there is greater cross-sectoral and inter-regional competition for workers given strong pipelines of work across Central Highlands, other surrounding regions and metropolitan Melbourne. More workers are willing to travel across and outside of the region for work.

Current labour shortages span across all trades such as plumbers, electricians and carpenters, as well as workers with engineering skills. There is opportunity to leverage high wages, flexible work, training offered by apprenticeships, to build a sustainable workforce.

**The construction sector is expected to require upwards of 1,000 total new workers across the next 3 years into 2025 – approximately 590 new workers and a further 480 new workers to replace those expected to retire.<sup>96</sup>**

Attracting the next generation of construction workers is critical to addressing these challenges. Training must be relevant, engaging and reflect the breadth of opportunities available to encourage workers to remain in this sector in the region.

Key intersections across industries			
<b>Mental and physical health</b> The quality of the built environment can influence mental and physical health	<b>Renewable and clean energy</b> Increased desire for energy efficient design and retrofitting or transformation for clean energy purposes	<b>Public administration</b> Large public works to house key government and public services in the region. Private construction requires planning permits	<b>Professional and technical services</b> Integrating public buildings frees up space for private businesses to operate in areas close to where their services are required.

**Construction is an enabler across all sectors, underpinning physical form and infrastructure requirements across all industries.**

<sup>19</sup> Professional services such as architecture, engineering, urban planning and other technical services are an integral part of the construction sector. Given data and ABS industry classifications, these services are captured in the BPPS industry.

# Health care and community services



The health care and community services (HCCS) industry is integral to the Central Highlands economy for its direct role as an employer, its contribution to liveability of the region by which to attract workers, and community wellbeing. The sector includes public and private institutions, clinical and allied health care, and community services.

**The health care and community service industry is the largest employer in the region with over 19,300 workers, comprising approximately 18% of the region's total workforce.<sup>97</sup> The sector is also the second largest contributor to gross value added (GVA) at about \$1.2 billion (14% of the region's GVA).<sup>98</sup>**

The industry has experienced significant growth in the past 2 years. A 3.4% population increase from 2019 to 2021 has increased demand for services across the region.<sup>99</sup> Projected population growth of 26% from 2021 to 2036<sup>100</sup> will see continued demand for health and community services including aged care services. Central Highlands' population is older, on average, than metropolitan Melbourne and Victoria, with 19.5% of the population above the age of 65.<sup>101</sup>

Workers in this sector include clinical, nursing, allied health, aged care, disability and community service workers and includes management and administration roles, as well as associated hospitality and cleaning staff.

The region benefits from a connected network of localised services to provide community-specific care and employment. Forming part of the Western Victoria Primary Health Network region, key service providers in Central Highlands include Central Highlands Rural Health, Grampians Health Services, Women's Health Grampians, McCallum Disability Services, Pinarc Disability Support Services, and organisations such as the Salvation Army and YMCA among others.

Central Highlands' Rural Health Strategic Plan outlines 5 pillars to deliver 'Best Care' for all users. It includes strengthening alignment of program delivery, fostering inclusion, development of staff, and improving infrastructure and planning.<sup>102</sup>

**The industry is forecast to experience the highest employment growth levels in the region, with an expected 2,230 new workers required between 2022 and 2025, including 680 new workers to replace retirements and over 1,520 new workers.<sup>103</sup>**

Current staff shortages in critical occupations such as nurses, disability support workers and aged care workers are not included in the employment forecasts. Reforms to the aged care and mental health system across the state, and preferences for at-home care and investment in telehealth treatments are also expected to increase the number of new workers needed in the industry. This suggests that actual demand for HCCS workers in Central Highlands will be much higher than forecast.

The challenge in meeting this demand is compounded by relatively high levels of staff burnout in the industry, which industry roundtable participants suggest are contributing to attraction and retention difficulties. This could partly be due to a perceived lack of recognition and reward for demanding work. Improving training and recruitment practices would help address this.

Creation of defined pathways for volunteers to transition into the workforce through study and placing current students in jobs in the industry while completing their qualification can also encourage employment in the industry. One example is the Registered Undergraduate Students of Nursing (RUSON) program which provides an opportunity for students to 'earn while they learn' before their graduate year.

Key intersections across industries	
<p><b>Manufacturing</b></p> <p>Securing supply chains of critical HCCS related goods (for example, masks, contrast dye) to ensure continuity of quality care)</p>	<p><b>Construction</b></p> <p>The quality of the built environment can influence mental and physical health</p>





## Manufacturing

The manufacturing sector in Central Highlands is comprised of several specialised sub-industries, such as agricultural and construction related manufacturing, food, defence and high-value manufacturing.

The mid-19th century Gold Rush brought many people to Ballarat and the surrounding region, prompting the establishment of businesses and trades, laying the foundation for specialised and quality manufacturing.

**The manufacturing industry is the sixth largest employer in the region, with approximately 8,500 workers<sup>104</sup> and a contribution of \$750 million in gross value added (GVA).<sup>105</sup>**

Although the industry does not generate the same level of activity it once did, due to the growing focus on the service sector, it remains the top regional export, valued at \$506.6 million in 2020.<sup>106</sup> Key exports include food product manufacturing (\$327.4 million), primary metal and metal product manufacturing (\$42.8 million) and transport equipment manufacturing (\$42 million).<sup>107</sup>

Food product manufacturing is one of the key strengths in the region, as favourable agricultural conditions mean primary and secondary production can take place within the region. There are several well-established international and domestic businesses in the area. These include McCain Foods, Mars Wrigley, Daylesford Cider Company and Ararat Meat Exports.

The continued prosperity of this industry is closely connected to the increasing use of sustainable production practices, and support of First Nations owned and operated food production businesses.

Transport and rolling stock-related manufacturing is another significant specialisation.

The region is home to rail maintenance and stationing facilities and manufacturing operations, such as for the new X'Trapolis 2.0 train fleet, which is expected to create around 750 additional jobs, 100 of which are expected to be located in Central Highlands.<sup>108</sup> More broadly, transport manufacturing intersects with defence manufacturing, with businesses such as AME and MaxiTRANS illustrating the capacity for high-value production in the area.

The Central Highlands region –especially around Ballarat –benefits from initiatives that promote pathways into the sector and support business activity. These include the Ballarat West Employment Zone, Ballarat Technology Park and Ballarat Tech School.

**While forecasts project 490 new workers are required across this industry over the next 3 years<sup>109</sup> employment growth is likely to be higher.**

This is due to recent investment in the region and increasing activity in emerging sectors such as clean energy, circular economy and digital and technology organisations such as IBM, Hepburn Wind and Environmental Clean Technologies.

Local perceptions of career opportunities in traditional manufacturing are not aligned with the advanced manufacturing skills and capabilities currently sought by industry and are thought to be hindering worker attraction. There is large opportunity for growth in this sector, but it needs to be enabled by targeted training that helps to build a future workforce in the region. Initiatives that bridge the skill and experience gap between new and retiring workers and engage under-represented cohorts such as women, are critical to ensuring that the supply of labour can meet current and future demand.

### Key intersections across industries

Key intersections across industries			
<p><b>Digital technology</b></p> <p>Industry 4.0, including artificial intelligence (AI), machine learning and nanotechnologies are increasing the need and uptake of innovation</p>	<p><b>Agriculture</b></p> <p>Food manufacturing links to the agriculture sector and food-based tourism activities</p>	<p><b>Defence and transport</b></p> <p>Production of specialist and customisable components for the defence sector</p>	<p><b>Clean economy</b></p> <p>The region falls in the Western Victoria and South West Renewable Energy Zones, with the opportunity to invest in new technologies and plants that power or reduce waste</p>



## Visitor economy

Central Highlands benefits from a diverse and established visitor economy offering with potential for accelerated growth in coming years.

The visitor economy is defined in this profile as being the industries that support tourism in the region, comprising key sub-industries such as accommodation and food services; retail; and arts and heritage activities. The region has natural assets, arts and craft experiences, destination food and dining, and cultural events.

**The scale of activity in the visitor economy has rendered it the second largest employer in the region with almost 17,500 workers.<sup>110</sup> This sector also contributes \$808 million to the local economy in gross value added (10% of total GVA).<sup>111</sup>**

The central city of Ballarat provides a strong launchpad for tourism to the area and there are many experiences and activities on offer for locals and domestic and international travellers. Tourism plays a critical role in attracting new residents and workers to Central Highlands by showcasing the growing opportunities to live, work and study in the region.

Ballarat, as a UNESCO City of Craft and Folk Art, houses several museums and heritage attractions including the Ballarat Art Gallery, Sovereign Hill Living Museum, and North Gardens Indigenous Sculpture Park. There is also a joint regional bid to confer UNESCO World Heritage Status on the entire Central Victorian Goldfields precinct which would further elevate its profile, attracting more domestic and international tourists.<sup>112</sup>

Cultural events are held across the region and include music, book and photography festivals.

Elsewhere, agriculture contributes to leisure activities. Destination dining experiences in Trentham and Daylesford draw visitors to the area. Around the Hepburn region, wellbeing and health-related experiences are particularly popular. The Central Highlands region is the gateway to nature-based activities in the Grampians (Gariwerd) and Lake Bolac.

**Forecasts indicate that more than 2,440 additional workers will be required across the industry over the next 3 years – comprised of 850 workers to replace retirees and 1,550 new workers.<sup>113</sup>**

Industry roundtable participants and taskforce members reflected on the need to uplift skills and capabilities of the workforce – particularly in hospitality, which will enable greater productivity and increased outcomes across the region. There are several strategies to address these challenges, including provision of short courses, resource sharing and raising the profile of the sector.

Investment and initiatives for the sector are well documented in local strategies, such as the Grampians Workforce Development Strategy, Ballarat Prosperity Framework and Ballarat Visitor Economy Strategy (2021–2024).

Creating more sustainable, immersive eco experiences in the region by leveraging the region's strength in natural diversity is another growing focus. There is also a need for marketing, digital, and promotional skills to stimulate tourism.

### Key intersections across industries

Specialised manufacturing	Construction	Food manufacturing	Digital technologies
Locally made goods and unique retail offerings attract visitors	Access to quality accommodation can increase volume and duration of stays	Food and wine tourism, farm-to-table and sustainable farming are high growth tourism areas	Innovative digital experiences and technologies enhance visitor engagement and experiences



## Education and training

Central Highlands' education and training industry includes early childhood, primary and secondary schools, vocational education, higher education, and adult and community education.

**The sector is one of the highest employers in the region with almost 11,000 workers.<sup>114</sup> The industry also generated \$648 million of the region's gross value added (GVA) in 2021, approximately 8%.<sup>115</sup>**

Higher education and vocational education offerings are clustered around Ballarat with 2 universities – Federation University (which also delivers TAFE) and the Australian Catholic University – offering bachelor and post graduate degrees in a range of fields within Ballarat.

Students in Ballarat have access to the Ballarat Tech School, a multidisciplinary program that engages students in science, technology, engineering, and mathematics (STEM) in a high-tech learning environment and offers vocational tasters and hands on learning experiences.

The University of Melbourne and the University of Notre Dame Australia operate medical clinical schools attached to Grampians Health Services and St John of God respectively and Deakin University also has a clinical school at Grampians Health Service.

Within and beyond Ballarat, people have access to other service provider types including Registered Training Organisations (RTOs), Adult Community and Further Education (ACFE), Learn Local facilities and the Local Learning and Employment Network (LLEN).

The education and training industry is facing significant shortages in teachers and trainers, including support teachers. While this issue is not unique to the region, Central Highlands' current and projected population growth means that demand for these skills will be particularly acute.

**Forecasts indicate that approximately 1,300 new workers will be required over the period 2022 to 2025 – 470 workers to replace anticipated retirements and more than 820 additional new workers.<sup>116</sup>**

Secondary school reforms are aimed at improving school transition to vocational education and the workforce. Plans to open more child care and kindergarten places will allow more carers to enter the workforce. These initiatives will also increase demand for teachers, administrators, and early childhood educators.

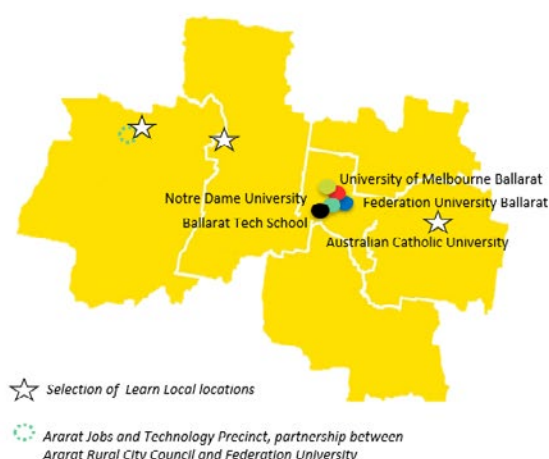
Meeting the demand for experienced and qualified teachers and trainers is crucial to ensure that the region secures a skilled workforce now and into the future.

True innovation and recalibration of teaching models and administrative operations were identified as approaches to strengthening the sector. Considering the education and training industry as an employer itself, redesigning recruitment and simplifying trainer accreditation are also likely to help.

Figure 18: Higher education and training institutions and facilities across the Central Highlands region

Institution	Name	Key Offerings
Dual Sector	Federation University/TAFE (Ballarat, Mt Helen, SMB Campus, Gillies St Campus)	<ul style="list-style-type: none"> <li>Undergraduate and postgraduate degrees, TAFE and short courses</li> </ul>
University	Australian Catholic University	<ul style="list-style-type: none"> <li>Certificates, bachelor and post graduate degrees</li> <li>Allied health, community services, education and theological studies</li> </ul>
University	University of Melbourne	<ul style="list-style-type: none"> <li>Ballarat Rural Clinical School campus</li> <li>Adjacent to Ballarat Health Services (teaching hospital across several clinical disciplines)</li> <li>On campus student accommodation</li> </ul>
University	Notre Dame University Australia	<ul style="list-style-type: none"> <li>Medical clinical training attached to St John of God hospital campus</li> </ul>
Other	Ballarat Tech School	<ul style="list-style-type: none"> <li>Partners with local secondary schools to provide STEAM related education programs</li> <li>Hosted at Federation University</li> </ul>

In addition, there are a range of RTO providers. Examples include Ballarat Group Training, as well as the proposed Institute of Gastronomy and Good Food (in Daylesford) which has secured investment and integrates agriculture, culinary, hospitality, educators and tourism experts.



### Key intersections across industries

#### Digital technologies

Online learning and use of digital tools to enhance learning is more important than ever

#### Health care

Early childhood education has a significant impact on health outcomes

#### Community services

Intersections between schooling and community services for at-risk populations



'Central Highlands benefits from a diverse and established visitor economy offering, with potential for accelerated growth in coming years.'

## Workforce challenges

Central Highlands is experiencing challenges that are resulting in barriers to education, training and workforce participation, attraction and retention.

### Childcare access and affordability

Access and affordability of child care act as a barrier for those wanting to enter the workforce, particularly women who are underrepresented in the workforce. Access to child care is significantly lower in Regional Victoria than in metropolitan Melbourne with the lowest levels of access in the region in Golden Plains, Moorabool, the northern part of the Pyrenees, and western parts of Hepburn.<sup>117</sup>

### Housing accessibility

Housing affordability across the region has become more acute. For example, in Central Ballarat, the median house price rose 17.2% between October 2021 and September 2022.<sup>118</sup> Central Highlands had one of the highest number of applications for public housing of all regional areas in Victoria in 2019,<sup>119</sup> and 69% of the region's homelessness was concentrated around the Ballarat area. A lack of affordable housing makes it more difficult for skilled, prospective employees to move to the region to take up work.

### Teacher and trainer shortages

Skills shortages have been exacerbated by trainer shortages, particularly in the regions. Factors such as job instability, retirement of older workers, lack of clear pathways, salary and mobility between industry and teaching roles—including due to trainer registration and compliance—are all reported contributors to this shortage.<sup>120</sup>

### Access to transport

Access to transport limits the uptake of training or job opportunities. The Central Highlands region reports a lower level of access to roads and public transport than the rest of regional Victoria and Victoria more broadly<sup>121</sup> (recording a score of 3.9 compared to 4.1 and 5 respectively<sup>20</sup>).<sup>122</sup> Access to transport is particularly important for local government areas (LGAs) outside of Ballarat that do not have higher education or vocational education and training (VET) within close proximity.

## Digital connectivity

Lack of reliable and fast broadband or digital connection in some regional and rural communities limit education responses and access to services and job opportunities. The Australian Digital Inclusion Index<sup>21</sup> highlights that all LGAs in Central Highlands score below average for digital inclusion, with the largest gaps in Pyrenees, Hepburn, and Ararat. Central Highlands' average is 6 points below the national average (65 compared to 71).<sup>123</sup>

### Labour shortages

Job vacancies have increased to record levels across many occupations (jumping from 325 to 1,320 between May 2020 to July 2022).<sup>124</sup> This has placed upward wage pressure on some industries, reducing capacity to deliver services and impacting output from the region. Other contributing factors, such as an older population and workforce,<sup>125</sup> high rates of young people (aged 16 to 24) leaving the region,<sup>126</sup> workforce fatigue and a lower than expected rebound in international working holiday visa holders, is exacerbating current shortages, particularly in industries such as health and hospitality.

### Employment security and working conditions

Employees are looking for more secure working conditions and flexible working arrangements, placing additional pressure on businesses that have relied on casual and shift work arrangements. This is particularly acute for the region's arts, public administration, real estate, tourism and health sectors, with many workers during the pandemic leaving for more secure work.<sup>127</sup>

### Increased service demand

A 36% increase in population (2011 to 2021) in the region<sup>128</sup> has increased demand and pressure on all essential services and industries in the local economy. This includes, but is not limited to, health, education, and retail and has increased pressure on infrastructure requirements such as internet access and network coverage.<sup>129</sup>

20 Grampians Regional Development Australia reference area. This score is self-reported by residents on a rating scale of 'very poor' (1) to 'very good' (7).

21 The Australian Digital Inclusion Index is comprised of access, affordability and digital ability assessments for each region.

## Skills challenges

Consultation and engagement across Central Highlands' major industries highlighted several common challenges affecting workforce participation and skills requirements in the region.

Figure 19: Key skills challenges across Central Highlands' major industries



### Limited understanding of industry growth and associated career pathways

Industry representatives state that there is limited understanding about the breadth of career pathways and opportunities within and across sectors in the region, which is impacting attraction and retention. Many students do not have the information to make informed decisions regarding their prospective education, training, employment and career pathways. Some industry roundtable participants reported this as being due, in part, to less exposure or opportunity to engage with students such as at career fairs or within schools. This can result in young people having skewed perceptions of local employment opportunities and leaving for careers or study if they do not see local possibilities and career pathways that align to their interests and values.

### Barriers to accessing vocational and higher education

Industry roundtable and taskforce members identified underlying challenges that present barriers to accessing and completing higher and vocational education in Central Highlands. These included difficulty in accessing transport to and from training, unaffordability of courses for lower socioeconomic populations and a lack of access to child care and other enabling services. These challenges are resulting in declining enrolments in vocational and higher education in Central Highlands, and many industries in the region are feeling the effects of this. Declining enrolments in vocational and higher education is a consistent challenge across Victoria and is currently exacerbated by several factors, including reduced international students and a tight labour market with low and unskilled workers securing jobs that would traditionally require qualifications.

### Inter and intra-sector competition for workers

Labour shortages have led employers within and across industries to compete for the same, limited pool of potential workers. This is particularly relevant in the health care and professional services sector where advanced digital and technology skills requirements are similar among employers in the region.

Increased remote working opportunities mean some industries are facing increased competition for local workers as they have options to be employed by metropolitan firms.

### Alignment between education and training and workforce needs

Industry roundtable participants and taskforce members reflected that training does not always prepare graduates with the full set of skills required for a job. This can lead to a significant mismatch between student expectations and the actual requirements of the role, resulting in poor retention of young workers. Industry roundtable discussions identified the need for more short courses that support workers to develop immediate skills or upskill in relevant capabilities. Key examples include availability of regular courses within the region that focus on foundational hospitality skills (how to engage with customers, provide food and beverages), leadership and managerial capability uplift training sessions and seminars.

The complexities of current Recognition of Prior Learning (RPL) and Recognition of Current Competence (RCC) processes is also seen by industry to be limiting opportunities to recognise skills and capabilities of current and prospective employees and hindering their ability to take new job opportunities within the region.

### Risk of low-skilled future workforce

The current labour shortages are pushing employers to recruit under-qualified employees. While this is a temporary solution, employers are already recognising the implications this will have for developing and retaining a skilled workforce that can meet emerging and future workforce requirements. This is particularly important given approximately 48% of Central Highlands' population has no post-school qualifications, relative to an average of 44% across Victoria.<sup>130</sup>



## Priority skills for the region

The Regional Skills Taskforce and industry roundtables identified a common set of priority skills requirements across all major industries in the Central Highlands region. These priority skills relate to key overarching capabilities that industry representatives believe individuals should have an awareness of when they enter the workforce and should focus on developing as their career progresses.

The specific skills and training requirements identified through engagement are included in each industry profile at Appendix A. These build on the Jobs and Training Needs Report 2022 – Grampians<sup>22</sup> completed by the Department of Education in 2021 and a range of existing strategies and workforce planning undertaken across the region and major industries.

Figure 20: Common skills needs across Central Highlands' major industries



### Core competencies

The need to complement technical skills with interpersonal skills was consistently raised in industry roundtable discussions. The importance of these skills is reflected through their framing as ‘core competencies’. Common personal and social skills needed included interpersonal communication, emotional intelligence, conflict resolution, collaboration and teamwork. Collaboration and communication skills were specified as being vital for external-facing and service-focused roles that require strong customer service and stakeholder management skills. The pandemic also shone light on the need for skills such as resilience, flexibility and adaptability. As the Central Highlands region becomes more diverse, there is also a need for welcoming, diverse and inclusive workplaces with cultural awareness and inclusivity now key workplace skills for all workers.

### Leadership skills

Industry roundtables identified a need to uplift capabilities of existing workforces to meet current gaps in leadership and management positions, ranging from younger workers with limited experience, as well as qualified staff to step into more senior management positions. This is particularly relevant for family businesses growing from small to medium size enterprises. It is important to note that leadership extends beyond direct operation of the business, to also creating effective inclusion and sustainability working environments.

### Digital and technology skills

Digital skills are required across all industries to meet modern consumer expectations and increase business productivity. Increasingly, jobs will involve humans working with machines, which means that future work will require people with technical, digital, and interpersonal skills that empower individuals to work with new technological and communication processes. Needs range from basic digital literacy skills (for example, use of tablets, computers and common sales systems) to digital marketing capabilities and more technical skills (for example, software and hardware activities to support automation, cyber security, biosecurity and emerging electrical technologies).

### Strategic thinking and planning skills

Strong demand across many sectors and increasing government and private investment in major industries across the region has led to a comfortable pipeline of work and potential for growth. To take advantage of these opportunities, individuals and businesses must have strong growth-focused mindsets, strategic business development skills, and competency in sales and marketing to tap into new markets. Industry roundtable participants reflected the importance of problem solving and critical thinking capabilities alongside the ability to stay abreast of changing trends and ways to thrive in evolving environments.

<sup>22</sup> The Grampians Jobs and Training Needs Report captures additional local government areas not included in the Central Highlands region as classified in this profile.

# Opportunities to address workforce and education outcomes

This section presents potential responses and solutions to address the key regional challenges and skills requirements including case studies and examples where the region is already tackling the issues.

## Overview of potential responses

Consultation across the Central Highlands region identified a range of potential education and training responses to address the current and emerging challenges facing major industries.

This profile acknowledges broader issues, policy and funding solutions that could support the Central Highlands region to address workforce and skills requirements. Proposed responses within this profile specifically focus on skills and education related responses within the remit of the Victorian Skills Authority (VSA) and Regional Skills Taskforce.

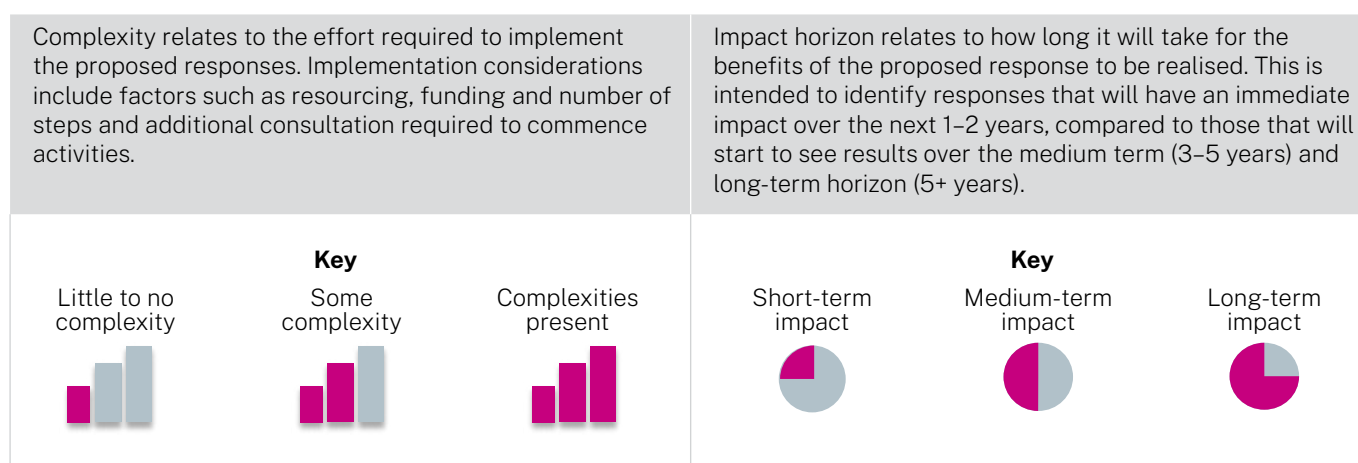
The VSA has engaged (and will continue to engage) across government to share feedback and input to broader megatrends impacting the region, and the taskforce acknowledge the need to continue engaging in advocacy activities to address some of these issues.

An overview of the common skills-related challenges and overarching opportunities are outlined below, with further detail on potential actions.

Figure 21: Overview of challenges and overarching responses across the major industries

Common workforce and skills challenges	 Limited understanding of industry growth and associated career pathways	 Barriers to accessing education and training	 Inter and intra sector workforce competition	 Alignment between education and training and workforce needs	 Risk of low skilled workforce
Overarching solutions	Promote awareness of industry activity and associated career pathways	Identify and address the barriers to participation in education and training and transition to employment	Promote greater inter and intra-sector collaboration	Leverage industry experience to develop innovative training approaches	Increase opportunities for continual learning and development

To support next steps and further discussions in relation to these proposed responses, including further implementation planning, each of the responses is examined in terms of complexity and impact.













**'Sharing examples of career pathways and experiences of local people in industry can raise awareness and increase aspirations for pursuing different jobs within the region.'**

## Key Response Area 1: Promote awareness of industry activity and associated career pathways

Engagement across the region flagged that there is limited understanding about the major industries in the Central Highlands region and career pathways available within the region; a common barrier to increased skills development, attraction, and retention into major industries.

Proposed ways to promote awareness of industry activity and associated career pathways		
Potential responses within the remit of the Victorian Skills Authority	Complexity	Impact horizon
<p><b>Publication of industry data and trends for current and prospective students, parents and career counsellors</b></p> <p>The Victorian Skills Authority (VSA) can work with local industry, higher and vocational education providers, and local government to develop and share data and insights in a student-friendly manner that can support greater understanding of job and career opportunities within the region, enabling more informed education and employment decisions. Reach and impact of this work can be accelerated through the Victorian Skills Gateway, the Skills and Jobs Centre and Local Learning and Employment Networks (LLENs). It would also complement implementation of the new Vocational Major for senior secondary students. Data could be shared with students, teachers, career counsellors, parents and other networks who can have an influence on students' decision making to help young people better understand local educational and career pathways and encourage them to study in the region.</p>		
<p><b>Support the development and publication of career pathway and journey mapping examples for the Central Highlands region</b></p> <p>Taskforce members reflected on the importance of increasing awareness among current and prospective learners of the various career pathways individuals might have throughout their lifetime. Sharing examples of career pathways and experiences of local people in industry can raise awareness and increase aspirations for pursuing different jobs within the region. Journey mapping examples could be developed in consultation with the taskforce, industry and community members and represent the diverse backgrounds and circumstances for different workers—including school leavers who have successfully started a career, skilled migrants, career changers and, or mature-aged learners, women re-entering the workforce, people who identify as having a disability and those from culturally and linguistically diverse backgrounds, Aboriginal and Torres Strait Islander people, and other under-represented cohorts.</p>		
Potential responses that can be achieved through collaboration across the region and with broader partners and stakeholders		
<p><b>Promote the success stories of individuals and businesses in the region through innovative marketing campaigns</b></p> <p>Showcasing stories of successful people with diverse, impactful, and rewarding careers across industries or in different roles within industry, can help attract prospective workers, retain entry level workers and highlight opportunities for career development.</p> <p>This could help address mistaken perceptions of key regional industries and promote benefits and career pathways through creative marketing campaigns. Success stories should include information about industry advancements and break down traditional stereotypes that may be hindering attraction of non-traditional cohorts for some industries.</p> <p>Specific examples to promote successes in each industry are provided in the industry profiles in Appendix A.</p>		



Potential responses that can be achieved through collaboration across the region and with broader partners and stakeholders	Complexity	Impact horizon
<p><b>Expand engagement activities with students and their networks</b></p> <p>Forums and programs can open up opportunities for employers and industry to partner with schools to help students build their understanding of employment and career opportunities within the region. Programs and experiences, including excursions, incursions and multi-employer organised events, enable students to build an early understanding of their strengths and interests and how this can translate to skills, capabilities, and career opportunities within and across sectors in the region.</p>		
<p><b>Support businesses with shared resources and streamlined processes to increase access to work placement opportunities across the region</b></p> <p>Taskforce members and industry roundtable participants reflected on the need for more work placement opportunities and greater support for businesses to take on students. Examples to build on include the Mindshop Excellence and AgCAREERSTART programs (refer to case studies).</p> <p>The recently announced School to Work program to be operated through LLENs will help schools to connect with industry to gain work placements and better support employers to improve student experiences. A more streamlined approach to work placements (that is, standardised application forms, processes) will help enhance the scale and impact of high school work experience programs and uplift perceptions of major industries in the region.</p>		
<p><b>Targeted engagement with students and vulnerable communities to build awareness of education, training and career pathway opportunities</b></p> <p>Tailored and targeted programs to engage students and vulnerable cohorts into education, training and employment is needed for vulnerable jobseekers and early school leavers. Senior Secondary Pathway Reforms and the introduction of the new VCE Vocational Major will support this along with:</p> <ul style="list-style-type: none"> <li>• work placements and work exposure experiences to provide practical understanding of work skills and expectations of employers</li> <li>• identifying greater supports for vulnerable students as they transition into senior secondary school to ensure young people have more opportunities to access pathways which better meet their interests, ambitions and support needs.</li> </ul>		

### Case study: Mindshop Excellence program

Mindshop Excellence fast tracks the development of young minds through a one-week, employer-hosted work experience program aimed at fostering skills such as teamwork and self-confidence. Acting as company 'executives' for the week, students are given a real issue by the host company and using the powerful program's problem solving framework, find solutions to the issue as a team.

Students unable to participate in the core program can learn the same tools and processes through an online problem-solving course and apply them to a real issue of importance to the student. A group of students from St Patrick's College in Ballarat were hosted by the Ballarat Tech School (BTS) and given the challenge of advising them on how to build the brand of the school itself. The scope of the work included developing a unique tagline for BTS, consulting with locally based Brown Ink Design on the internal communication design, making recommendations for how future students will discover, innovate and collaborate when onsite. The college students also devised a social media and STEM based engagement strategy for BTS. The sign and tag line designed by the student team was proudly revealed on the new BTS building – 'Discover today, design tomorrow'.

### Case study: AgCAREERSTART

AgCAREERSTART is a 10-12-month gap-year program designed to kick-start careers in farming for young people under the age of 25. It is a way to learn new skills, apply knowledge, and build confidence in working within the sector. Participants are matched with a host-farmer based on their skills and interests, work and earn for 10-12 months, receive training, mentoring and support to complete a VET course and can access industry events and a network of industry members and peers.



'Beyond food-based agriculture, activity in the industry intersects with the visitor economy as sustainable, farm-to-table destination dining increases in popularity.'

## Key Response Area 2: Identify and address barriers to participation in education and the transition to employment

Understanding the specific challenges for Central Highlands' current and prospective learners is critical to adequately address the barriers to participation in higher and vocational education and successful transition to employment within the region.

Proposed ways to identify and address barriers to participation in education and the transition to employment		
Potential responses within the remit of the Victorian Skills Authority	Complexity	Impact
<p><b>Undertake explorative research to better understand the data, trends and factors affecting enrolments and completions</b></p> <p>High levels of educational attainment have broad social and economic impacts on a region. Lower educational engagement risks people being excluded from the opportunities arising from business and industry expansion. A better understanding of the data, trends and factors affecting participation in education and training within the region can enable more appropriate responses to address and increase participation in education and training and transition to employment.</p>		
<p><b>Support the Senior Secondary Pathways reform agenda through facilitation of local opportunities to improve vocational education and training (VET) within the region</b></p> <p>The Department of Education is enhancing vocational focused education and training in senior secondary schools, including focusing VET delivery in schools to occupations in demand (to grow supply of school graduates to industry) and through the VCE Vocational Major offering broader preparation for careers and work-readiness.</p> <p>The Victorian Skills Authority (VSA) is supporting the reforms with guidance on occupations and industries in demand and advice, to be developed, on the nature of skills needed for the future. These skills vary on a regional basis across Victoria, depending on concentrations of industries so context relevant information can assist in targeting vocational learning. There are opportunities for local education and training institutions to work together to plan and expand skills development and work exposure experiences.</p>		
Potential responses that can be achieved through collaboration across the region and with broader partners and stakeholders		
<p><b>Partner with government, health and community organisations, education and training institutions and other industry bodies to improve access to support services for learners completing their studies</b></p> <p>Further training and education is a pathway for many students into lifelong careers, but for some people, continuing and completing training can be challenging. Issues may relate to health, accessibility, carer commitments, or competing financial demands. Government, health and community organisations, education and training institutions, and industry organisations can collaborate to improve access to support services for students. This may include language support, mentoring and, or buddy systems, financial advice and support, and flexible working arrangements.</p>		



Potential responses that can be achieved through collaboration across the region and with broader partners and stakeholders	Complexity	Impact
<p><b>Increase access to ‘earn and learn’ opportunities for current and prospective learners</b></p> <p>Further investment in ‘earn and learn’ programs where learners can be paid while undertaking placements or where people can undertake learning while working (including through apprenticeship or traineeship models) can help address barriers to course completion, transition into employment, and career progression in employment. The taskforce can build on existing ‘earn and learn’ initiatives in the region, such as the Registered Undergraduate Student of Nursing (RUSON) and Federation University’s Co-operative Model (detailed in the below case studies). These programs help to address traditional mindsets and approaches to career pathways, highlighting that work can be a pathway into education and training rather than education and training being a pathway into work.</p>		
<p><b>Advocate for, and support, local initiatives to address housing challenges that are impacting participation in education and training, employment and upskilling of prospective learners and workers</b></p> <p>Consultation across Industry and with taskforce members highlighted the significant impact of housing affordability within the region on education, training and workforce participation. While housing and other related policy is outside the remit of the VSA, the taskforce reflected on the criticality of addressing these challenges to enable success across broader skills and workforce participation.</p> <p>Key strategic investment within the region is likely to accelerate accessibility to housing and transport. The VSA can help advocate for investment across government, including with Homes Victoria, and support identification and coordination of innovative solutions to address this challenge.</p>		
<p><b>Develop a clear pathway for prospective students to transition from non-traditional training opportunities into higher and vocational education</b></p> <p>While training and education are key pathways to upskilling and developing skills needed for employment, there are also some for whom traditional modes of studying and training can represent additional barriers. These barriers may include low confidence and a lack of family support and role modelling, which can influence enrolment and completion. Further investment and support to expand non-traditional or ‘taster’ programs is one approach to bridging the gap from disengagement to study and work opportunities. A desire for non-traditional program pathways may also be motivated by a need or preference for earn and learn opportunities. Head Start and Learn Local programs have had considerable success in the Central Highlands region by providing hands on, relatively shorter, and personal supported placements (refer to Learn Local case study).</p>		
<p><b>Continue to consult apprentices and employers to identify opportunities to ensure the apprenticeship model remains fit for purpose</b></p> <p>The Central Highlands taskforce members reflected on opportunities to improve the current apprenticeship model including how to ensure apprenticeships meet the needs of students and employers and adjusting where required to address barriers to completion. The VSA, along with Apprenticeships Victoria, can work with regional industry and across the Victorian and Australian Government to better understand and address challenges and gaps in the current system and identify opportunities for improvement.</p>		

### Case study: RUSON program

The Registered Undergraduate Student of Nursing (RUSON) is a pilot program to employ second and third-year students above the ratio to undertake general nursing activities under the delegation and supervision of registered nurses. It provides an opportunity for students to 'earn while they learn' before their graduate year. Participants are provided with a list of included and excluded duties, while staff are trained to support the student and ensure they are working within their scope of practice. The RUSON program has been extremely successful for Central Highland's health care and community services industry and taskforce members reflected on the opportunity to expand and, or replicate the program across other major industries in the region.

Source: [Registered undergraduate student of nursing \(RUSON\) Employment and implementation guide](#)

### Case study: Federation University Co-operative Model

Federation University will become the first in Australia to establish a globally recognised co-operative model into course offerings. Building on existing partnerships with businesses, the model allows students to undertake paid work with established businesses for course credit, while putting into practice their learnings from the traditional classroom component. This model develops work-ready graduates who already have connections to industry, the region, and a deeper understanding of career pathways.

Every Federation co-operative degree will include transferable skills as well as the technical skills to prepare students for their careers and at least 150 hours of workplace learning that contribute to their course credits. The co-operative model provides students with an opportunity to work with employers and build work experience to go straight from university into a first job or new career.

Source: [The Federation University Co-operative Model](#)

### Case study: Learn Local courses

Learn Local courses are short courses that are offered at low or no cost to eligible adult Victorians as part of Adult, Community and Further Education (ACFE) offerings in Victoria. There are a wide range of courses including digital and computer skills, reading and writing, maths, study skills, employability skills, and English language, as well as preparation for various industries such as aged care, food processing, health services, hospitality, construction and warehousing and distribution. Learn Local courses are flexible and can be tailored specifically to suit learner needs.

Source: [2022 Grampians Learn Local course guide](#)





'Further investment and support to expand non-traditional or 'taster' programs is one approach to bridging the gap from disengagement to study and work opportunities.'

### Key Response Area 3: Enhance inter and intra-sector collaboration to attract, build and retain a skilled and diverse local workforce

There are clear opportunities for employers to work collaboratively on workforce attraction, upskilling, reskilling and retention, through shared workforce planning.

Proposed ways to enhance inter and intra-sector collaboration to attract, build and retain a skilled and diverse local workforce		
Potential responses within the remit of the Victorian Skills Authority	Complexity	Impact
<p><b>Provision of data and insights to support workforce planning</b></p> <p>The Victorian Skills Authority (VSA) collects and reports on data and insights that can be shared to support workforce planning across the Central Highlands region. Working in collaboration with industry representatives and employers, the VSA can support the Central Highlands region with workforce planning by sharing data and insights. This could include workforce data at a holistic perspective and more closely focusing on gender, diversity, and inclusion measures with time.</p>		
<p><b>Connect key players in the region to increase accessibility and improve the quality of education and training provided</b></p> <p>The VSA can help coordinate efforts across Local Learning and Employment Networks (LLENs) and Learn Locals in Central Highlands, to increase provision and accessibility of services (further detailed in the case studies below) including connecting with other Victorian government agencies such as Regional Development Victoria or Jobs Victoria.</p>		
Potential responses that can be achieved through collaboration across the region and with broader partners and stakeholders		
<p><b>Strengthen connections between education and training institutions and industry to raise awareness of employment pathways</b></p> <p>Prospective workers and key influencers, including teachers and parents, benefit from greater awareness, engagement, and understanding of the various initiatives and opportunities available to learners. The industry and education partnership tour is one example of a program in the region designed to showcase the exciting opportunities presented by industry and to break down traditional stereotypes to attract a future workforce (refer to case study). There is an opportunity to scale programs such as this to increase reach and impact.</p>		
<p><b>Leverage industry training materials, facilities and programs across multiple organisations to increase scale</b></p> <p>An increasing number of medium and large organisations have already developed their own internal training systems and materials and have access to leading technology and equipment. A concern regarding current training methods is that lower enrolments can impact the types of training opportunities available, and some courses may not adequately prepare individuals to work in industry. There are opportunities for collaboration across industries and educational institutions to organise and deliver training more efficiently and effectively, whether for learners, junior staff, middle management and, or senior executives.</p>		



Potential responses that can be achieved through collaboration across the region and with broader partners and stakeholders	Complexity	Impact
<p><b>Facilitate peer learning and cross-business mentoring</b></p> <p>Upskilling staff in different aspects of operations (for example, front of house, online marketing, accounts) through mentoring partnerships with other local businesses enables workers to develop a portfolio of skills that are less seasonally dependent, thereby boosting potential hours worked and minimising the need to hire additional staff. Opportunities for larger businesses to support smaller businesses to offer on-the-job mentoring could also be explored by taskforce members.</p> <p>In industries such as construction and manufacturing mentoring partnerships could occur on a business-to-business – rather than individual-to-individual – basis, by facilitating partnerships between small and large contractors in the delivery of key projects. This allows smaller businesses to both provide support and gain exposure to jobs on a larger scale. This will be particularly helpful where smaller, family operated businesses are transitioning to larger scale operations.</p>		
<p><b>Advocate for simplifying participation pathways for workers in transition across industries or mature and retiring cohorts</b></p> <p>Current Recognition of Prior Learning (RPL) and Recognition of Current Competence (RCC)<sup>23</sup>, credit transfer and recognition of international qualification standards within Victoria can often be challenging given time or financial constraints and complexity of the processes. This can act as a deterrent for people with skills and capabilities to take-up job opportunities and progress their careers. Initiatives that lead to greater recognition of non-traditional knowledge and skills, including on-the-job learning and work experience, can support greater attraction.</p> <p>Similarly, initiatives to reconnect recently retired workers with flexible working arrangements without substantial impacts to pension or superannuation payments, is another way that industry can retain expertise without added costs of re-upskilling or training employees.</p>		
<p><b>Shared recruitment pools across organisations where appropriate or feasible</b></p> <p>Metropolitan and regional employers face different employment market conditions. For example, regional employers must contend with the challenge of how to retain workers on local projects. Taskforce and industry representatives identified collaborative and coordinated employment processes as one way to minimise the impacts of this challenge. There are already examples of this kind of activity in the region. For example, the StaffConnect App (refer to case study) is used across the region's event management sector to facilitate information and resource sharing. Applications like this could be used across other industries that employ a seasonal workforce such as agriculture.</p> <p>Another possible approach is to collate job applications for a group of local employers into a centralised 'bank' of prospective workers. This would streamline the application process so that a candidate need only apply once. Further, this would enable employers to communicate among themselves to find workers of best fit, thereby facilitating appropriate working arrangements that lead to the worker staying in Central Highlands.</p> <p>Other shared employment models include arrangements for businesses to employ people with niche and, or transferable skills across more than one business. This would also increase level of employment for that worker. While there are potential risks and tax limitations associated with workers having multiple employers, exploring existing shared recruitment models would help to ensure the appropriate mechanisms are in place for any models considered.</p>		

<sup>23</sup> RPL and RCC means that knowledge and skills acquired through work or life experiences may be recognised as equivalent to some specified course outcomes.

### Case study: Industry and education partnership tour

In 2022, Commerce Ballarat, Central Highlands LLEN and the Department of Education brought together a group of school teachers and provided them with a local industry tour to help raise awareness of the job and career opportunities available for students within the region. The tour included visits to:

- The Asia Pacific Renewable Energy Training Centre at Federation University to explore the cutting-edge training opportunities for a booming renewable energy sector
- Vitrafy, Australia's exciting new bio tech Company leading the way in innovative new, patient-orientated outcomes. Vitrafy is revolutionising the delivery of existing and emerging cell-based therapies from the research laboratory to the patient bedside
- a range of presentations and facilitated conversations on the 'Future of Work' and key jobs, the strategic direction of the region with a focus on the Sovereign Hill Master Plan and a panel discussion focusing on the career opportunities in the region's hospitality and tourism sector.

### Case study: StaffConnect app

StaffConnect is a mobile application already used by several businesses in the region. The app manages event staff scheduling, payroll, talent matching (as users can create personal profiles) and invoicing to improve efficiencies in staff management. Participants in the visitor economy industry roundtable noted the need for a way to increase visibility of available staff and share resources with fellow businesses. This application is already used by some businesses in the region. Similar services tailored towards other sectors such as health care and community services also exist which could be better scaled and leveraged across other industries experiencing staff shortages.



'In industries such as construction and manufacturing mentoring partnerships could occur on a business-to-business – rather than individual-to-individual – basis, by facilitating partnerships between small and large contractors in the delivery of key projects.'





## Key Response Area 4: Leverage industry experience to develop innovative training approaches

Industry holds a great breadth of experience, and the strongest awareness of current and emerging workforce and skills needs. Employers and industry representatives can play a more active role in planning and delivering education and training that upskills the current and prospective workforce to meet emerging and future industry needs.

The opportunity for greater collaboration with education and training providers will enable a more scaled, coordinated and consistent approach to innovative and best-practice education and training opportunities for current and prospective learners in the region.

Proposed ways to leverage industry experience to develop innovative training approaches		
Potential responses within the remit of the Victorian Skills Authority	Complexity	Impact
<p><b>Provide local insights to support the development of the annual Victorian Skills Plan</b></p> <p>The Victorian Skills Plan consists of a suite of products that can support the facilitation of targeted and purposeful collaboration across industry and training providers to address emerging and future skills needs across the Central Highlands region.</p>		
<p><b>Work with the VET Development Centre and industry expertise to better support teacher training and development</b></p> <p>The new and deeper skills that taskforce members highlighted as priority for the region will require new vocational education teaching capability. The Victorian Skills Plan highlights the need for strategy to lift vocational education and training (VET) teacher capacity for future skills. The VET Development Centre (VDC) is also able to develop programs to bring the latest in industry skills to teachers through professional programs and raise the professional standing of the VET workforce.</p>		
<p><b>Facilitate discussions and collaborative projects that improve design and delivery of education and training courses relevant for the region's major industries</b></p> <p>The VSA can help bring industry and education and training providers together to collaborate and explore new ways to solve difficult skilling problems. A range of participants (industry experts, teacher and trainers and learners) could come together to take part in workshops that aim to achieve a common goal such as improvement of skills for an occupation, an industry and, or a cohort. The VSA's taskforce manager could work with Central Highlands' regional taskforce to confirm the key industries and cohorts that would most benefit from exploring and pursuing new education and training design and delivery models within the region.</p>		



Potential responses that can be achieved through collaboration across the region and with broader partners and stakeholders	Complexity	Impact
<p><b>Encourage industry and education providers to take a place-based approach to course design and delivery</b></p> <p>Vocational education providers indicated that accreditation rules for some VET qualifications and associated funding limited their ability to organise vocational programs aligned to the needs of the region, or specific requirements lead to high-cost structures given limited student numbers. The new organisational arrangements for VET in Victoria focusing on planning for future skills needs to consider how these needs can be met effectively at a regional level.</p> <p>Travel to Ballarat (for those who live outside the city) or to Melbourne to complete components relating to courses such as these can be a barrier to completion and draw valuable workers away from the region. This issue is particularly acute in the context of limited educational provision in areas outside Ballarat, coupled with low car ownership levels and limited public transport access in more disadvantaged areas outside of the major towns in the region. Education providers also face challenges running courses at scale and in locations outside of larger regional cities or towns. Integrated educator and industry initiatives such as the Department of Jobs, Skills, Industry and Region's Digital Jobs program<sup>131</sup> and Federation University's Co-operative Model to support mid-career people to gain industry experience (refer to case studies) play a significant role in addressing some of these gaps and improving localised education provision.</p>		
<p><b>Facilitate a smooth flow of teachers between industry and training</b></p> <p>Increasing attraction and retention of accredited trainers with relevant, up-to-date industry experience can help address skills gaps and development opportunities for current and future higher education or VET students. Several factors act as barriers for prospective trainers including uncompetitive remuneration and the perceived cost of undertaking the Training and Education Training Package (TAE) qualifications as the base requirement for teaching in VET. Financial and structure issues need to be addressed to improve supply of the teaching workforce. For students, improved access to quality VET courses is likely to translate to higher uptake and graduates equipped with the right skills to transition into employment.</p>		

### Case study: Ballarat Tech School

The Ballarat Tech School is a technology hub that facilitates programs and working relationships that emphasise and enable the vital science, technology, engineering, arts and mathematics (STEAM) skills needed for the 21st century. Ballarat Tech School complements the education delivered by partner secondary schools through providing access to the latest technologies, state-of-the-art facilities and innovative learning programs. Programs are developed in partnership with local industry, community, and schools. The school is currently only accessible for students from 17 partner schools in the Ballarat area throughout the year for specialised programs. Expanding access to the facilities and programs available at the school could benefit a broader number of current and prospective learners.

### Case study: Digital Jobs program

The Victorian Government's Digital Jobs program is building the state's digital workforce by training and upskilling mid career Victorians looking for a career change so they can transition into digital careers. The program is supporting up to 5,000 mid-career Victorians over the age of 30 to complete 12 weeks of industry-backed training with top employers along with the opportunity to apply their new digital skills in a 12-week digital job placement with a Victorian business.











'Increasing attraction and retention of accredited trainers with relevant, up-to-date industry experience can help address skills gaps and development opportunities for current and future higher education or VET students.'

## Key Response Area 5: Increase opportunities for continual learning and development

Lifelong learning is critical to ensure the development of a future-proof workforce that can continue to grow and adapt to emerging industry and technological skills and requirements.

Advocacy, promotion, and facilitation of opportunities for life-long learning through micro-credentials, short courses and personal and professional skills development has been identified as a critical solution to address skills gaps.

Proposed ways to increase opportunities for continual learning and development		
Potential responses within the remit of the Victorian Skills Authority	Complexity	Impact
<p><b>Future skill requirements planning and mapping</b></p> <p>Advances in big data techniques which can identify work skills from job advertisements and other sources has given rise to a focus on work skills needed to complement qualifications.</p> <p>The Victorian Skills Authority (VSA) is exploring ways to better map and showcase skills in relation to occupations, working with industry and education and training providers. Developments in this area can assist with skills-based recruitment for employers in the region.</p>		
<p><b>Highlight the opportunities and benefits of lifelong learning to increase participation</b></p> <p>The VSA could support targeted initiatives that position training and upskilling as a natural part of personal and professional development regardless of career or employment status. Examples of possible collaborative partners include local education providers in Central Highlands and the Office of the TAFE Coordination and Delivery.</p>		
<p><b>Improve access and provision of education, training, and employment for Aboriginal people by working closely with Traditional Owners</b></p> <p>Building on existing initiatives and collaboration across the region, the taskforce has identified the need to better understand ways to increase engagement and provision of support for Aboriginal Victorians. Working with Traditional Owner corporations within the region such as the Wadawurrung Traditional Owners Aboriginal Corporation, the VSA is seeking to better understand the barriers to engaging in education, training and employment and meet current, emerging and future skills needs of First Nations people and businesses.</p>		
<p><b>Promotion of micro-credential courses that can meet industry and employee skill development needs</b></p> <p>Reskilling and upskilling is an increasingly critical way to secure employment opportunities and progress meaningful careers. Employers and employees are expected to look to short, sharp and focused skill development opportunities to address emerging skills requirements, considering both time and financial costs. The VSA is engaging across industry and the region to understand and plan for the development of the right skills sets that will meet the needs of industry and workers.</p>		

Potential responses that can be achieved through collaboration across the region and with broader partners and stakeholders	Complexity	Impact
<p><b>Design and delivery of micro-credential courses to upskill employees</b></p> <p>There is opportunity for industry to work with local education and training providers to design and deliver short courses to upskill existing employees such as the Hospo Heroes training program (refer to case study). Examples include leadership training, conflict management and resolution, and foundational and advanced digital skill development.</p> <p>The Central Highlands region has several education and training institutions able to work collaboratively with industry to design and deliver short courses that address niche skills gaps and, or core interpersonal, digital and sustainability skills relevant to the respective industry.</p>		
<p><b>Review and redesign recruitment processes to prioritise core competencies, alongside technical competency</b></p> <p>Numerous industry roundtable discussions highlighted a preference for job candidates with the aptitude to learn and an interest in the subject of work over pure technical skills. As a result, recruitment and application processes could reflect this preference. This could include informal interview portions of the process, relaxing of qualification requirements (where appropriate), and involving operational staff in the recruitment process alongside human resources or similar teams.</p>		
<p><b>Promote a culture of learning through establishing communities of practice around different industries, technological innovations, or skill level cohorts</b></p> <p>Establishing communities of practice for entry and mid-level workers provides an opportunity for workers to connect, learn and upskill. Because of the interactive and collaborative nature found in many communities of practice, participants are empowered to take ownership of their learning journey. Additionally, strengthening of personal relationships is also likely to increase employee retention within a company and region once those networks are created. Buddy or mentor programs also encourage continual learning – specifically in mid-level roles as management and interpersonal skills by further developing. Matching a junior and manager brings the added benefit of creating channels between ‘on the ground’ and strategic roles.</p>		

## Case study: Hospo Heroes hospitality training program

Hospo Heroes is an industry strengthening program delivered by Ballarat Regional Tourism (BRT) to upskill the hospitality workforce in the Central Highlands region. This program was funded by the Victorian Government as part of Victoria's commitment to supporting the recovery, innovation and growth of the visitor economy sector. BRT began by conducting a business survey to understand the local skills gaps and needs across the region. The results from this survey revealed that specialty product knowledge and customer service experience was a recurring area of weakness in the hospitality businesses.

Ballarat Regional Tourism took a different approach and engaged strong local industry identities to deliver short, hands on, practical training. An expression of interest to conduct the training was invited from hospitality leaders, with the successful businesses chosen based on their knowledge, ability to deliver training and profile within the industry. Peer-to-peer training provided an opportunity for new and younger hospitality workers working within the sector to connect with these well known and highly-regarded 'hospo heroes', and to learn from the best in the business. Programs delivered across the region included:

- **Barista Basics** a hands on barista and coffee service course designed to give staff the skills to prepare and serve coffee using a commercial coffee machine
- **Welcome to Wine** a hands-on introductory wine course, designed to help upskill hospitality staff to build their wine knowledge
- **Cocktail Masterclass** covering the basics of what bartenders need to know to bring the flavours of cocktails to life and make the perfectly mixed drink
- **Beer Bootcamp** helps provide staff with the knowledge and expertise to deliver the best craft beer experience
- **Events Service Bootcamp** a specially designed, one day intensive opportunity for a hands-on learning experience that uses the 3 main information pathways: aural; visual and kinetic.



'Advocacy, promotion, and facilitation of opportunities for life-long learning through micro-credentials, short courses and personal and professional skills development has been identified as a critical solution to address skills gaps.'



## Appendix A: Industry profiles



This section includes detailed industry profiles for each of the 7 major industries across the Central Highlands region.

The following information is provided within each of the industry profiles

- an overview of the industry, its composition and presence in the region
- top occupations and forecast demand
- current education and training trends
- current, emerging and future skills requirements
- opportunities to improve education, training and workforce outcomes.

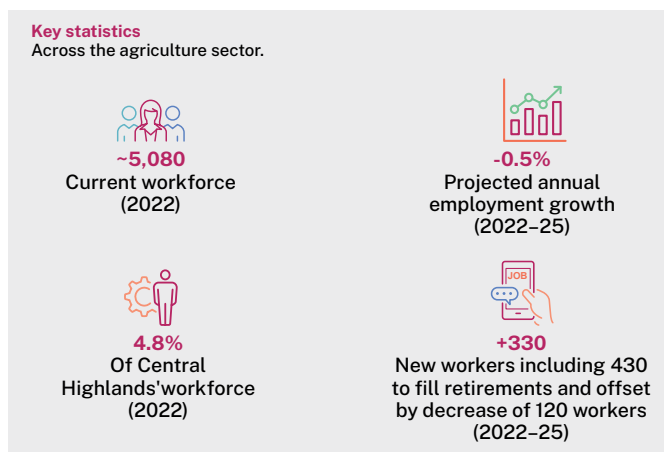
While this profile acknowledges and references the broader issues, policy and funding solutions that could support the Central Highlands region to address the enabling and fundamental workforce and skills requirements, the proposed responses within this profile specifically focus on skills and education related solutions within the remit of the Victorian Skills Authority and the Central Highlands Regional Skills Taskforce.

# Agriculture industry profile

**The agriculture sector in Central Highlands includes agriculture, forestry and fishing. It is the seventh largest employer in the region with around 5,000 workers in 2022<sup>132</sup> and generates upward of \$688 million or about 8% of the region's gross value added (GVA) in 2021.**

Activity in the agriculture sector intersects with 2 strategic directions outlined in the Central Highlands Regional Economic Development Strategy (REDS) document to enhance local value add and collaboration across the agri-food supply chain as a strategic goal for the region, and to strengthen waste management industries.<sup>133</sup>

Figure 22: Central Highlands' agriculture industry snapshot



## Key strengths

Central Highlands benefits from favourable growing conditions that result in high quality and reliable products across the myriad of agricultural activities including livestock farming, horticulture, and dairy produce. Some of these advantages include good rainfall, excellent soils and exceptional ground water. Given this reputation, it is no surprise that the region is one of the major food bowls in Victoria, producing 17% of sheep, 9% of grain, and 8% of poultry across the state.<sup>134</sup>

While secondary production is an essential part of the agriculture supply chain, related activity is captured in the manufacturing industry profile. Many primary and secondary operations in the region occur as a single, integrated operation. The region does not only have a strong reputation for consumption-based agriculture outputs, but also other manufacturing inputs, support services and inter-agriculture inputs such as Creswick Woollen Mills, Gason, Pyrenees Hay and Broadbent Grain.

With a growing focus and interest in quality, secure and sustainable food products, the agriculture sector in Central Highlands is well positioned to take advantage of this market demand due to the increasing number of heritage and artisanal crops on local farms.

Agriculture is the second largest export in the region.<sup>135</sup> Central Highlands is well connected to metropolitan Melbourne and other regional centres such as Geelong by rail. The region also benefits from several arterial roads and local airports through which trucking and haulage activities of local produce occur.

## Key challenges and opportunity areas

Leveraging opportunities and addressing current challenges will boost output and increase value of the agriculture industry for Central Highlands' local economy.

## An industry in transition

The sector is still in a period of transition towards uptake of new technologies. As such there may be variation between the operating environments of different businesses.

The development and use of digital advancements that involve Industry 4.0 technology including the Internet of Things, automation, and augmented reality, highlights an opportunity for the sector to increase efficiency, safety and harvest management into the future. These advancements may change the skills and capabilities required by workers, given technology can reduce the need for manual labour, requiring reskilling and upskilling of existing workers.

## Promoting the value of the agriculture sector amidst growing demand for current and new workers

Industry roundtable participants reflected on a shortage of labour in the region – both low and higher skilled. This is consistent with labour shortages across most industries and the broader sector that has experienced a reduced pool of seasonal workers in the past couple of years, reduced access to school leavers<sup>136</sup> and working holiday makers.<sup>137</sup>

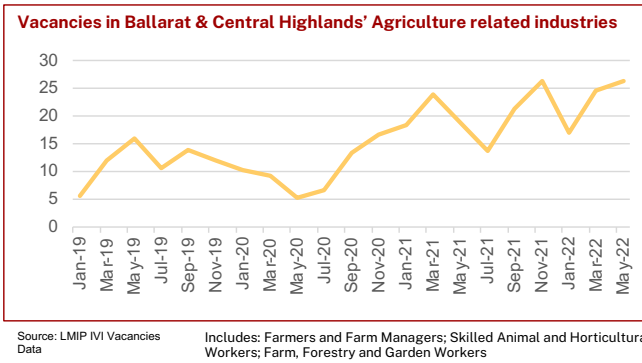
Vacancy trends across agriculture have continued to increase in recent years, doubling between 2019 to 2021.<sup>138</sup> These vacancy figures are likely to be understated as the data does not capture vacancies advertised through other means such as word of mouth or notice boards.

Workforce supply is also impacted by competition from other sectors and regions (for example, working conditions for veterinarians in Melbourne compared to livestock care in rural areas). For some lower skilled roles, employment can be seasonal.





Figure 23: Agriculture industry related vacancy changes in Ballarat and Central Highlands



A limited awareness of opportunities and pathways available in the region among prospective workers is further hindering attraction. Uplifting perceptions of the sector and career pathway options can help to attract more workers into farming, processing, and support activities.

**Addressing enabling factors for attracting a future workforce in agriculture**

There are several challenges in the enabling environment that can hinder workforce attraction and retention in the sector. These barriers include limited access to public transport and accommodation in farming regions, as well as broader circumstances that impact training or working in the sector such as cost or caring responsibilities. While some are largely beyond the direct remit of the Victorian Skills Authority (VSA) there is capacity for advocacy, coordination and collaboration activity between the VSA and the taskforce. Targeted programs that provide mentoring support, flexibility to earn and learn and take advantage of available funding may help under-represented cohorts to engage with opportunities in the sector.

**Sustainability considerations**

Quality output in this industry is dependent upon conditions such as climate, soil and rainfall. While industry roundtable participants reflected on the favourable agricultural conditions found in Central Highlands, the region is not immune from the risk and threats of climate change, extreme weather events and other climate related externalities. There is appetite for proactive responses from local businesses in this space. However, taskforce and industry roundtable participants identified a need for additional support to address the increasing cost of inputs, and greater guidance to balance competing uses of land in the region. These initiatives would strengthen resource management, sustainability and carbon abatement responses needed for the continuing prosperity of this sector.

More broadly among the existing workforce, there is opportunity to upskill owner employer businesses – of which many begin as smaller, family operated businesses. Connecting professional services with these businesses can assist in developing the technical elements needed to scale a business, as well as the management skills required to ensure that the growth is sustainable.

**Interface with other industries and emerging sectors**

The agriculture industry in Central Highlands interacts with several other industries via the production supply chain.

Table 4: Key intersections across Central Highlands' agriculture industry

<b>Manufacturing</b>	As primary and secondary production increases in scale, intensification and automation, there is a parallel need for enabling tools. These can be built and maintained by workers in manufacturing
<b>Hospitality and tourism</b>	Agriculture has clear linkages with the food manufacturing sector and food-based tourism. The Central Highlands region has already cultivated a strong reputation in this space with several destination eateries and lifestyle experiences and has strong opportunities to continue to do so.
<b>Transport and logistics</b>	As the primary production aspect of agriculture begins to slow, some farmers are themselves expanding their businesses by diversifying into transport and logistics operations.
<b>Public administration</b>	Food production, and particularly for export markets, is tightly regulated by government and industry bodies. Quality assurance processes require trained staff, and a shortage of workers can lead to bottlenecks in production.
<b>Sustainability and climate change management</b>	Bushfire, flood and extreme weather events are a threat to all areas of Victoria but are acutely felt in regional Victoria. Responsible and appropriate resource management can reduce the risk of such events or minimise the impact of human activity on the land, such as through responsible water management, conservation and protection of land, controlled burns, and culling of pests.

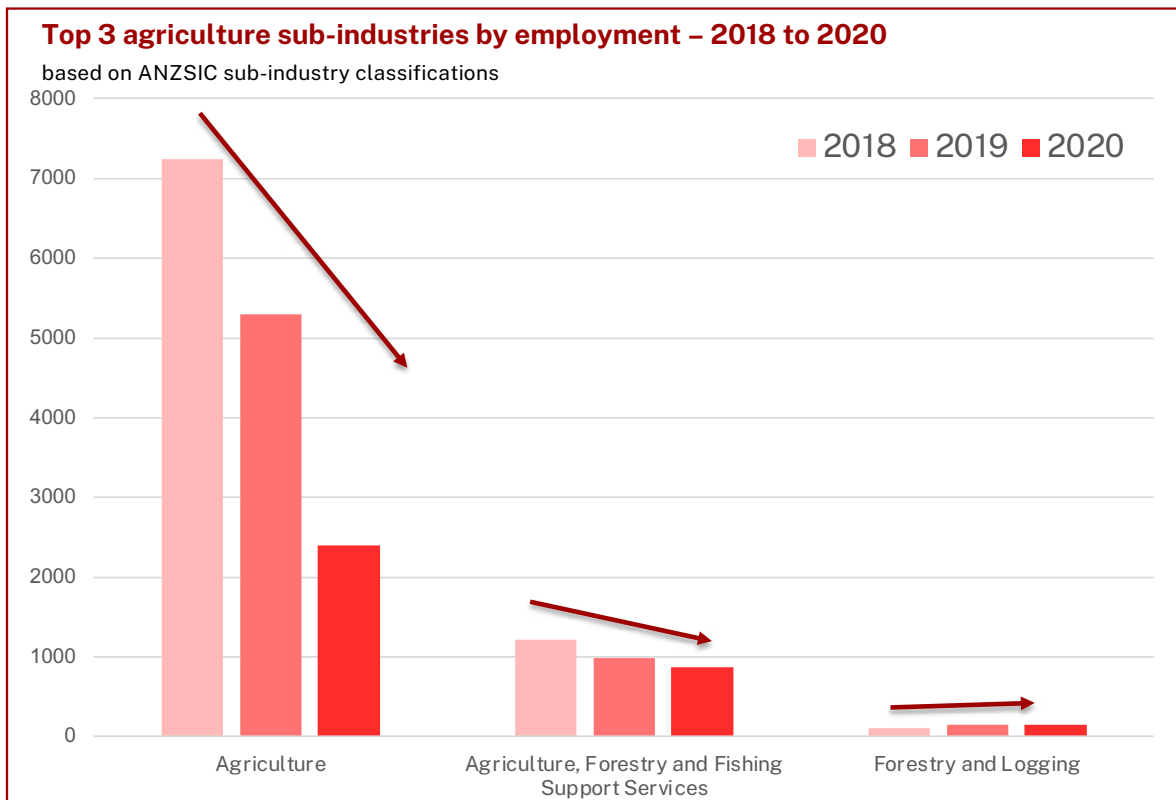
## Recent and forecasted industry growth

### Largest sub-industries by employment

The agriculture sector in Central Highlands is comprised of several subsectors. The largest employment subsector is agriculture which has been steadily declining over recent years, falling 67% between 2018 to 2020.<sup>139</sup> In 2020, approximately 2,390 people were employed in the growth of food, floral and other crop production.<sup>140</sup> Agriculture, forestry and fishing support services employment also declined in this period.<sup>141</sup>

Agriculture activity appears to be positioned for growth in coming years as reflected in various strategic directives including the Regional Economic Development Strategy (REDS).<sup>142</sup> Industry taskforce members noted that the decline in employment may be partly explained by increased uptake of automation and technological methods during production which requires fewer workers across current roles. Falling employment in 2020 was also consistent with border closures due to the pandemic which restricted the availability of seasonal workers.

Figure 24: Top 3 agriculture sub-industries by employment



Source: NIEIR Central Highlands Regional Data, 2020



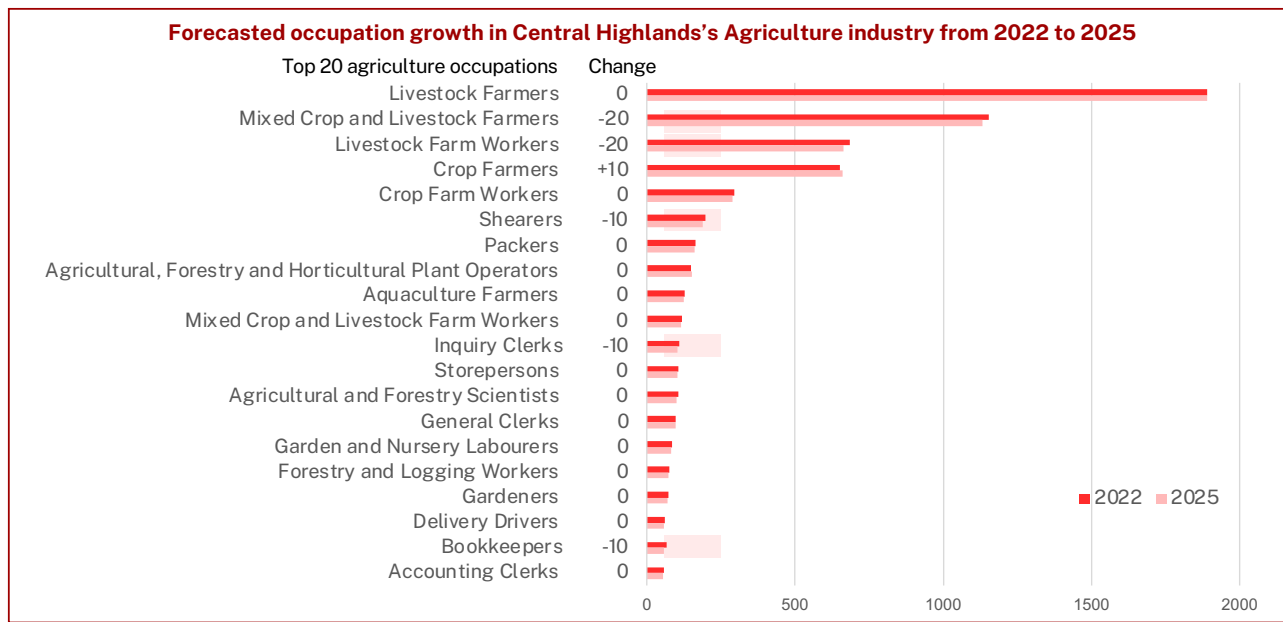
### Forecasted growth by occupation

Current projections suggest the agriculture workforce will grow by over 330 total new workers between 2022 to 2025.<sup>143</sup> Around 430 workers will be required to replace retirees, partially obscuring the forecasted falling number of new workers.<sup>144</sup> These figures are likely to be conservative given current growing activity in the sector including in the medicinal cannabis, native food and alternative protein spaces.

For example, alternative protein think-tank Food Frontier notes that 28% of production occurs in this space (second only to NSW with 68%), and that growth in this area follows growth in traditional food production areas, of which Central Highlands plays a key role in the Victorian agricultural landscape.<sup>145</sup>

Forecasted occupation growth across this sector for the top 20 occupations (as classified by the ABS) is included below.<sup>24</sup>

Figure 25: Forecasted occupation growth in Central Highlands’ agriculture sector (2022–2025)



\*LMP Data Industries by employment and gender, 2021 (Ballarat)<sup>41</sup>

Source: Victorian Skills Authority Employment Forecasts, April 2022

24 This graph is not exhaustive (top 20 occupations only) and may not include other major roles and responsibilities as identified by industry.

## Skills and occupation requirement

Beyond forecasted occupations based on Australian Bureau of Statistics (ABS) classifications, industry roundtable participants raised a number of skills needs and capabilities required in the next 1–2 years (immediate needs) and 3–5 years (emerging needs).

	Immediate needs (1–2 years)	Emerging needs (3–5 years)	
Agriculture	<p><b>Specific roles or occupations:</b></p> <ul style="list-style-type: none"> <li>• technicians and maintenance in robotics and automation</li> <li>• digger operators and drivers</li> <li>• veterinarians</li> <li>• skilled and unskilled labour for manual tasks for example, grading</li> <li>• meat related activities (processing, packaging)</li> <li>• merchant advisory</li> <li>• transport operators</li> <li>• augmented reality operators</li> <li>• trade management</li> <li>• diesel mechanics</li> <li>• human resources and recruitment managers</li> </ul>	<p><b>Core competencies including:</b></p> <ul style="list-style-type: none"> <li>• management skills</li> </ul> <p><b>Technical and digital skills:</b></p> <ul style="list-style-type: none"> <li>• e-commerce shops and website management</li> <li>• dairy related robotics and automation literacy</li> </ul> <p><b>Niche or specific skills:</b></p> <ul style="list-style-type: none"> <li>• manual handling courses</li> <li>• high risk management training</li> <li>• OH&amp;S training</li> <li>• course delivery through short courses</li> </ul>	<ul style="list-style-type: none"> <li>• Strategic and service planners – for service providers and support industries as cohorts of the sector reach retirement age</li> <li>• Development of internally or co-operatively provided support services</li> <li>• Research and implementation of emerging technologies and practices for improving agriculture</li> </ul>





## Opportunities to address workforce and education outcomes

Consultation across the region identified a range of potential responses to address the current and emerging challenges facing the agriculture industry across the Central Highlands region.

Table 5: Agriculture industry proposed responses and solutions

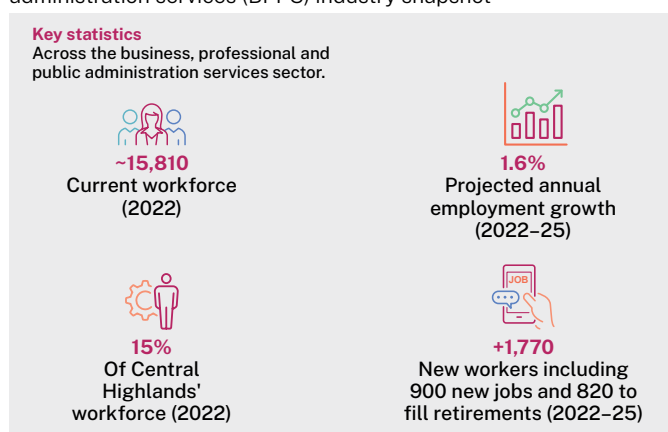
Agriculture industry proposed responses and solutions
<b>Proposed responses within the remit of the Victorian Skills Authority</b>
<ul style="list-style-type: none"><li>• Improve access and provision of education, training, and employment for Aboriginal people through working closely with Traditional Owners, especially in the development of native produce and agritourism</li><li>• Promotion of micro-credential courses that can meet industry and employee skill development needs</li><li>• Increase access, awareness or uptake of the AgCAREERSTART program run by the Australian Government and other 'earn and learn' programs</li></ul>
<b>Proposed responses to be achieved through broader collaboration across the region and with broader partners and stakeholders</b>
<ul style="list-style-type: none"><li>• Engage regional workforce coordinators to provide administrative and organisational assistance</li><li>• Improve flexibility of payroll regulation for smaller operations for example, monthly, or quarterly instead of fortnightly payments to enable smaller operators to take on jobs to streamline operations</li><li>• Shared recruitment pools across organisations where appropriate or feasible</li><li>• Facilitate peer learning and cross-business mentoring to support scaling business operations</li><li>• Prepare prospective students to enter formal learning through non-traditional program pathways</li><li>• Encourage upskilling of workers through travelling workers bringing their expertise into smaller towns (similar to AgSkilled 2.0 (New South Wales))</li><li>• Launch a targeted advertising campaign to raise the sector's profile – including breadth and diversity of skills and pathways available</li><li>• Promote and support the high value sub-sectors of the industry such as artisan style farming or sustainability related activities</li><li>• Invest in capacity building through carbon farming learning opportunities</li></ul>

# Business, professional and public administration services industry profile

The business, professional and public administration services (BPPS) sector includes a wide range of professional services such as legal, accounting, architecture and design, engineering, and digital or technology services; scientific research; financial and insurance services; and public administration services including state, federal and local government, and public safety services.

**Combined, these industries make up 15% of the Central Highlands region's total workforce, employing approximately 15,800 workers.<sup>146</sup> Together, these industries also contribute over \$1.4 billion to the local economy in 2021, or about 17% of total gross value added (GVA) making it the highest value industry in Central Highlands.<sup>147</sup>**

Figure 26: Central Highlands' business, professional and public administration services (BPPS) industry snapshot



## Key strengths

The diversity of activity in the BPPS sector is enabled by the broad range of industries that operate across the region, including construction, education and training, health care and community services, and agriculture. There is an element of interaction of each of these industries as business, accounting, legal, management, human resourcing and increasingly, digital and technology services become integral parts of the business environment. The BPPS sector continues to grow alongside other industries across the region given the collective benefit of current and new investment across the region.

Ballarat is a lively regional centre that thrives on collaborative opportunity with education and research facilities clustered in the area, alongside multinational businesses such as IBM, as well as connectivity into and out of the region to other hubs across the state. The Ballarat GovHub opened in 2021 and can host up to 1,000 state and local government employees.<sup>148</sup> Up to 500 jobs were created during construction of the new community site.<sup>149</sup> The GovHub is poised to become a central employment hub for government services, particularly as workers transition back into the office.

From a research perspective, the Central Highlands region benefits from the presence of several universities as well as innovation precincts such as Ararat Jobs and Technology Precinct (the Ararat Digital Hub and Co-Working Space), clinical teaching centres, and has at times been host to industry events such as for the Grains Research and Development Corporation. Locally based research and knowledge sharing promotes innovation and allows local businesses to sharpen their value propositions.

Industry roundtable participants noted the pressure on local government to continue to provide key community services thereby emphasising the dual role the public administration sector plays as an employer and as a localised community service provider.

The pandemic has highlighted the need for proactive planning and strategic direction to manage the rapidly changing business environment. There is opportunity to take advantage of the growing focus on governance, compliance, and reform across the state more broadly.

## Key challenges and opportunity areas

The professional working environment has changed dramatically in recent years, with flexible working practices (such as working from home) now common across the region.

## Inter and intra-sector competition for a limited workforce pool

The increased uptake of virtual working has increased the level of employment flexibility for workers. While this has resulted in increased workforce participation in the sector, remote working has enabled greater competition for workers as previous barriers to work such as locality or regionality no longer exist. Regional employers may not be able to match the wage and opportunity offerings of metropolitan competitors due to factors of scale.

While this is an ongoing challenge, it also reflects an opportunity for residents in metropolitan areas to conversely work remotely in regionally based jobs. Strengthening the value proposition of living and working in the Central Highlands can help to attract and retain more local workers.



### Improving collaboration and efficiency

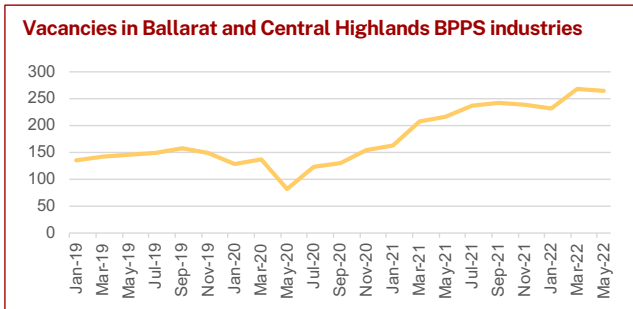
Underutilised assets such as office spaces represent both a challenge for business as wage and other cost pressure continue to impact the business, professional and public administration services (BPPS) operating environment, and the potential to capitalise on collaborative and partnership opportunities across the sector. With several research innovation precincts and educational institutions in the region already, Central Highlands is well placed to see this advantage come to life.

There is an opportunity to better develop the pipeline of future workers by learning from international examples, and other initiatives such as Work Integrated Learning (WIL) programs, alternative training pathways through registered training organisations (RTOs) and coordinating advocacy activities that reduce employment barriers for migrants or international students in the region.

### Growing demand for skilled workers

Vacancies across the BPPS sector continues to increase, with almost twice the number of advertisements in March 2022 than in March 2019.<sup>150</sup>

Figure 27: business, professional and public administration services (BPPS) industry related vacancy changes in Ballarat and Central Highlands



Source: LMIP IVI Vacancies Data

Includes: Chief Executives, Managing Directors & Legislators; Corporate Managers; ICT Professionals; Legal, Social and Welfare Professionals; Business, Finance and Human Resource Professionals; Information Professionals; Sales, Marketing & Public Relations Professionals; Transport and Design Professionals, and Architects; Science Professionals and Veterinarians; Engineering, ICT and Science Technicians; Numerical Clerks; Clerical and Office Support Workers; Other Clerical and Administrative Workers; Office Managers, Administrators and Secretaries

Industry roundtable participants noted that there is a growing need for workers with more technical and emerging competencies in cloud infrastructure, compliance, and human resource management.

### Interface with other industries and emerging sectors

The BPPS sector in Central Highlands interfaces with a range of other industries.

Table 6: Key intersections across Central Highlands' BPPS sector

<b>Health care and community services</b>	Local councils have an important role to play in providing essential services to residents that impact and improve both mental and physical health. For example, through maternal and child health services and youth services.
<b>Research and education</b>	Research facilities and industry groups provide businesses and individuals in Central Highlands to engage in local knowledge sharing and leverage the expertise of larger firms both domestically and across borders. The presence of several higher education institutions can also create aspirations and tailored solutions to region-based problems.
<b>Law, justice and community services</b>	The region is home to several corrective institutions, including Hopkins Correctional Centre (Ararat), Langi Kal Kal Prison (Trawalla), as well as courts and non-traditional, justice-based programs. There is opportunity to reduce recidivism and upskill and support offenders and victims through connecting institutions with the education and community sector.
<b>Professional services and construction</b>	There is a substantial level of private and public construction work occurring in Central Highlands which leads to demand for professional services such as planners, architects, and engineers, as well as physical spaces for new professional service businesses to reside.

## Recent and forecasted industry growth

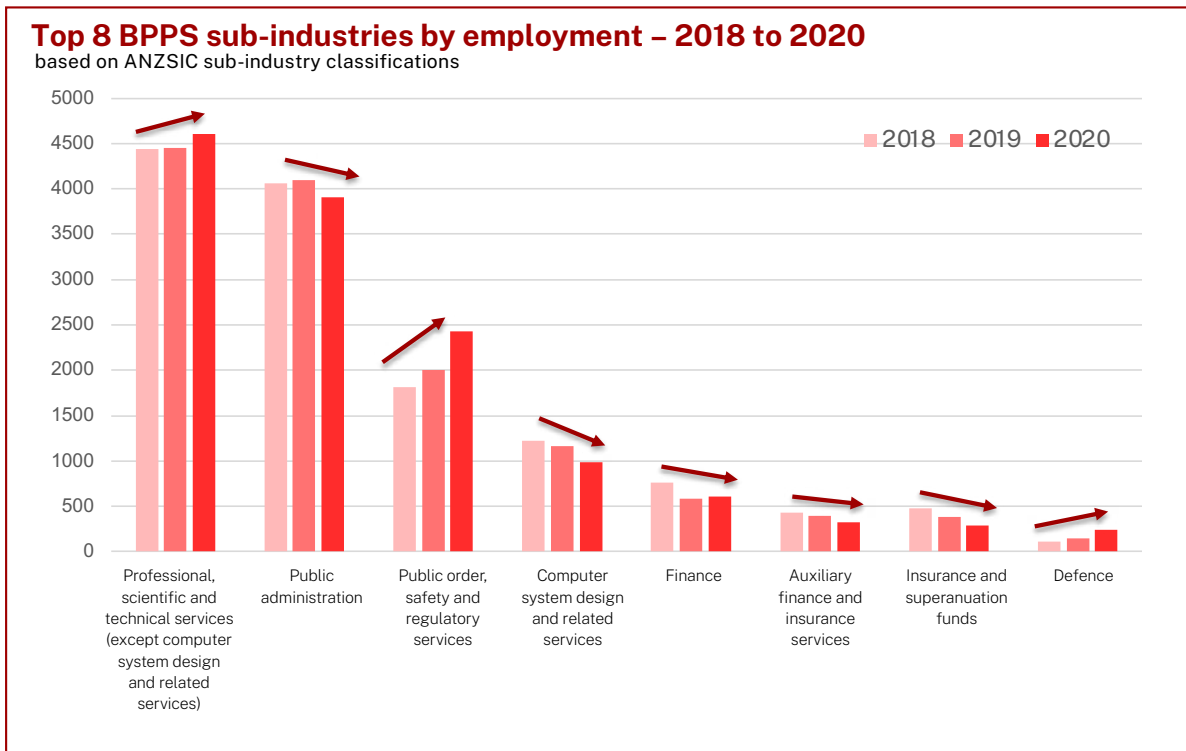
### Largest sub-industries by employment

Central Highlands' BPPS sector is comprised of several sub-industries. The professional, scientific, and technical subsector is the largest sub-sector in the region, comprising research services, engineering, veterinary and statistical services among others.<sup>151</sup> From 2018 to 2020, professional, scientific, and technical services and public order, safety and regulatory services and defence experienced an increase in employment.

Employment in the public administration subsector fell slightly in 2020 but is likely to increase given the key supportive role of BPPS in enabling other industries and growing population in the region.<sup>152</sup>

While data suggests that computer system design and related services is in a slight decline<sup>153</sup> despite the increasing use of technology in the economy, these workers are captured in other employment categories as jobs become more complex and the required skillsets integrate a range of competencies.

Figure 28: Top 8 business, professional and public administration services (BPPS) sub-industries by employment



Source: NIEIR Central Highlands Regional Data, 2020





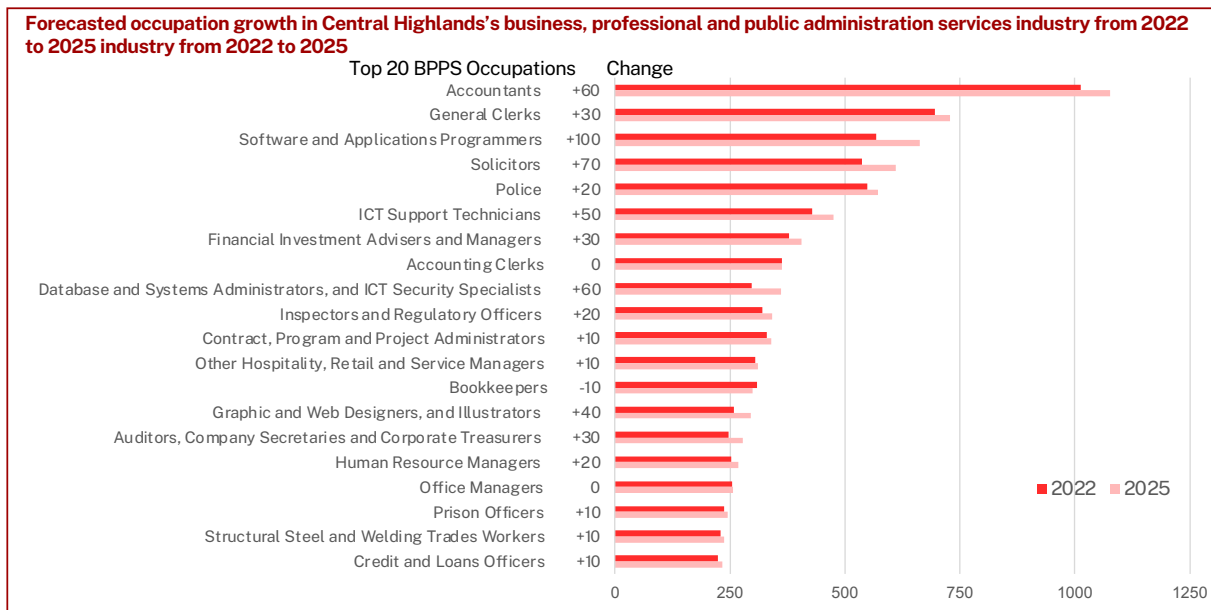
### Forecasted growth by occupation

Current projections suggest that the BPPS workforce will grow by over 1,770 new workers between 2022 to 2025.<sup>154</sup> This includes approximately 900 workers required to fill new jobs, and more than 820 workers to fill retirements over the period.<sup>155</sup>

Proximity to metropolitan Melbourne and other major regional cities is likely to have mixed effect on BPPS employment in the region as a remote working capabilities could lead to Central Highlands residents taking urban based jobs or vice versa.

Forecasted occupation growth across this sector for the top 20 occupations (as classified by the ABS) is included below.<sup>25</sup>

Figure 29: Forecasted occupation growth in Central Highlands' business, professional and public administration services (BPPS) sector (2022–2025)



<sup>25</sup> This graph is not exhaustive (top 20 occupations only) and may not include other major roles and responsibilities as identified by industry.

## Skills and occupation requirements

Beyond forecasted occupations based on Australian Bureau of Statistics (ABS) classifications, industry roundtable participants raised a number of skills needs and capabilities required in the next 1–2 years (immediate needs) and 3–5 years (emerging needs).

	Immediate needs (1–2 years)	Emerging needs (3–5 years)
Business, professional and public administration	<p><b>Specific roles or occupations:</b></p> <ul style="list-style-type: none"> <li>managers</li> <li>construction estimators</li> <li>engineers (and other sustainability related roles)</li> <li>social licence and community engagement experts</li> <li>DBA, cloud infrastructure and SAP competent practitioners</li> <li>social workers and community service workers (noting, local council employment and intersections with the health care and community services sector)</li> </ul>	<p><b>Core competencies including:</b></p> <ul style="list-style-type: none"> <li>thorough process of recruitment and management to identify and support the right candidates</li> <li>cultural and practical competency in supporting international workers through work and social connection</li> </ul> <p><b>Technical and digital skills:</b></p> <ul style="list-style-type: none"> <li>data analysts</li> <li>cloud engineers</li> <li>systems integration skills</li> <li>IT generalists</li> <li>cyber security</li> </ul>
		<ul style="list-style-type: none"> <li>More advanced digital skills such as relating to Internet of Things, automation, and AI</li> <li>electrical engineers</li> </ul>





## Opportunities to address workforce and education outcomes

Consultation across the region identified a range of potential responses to address the current and emerging challenges facing the business, professional and public administration services (BPPS) sector across the Central Highlands region.

Table 7: BPPS sector proposed responses and solutions

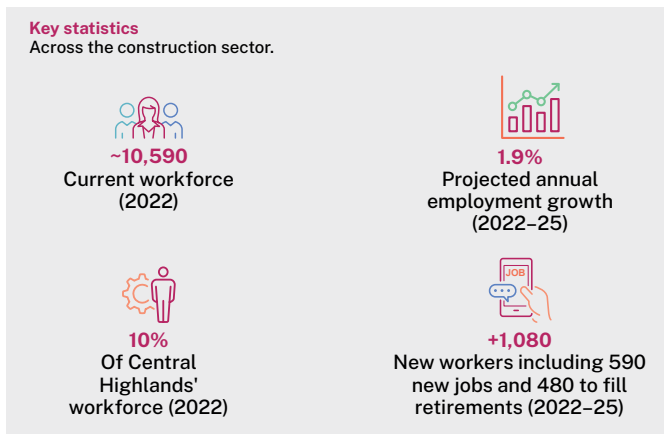
<b>Business, professional and public administration services sector proposed responses and solutions</b>
<b>Proposed responses within the remit of the Victorian Skills Authority</b>
<ul style="list-style-type: none"><li>• Support the design and publication of career pathway and journey mapping examples for the Central Highlands region</li><li>• Review the methods and tools with which prospective and current workers in the sector can be upskilled for example, establishing local upskilling centres</li><li>• Prepare an advocacy strategy around developing specific programs to attract and facilitate the success of migrant workers in the region and reducing red tape and barriers to work such as the Temporary Skilled Migration Income Threshold (TSMIT) for workers in regional areas</li></ul>
<b>Proposed responses to be achieved through broader collaboration across the region and with broader partners and stakeholders</b>
<ul style="list-style-type: none"><li>• Promote provision and uptake of Work Integrated Learning (WIL) programs</li><li>• Develop specific programs to attract and facilitate the success of migrant workers in the region</li><li>• Reduce red tape and barriers to work such as the temporary skilled migration income threshold (TSMIT) for workers in regional areas</li><li>• Promote the success stories of individuals and businesses in the region through innovative marketing campaigns</li><li>• Support businesses with shared resources and streamlined processes to support increased access to consistent work placement opportunities</li><li>• Shared recruitment pools across organisations where appropriate or feasible</li><li>• Facilitate peer learning and cross-business mentoring</li><li>• Promote a culture of learning through establishing communities of practice</li></ul>

# Construction industry profile

Central Highlands' construction industry is comprised of private, commercial and transport infrastructure construction, construction services such as plumbing and electrical. Although related professional services such as planning, architecture and design, engineering and technical services are an integral part of work in this sector, this activity is primarily captured the business, professional and public administration services (BPPS) industry. This industry is currently experiencing a period of significant growth as intrastate migration, government investment into largescale infrastructure projects, and private spending maintains a healthy program of work.<sup>156</sup>

**The construction industry is the fifth largest employer and third largest industry contributor to gross value added (GVA) in Central Highlands, with 10,500 workers<sup>157</sup> producing 11% (\$921 million) of the region's GVA in 2021.<sup>158</sup>**

Figure 30: Central Highlands' construction industry snapshot



## Key strengths

The value of construction in Central Highlands has steadily increased over the last 20 years to more than double in GVA.<sup>159</sup> This growth has been primarily driven by increasing population growth in the region adding to demand for infrastructure and residential and commercial construction. The construction industry is therefore relatively larger in local government areas (LGAs) that have experienced the highest rates of population growth and are closest to metropolitan Melbourne. For example, construction accounted for 17% and 14% of GVA in Golden Plains and Moorabool in 2020, while it accounted for only 6% in Ararat.<sup>160</sup> Construction is largest in Ballarat, where it contributed approximately \$656.6 million to the local economy.<sup>161</sup>

Adding to the strong pipeline of work, construction in Central Highlands is also likely to play a large part in the region's ultimate transition to renewable energy as largescale infrastructure is needed to support such projects.

Underpinning employment in this sector are the myriad of training programs currently available that showcase cross sector collaboration and willingness to innovate to attract and retain staff. Examples include the Grampians Women's Health Program designed to encourage more women into trades and construction,<sup>162</sup> as well as Ballarat Tech School which provides students the opportunity for hands on taster experiences within the safety of the school environment.<sup>163</sup>

## Key challenges and opportunity areas

### The impact of rising wages on future skills

There are unprecedented levels of skilled and unskilled labour shortages across the region and state more broadly, with several largescale projects underway across the state. The strong demand for labour has led to rapid wage growth in the sector which has put pressure on Central Highlands businesses to match salaries for metropolitan based jobs. Industry roundtable participants reflected that in recent years workers have been more open to travelling outside of the region for work resulting in additional challenges to retain workers locally. Reluctance to complete further training is another key challenge of wage growth, as low skilled workers can secure higher paid employment without skills and qualifications that would traditionally be prerequisites. This increases the risk of a low skilled future workforce. Increased wages for industry jobs can also act as a disincentive for maturing workers to transition into educator roles in the vocational and education training (VET) sector, further limiting opportunities to train and upskill workers in the region.

### Attracting and retaining workers

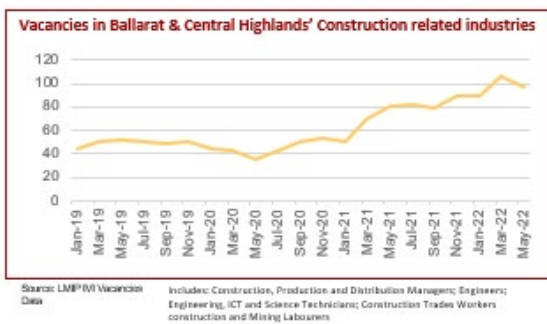
There is substantial opportunity to promote and deliver training options for prospective, new and maturing workforces. Given the difficulty in matching industry wages, opportunities to focus on the interpersonal support, industry mentoring, and partnering with other intersecting organisations to deliver holistic support are suggested. Alongside initiatives such as strengthening the ability to earn and learn, greater engagement can reduce barriers to participation and boost attraction and retention of under-represented and diverse worker cohorts.



### Balancing demand with limited supply

Online job advertisements within the region more than doubled in the past 2 years (March 2019 to March 2022)<sup>164</sup> and this data does not include word of mouth vacancy recruitment. Only 6% of workers in the construction sector are female<sup>165</sup>, indicating an untapped section of the workforce that can help alleviate current labour shortages.

Figure 31: Construction vacancy changes in Central Highlands



### Interface with other industries and emerging sectors

The construction sector interfaces with several other major industries. An efficient and effectively designed infrastructure system can enable broader social and economic prosperity by making it easier for communities to come together.

Table 8: Key intersections across Central Highlands' construction industry

<p><b>Construction vis-à-vis renewable and clean energy</b></p> <p>Energy efficient design and retrofitting are transformed for clean energy purposes. New buildings can be designed with energy use and renewable energies in mind to reduce their carbon impact. Similarly, retrofitting older structures or transforming manufacturing facilities can assist advancements in the renewable and clean energy sector.</p>
<p><b>Safe physical environment through construction</b></p> <p>The quality of the built environment can influence mental and physical health. Access to secure and affordable housing, high quality health care infrastructure and services are critical to individual and community wellbeing.</p>
<p><b>Professional and technical Services</b></p> <p>The Australian Bureau of Statistics classifies architectural, engineering and technical services as part of the professional and technical services sector. These services are essential to the safe delivery of construction work in the region.</p>

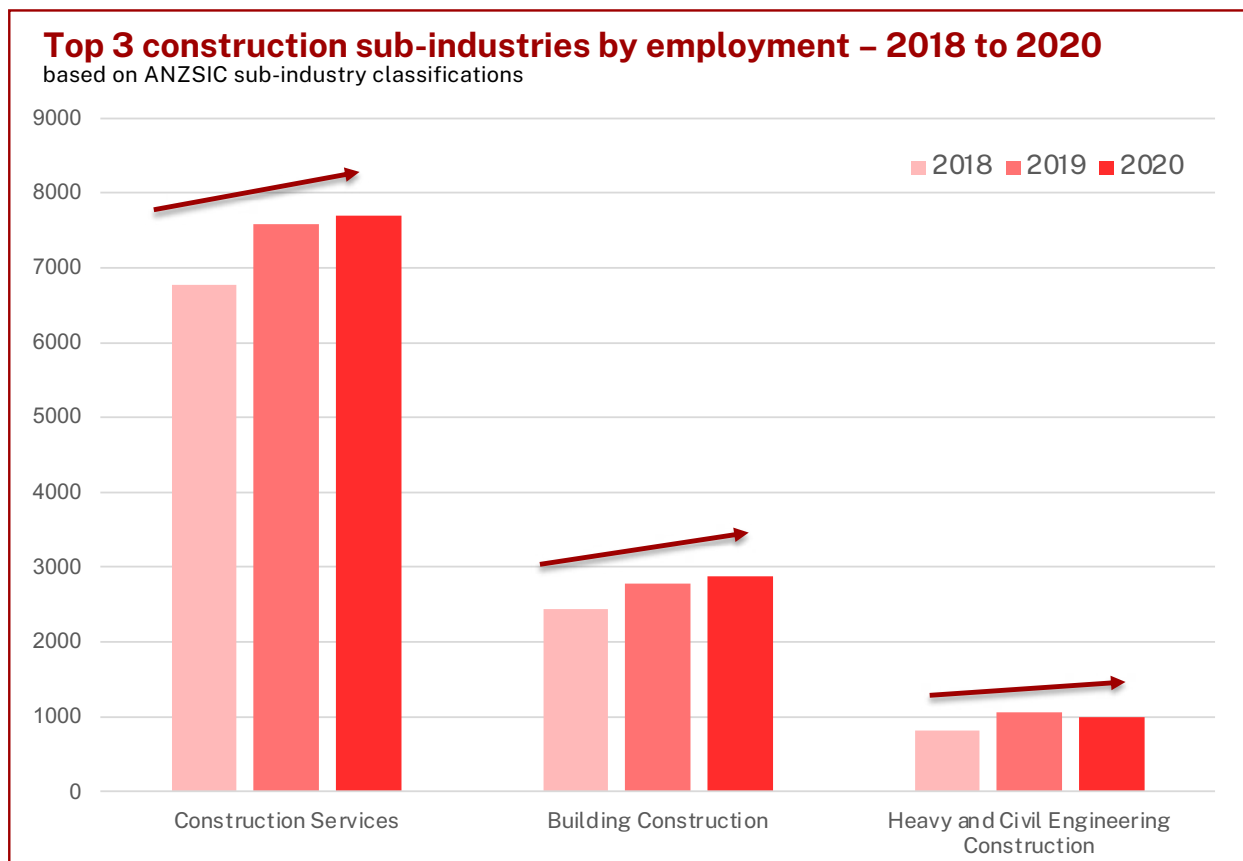
## Recent and forecasted industry growth

### Largest sub-industries by employment

Key sub-industries within Central Highlands’ construction industry include construction services, building construction and heavy and civil engineering construction. Each of these sectors experienced steady employment growth between 2018 and 2020 and taskforce members noted the scale and scope of works in the pipeline.

This is likely to boost construction employment into the future.<sup>166</sup> While heavy and civil engineering construction employs the fewest number of workers, these workers may be contributing to projects in metropolitan Melbourne as the data is based on place of usual residence.<sup>26</sup>

Figure 32: Top 3 construction sub-industries by employment



Source: NIEIR Central Highlands Regional Data, 2020

<sup>26</sup> Other construction services include landscaping and hire of construction machinery.

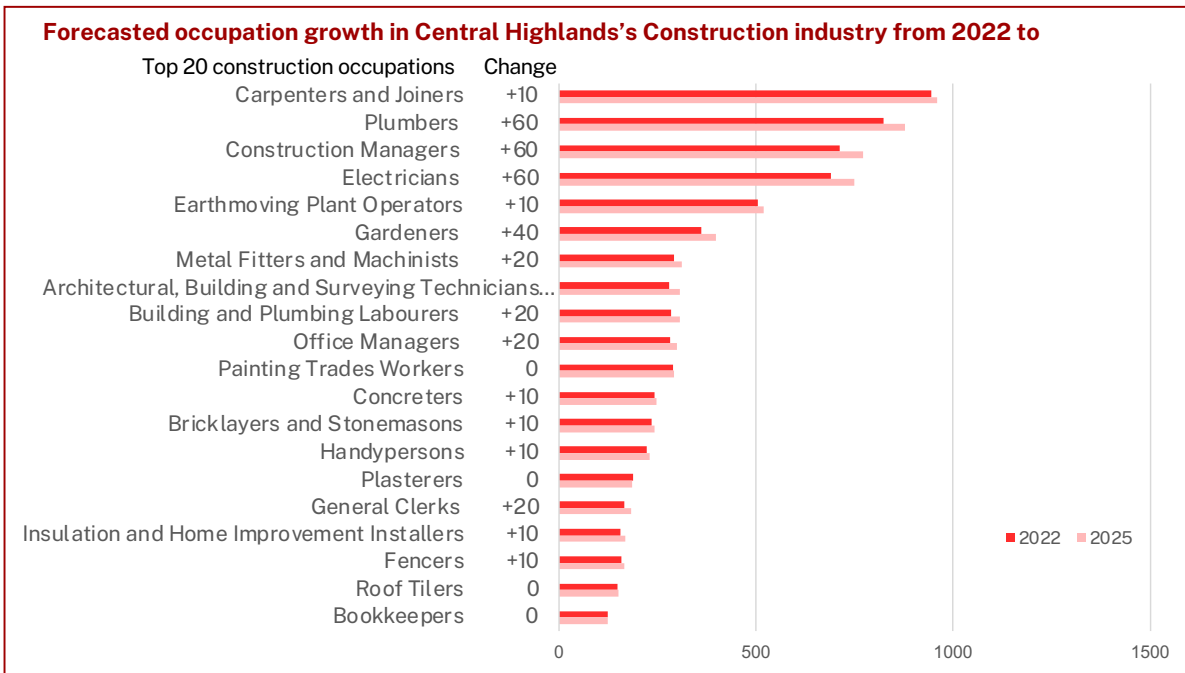


### Forecasted growth by occupation

Over the next 3 years, at least 1,080 workers will be required.<sup>167</sup> Of these, around 480 will be needed to fill retirements while the remaining workers will be needed to keep up with new demand.

Forecasted occupation growth for the top 20 occupations (as classified by the ABS) is included below.<sup>27</sup>

Figure 33: Forecasted construction occupation growth in Central Highlands (2022-2025)



Source: Victorian Skills Authority Employment Forecasts, April 2022

<sup>27</sup> This graph is not exhaustive (top 20 occupations only) and may not include other major roles and responsibilities as identified by industry.

## Skills and occupation requirements

Beyond forecasted occupations based on Australian Bureau of Statistics (ABS) classifications, industry roundtable participants raised a number of skills needs and capabilities required in the next 1–2 years (immediate needs) and 3–5 years (emerging needs).

	Immediate needs (1–2 years)	Emerging needs (3–5 years)	
Construction	<p><b>Specific roles or occupations:</b></p> <ul style="list-style-type: none"> <li>workers across all sub-sectors and jobs, particularly those that are skilled, qualified and registered</li> </ul> <p>Note that discussion relating to skills needs was underpinned by the general environment of decreasing number of apprentice workers. Many are ‘filling’ the job but the formal quality, assurance or experience may not be there.</p>	<p><b>Core competencies including:</b></p> <ul style="list-style-type: none"> <li>people management including fostering and supporting apprentices</li> </ul> <p><b>Technical and digital skills:</b></p> <ul style="list-style-type: none"> <li>Industry roundtable participants noted that it may be that the technological change in delivery is still a relatively new frontier that is still being conceptualised.</li> </ul>	<ul style="list-style-type: none"> <li><b>Enhanced digital skills</b> – training in future technologies and electrical</li> <li><b>Graduate professionals</b> – including laboratory technicians, engineers</li> <li><b>Teaching staff</b> – specifically technical teachers in mainstream and technical schools</li> <li><b>Mentors</b> – with adequate training and experience to support new workers to the industry.</li> </ul>







## Opportunities to address workforce and education outcomes

Consultation across the region identified a range of potential responses to address the current and emerging challenges facing the construction industry across the Central Highlands region.

Table 9: Construction industry proposed responses and solutions

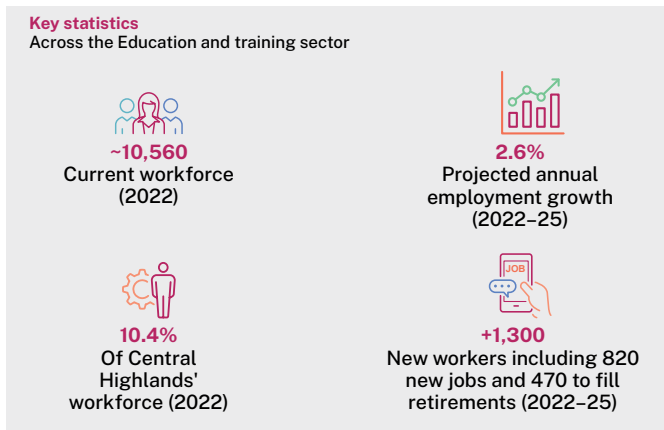
Construction industry proposed responses and solutions
Proposed responses within the remit of the Victorian Skills Authority
<ul style="list-style-type: none"> <li>• Reassess delivery of apprenticeship programs that may include:               <ul style="list-style-type: none"> <li>• ensuring workers understand the roles and responsibilities of managing apprentices</li> <li>• re-establishing a formal support or advocacy framework for example, more field officer type roles to support apprentices</li> </ul> </li> <li>• Incentivise and simplify pathways to join the training roles such as an industry–education provider partnerships to provide mixed employment</li> <li>• Support the Senior Secondary Pathways reform agenda through facilitation of local opportunities to improve VET within the region</li> <li>• Provide data and insights to support workforce planning</li> <li>• Work with the VET Development Centre and industry expertise to better support teacher training and development</li> </ul>
Proposed responses to be achieved through broader collaboration across the region and with broader partners and stakeholders
<ul style="list-style-type: none"> <li>• Leverage the experience and skills of mature age workers exiting the sector to mentor newer workers</li> <li>• Advocate for the investment of appropriate housing and childcare options</li> <li>• Invest in soft skill development to encourage emotional and mental preparation for the job–particularly for recent school leavers who have been heavily impacted by the pandemic</li> <li>• Advocate for the development of standardised and specific frameworks for managing subcontractors and ensuring consistency in work across the sector or region</li> <li>• Increase flexibility across the sector to attract more workers with diverse commitments</li> <li>• Actively promote opportunities and apprenticeships through a variety of channels, not relying on word of mouth or specific social settings</li> <li>• Identify innovative ways to engage older workers–including mature apprentices, with OH&amp;S and equity considerations given the manual nature of most work, or flexible hours such as the ‘school shift’</li> <li>• Continue to consult learners and employers to identify opportunities to improve the apprenticeship model</li> <li>• Expand engagement activities with students and their networks</li> <li>• Partner with Jobs Victoria, regional, community and other industry bodies to improve access to support services for learners completing their studies</li> <li>• Increase access to ‘earn and learn’ opportunities for current and prospective learners</li> <li>• Prepare prospective students to enter formal learning through non-traditional program pathways</li> <li>• Facilitate a smooth flow of teachers between industry and training</li> </ul>

# Education and training industry profile

The education and training industry in the Central Highlands region is comprised of childhood, primary and secondary schools, vocational training, higher education, and adult and community education.

**The industry employs almost 11,000 people in the region, making it the fourth largest employer.<sup>168</sup> Around \$648 million or approximately 8% of the region's gross value added (GVA) in 2021 was generated from this activity.<sup>169</sup>**

Figure 34: Central Highlands' education and training industry snapshot

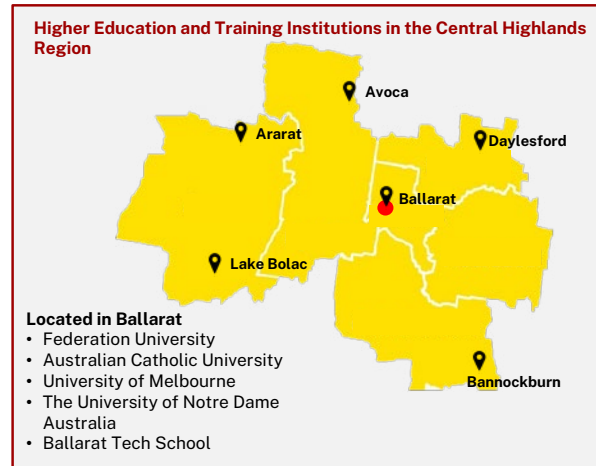


## Key strengths

There are almost 18,500 students across approximately 84 primary and secondary schools in the region.<sup>170</sup> There are several higher education institutions including the clinical schools of Australian Catholic University, the University of Melbourne, and University of Notre Dame Australia. Federation University and its associated TAFE has multiple campuses scattered across the Ballarat area and offers courses in many disciplines. Noting that these institutions are largely concentrated around Ballarat, residents outside main city limits access other service provider types including registered training organisations, adult and community further education (ACFE), Learn Local facilities and the Local Learning and Employment Networks (Central Grampians, Highlands and Geelong region). These parallel teaching and training institutions have an important role to play in engaging prospective learners at an accessible entry point.

In addition to these programs, Central Highlands has demonstrated its interest in delivering innovative and inspiring learning opportunities to young people in the region. This includes through establishment of the Ballarat Tech School,<sup>171</sup> and use of the 'P-Tech' or Pathway to Technology methodology at Federation University.<sup>172</sup> These programs allow students to explore opportunities and create aspirations in vocational industries.

Figure 35: Higher education and training institutions and facilities across the Central Highlands region



For many in Central Highlands, interaction with the education and training sector occurs through the ACFE sector. Courses offered by neighbourhood or community houses, migrant support centres and other regional initiatives provide a tailored, inclusive, and accessible contact point for continued learning and upskilling. This pathway is especially important for increasing engagement with under-represented groups. This may include people from diverse backgrounds, disadvantaged communities, students who have English as a second language, and 'first in family' groups. Improving access to equitable education and training opportunities for all in Central Highlands is essential to ensuring social and economic prosperity across the region.

## Key challenges and opportunity areas

The education and training sector sits in a unique position where it is both an employer and a mechanism through which other industries in Central Highlands develop their pipeline of future workers. For this reason, the significant shortages in teachers and trainers, including support teachers should be prioritised. While this challenge is not unique to Central Highlands, the regionality and population trends across the region means that demand for these skills will be particularly acute.

## Addressing barriers to participation in education and training

Given the integral role of the sector in preparing workers for other areas of the economy, current teacher shortages must be addressed to ensure that there are enough qualified and experienced educators available to deliver courses. A positive learning experience is likely to improve attraction and retention into a respective industry as this can increase aspirations and awareness of possible pathways.

From a student perspective, limited accessibility to education providers can be a barrier to continued learning. Each of Central Highlands' higher education facilities both tertiary and vocational are in the Ballarat region. Students outside these areas are usually required to seek training outside their immediate locale which may not be feasible.

There have been challenges in securing the worker pipeline within the education and training sector itself due to delayed placements, as well as administrative barriers that make it difficult for industry workers to transition into training roles. Limited public transport options and internet connectivity in more rural areas also pose challenges to continued training in the region. Many of these concerns are largely outside of the remit of the Victorian Skills Authority but may benefit from a coordinated advocacy approach to transform the industrial, regulatory, and economic environment.

### Navigating the evolving teaching environment

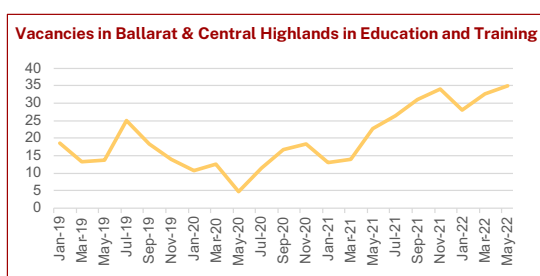
Industry roundtable participants reflected on the changing role of teachers and trainers, with expectations to adapt to the rapidly changing learning environment – such as hybrid delivery, alongside policy reforms and complex student needs.

### Inter and intra-sector competition for a limited workforce pool

Addressing the teacher and trainer shortage in the sector is likely to require innovative approaches to attraction, retention and upskilling current staff. Industry roundtable and taskforce members identified the use of micro-credentials, secondment between education and training institutions, as well as facilitating job sharing arrangements as potential responses.

While the number of online vacancies is relatively low compared to other sectors in the region, vacancy trends have continued to increase even through periods of recruitment freezes during the beginning of the pandemic in mid-2020 and ongoing increases since.<sup>173</sup> There has been significant demand for teachers and trainers across all levels and fields, as well as management and coordinator roles.

Figure 36: Education and training vacancy changes in Ballarat and Central Highlands



Source: LMIP IVI Vacancies Data  
Includes: Education Professionals; Health, Education, ICT and Other Managers

The recent changes to the Year 12 certificates of completion –Victorian Certificate of Education (VCE) and Victorian Certificate of Applied Learning (VCAL) into a singular award – are likely to improve uptake of vocational studies during and after high school as some of the stigma around VCAL as a ‘secondary’ option is minimised.

### Interface with other industries and emerging sectors

The education and training industry interfaces with all other major industries and is interconnected to the broader social and economic prosperity of the Central Highlands region.

Table 10: Key intersections across Central Highlands' education and training industry

<b>Digital technologies</b>	As the future of work moves towards a more digital economy, it is necessary for teachers, trainers and information services to also have digital capabilities to support their own and student development.
<b>Preschool and school education and health care</b>	<p>Early childhood education is a crucial time in a child's life where development occurs at a rapid rate cognitively, emotionally and physically.</p> <p>Experiences from childhood in each of these spheres can also have an impact on a person's health as an adult, for example, a traumatic experience or undiagnosed learning difficulty can affect a person's mental health</p>
<b>Community services</b>	Disruptions to formal schooling may be due to a change in social or economic circumstance, interaction with the justice system or other challenges as noted in the health care and community services section. Disability may also impact access to the necessary education supports.
<b>Visitor economy and general attraction</b>	Education is one pathway towards migration. Students who choose the Central Highlands region and Australia more broadly, as a place of study are more likely to stay, establish roots, attract visitors, and contribute socially and economically to the community.

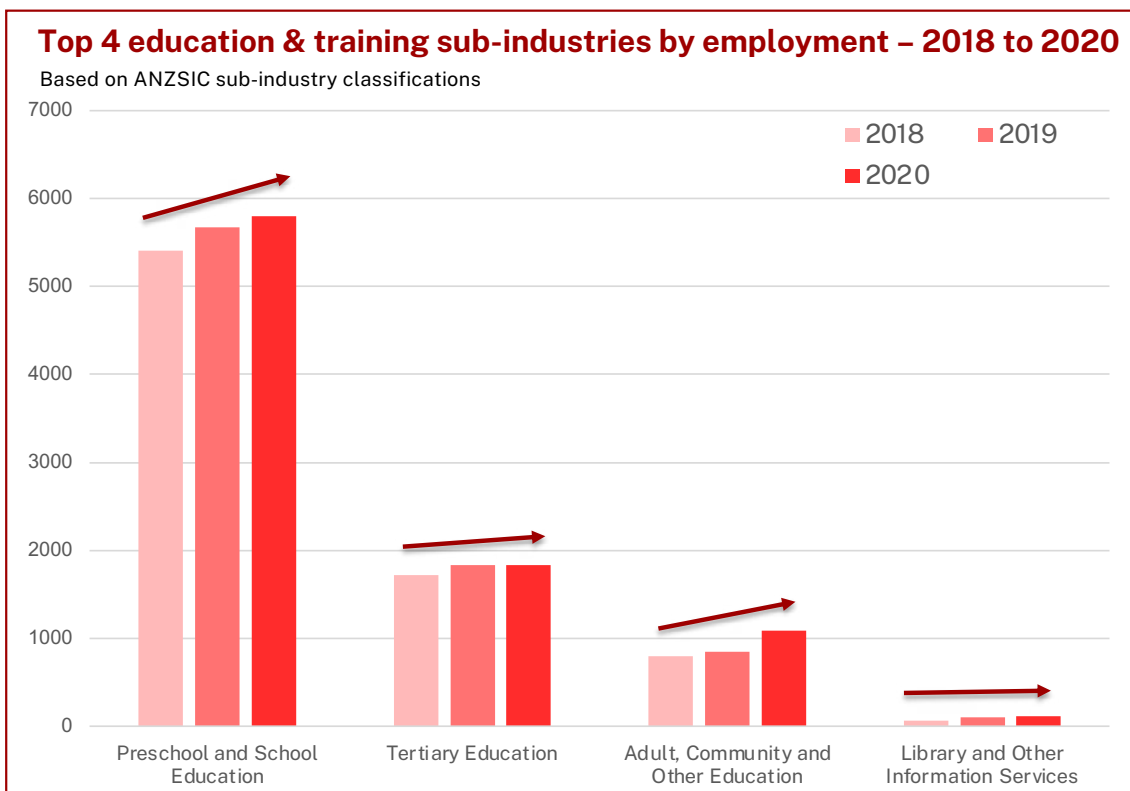
## Recent and forecasted industry growth

### Largest sub-industries by employment

Key sub-industries within Central Highlands’ education and training sector are pre-school and school education, tertiary education<sup>28</sup>, adult, community and other education and library and other information services.

While each subsector has remained relatively stable between 2018 and 2020, it is likely that the pandemic has affected this trend.

Figure 37: Top 4 education and training sub-industries by employment



Source: NIEIR Central Highlands Regional Data, 2020

<sup>28</sup> The tertiary education sub-sector includes technical and vocational education and training and higher education



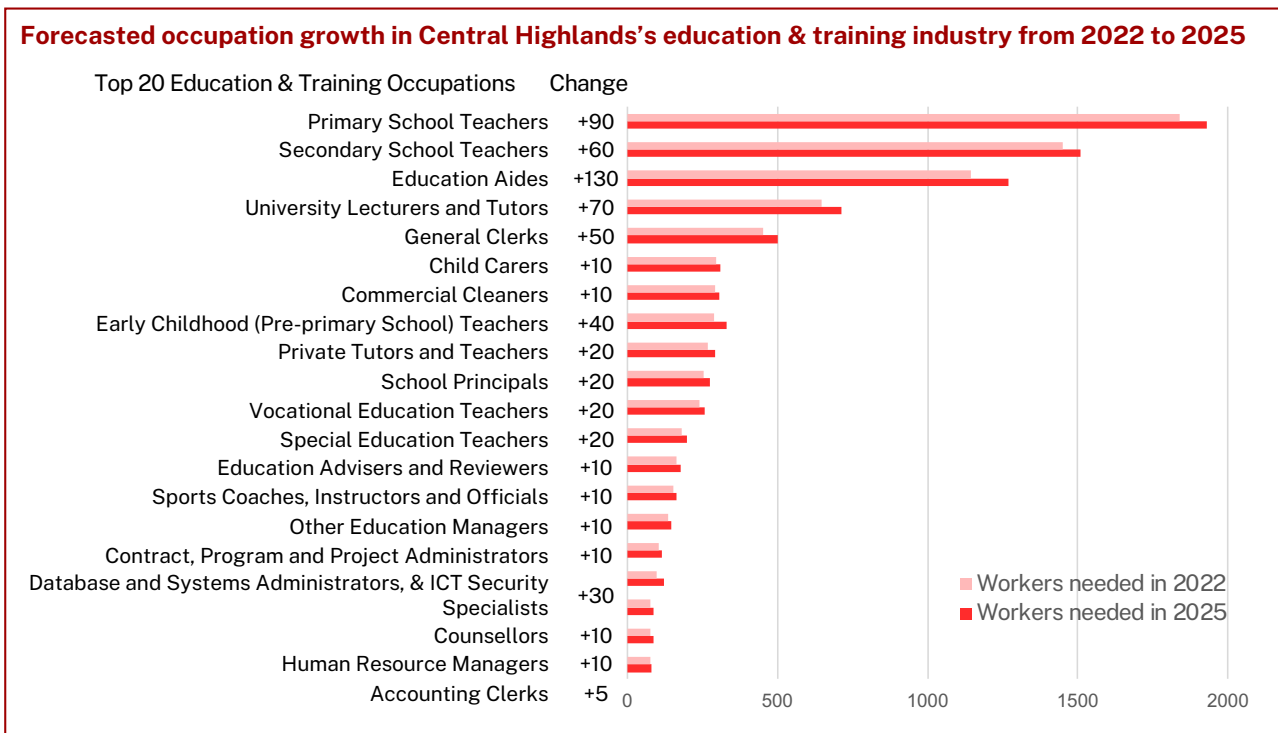
### Forecasted growth by occupation

Estimates suggest that over 1,300 workers are required over the period 2022 to 2025.<sup>174</sup> This includes around 820 new workers needed to fill new jobs, and more than 470 workers to fill retirements.<sup>175</sup>

These figures are unlikely to account for the impacts of secondary school educational reforms and workplace agreements that will increase demands on teacher numbers, particularly VET teachers as part of the new Senior Secondary Vocational Major. Similarly, the recent kindergarten reforms will also increase pressure on early childhood (pre-primary school) teachers.

Forecasted occupation growth across this sector for the top 20 occupations (as classified by the ABS) is included below.<sup>29</sup>

Figure 38: Forecasted occupation growth in Central Highlands' education and training sector (2022-2025)



Source: Victorian Skills Authority Employment Forecasts, April 2022

<sup>29</sup> This graph is not exhaustive (top 20 occupations only) and may not include other major roles and responsibilities as identified by industry.

## Skills and occupation requirements

Beyond forecasted occupations based on Australian Bureau of Statistics (ABS) classifications, industry roundtable participants raised a number of skills needs and capabilities required in the next 1-2 years (immediate needs) and 3-5 years (emerging needs).

	Immediate needs (1–2 years)	Emerging needs (3–5 years)
Education and training	<p><b>Specific roles, occupations or industry focus:</b></p> <ul style="list-style-type: none"> <li>• immediate teaching roles in secondary, vocational and higher education capacities across the region in subjects such as maths</li> <li>• librarians</li> <li>• marketing managers</li> <li>• program delivery coordinators</li> <li>• early childhood educators</li> <li>• project managers</li> <li>• administrative and resourcing support</li> <li>• associated health and hospitality services for example canteen cooks, school nurses</li> <li>• volunteers and mentors</li> </ul> <p><b>Core competencies including:</b></p> <ul style="list-style-type: none"> <li>• sensitivity to complex situations of students</li> <li>• innovation and creativity to engage students</li> </ul>	<ul style="list-style-type: none"> <li>• experienced teachers, especially due to impending effects of the retiring ageing workforce</li> <li>• maths and technology teachers</li> <li>• foster mindset of continuous learning</li> <li>• multidisciplinary educators with transferable knowledge across subject areas</li> <li>• teachers and trainers from diverse backgrounds – modelling behaviour.</li> </ul>





## Opportunities to address workforce and education outcomes

Consultation across the region identified a range of potential responses to address the current and emerging challenges facing the education and training industry across the Central Highlands region.

Table 11: Education and training industry proposed responses and solutions

Education and training industry proposed responses and solutions
Proposed responses within the remit of the Victorian Skills Authority
<ul style="list-style-type: none"> <li>• Undertake explorative research to better understand the data, trends and factors affecting low enrolments and completions</li> <li>• Connect key players in the region to increase accessibility and improve the quality of education and training provided</li> <li>• Provide local insights to support the development of the annual Victorian Skills Plan</li> <li>• Work with the VET Development Centre (VDC) and industry expertise to better support teacher training and development</li> <li>• Facilitate discussions and collaborative projects that improve design and delivery of education and training courses relevant for the region's major industries</li> <li>• Advocate for broader systematic transformation through initiatives such as:               <ul style="list-style-type: none"> <li>• review work and study restrictions for domestic and international students (relating to level of qualification) to facilitate employment whilst completing training</li> <li>• re-establish the one year graduate diploma pathway to increase accessibility and affordability of entering sector</li> <li>• simplify and streamline training and education (TAE) accreditation and Recognition of Prior Learning (RPL) processes to enable subject matter expert transition to accelerate qualification of industry experts</li> <li>• review the industrial environment for example, wages, Enterprise Bargaining Agreement conditions, wage caps</li> </ul> </li> </ul>
Proposed responses to be achieved through broader collaboration across the region and with broader partners and stakeholders
<ul style="list-style-type: none"> <li>• Targeted engagement with students and vulnerable communities to build awareness of education and training and career pathway opportunities</li> <li>• Advocate and support the coordination of local initiatives to address housing, transport and childcare accessibility challenges that are impacting participation in education and training, employment and upskilling of current and prospective learners and workers</li> <li>• Advocate for simplifying participation pathways for workers in transition across industries or mature and retiring cohorts</li> <li>• Encourage industry and education providers to take a place-based approach to course design and delivery</li> <li>• Facilitate a smooth flow of teachers between industry and education</li> <li>• Facilitate job sharing arrangements across sub-sectors and employers</li> <li>• Provide employment guarantees for certain degrees</li> <li>• Redesign employment processes or selection criteria that are currently barriers for workers and hindering ability for greater diversity</li> <li>• Identify and build on international best practice solutions and strategies for both workforce engagement and student outcomes</li> <li>• Implement secondment program for trainers/teachers into industry and vice versa</li> <li>• Provide on demand module training and micro-credentials to empower learners to take control of own learning</li> <li>• Greater use of the P-Tech high school system</li> <li>• Design specific programs and incentives that promote pathways for under-represented cohorts to enter longer term ongoing study planning for example, women, those experiencing mental ill-health or injury, ex-offenders, mature age career changers.</li> </ul>

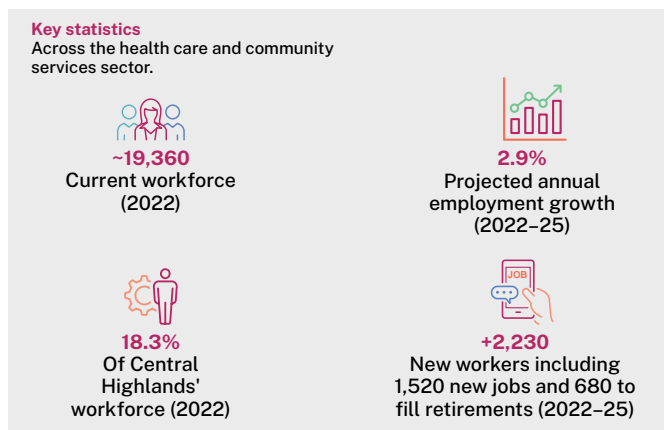
# Health care and community services industry profile

The health care and community services (HCCS) sector is the largest employer in the Central Highlands region with more than 19,300 people employed across private, public, clinical, allied and community sectors, making up 18% of the regional workforce.<sup>176</sup> The sector is also the second largest contributor to gross value added (GVA) at about \$1.2 billion (14% of the region's GVA).<sup>177</sup> The importance of health and community services in the region cannot be understated as a healthy community underpins a robust workforce to facilitate economic growth in the region.

The 4 largest sub-industries of the HCCS industry are:

1. Hospitals.
2. Medical and other health care services (including allied health, diagnostic and pathology services, general and specialist care, and ambulance services).
3. Community services (comprising childcare services and other social assistance such as adoption, aged care assistance services and welfare counselling services).
4. Residential care services (including aged care, nursing home operations, children's home operations, community mental health hostels and crisis care accommodation).

Figure 39: Central Highlands' health care and community services (HCCS) industry snapshot



## Key strengths

Central Highlands benefits from an interconnected network of diverse service offerings across both health and community services. Major employers in the area include Grampians Health, Women's Health Grampians, McCallum Disability Services, Pinarc Disability Support Services, with Central Highlands Rural Health alone employing more than 500 staff. With the Central Highlands population projected to grow by 26% in 2036, there is an abundance of opportunity to invest in digital and physical infrastructure, increase employment, and explore new ways of innovative service delivery.

This capability is strengthened in part by the presence of several higher education medical teaching facilities in the region, but clustered around Ballarat in particular. These include the clinical schools of the Australian Catholic University, University of Melbourne, and University of Notre Dame Australia, each with partnerships to local hospitals. As well as upskilling and training local allied and clinical health professionals, these regional outposts can help facilitate flows of information and best practice knowledge sharing with the universities' urban hubs. Further, the opportunity for placement in regional areas can increase attraction into the area. The presence of these higher education institutions is complemented by Federation University TAFE which connects prospective workers and students with the industry from various entry point and prior learning levels.

The HCCS sector in Central Highlands has demonstrated an ability to pivot delivery of services during particularly challenging conditions such as the pandemic. Some examples of this include increased use of telehealth and growth in residential care service employment while hospital employment fell slightly in 2020. There is growing emphasis on a preventative approach towards care in the health and community service sectors – both as a workforce management strategy, and to improve the quality of patient care.

## Key challenges and opportunity areas

HCCS has experienced labour shortages across all sub-industries, disciplines, and levels of employment due to increased demand from both the pandemic and general growth in the population. Extended periods of worker shortages have placed additional pressure on the current workforce and the industry is reporting challenges associated with attracting workers into the sector. Compounding these factors is a lagging pipeline of future workers due to delays in placement completions, particularly across the disability sector, and a maturing workforce leading to a gap in experience within the sector. Development of a graduated retirement pathway plan which links new and mature workers may help smooth this transition and retain industry knowledge.

Empowering staff and prospective workers to continue learning throughout their career was identified by industry roundtable participants as a guiding principle to ensure that the right workforce and skills are available in the HCCS sector into the future. Specific responses include incentivising continued study through financial aid, developing micro-credentialing to bridge VET and higher education qualifications, promoting a localised approach to care, and developing a clear progression and mentoring pathway to create aspirations among staff.





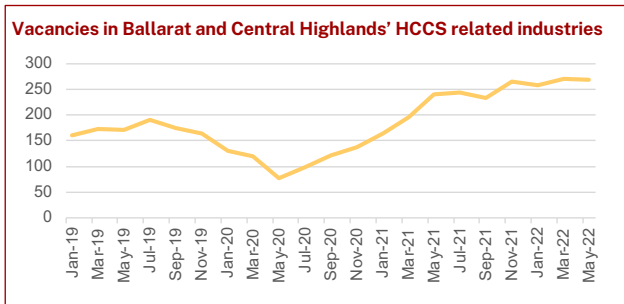
There is also a role for collaboration among providers in the region to provide an attractive value proposition for prospective workers moving to the region by appealing to the whole family. Through coordinated activities, employers can also take advantage of economies of scale in exploring new models of care and advocating for stronger pathways for skilled migrants and the recognition of past qualifications.

### Matching worker supply with service demand

The general shortage of labour in health care and community services (HCCS) has led to competition for workers between individual providers and public or private institutions. Industry roundtable participants reported that this can disrupt delivery of care and ability to engage in strategic workforce planning. Insufficient qualified or experienced staff can also lead to reduction in quality of care in extreme cases, or negatively impact worker retention rates if workers themselves feel ill-equipped to take on roles before they are ready.

Online job advertisements almost tripled between 2020 to 2022 (March 2020–March 2022)<sup>178</sup> highlighting the swiftly rising demand for workers.

Figure 40:health care and community services (HCCS) vacancy changes in Ballarat and Central Highlands



Source: LMIP I/VI Vacancies Data

Includes: Health, Education, ICT and Other Managers; Health Diagnostic and Therapy Professionals; Medical Practitioners and Nurses; Health and Welfare Support Workers; Carers and Aides

### Interface with other industries and emerging sectors

The good health of an economy is underpinned by the good health of its people. As a result, the HCCS sector intersects and interfaces with several other industries and itself is comprised of a network of providers, services and institutions. This means that changes, challenges and opportunities across various industries and sectors have flow on effects in other industries around the region.

Table 12: Key intersections across Central Highlands' HCCS sector

<p><b>Health equipment manufacturing</b></p> <p>Secure supply chains of critical health care and community services related goods (for example, personal protective equipment (PPE) and ventilators) ensure continuity of quality care. The pandemic highlighted the need for secure, reliable, and quality supply chains to produce critical equipment for the health sector, such as PPE and vaccines.</p>
<p><b>Safe physical environment through construction</b></p> <p>The quality of the built environment can determine mental and physical health. Access to secure and affordable housing, high quality health care infrastructure and services are a key determinant of mental health given the significance of environmental safety for individual and community wellbeing.</p>
<p><b>Digital technology to improve health care</b></p> <p>Advancing research to develop innovative ways to understand and care for mental ill health is vital to ensure a leading industry that can continue to evolve within the region. This includes the use of telehealth and at-home integrated services.</p>
<p><b>Community services and support to enable education and training</b></p> <p>Education and training have a significant part to play in providing people with renewed purpose, opportunities and is also often a way to participate in general society and programs, such as the FedReady Federation University study preparation program. Access to high-quality, affordable and close-to-home child care is essential for greater workforce participation, particularly for women.</p>

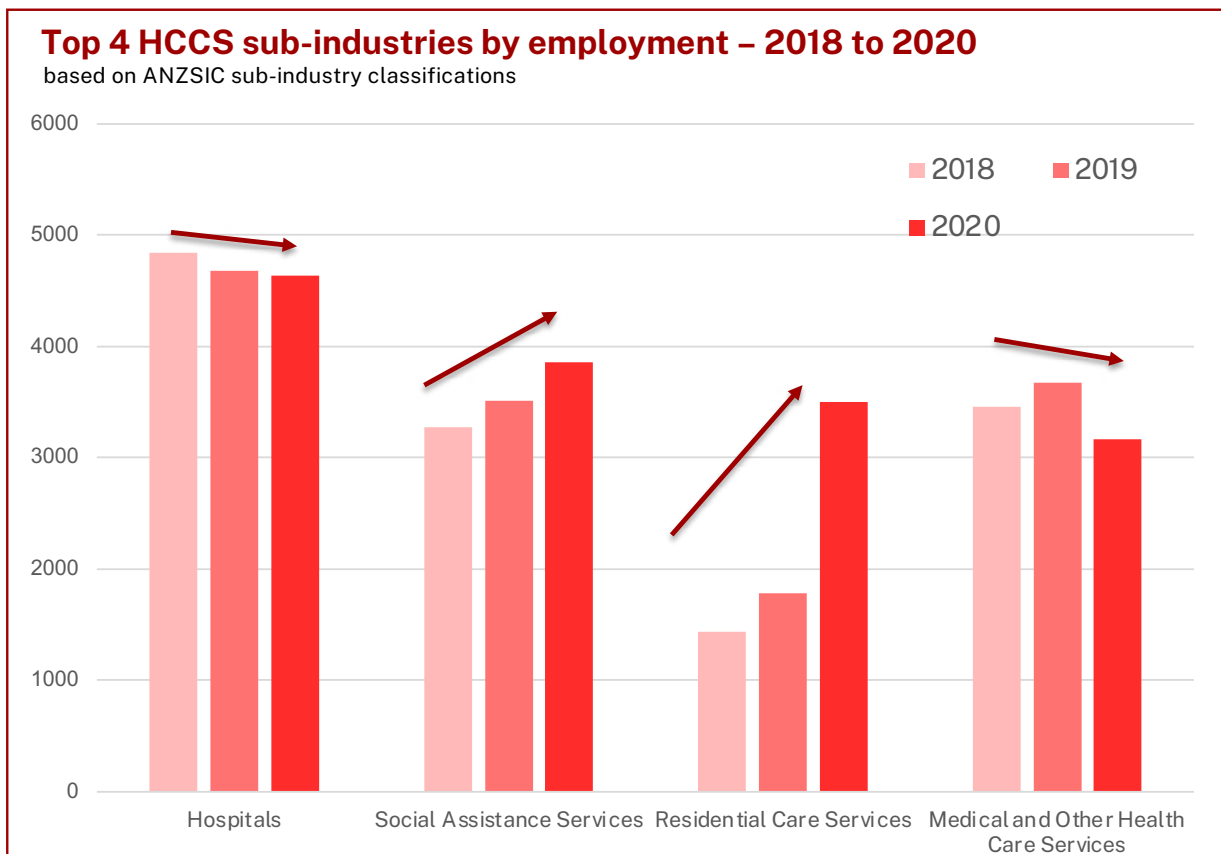
## Recent and forecasted industry growth

### Largest sub-industries by employment

Hospitals have historically been the largest sub-employer in the region but a slight downward trend, coupled with upward trends in other sub-sectors has seen a more even distribution of employment in recent years.<sup>179</sup> In 2020, both residential care services and social assistance services employment increased, with the most substantial jump being the former by 143% between 2018 to 2020.<sup>180</sup>

Industry representatives reflected that changes in sub-sector employment may be explained in part by movement across sub-sectors, as well as the impact of regulatory changes that necessitate hiring more staff. It is likely that this trend will be impacted as recommendations from the Royal Commission into aged care are implemented. The growth of expanded NDIS programs is also likely to have increased residential care and social assistance work. Conversely, the pandemic lockdowns suspended much allied or supportive care services which can also explain its slight decrease in 2020.<sup>181</sup>

Figure 41: Top 4 health care and community services (HCCS) industries by employment



Source: NIEIR Central Highlands Regional Data, 2021

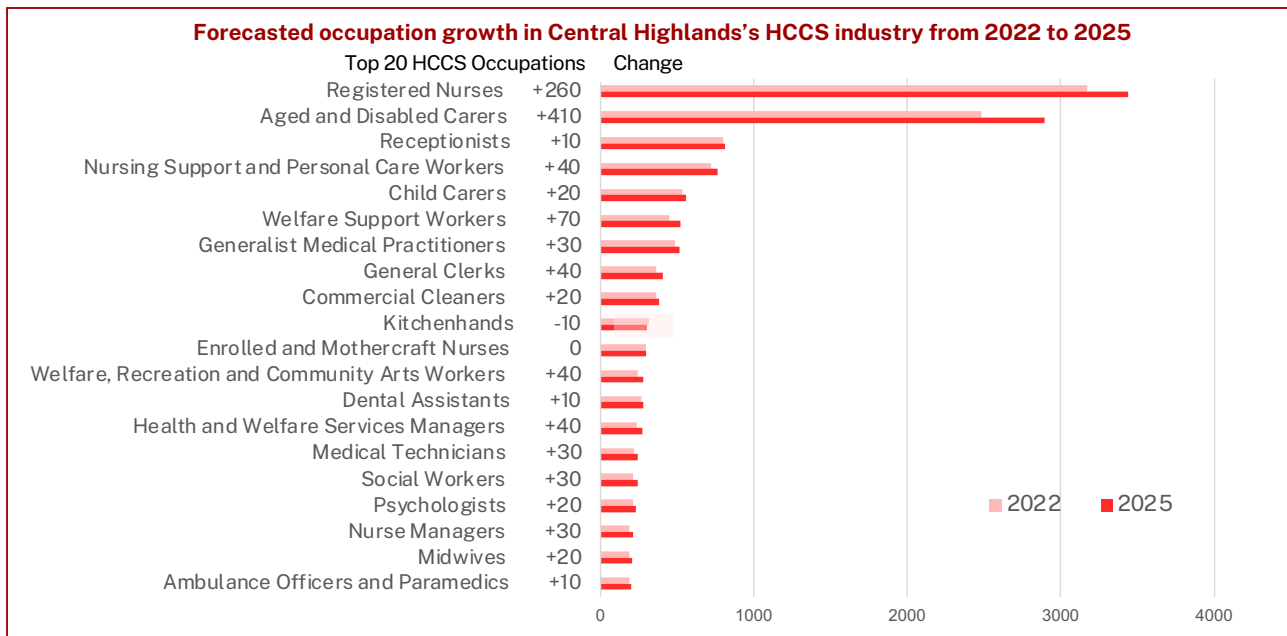


## Forecasted growth by occupation

It is likely that HCCS employment will continue to increase to meet the growing demand brought about by general regional population increases. Between 2022 to 2025, it is estimated 2,230 workers will be required.<sup>182</sup> Of this, more than 1,520 will arise from new jobs while over 680 workers will be needed to fill retirements.<sup>183</sup> These forecasts do not consider current shortages, activity in the pipeline or policy changes and, as such, are likely to be larger than predicted.

Forecasted occupation growth across this sector for the top 20 occupations (as classified by the ABS) is included below.<sup>30</sup> The top skills and occupations required in the HCCS industry include nurses (across multiple specialties), and aged care and disabled workers which is consistent with the expected activity in these sectors following several Royal Commissions.

Figure 42: Forecasted occupation growth in Central Highlands' health care and community services (HCCS) sector (2022–2025)



Source: Victorian Skills Authority Employment Forecasts, April 2022

<sup>30</sup> This graph is not exhaustive (top 20 occupations only) and may not include other major roles and responsibilities as identified by industry.

## Skills and occupation requirements

Beyond forecasted occupations based on Australian Bureau of Statistics (ABS) classifications, industry roundtable participants raised a number of skills needs and capabilities require in the next 1–2 years (immediate needs) and 3–5 years (emerging needs).

	Immediate needs (1–2 years)		Emerging needs (3–5 years)
Health care and community services	<p><b>Specific roles or occupations:</b></p> <ul style="list-style-type: none"> <li>• administrative workers</li> <li>• catering staff</li> <li>• cleaners</li> <li>• personal carers</li> <li>• professional services and staff for example, finance, governance</li> <li>• childcare workers – especially as enabler of employment in other sectors</li> <li>• workers to meet reforms in disability, aged care and mental health</li> <li>• nurses (across specialisations)</li> </ul>	<p><b>Core competencies including:</b></p> <ul style="list-style-type: none"> <li>• leadership skills</li> <li>• sensitivity and appropriate care training to support vulnerable communities</li> <li>• core skills including written and verbal communication</li> </ul> <p><b>Technical and digital skills:</b></p> <ul style="list-style-type: none"> <li>• increasing need for more complex mix of skills including across technical, personal, and digital spaces</li> <li>• clinical and evidenced approach to delivering medical, mental health and community services via telehealth platforms to manage challenges posed by loss of visual cues</li> </ul>	<ul style="list-style-type: none"> <li>• Strengthen worker skills across disability and early childhood education competency</li> <li>• Experienced administrative roles</li> <li>• Workers with experience across multiple disciplines and industry experience</li> <li>• Aged care workers to meet policy changes.</li> </ul>



## Opportunities to address workforce and education outcomes

Consultation across the region identified a range of potential responses to address the current and emerging challenges facing the health care and community services (HCCS) industry across the Central Highlands region.

Table 13: HCCS proposed responses and solutions

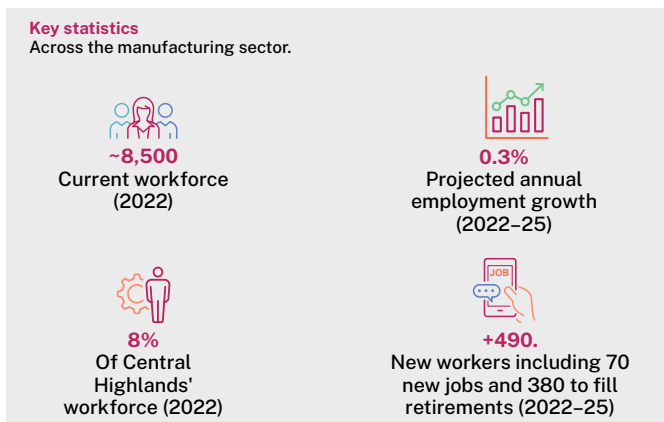
Health care and community services proposed responses and solutions
Proposed responses within the remit of the Victorian Skills Authority
<ul style="list-style-type: none"> <li>• Support the Senior Secondary Pathways reform agenda through facilitation of local opportunities to improve VET within the region</li> <li>• Support the design and publication of career pathway and journey mapping examples for the Central Highlands region</li> <li>• Provide data and insights to support workforce planning</li> <li>• Future skill requirement planning and mapping</li> <li>• Improve access and provision of education, training, and employment for Aboriginal Victorians through working closely with Traditional Owners</li> </ul>
Proposed responses to be achieved through broader collaboration across the region and with broader partners and stakeholders
<ul style="list-style-type: none"> <li>• Partner with Jobs Victoria, regional, community and other industry bodies to improve access to support services for learners completing their studies</li> <li>• Increase access to ‘earn and learn’ opportunities for current and prospective learners such as expanding the Registered Undergraduate Student Of Nursing (RUSON) model</li> <li>• Advocate and support the coordination of local initiatives to address housing, transport and childcare accessibility challenges that are impacting participation in education and training, employment and upskilling of current and prospective learners and workers</li> <li>• Advocate for simplifying participation pathways for workers in transition across industries or mature and retiring cohorts</li> <li>• Shared recruitment pools across organisations where appropriate or feasible</li> <li>• Leverage industry training materials, facilities and programs across multiple organisations to increase scale</li> <li>• Strengthen connections between education and training institutions and industry to raise awareness of non-traditional employment pathways</li> <li>• Facilitate a smooth flow of teachers between industry and training</li> <li>• Review and redesign recruitment processes to prioritise core competencies, alongside technical competency</li> <li>• Promote a culture of learning through establishing communities of practice</li> <li>• Explore new models of care that utilise an innovative mix of skills</li> <li>• Provide incentives that encourage older workers to remain connected to the sector such as in mentor capacity through a gradual exit process, and consider options post-retirement</li> <li>• Develop clear career pathways in first 1 to 3 years of employment to manage expectations and create working aspirations</li> <li>• Utilise mentoring programs to develop relationships and encourage retention</li> <li>• Develop dedicated sector workforce planning and recruitment approaches to ensure that industry communication is efficient, and all students have equal exposure to opportunity.</li> </ul>

# Manufacturing industry profile

Mining and exploration have been an integral part of the Central Highlands economy since the discovery of gold in the 1850s across the region.<sup>184</sup> Sparking significant social upheaval for both settlers and Traditional Owner communities, events like the Eureka Rebellion cemented the role of the trades in the regional economy. While mining across primary metal, metal product manufacturing and non-metallic mineral product manufacturing still make up a moderate contribution of manufacturing output to the local economy, manufacturing activity in the region has transitioned largely to other sub industries including transport equipment and machinery manufacturing.<sup>185</sup>

**The manufacturing industry is the sixth largest employer in the region, with approximately 8,500 workers.<sup>186</sup> manufacturing contributed \$750 million in gross value added (GVA) or 9% in 2021.<sup>187</sup> While neither the largest employer nor contributor of GVA, manufacturing in Central Highlands remains a key export to other markets, generating \$506.6 million in 2020.<sup>188</sup> This is primarily driven by food product manufacturing (\$327.4 million), primary metal and metal product manufacturing (\$42.8 million) and transport equipment manufacturing (\$42 million).<sup>189</sup>**

Figure 43: Central Highlands' manufacturing snapshot



## Key strengths

Central Highlands' manufacturing industry has undergone several periods of transition since gold was first discovered. Despite changes in market share, the local sector has been able to continue to pivot and carve out new areas of specialisation. This is especially apparent in the growth of food product manufacturing and transport and equipment manufacturing.

The region is home to international and locally based food processing companies which work closely with primary producers in the agricultural sector, such as MasterFoods, Mars Wrigley Chocolate Factory, Daylesford & Hepburn Mineral Springs Co. and Bannockburn Free Range Chicken. There is also a growing wine region in the Pyrenees which highlights the intersection and role of the manufacturing sector in supporting agritourism activities.

Central Highlands is quickly becoming a regional hub for the rolling stock and transport related supply chain with manufacture, maintenance, storage and commissioning of commuter and freight trains activity capabilities all locally available. Regionally located businesses including MaxiTRANS and AME in the region are involved in large scale projects for state and nationally based clients. The infrastructure needed to support this manufacturing base provides a strong foundation to meet future manufacturing demand in emerging sectors including renewable energies such as solar, hydro, and waste management.

Further development of skills in the region is enabled by the presence of institutions such as Federation University and TAFE which provide opportunities for collaboration between students, trainers, teachers, council, and industry. Examples of such collaborative efforts include the Ballarat West Employment Zone, Ballarat Technology Park, Ballarat Tech School, and Ararat Jobs and Technology Precinct. Growth and development in the renewable energy and circular economy manufacturing sectors has been supported by local council and the business, professional and public administration services sector. For example, the City of Ballarat has launched Circular Ballarat which facilitates access to an online marketplace, ASPIRE, that trades waste as a resource, and a business development program.<sup>190</sup>

## Key challenges and opportunity areas

### Promoting the industry amidst growing demand for current and new workers

Industry roundtable participants noted the opportunity to address current labour shortages through increasing participation of under-represented groups of workers. This includes women, CALD communities, the First Nations workforce, intergenerationally unemployed and disabled or neurodivergent cohorts.

Creating specific pathways and making reasonable adjustments to boost this labour force will help minimise the loss of labour and experience stemming from an ageing workforce. Estimates project the number of new workers required due to retirements is 5 times the number of workers needed due to new growth between 2022 to 2025.<sup>191</sup>

Partnership with Adult and Community Further Education (ACFE) institutions and other parallel learning institutions will be integral to achieving this as smaller scale service delivery can make training engagement options more flexible, tailored to learner needs, and financially accessible.



### Managing evolving skill requirements

The shortage and consequent competition for workers is exacerbated by the evolving skills and regulatory requirements of workers such as greater use of Industry 4.0 competencies like automation, AI, and the Internet of Things.

In addition to the growing requirement for advanced technological skills, there is a need for interdisciplinary experience and understanding of occupational health and safety, regulatory, and occasionally global standard requirements.

This is particularly important for manufacturing in the renewable energy and circular economy spaces where businesses must navigate a dynamic policy and business environment.

Central Highlands benefits from locally integrated and invested post-secondary learning institutions. Leveraging industry partnerships across universities and TAFE is likely to support the currency of courses as well as promote flow of communication between industry developments and prospective students.

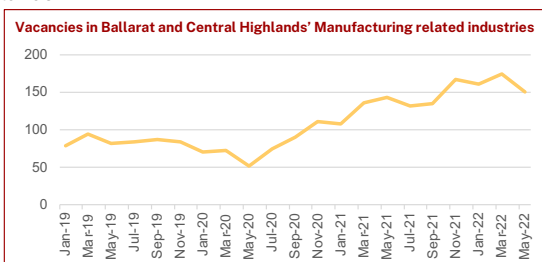
Industry roundtable participants also identified a role for institutions to support continued skilling opportunities for the existing workforce. Streamlining access and affordability is likely to make it easier for mature workers to upskill and therefore adapt to evolving working environments rather than leaving prematurely.

### Competition for a limited workforce pool

Taskforce members reflected on the impact of increasing input costs and supply chain disruptions on the operating environment. Unreliable telephone and internet connectivity in some areas of the region, as well as limited public transport options contribute to overall wage pressures.

While online job vacancies cannot provide the full picture of what is occurring in the region due to informal recruitment methods such as word of mouth, there was a clear upward trend in vacancies. Between March 2019 and March 2022, online job advertisements almost doubled.<sup>192</sup>

Figure 44: Manufacturing vacancy changes in Ballarat and Central Highlands



Source: LMP IV Vacancies Data

Includes: Engineers; Engineering, ICT and Science Technicians; Automotive and Engineering Trades Workers; Electrotechnology and Telecommunications Trades Workers; Machine and Stationary Plant Operators; Mobile Plant Operators; Drivers and Storepersons

### Interface with other industries and emerging sectors

Manufacturing is a key component of several industries in Central Highlands including secondary production of food product, and infrastructure related activity. The sector is a key enabler of other sectors and activities including energy and transport infrastructure. It is important to recognise the ways manufacturing intersect with other industries and emerging sectors. Changes, challenges, and opportunities have flow on effects across the region.

Table 14: Key intersections across Central Highlands' manufacturing sector

<p><b>Health equipment manufacturing</b></p> <p>The pandemic highlighted the need for secure, reliable and quality supply chains to produce critical equipment for the health sector. The shifted focus on local manufacturing capability for several areas, including hospital care, has highlighted a gap in local skills and capabilities to address such shortages.</p>
<p><b>Digital technology for advanced manufacturing</b></p> <p>The shift to the Industry 4.0 focus, including AI, machine learning and nanotechnologies, are enabling innovation across industries. Research and innovation will continue to be critical to support advanced manufacturing growth in the region.</p>
<p><b>Transport manufacturing</b></p> <p>Central Highlands has strong capabilities in the manufacture, maintenance, storage, and operation of rolling stock. This represents great advantage for the region as this activity includes high value manufacturing, professional and technical services, and construction which all exhibit growth potential. The development of key infrastructure such as rail also aids transport of exports to market.</p>
<p><b>Food tourism</b></p> <p>Food product manufacturing and specialised or artisanal dining experiences are increasing in popularity as public awareness about food quality, provenance and sustainability grows.</p>
<p><b>Renewable practices and clean energy</b></p> <p>The manufacturing and waste sectors have important roles to play in the circular economy, which is a growing area of focus for Victoria as seen through the establishment of Recycling Victoria. There is also opportunity to develop sustainable, best practice through the operations themselves. Regional networks including Victorian Energy Collaboration (VECO) and Renewable Energy Zones help businesses and councils in Central Highlands to share best practice and take advantage of economies of scale. Care must also be taken to manage potential impacts on surrounding land and water sources.</p>

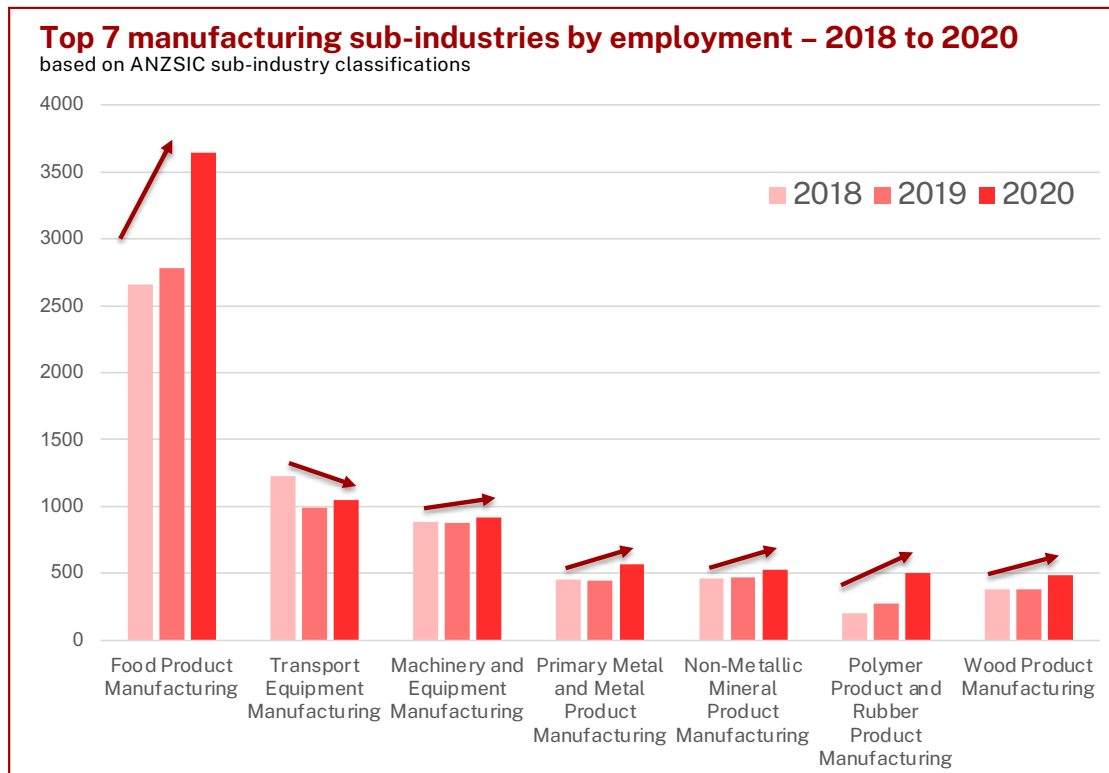
## Recent and forecasted industry growth

### Largest sub-industries by employment

Central Highlands' manufacturing industry is comprised of several sub-sectors. Food product manufacturing is the largest employing sub-sector in the region recording almost 3 times higher employment in 2020 than the next largest employer (transport equipment manufacturing).<sup>193</sup>

Other sub-industries not shown in the graph include manufacturing of basic chemical and chemical product; beverage and tobacco; furniture and other manufacturing; non-metallic mineral product; polymer product and rubber product; primary metal and metal product; printing (including reproduction of recorded media) and pulp, paper and converted paper product.<sup>194</sup>

Figure 45: Top 7 manufacturing sub-industries by employment



Source: NIEIR Central Highlands Regional Data, 2020





### Forecasted growth by occupation

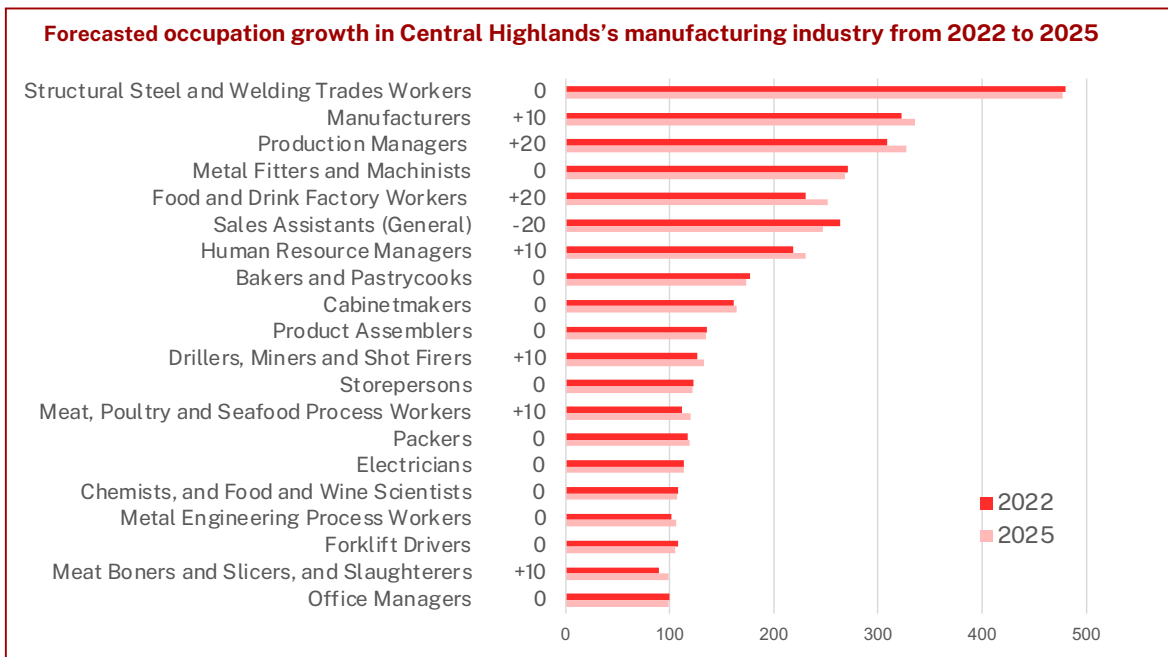
Forecasts suggest that at least 70 new workers<sup>31</sup> will be required over the next 3 years to meet demand.<sup>195</sup> This is in addition to approximately 380 new workers needed to fill retirements. These estimates are likely to be lower than projections within industry due to existing projects in the pipeline and opportunity to explore both new markets and products. For example, increasing output in the medical cannabis market.

Current geo-political concerns both domestically and among allies, have also increased interest in developing defence related capabilities<sup>196</sup> and there are several transport manufacturers in Central Highlands who are well placed to enter or grow in this space such as AME Systems.

Additionally, the supply chain crunch of the pandemic shone a light into the importance of maintaining a minimum level of sovereign capabilities and self-sufficiency<sup>197</sup> from an economic and life essentials point of view (for example, food, toilet paper, medical technology). The development of innovation precincts such as Ballarat Tech Park are likely to boost opportunities for high value manufacturing and therefore employment into the future.

Forecasted occupation growth across this sector for the top 20 occupations (as classified by the ABS) is included below.<sup>32</sup>

Figure 46: Forecasted occupation growth in Central Highlands' manufacturing sector (2022-2025)



Source: Victorian Skills Authority Employment Forecasts, April 2022

31 Note that this does not account for the current worker shortages experienced across the sector.

32 This graph is not exhaustive (top 20 occupations only) and does not account for the current worker shortages experienced across the sector. May not include other major roles and responsibilities as identified by industry.

## Skills and occupation requirements

Beyond forecasted occupations based on Australian Bureau of Statistics (ABS) classifications, a number of skills, needs and capabilities are required in the next 1–2 years (immediate needs) and 3–5 years (emerging needs).

	Immediate needs (1–2 years)	Emerging needs (3–5 years)	
Manufacturing	<p><b>Specific roles or occupations:</b></p> <ul style="list-style-type: none"> <li>• fitters</li> <li>• electricians</li> <li>• teachers</li> <li>• learning, instructional designers</li> <li>• engineers</li> <li>• renewable energy expertise and skills</li> <li>• food processors including specialists for example cannabinoids</li> <li>• procurement and supply chain managers</li> <li>• mechatronic engineers</li> <li>• forklift drivers</li> <li>• heritage trades</li> </ul>	<p><b>Core competencies including:</b></p> <ul style="list-style-type: none"> <li>• leadership skills</li> <li>• job ready mentality</li> <li>• mentors</li> <li>• customer service skills</li> <li>• cultural sensitivity training</li> </ul> <p><b>Technical and digital skills:</b></p> <ul style="list-style-type: none"> <li>• digital and technology literacy in spheres of</li> <li>• troubleshooting (user experience)</li> <li>• maintenance (hardware)</li> <li>• development (software)</li> <li>• this includes in the use of tools of modern manufacturing for example, operating self-driving vehicles</li> </ul>	<ul style="list-style-type: none"> <li>• Competency in automation</li> <li>• Awareness and understanding of development and opportunities in clean energy space</li> <li>• Hydrogen fuel specialists</li> <li>• Electric vehicle specialists</li> <li>• Engineering skills in the area of:               <ul style="list-style-type: none"> <li>• micro grids</li> <li>• battery manufacture, maintenance and installation</li> <li>• distributed network</li> </ul> </li> <li>• Waste auditors</li> <li>• Waste to energy engineers.</li> </ul>





## Opportunities to address workforce and education outcomes

Consultation across the region identified a range of potential responses to address the current and emerging challenges facing the manufacturing industry across the Central Highlands region.

Table 15: Manufacturing proposed responses and solutions

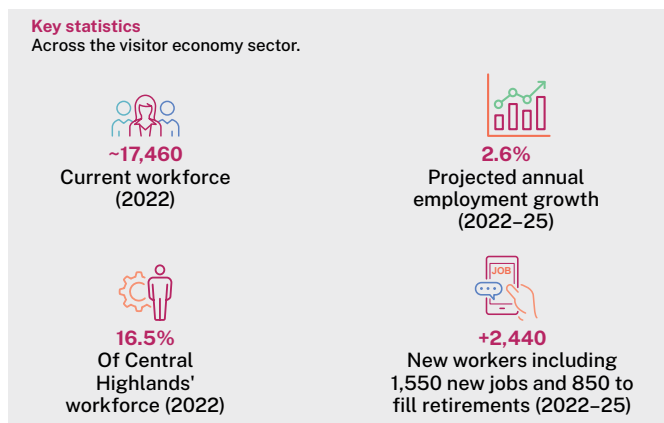
Manufacturing proposed responses and solutions
Proposed responses within the remit of the Victorian Skills Authority
<ul style="list-style-type: none"> <li>• Support the Senior Secondary Pathways reform agenda through facilitation of local opportunities to improve VET within the region</li> <li>• Support the design and publication of career pathway and journey mapping examples</li> <li>• Undertake explorative research to better understand the data, trends and factors affecting enrolment and completions</li> <li>• Connect key players in the region to improve the quality of education and training provided</li> <li>• Facilitate collaboration between government, industry and education to solve industry problems</li> <li>• Advocate for regulatory and support frameworks that enable retention of mature aged workers in the sector</li> </ul>
Proposed responses to be achieved through broader collaboration across the region and with broader partners and stakeholders
<ul style="list-style-type: none"> <li>• Promote the success stories of individuals and businesses in the region through innovative marketing campaigns particularly in the sustainability and circular economy space</li> <li>• Prepare prospective students to enter formal learning through non-traditional program pathways</li> <li>• Advocate for simplifying participation pathways for workers in transition, mature and retiring cohorts</li> <li>• Strengthen connections between education and training institutions and industry to raise awareness of non-traditional employment pathways</li> <li>• Collaboration across industry and education and training institutions to design and deliver industry-recognised short courses, including micro credentials</li> <li>• Provide cadetship programs for prospective students to encourage study and work in the sector</li> <li>• Provide employment and community related support to international workers moving to the region</li> <li>• Develop study models that combine learning with paid work opportunities</li> <li>• Increase flexibility for workers for example altered hours to balance other life commitments such as caring roles</li> <li>• Leverage sector partnerships with Federation University to promote the breadth of opportunities and pathways</li> <li>• Collaborate with secondary schools to develop curriculum that showcases current activity in the sector</li> <li>• Establish a rotation program across industry to give prospective workers insight into opportunities and experiences in the sector</li> <li>• Expand programs that develop professional skills and target the intergenerationally unemployed</li> <li>• Expand existing programs that promote and encourage non-traditional workers into the sector</li> <li>• Promote development pathways from shop floor to managerial roles</li> <li>• Emphasise the value of Central Highlands, for example, leadership training encompassing empathy, dealing with conflict and resilience.</li> </ul>

# Visitor economy profile

In this profile, the visitor economy is defined as the industries that support tourism in the region, including accommodation, hospitality, retail, and arts and recreation. Although the data does not explicitly distinguish the contribution of cultural activities, they are also considered to be a key part of this industry.

**Combined, the visitor economy is the second largest employer in the region with almost 17,500 workers across each of these sub-sectors<sup>198</sup> and a key contributor to Central Highlands' economy, contributing 10% of regional gross value added (GVA) to the value of \$808 million in 2021.<sup>199</sup>**

Figure 47: Central Highlands' visitor economy industry snapshot



## Key strengths

Proximity to metropolitan Melbourne coupled with the associated scale of being one of the 3 largest regional cities in Victoria alongside Geelong and Bendigo, enables Ballarat to sustain a wide variety of seasonal attractions, events, and activities each year. This includes music festivals like the Red Hot Summer Tour, art and photography exhibitions such as the Ballarat International Foto Biennale, several home matches of the AFL Western Bulldogs club, special interest celebrations such as the Ballarat Begonia Festival, and cultural or community events including Harmony Fest and the Ballarat Heritage Festival.

The Ballarat and surrounding regions also have a strong heritage offering with the city one of the sites of the Victorian gold rush of the 1800s that led to the development of 'Marvellous Melbourne'.<sup>200</sup> This history lends itself to several key attractions including Sovereign Hill Living Museum, Ballarat Gold Museum and walking tours of the cityscape. Success of the joint UNESCO World Heritage listing bid for the Central Victorian Goldfields precinct would further elevate visibility of this region on a national and international stage as well as likely trigger more investment and visitation to the area.

There is also a strong and continuing First Nations connection to the region with the name Ballarat – or 'resting place' in Wadawurrung language, reflecting the cultural, environmental, and spiritual significance of the region and surrounds for thousands of years.

The North Gardens Indigenous Sculpture Park in Ballarat and Brambuk National Park and Cultural Centre at the northwest outer edge of Central Highlands, and the centuries old birthing trees to the west of the region are several examples of Aboriginal based activity in the area.

Outside of Ballarat, visitor attractions are largely specialised according to their locale. For example, luxury wellbeing and lifestyle offerings in the Hepburn Daylesford region, reading and writing events in Clunes, and museums in Ararat such as Gum San Heritage Centre. Central Highlands also boasts an abundance of natural assets and State Parks including Lerderderg, Langi Ghiran, the gateway to the Grampians, and Lake Bolac.

The recognition of Ballarat as a UNESCO City of Craft and Folk Art in 2019 confirmed the role of creativity and the arts as an integral component of the broader regional economy at both social and economic levels.<sup>201</sup> Ballarat's Creative Cities Strategy outlines a collaborative, coherent and community-based plan to achieve each of the 7 goals that will allow the city to be a vibrant centre of creativity. The strategy emphasises several principles including looking forward while respecting the past, increasing inclusion of audiences, practitioners and accessibility, and sustainable funding.<sup>202</sup>

## Key challenges and opportunity areas

The visitor economy is rebounding in Central Highlands with many events, festivals, venues and attractions reopened and most at full capacity. As in many industries, the visitor economy is facing a shortage of workers across each of its sub-sectors.



### Regenerating skills in the region

Industry roundtable participants reflected on the impact of the pandemic lockdowns on development and uplift of skills across the sector, particularly in hospitality. Limited opportunities for interpersonal interaction, customer service and social engagements during these periods has resulted in some decline in basic service skills. This is particularly evident in entry-level roles which are filled by younger workers. The use of stackable, short and locally delivered micro-courses was identified to quickly build skill sets and increase confidence among workers in their ability to satisfy job requirements.

### Adapting to the new normal

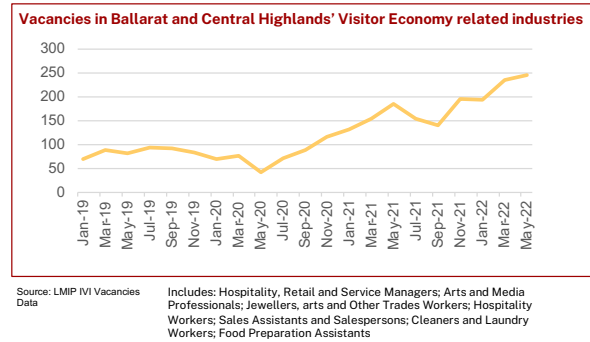
There are several challenges in the broader operating environment that are impacting workforce and skills in the visitor economy. These include limited accommodation options for visitors and workers alike, as well as few childcare options particularly outside of Ballarat. Mixed access to public transport is another barrier to employment and participation given the increasingly immersive nature of innovative events in this space. The seasonal nature of tourism activities impacts the supply of a sustainable workforce; however, diversifying tourism offerings and creating a year-round calendar of events will reduce this risk.

The opening of state and international borders increases opportunities for local visitors to the region however, it has also increased the number of destinations available to travellers. Digital platforms and social media are increasingly influential ways of marketing business and the region, more broadly. As a result, operators in Central Highlands must also cultivate digital literacy skills.

### Managing inter and intra-sector competition for a limited workforce pool

Industry roundtable and taskforce members reflected that while there is a general openness for partnership in the sector, the practical reality of managing labour shortages sometimes results in hesitancy to collaborate including across knowledge and staff. Initiatives that encourage resource sharing in a transparent manner can facilitate more efficient allocation of resources and allow the mostly small businesses that make up the sector to leverage economies of scale when solving key challenges in the region. Sharing limited resources is especially important as vacancies in the sector continue to rise. From March 2020 to March 2022, more than 3 times the number of jobs were advertised.<sup>203</sup> Addressing this shortage is critical to ensuring that businesses can remain open, and Central Highlands can retain its reputation as an attractive visitor destination.

Figure 48: Visitor economy vacancies in the Ballarat and Central Highlands area (January 2019 to May 2022)



### Interface with other industries and emerging sectors

The visitor economy is comprised of several segments that interact with other industries in the economy. Accommodation, retail and arts and recreation activities cover many specific jobs and skillsets. Some of the intersecting industries that interact or contribute to visitor attraction in the region are listed below.

Table 16: Key intersections across Central Highlands' visitor economy

<b>Specialised manufacturing</b>	Unique retail offerings and shopping areas attract visitors looking for specialised or cultural purchasing experiences. This includes homewares, clothing, upcycled or circular economy-based production and Aboriginal crafts. Heritage trades are another niche retail offering with several historical based attractions providing an entry point for engaging with high value, specialised manufacturing in the region.
<b>Construction</b>	Out of town visitors, seasonal residents, day trippers, and international tourists seek quality, experience-enhancing accommodation in the region.
<b>Agriculture and food manufacturing</b>	As previously noted, the agriculture and food product manufacturing industries have clear linkages with the food-based tourism and the visitor economy. The Hepburn, Daylesford and Trentham areas in particular are home to destination dining spots.
<b>Digital technologies</b>	Visitors expect high quality, engaging and unique tourism experiences which can often be enhanced by new digital technologies to bring interpretation to life. The AURA sound and light show at Sovereign Hill Ballarat provides an example of this in the region projections, sounds, and incorporating the surrounding landscape. Additionally, digital literacy and sound understanding of basic online marketing is increasingly part of reaching potential audiences in the 21st century.

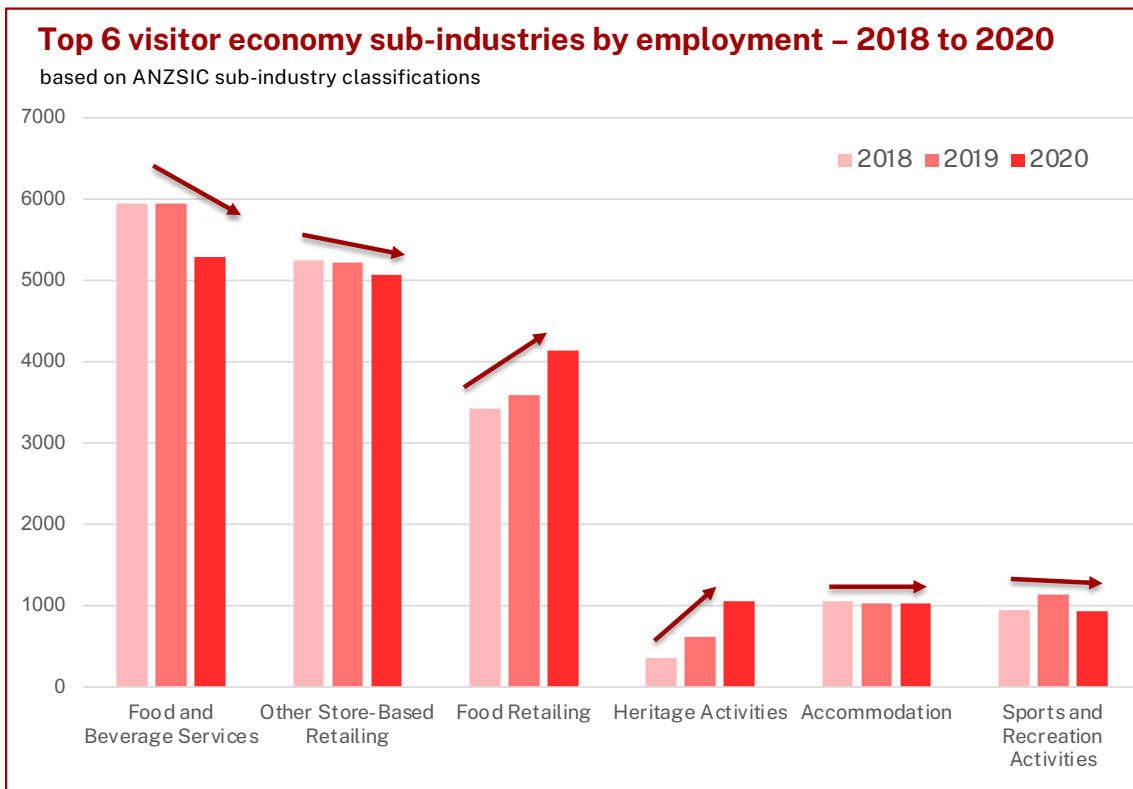
## Recent and forecasted industry growth

### Largest sub-industries by employment

A breakdown of employment by key sub-industries within the Central Highlands' visitor economy based on Australian Bureau of Statistics (ABS) industry classifications shows a downward trend in employment between 2018 to 2020 in the 2 largest employing sub-sectors of food and beverage services, and other store-based retailing.<sup>204</sup>

The largest growth in this period has occurred in the heritage activities sub-sector with double the number of employees in 2020 compared to 2018.<sup>205</sup> This is consistent with the strong historical nature of attractions in region, and around Ballarat in particular. The deductions in several of these sub-sectors during 2020 may be attributed in part to the effects of the pandemic restrictions that saw the temporary closure of many businesses and tourism providers including in hospitality.<sup>206</sup>

Figure 49: Top 6 visitor economy sub-industries by employment



Source: NIEIR Central Highlands Regional Data, 2020



### Forecasted growth by occupation

The rebound in the visitor economy is underway and projections suggest at least 1,550 more workers will be needed to fill new jobs alongside 850 new workers to fill retirements over the next 3 years (2022 to 2025).<sup>207</sup> The ongoing bid for UNESCO World Heritage Listing of the Victorian Goldfields region if successful, is also likely to increase employment in the sector as the profile of Central Highlands on the global stage attracts new visitors.<sup>208</sup>

It is likely that these projections are understating the true level of expected growth as not all visitor economy occupations and interlinking industries have been captured in the data. For example, workers who primarily work in agricultural activity but diversify income streams through offering farm tours or cooking classes are unlikely to be included to their full value.

Forecasted occupation growth across this sector for the top 20 occupations (as classified by the ABS) is included below.<sup>33</sup> While this list is not exhaustive, it provides a snapshot of the key occupations in demand and highlights that most existing jobs across the sector will continue to be required.

Figure 50: Forecasted occupation growth in Central Highlands’ visitor economy sector (2022–2025)



Source: Victorian Skills Authority Employment Forecasts, April 2022

<sup>33</sup> This graph is not exhaustive (top 20 occupations only) and may not include other major roles and responsibilities as identified by industry.

## Skills and occupation requirements

Beyond forecasted occupations based on Australian Bureau of Statistics (ABS) classifications, industry roundtable participants raised a number of skills needs and capabilities required in the next 1–2 years (immediate needs) and 3–5 years (emerging needs).

	Immediate needs (1–2 years)	Emerging needs (3–5 years)	
Visitor economy	<p><b>Specific roles or occupations:</b></p> <ul style="list-style-type: none"> <li>• entry level hospitality service skills</li> <li>• RSA accreditation course providers</li> <li>• chefs</li> <li>• kitchenhands</li> <li>• housekeeping</li> <li>• function managers</li> <li>• professional based jobs</li> <li>• administrative based jobs</li> <li>• receptionists</li> <li>• cleaners</li> </ul> <p><b>Specific course needs:</b></p> <ul style="list-style-type: none"> <li>• RSA accreditation</li> <li>• expanding Free TAFE in Certificate III Commercial Cookery in Ballarat</li> <li>• micro-credential delivery</li> </ul>	<p><b>Core competencies including:</b></p> <ul style="list-style-type: none"> <li>• positive attitude and willingness to learn is the most important criteria</li> <li>• empathy for fellow workers, customers</li> <li>• leadership skills</li> <li>• collaborative mindset</li> <li>• work readiness</li> <li>• understanding worker wellbeing</li> </ul> <p><b>Technical and digital skills:</b></p> <ul style="list-style-type: none"> <li>• Microsoft Office suite</li> <li>• Point of sale (POS) systems</li> <li>• booking and scheduling systems</li> <li>• social media</li> <li>• internet literacy especially for older workers</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Strategic planning</b> to create, articulate and communicate the basis of visitor attraction to the region</li> <li>• <b>Management skills</b> to effectively retain the workforce</li> <li>• <b>Sustainability tourism</b> and natural resource management workers</li> </ul>





## Opportunities to address workforce and education outcomes

Consultation across the region identified a range of potential responses to address the current and emerging challenges facing the visitor economy across the Central Highlands region.

Table 17: Visitor economy industry proposed responses and solutions

Visitor economy proposed responses and solutions
Proposed responses within the remit of the Victorian Skills Authority
<ul style="list-style-type: none"> <li>• Support the design and publication of career pathway and journey mapping examples for Central Highlands</li> <li>• Support the creation of transferrable frameworks that simplify the process of engaging contractors to fill labour shortages</li> <li>• Advocate for the collaboration and coordination among businesses to attract international workers (activities that often require economy of scale and management experience).</li> </ul>
Proposed responses to be achieved through broader collaboration across the region and with broader partners and stakeholders
<ul style="list-style-type: none"> <li>• Promote the success stories of individuals and businesses in the region through innovative marketing campaigns</li> <li>• Targeted engagement with students and vulnerable communities to build awareness of sector opportunities</li> <li>• Increase access to 'earn and learn' opportunities for current and prospective learners</li> <li>• Prepare prospective students to enter formal learning through non-traditional program pathways</li> <li>• Shared recruitment pools across organisations where appropriate or feasible</li> <li>• Encourage industry and education providers to take a place-based approach to course design and delivery</li> <li>• Work with Traditional Owners to improve access to education, training, development and employment for Aboriginal Victorians</li> <li>• Deliver short courses and micro-credentials in targeted areas to meet the variety of immediate skills needs including to prioritise skill outcome over 'qualification' and support from entry level to management</li> <li>• Leverage learnings from existing strategies and reports for the region such as the Grampians Workforce Development Strategy and the Ballarat Visitor Economy Strategy (2021–2024)</li> <li>• Support, amplify and promote the Aboriginal Victorians' tourism sector including activities found in Dhelkunya Dja–Dja Dja Wurrung Country Plan (2014–2023), Paleert Tjaara Dja: Wadawurrung Healthy Country Plan 2020–2030</li> <li>• Establish an entrepreneur program to support and promote opportunities for people to start their own businesses</li> <li>• Emphasise the 'fun' and social aspects of the visitor economy to re-engage workers with the sector</li> <li>• Build awareness and scale of inclusive practices especially around LGBTIQ+ workers</li> <li>• Develop the value proposition for living and working in the region</li> <li>• Continue to support programs such as GROW Central Highlands and Hospo Heroes to create career aspirations, address barriers to work increase training and promote local businesses.</li> </ul>



## Appendix B: Data sources



Quality of data is central to the quality of insights shown through any economic profile. Significant effort has been made to reflect the Central Highlands region robustly and accurately as defined by the Department of Jobs, Skills, Industry and Regions (DJSIR). Nonetheless, it is important to note there are varying definitions of the Central Highlands region and some data is significantly outdated (at the time of developing this profile). Where the reported data does not fit the defined region exactly, inclusion of the data has considered the data type, available insights as well as the jurisdiction represented. Sources and their associated boundaries are denoted by footnote in the profile.

## Defining the Central Highlands Region

The complete Central Highlands region, as defined by DJSIR, includes the local government areas (LGAs) of Ararat, Pyrenees, Ballarat, Hepburn, Moorabool and Golden Plains. For this reason, data disaggregated by LGA contained within this report is mostly complete. Data from Regional Development Victoria's Regional Economic Development Strategy (REDS) and Victorian Skills Authority (VSA) data dashboard cover the Central Highlands region completely.

Figure 51 Complete Central Highlands region

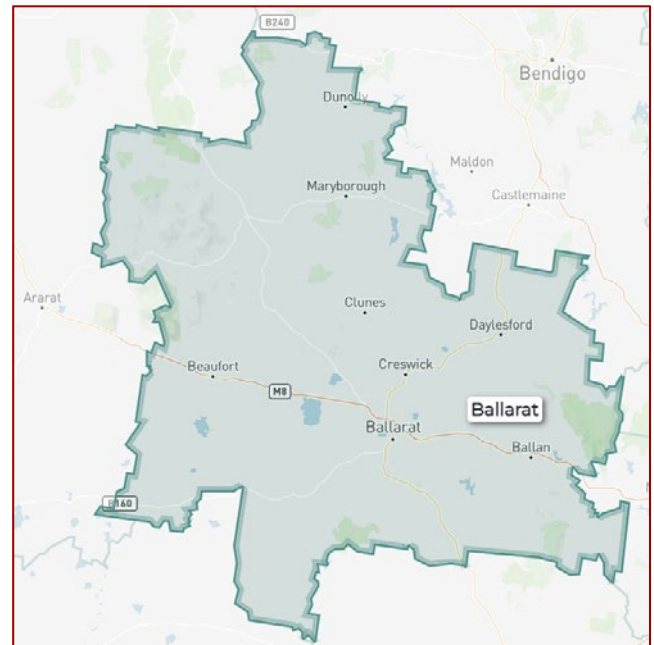


## ABS and labour market information portal data coverage

The Labour Market Information Portal (LMIP) and data from other federal level agencies utilise Australian Bureau of Statistics (ABS) data. While LGA data is occasionally available, the majority of ABS data is provided at an SA4 level

The referenced Central Highlands region is comprised of multiple SA4 areas which are Ballarat and North West. Because only a small section of the region falls under the North West, SA4 Ballarat is occasionally used as a proxy for the entire Central Highlands region and has not been combined with other regional data.

Figure 52: SA4 Ballarat (ABS) and Ballarat region (LMIP)





## Employment data

This profile contains both historic and projected employment figures.

- Data on **past employment**, for example, subindustry data is sourced from National Institute of Economic and Industry Research (NIEIR) datasets collated for the VSA
- **Contemporary employment** (2021–2022) figures are collected from the LMIP database –jurisdiction as explained in the paragraph above.

## Assumptions for employment forecasts

Industry employment forecasts, consistent with the forecasts used for the purpose of the Victorian Skills Plan, is based on Nous and VSA modelling using data from ANZSIC3, ANZSCO6, BGT0CC (Burning Glass Technologies Occupation Classification). The forecasts consider historical industry growth, population growth and projected industry growth.

As a result of the modelling method and practical limitations of an inability to predict all future conditions, these figures do not account for policy changes or incoming investment that may augment the potential for growth in a sector.

While the industry roundtable discussions provided a qualitative context and lived experience to these numbers, it is important to note that these forecasts are for new workers required due to an increase in production or operations. It does not include workers needed to fill current labour shortages existing at the same level of output.

Additionally, non-participation (due to discouraged workers for example) or underemployment is unlikely to be represented.



## Mapping of ANZIC Industry Classifications to key industries defined in this profile

To estimate the employment and gross value added (GVA) of the key industries using the ANZSIC Industry Classifications, the following assumptions were applied.

Key industry	ANZSIC Industry Classifications
Agriculture	<ul style="list-style-type: none"> <li>• Agriculture, forestry and fishing</li> </ul>
Business, professional and public admin services	<ul style="list-style-type: none"> <li>• Professional, scientific and technical services</li> <li>• Public administration and safety</li> <li>• Financial and insurance services</li> </ul>
Construction	<ul style="list-style-type: none"> <li>• Construction</li> </ul>
Education and training	<ul style="list-style-type: none"> <li>• Education and training</li> </ul>
Health care and community services	<ul style="list-style-type: none"> <li>• Health care and social assistance</li> </ul>
Manufacturing	<ul style="list-style-type: none"> <li>• Manufacturing</li> </ul>
Visitor economy	<ul style="list-style-type: none"> <li>• Retail trade</li> <li>• Arts and recreation services</li> <li>• Accommodation and food services</li> </ul>



'Key to Central Highlands' continued success is a skilled local workforce that can evolve to support future industry and community needs.'



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