


ASSESSING WORKFORCE SHORTAGES AND IDENTIFYING BARRIERS TO WORKFORCE ATTRACTION IN THE ACT

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Executive Summary

Overview

This report details a four-part study exploring workforce shortages and attraction within the Australian Capital Territory (ACT) conducted across May to September, 2022.

The Economic Development Division (EDD) in the ACT Chief Minister, Treasury and Economic Development sought to better understand the nature of skills and workforce shortages within the ACT and the key barriers to addressing such challenges. In partnership with the EDD, The University of Canberra implemented a multi-phase, mixed methods research strategy to (1) identify key issues impacting on skills and the ACT workforce, and (2) offer recommendations to overcome barriers identified. = The overarching question that guided this research was:

In what field(s) is the ACT experiencing or likely to experience workforce shortages, and what are the barriers to attracting workers in demand to the ACT?

This study revealed the following major findings:

- Significant workforce shortages exist within diverse industry areas across the ACT. These include: health, cybersecurity, hospitality and tourism, building and construction, retail. Many of these industries align with national shortages
- Analysis indicates that the labour market within the ACT is better utilised compared to other areas; the unskilled labour market is less abundant relative to skilled labour, and the labour force is quite mobile (about three times more than the nation as a whole).
- Analysis indicates that over a period of more than four decades, the underutilisation rates in the ACT have been significantly lower than those of the whole country and lower than 10% since early 2000. We show this longer term trend to demonstrate it is persistent – a longer term, structural issue
- These indicators above likely indicate that employers in the ACT have to compete for labour (especially unskilled) at a higher cost. Furthermore, high mobility in the labour market implies high attrition rates for employers, meaning that employers may have to work on strategies to retain staff that build and strengthen staff loyalty eg. Workplace flexibility, staff training, workplace benefits, promoting within etc.
- The necessity to develop a segmented promotional campaign to encourage people to relocate to and work in Canberra was highlighted across all sources of data, however, most recent recruitment by the majority of survey respondents indicated that most recruitment was occurring locally, and therefore further understanding of recruitment needs and success outside of the ACT is recommended.
- Business processes need to be addressed to determine ways that reliance on humans can be shifted e.g., outsourcing, greater use of self-service technologies, online systems, and robotics. Furthermore, staffing requirements can reduce as a consequence of more efficient and effective operation.
- Greater development of the city centre and other central areas within the ACT would attract people to live and work in Canberra and to remain, due to a greater buzz and career opportunities. Continued development creates a sense of excitement, growth and potential, and also results in greater employment. This has implications for the building and construction industry, property and retail sectors, and also has implications on an improved perception of Canberra.

Study Methodology

The study included the following four phases:

Phase 1: Desktop Review: Grey literature searching including academic and industry papers, data and literature. Statistical regression analysis was conducted to identify significant relations between variables of interest.

The findings in Phase 1 (analysis of secondary data) informed this study's research questions. In Phases 2, 3 and 4, the study's research questions were answered through the collection and analysis of primary data.

Phase 2: Interviews: Six semi-structured interviews were conducted with employers and employer representative groups in key industries and locations focussing on Property, Construction, Tourism, Hospitality and Retail. These interviews were conducted with leaders from the following organisations:

- Australian Hotels Association – GM ACT Branch
- National Retailers Association – CEO
- Canberra Business Chamber – CEO
- Master Builder Associations – CEO
- Canberra Region Tourism Leaders Forum – Chair
- National Zoo & Aquarium – Executive Manager of Business and Marketing
- Property Council of Australia – team interview

Phase 3: Survey: An online survey was distributed to employers within the ACT. Overall, the sample was representative of a wide variety of industries within the ACT:

- *Location:* Of 335 survey responses received, 19% indicated their organisation was in Canberra (overall). Fifteen per cent specified northside Canberra; 14% inner south; 13% southside; 13% the city; 8% inner north; 5% indicated they were from outside the ACT, but operated within the ACT; 3% from Queanbeyan; and 2% from the broader ACT region (eg. Bungendore); with the remainder declining to respond.

- *Sectors:* 67% of respondents were employed in Private Business, 17% were from Non-Government Organisations (NGOs), 6% were from the Public Sector, 3% were from Higher Education, and 6% were 'Other' types of organisations.

- *Industries:* Respondent organisations were from diverse industries including Healthcare and social assistance (16%), Accommodation and food services (12%), Construction (12%), Education and training (11%), Professional, scientific and technical services (7%), and Other services (19%).

Phase 4: Focus Groups. Six focus groups were conducted with participants representing key industries and locations including Health, Construction, Cybersecurity, Tourism and Hospitality. Focus groups were hosted with people living outside the ACT to understand perceptions of the ACT from people in particular industries, and obtain suggestions for those relocating. Furthermore, one focus group explored why people had relocated to the ACT, and their experiences:

1. People who moved to the ACT region for work over the past 5 years.
2. Building, Construction and Trades employees in Sydney, Melbourne and South East NSW.
3. Hospitality and Tourism employees in Sydney, Melbourne and South East NSW.
4. Health and Community Services employees in Sydney, Melbourne and South East NSW
5. Cybersecurity employees and students in employees in Sydney, Melbourne and South East NSW and ACT
6. Workers from South East NSW across a variety of industries.

Research Questions and Summary of Key Findings

Key findings mapped against key study research questions:

Theme	Research Question	Data Sources	Key Finding(s)
Labour supply and demand	What are the employment dynamics of the ACT?	Interviews, survey, focus groups, literature/ industry reports	The Territory's population has grown at a steady pace over the last four decades i.e. by approximately 89% from about 228,000 in 1981 to around 450 000 in 2021 (ABS, 2021), and the unemployment rate currently sits at 3.1% in the region, with a participation rate of 71.4% (ABS, 2022a). The unemployment rate is the lowest in the country, as at November 2022. The ACT also has the second highest population turnover rate in the country, at a rate of 257 per 1000 residents (ABS, 2022b), which would have implications for workforce supply. Workforce shortages were a challenge prior to the COVID pandemic. However, the pandemic has created greater pressure on workforce availability within the ACT. Although this is a national issue, its manifestation within the ACT is in housing costs, and perception issues, which appear to be making it more difficult to attract people to the region.
Labour supply and demand	What are the long- and short-term trends in workforce supply and demand (by sector and occupation groups) in the ACT?	Focus groups, survey, interviews, industry reports	The report details findings across key areas – retail, health, cybersecurity, tourism and hospitality; property / building and construction. Workforce shortages were reported pre-pandemic, however, have become worse since the pandemic and secondary data has shown that job advertisements increased considerably since COVID-19 restrictions began to lift. For example, data for December 2021 represented a 17% increase in job advertisements compared to pre-COVID times (National Skills Commission, 2022). The data collected for the current study has demonstrated that each industry has its own attractors, and concerns in attracting staff. Findings also suggest that the workforce in the ACT is small, highly skilled and very mobile, which give greater options for workers seeking opportunities both within and outside of the ACT. This suggests the importance of training, internal promotion opportunities, and other strategies to build employee loyalty are important.

Shortages	What have been the flows of workers and jobs in the key sectors?	Focus groups, survey, interviews, industry reports	The data demonstrates that the ACT has long had greater skills shortages compared to other jurisdictions, potentially due to smaller size, more skilled workers, and the high mobility and options of employees. In particular, the survey indicates that healthcare and services were the sectors reporting most difficulty in recruiting. This aligns with the data on job vacancies, which indicates healthcare was one of the top advertising sectors (IVI insights, DEC 2021). Other sectors also indicated an increase in recruitment needs.
Shortages	Which occupations and sectors currently have the most significant workforce shortages?	Interviews, survey, focus groups, industry reports	According to industry data, nationally, areas most in shortage are: Technician and trade workers and professionals; however other areas of strong future demand and shortages include aged/disability care, child care, electricians, project administration, wait staff, and storeperson roles. In the ACT, shortages in hospitality and tourism and building and construction were reported in interview data, while according to the survey recruitment difficulties were most apparent in health care and community services and professional services.
Labour supply and demand	How does the data on workforce supply in the ACT compare with the perceptions of employers and employer groups?	Industry reports, interviews, survey, focus groups	The data and perceptions of employers and employer groups align, whereby pre-pandemic shortages occurred due to skills shortages, particularly in higher skilled roles, but this has been exacerbated by the pandemic. A greater shortage of lower skilled workers has been reported through the pandemic.
Shortages	What long-term workforce shortages can the ACT expect? How do these differ from current shortages? How can we explain workforce shortages and a concurrent increase in youth unemployment in the ACT?	Interviews, survey, focus groups	Despite indications that there will be increased workflow post-pandemic, this analysis indicates that building and construction, technical services, health and social services, education, public administration, electricity, gas, water and waste and hospitality are likely to be key areas of increased workforce demand and therefore may lead to shortages within the ACT in the coming years. Based on interviews, focus groups, survey responses and economic data, housing cost and availability was deemed to impact on long term workforce shortages; while there was optimism regarding the return of international students and other migrants to fill some positions. In the ACT, youth unemployment has declined significantly in 2022, to just 2.9% in December 2022, from 6.1% in October 2021, therefore the previous increase was likely due to COVID-19.
Shortages	What are the main drivers of workforce shortages in the ACT?	Interviews, survey, focus groups	Drivers of workforce shortages include: housing availability/costs; cost of living (including child care costs and availability); perception of Canberra; salary for lower skilled roles (making affordability in the city difficult); work pipeline and other issues. COVID impacted considerably on workforce shortages, however in some industries there was a challenge to attract skilled workers in the ACT regardless of the pandemic. In some sectors, the inability to offer working from home arrangement, or more limited workplace flexibility was an issue. Casualisation of the

			workforce impacted some sectors (eg. Tourism and hospitality) during COVID-19, where staff opted for more secure employment. Within the retail industry, some staff preferred casual or part time employment, impacting retailers who preferred full time staff members.
Shortages	Which drivers are short-term (associated with the COVID pandemic) and can be expected to resolve post pandemic?	Interviews, survey, focus groups	COVID-19 was a short term issue related to workforce shortages including a flow of workers voluntarily leaving some industries, and some layoffs or work reductions. International migration issues also impacted in the short term, and some people opted out of the workforce during the pandemic (eg. Taking early retirement, or making the decision to retire). Longer term issues with workforce supply are expected to continue, and this is seen by the high labour force utilisation over the past four decades.
Shortages	Which of the above factors and drivers are long-term, medium term and structural?	Interviews, survey, focus groups	Medium and longer term issues include: cost of housing, general cost of living, perceptions of Canberra, work pipelines, mobility of the labour market in the ACT, and workforce/ job security meaning people are less likely to leave when happy. Other medium to long term issues, although not necessarily structural in nature include a lack of on the job training opportunities, and perceived lack of training of starters generally. Structural issues relate to employment structure, including workplace flexibility, which is more of an issue in some industries (eg. Building and construction and hospitality and tourism) over others. Furthermore, analysis indicates that over a period of more than four decades, the underutilisation rates in the ACT have been significantly lower than those of the whole country and lower than 10% since early 2000. This longer term trend demonstrates it is persistent – a longer term, structural issue.
Barriers	Which barriers to workforce supply are common across occupations/sectors, and which barriers are distinct rather than integrated with other barriers?	Interviews, survey, focus groups	Barriers varied, but included: • Cost of living in Canberra • Reducing rates of international migration • ‘Industry-hopping’ during the pandemic • Inability to provide sufficient financial and non-financial workplace incentives, eg. Workplace flexibility, higher wages, etc to attract or retain staff. • Opting out (e.g. skilled people retiring or opting for part time roles/ ‘gig economy’ roles) • Training • Technology limitations within the sector Some of these were indicated to be more industry specific – for example, industry-hopping was reported most commonly within tourism and hospitality; opting out was more commonly mentioned in retail and technology limitations were also mostly an issue within retail.

Key Recommendations

Based on the findings of this research, sixteen key recommendations for government and industry have been identified. These include short term and longer term actions to manage workforce challenges.

Recommendations for Industry:

Short- to medium term:

Build loyalty with existing workforce: Strategies to build loyalty between the employer and their workforce are particularly important in light of skills shortages, and can include training, internal promotion, and other strategies such as workplace flexibility.

Organisations should consider greater use of *remote outsourcing* for specialist service-based skills e.g. Web development, marketing, administration etc.

Consider non-financial incentives, such as workplace flexibility where possible within the role/ industry. This could include a day off, 3 day weekend, travel expenses paid to return home to visit friends/ family, and other strategies to make the transition of relocating easier. Furthermore, these incentives can lead to greater staff recruitment and retention.

Consider industry-based financial incentives such as incentive payments for employment; housing set up costs or organisation owned housing options for relocating employees; transport reductions etc.

Longer term:

Recruit under-represented staff: Employers should seek to recruit under-represented staff, which include older employees, and high school employees, who may be able to undertake applicable roles. Women have a relatively high participation rate in the ACT, but it is still lower compared to men, as some women opt to stay home with children, or work part time. Women may seek to increase hours, or seek employment when children are at school, and therefore organisations could actively target career re-entry, and provide relevant training and support to encourage a return to work. Furthermore, part time employees may consider full time opportunities. Where possible, promotion for roles should be done nationally and internationally, rather than just locally.

Change organisational processes and integrate greater use of technology: Organisations should continue to utilise process improvements, and greater use of self-service technologies, online ordering, and robotics where possible to reduce staffing reliance, increase efficiencies, and ultimately, build cost effectiveness. Furthermore, some customers prefer engagement with technologies, however, other customers will prefer staff engagement, and therefore, where demand exists, options should be provided. It is important to note, however, that process changes will become accepted by consumers as they get more familiar with them.

Recommendations for Government and Industry, together:

Short- to medium term:

Understand recruitment trends in greater detail - It is recommended that further analysis of candidate locations at time of recruitment is undertaken, on a larger scale (rather than just 'most recent recruitment'). The findings indicated that most recent recruitment occurred within Canberra, rather than with candidates from interstate and overseas. Most recent recruitment may have been skewed by post-pandemic difficulties in attracting staff from interstate/ overseas, however, if it is apparent that longer term it is difficult to attract staff from overseas/ interstate, training and job promotion within Canberra will be of greater importance.

Focus strategies on key sectors of growth: Industry groups, employers, and Government campaigns should focus on key sectors of likely growth and workforce shortages such as: building and construction, technical services, health and social services, education, public administration, electricity, gas, water and waste, hospitality and tourism and professional services.

Create a promotional campaign with a message targeted at various segments and industries. It is recommended that an initial promotional campaign relating to Canberra could be initiated by the ACT Government, however, industry associations and key employers in industries should work together for industry-based promotion. It is important to note that most recent recruitment attracted local candidates. Therefore, the analysis of location of candidate at the time of recruitment recommended above is encouraged prior to large scale investment in a promotional campaign, however, a promotional campaign is likely to increase interest relating to roles in the ACT, and research participants indicated that this was particularly important as promotion was occurring in other jurisdictions. This campaign should be integrated with a *web portal* with details about relocating to Canberra, and jobs, segmented by industry – www.canberra.com.au is a site that already offers much of this information, so can be integrated with the campaign. Furthermore, industry specific campaigns and sites can be integrated. Any promotional campaigns relating to moving to and working in Canberra should incorporate the logic that while cost of living is higher, salaries are also higher, as one concern from those outside of Canberra is that cost of living is higher.

Continue development within the ACT to improve perceptions of the region, and create a more consistent pipeline of work for those in building, construction and property

Determine ways for *faster Visa processing*. This is particularly the case for skilled migration, and within particular industry sectors, however all visa categories are currently backlogged and faster processing would lead to greater employment rates

Build further on training incentives e.g. further Government incentives, employer based programs, employer sponsored incentives for trainees, and traineeships supported by industry associations. This will support further skill development in key areas. Strategies can include funding support to employers or individuals to participate. Free training, in addition to incentives to participate, can increase participation rates. To motivate employees to complete programs, organisations can offer incentives such as time off for completing training, gift cards, or bonuses.

Longer term:

National strategy for technical, trades and professionals: It is recommended that employers and the Government within the ACT work with other jurisdictions on a strategy for technical, trades and professionals, and these national needs are represented across several sectors.

Localised strategy within hospitality and tourism: Shortages within the ACT are apparent, and therefore should be addressed within the industry, through training of staff, and recruitment of younger and older employees where possible.

Recommendations for Government:

Short- to medium term:

Negotiate with the Federal Government on the needs category: The findings of this study support recent calls on the Australian Government to consider the ACT to be assessed under a 'high needs category' for skills shortages, and therefore, it is recommended that the ACT Government continue negotiation with the Federal Government for the ACT to be assessed under the high needs category.

Longer term:

Explore strategies for the *fast train* between Canberra and Sydney where possible, to support recruitment from Sydney

1. Introduction

2.1 Context

Currently, Australia is experiencing one of its largest ever labour shortages with approximately 420 000 job vacancies according to the ABS (Kwan, 2022). According to an ABS survey, almost one third of Australian businesses are struggling to recruit staff due to a lack of applicants or a lack of appropriate skills from those who apply (McCubbing, 2022). Nationally, the most in demand areas suffering labour shortages include IT, aged care, disability workers and labourers (Hare, 2021). Although these issues are occurring nationally, it has been identified that regional areas were suffering the most from workforce shortages, particularly relating to lower skilled areas. It has been noted that Canberra, however, is experiencing the nation's most severe and sustained skilled worker shortage (Dennett, 2022). Although some of the data (eg. Figure 1) represents the ACT as performing well compared to other jurisdictions, this is based on no regional areas being deemed within the ACT. When considering actual skills shortages for the population, it is evident that the ACT is struggling in relation to skills shortages. The ACT is experiencing acute skills shortages in construction, health, education, information and communications technologies, hospitality, personal services and some niche areas (eg. bus driving) (Horizon One, 2022). The findings of this study support recent calls on the Australian Government to consider the ACT to be assessed under a 'high needs category' for skills shortages. Therefore, it is recommended that the ACT Government continue to negotiate with the Federal Government for the ACT to be assessed under the high needs category.

Figure 1 Summary of Skills Shortages in Australia

Skill shortages in Australia*

State/ Territory	Occupations in shortage: Whole of jurisdiction	Metropolitan only	Regional only	Total	Per cent of all assessed occupations in shortage
NT	252	0	5	257	32
NSW	226	0	17	243	30
Vic	147	1	17	165	21
SA	132	0	17	149	19
WA	130	0	19	149	19
Tas	132	0	17	149	19
Australia	136	0	17	153	19
Qld	127	0	18	145	18
ACT	129	0	0**	129	16

* 800 occupations are assessed; ** All of the ACT is considered metropolitan SOURCE: NATIONAL SKILLS COMMISSION

Simon Cox, author of a report on Canberra's employment market stated that this is a "once in a generation event" with the lowest unemployment rates in Canberra since the mid-1970s. Unemployment in Canberra, at 3.1%, is the lowest in the country, and it is also the busiest market for advertised jobs, with approximately half the number of applicants than usual (Dennett, 2022). According to Cox's report, three out of four employers believe that skills shortages will impact the operation of their organisation, but were optimistic that permanent staffing would increase in 2022-2023 (Dennett, 2022).

Due to the workforce shortages the ACT is currently facing, the University of Canberra was commissioned to conduct a detailed investigation. While the COVID pandemic has altered how we approach work, recent public health measures and travel restrictions impacted the supply of skilled workers within the ACT. This was particularly pertinent in industries such as tourism, high-tech manufacturing, hospitality and accommodation (ACT Business Hub, 2021). In addition, an ageing workforce and long hours expected in certain industries have exacerbated skills shortages in some sectors of the ACT's economy. Reductions in international visitors, students and immigrants also present major challenges for local employers seeking to attract staff, particularly in hospitality, tourism and accommodation, while optimism was reported in industry interviews regarding the possibility of improvement of recruitment rates now that borders are open, and travel is increasing. Although the pandemic normalised remote work possibilities, which helped remove former relocation barriers, it has also increased staff burnout and resignation rates and changed attitudes to work decisions.

The Australian Government's 2021 Skills Priority List indicates occupations are in most demand nationally[1.] Some of these occupations, such as ICT specialists and health practitioners, would clearly also be a priority for the ACT. Other fields – for example aviation or manufacturing – are less likely to be in demand given the profile of the Territory economy.

There are numerous strategies for government or business to employ to attract employees whose skills are in high demand and short supply, such as relocation bonuses, increased work flexibility, desirable work conditions, and provision of training. However, to implement strategies, a greater understanding of the situation at the local level is required and co-creating solutions with those within the industry is likely beneficial. This study, therefore, seeks to explore workforce shortage issues in the ACT, and barriers to workforce attraction, and through the analysis provides strategies to attract workers to these sectors of industry that have critical shortage issues.

The ACT Government represented by the Chief Minister, Treasury and Economic Development Directorate approached the University of Canberra (UC) for advice. The ACT Government was interested to better understand the nature of skills and workforce shortages in the ACT and the key barriers to addressing workforce shortages. This research will assist the ACT Government as it considers options for attracting workers in key fields to the ACT and planning for emerging workforce gaps. Industry leaders have called for an understanding and support for successful workforce attraction with a focus on education and training, business growth, and systematic removal of barriers and levers.

A key consideration is which workforce supply gaps are likely to persist regardless of temporary COVID-related disruptions; that is, which skills are associated with medium- to long-term structural drivers. As the ACT economy emerges from the COVID period and travel restrictions ease, some sectors of the economy (such as hospitality) may witness an expansion of their labour supply. Other sectors however may continue to face challenges attracting the skilled workforce they need. This report first outlines background data in sections 2 and 3 which has been analysed by the team; and then moves into the method and key findings and recommendations from the multi-stage study with ACT industry groups, employers and employees.

[1] *2021 Skills Priority List*. https://www.nationalskillscommission.gov.au/2021-skills-priority-list

2. Background data

This section draws on industry data to support this research. It provides a broad background toward responding to the research questions. For this study, the structure of the labour market including its sector and industry distributions, which is determined by the structure of the economy and population demographics in the ACT, were examined. The strengths and limitations of the Territory's labour supply together with the constraints of the local labour market, including constraints to labour market mobility, were analysed. Then, labour demand in the ACT and its determining factors were studied. The data used for this analysis were drawn from a wide range of sources including the ABS (Australian Bureau of Statistics), the National Skills Commission, and the Department of Education. The data covered a comprehensive range of socio-economic indicators including the labour market, population, government, housing, environment, crime, justice, etc. and findings are embedded across this background section, and then in relation to answering each research question.

2.1 Summary Employment Statistics

Australia's workforce totalled 10,683,800 (52.5% male, 47.5% female) in 2016 and increased to 12,049,410 (51.5% male, 48.5% female) in 2021. Sixty-two per cent worked full-time and 32.7% worked part-time in 2016, compared with 59% working full time and 33% working part time in 2021 (ABS, 2021). The ACT workforce increased by 20.9% from 2016 to 2021, totalling 248,608 people in 2021, outstripping the national average of 12.78% growth. (50.5% male, 49.5% female) according to 2021 Census data. There has been a considerable increase (19.2%) in full time participation, which is much greater than the 7.3% national average. Furthermore, there has been nearly a 25% increase in part time workforce participation, also considerably higher than the 13.8% increase nationally. Refer to Table 1 to see changes within Australian workforce participation rates, noting that growth in total workforce within the ACT (20.9%) is higher than population growth (14.37%).

Table 1 Australian Workforce 2016 and 2021

Statistic	2016 – Australia	2021 - Australia	% change - Australia	2016 – ACT	2021 - ACT	% change - ACT
Total population	**23,401,892**	25,422,788	+8.63%	397,397	454,499	+14.37%
Total workforce	10,683,800	12,049,410	+12.78%	205,600	248,608	+20.9%
Full-time workforce	6, 623, 956	7, 109, 151	+7.3%	137, 135	163, 584	+19.3
Part-time workforce	3, 493, 602	3, 976, 305	+13.8%	57, 156	71, 350	+24.9%

Source: Department of Jobs and Small Business – Occupational Profiles Summary, Australia and ACT and Australian Bureau of Statistics – Census 2021 Snapshot of Australia & Census 2021 Tablebuilder.

Note: Although it relies on binary considerations, gender is a profound explanatory variable for many occupations. For example, there are 734,500 male machinery operators and drivers in Australia, compared to 91,500 female machinery operators and drivers.

Refer to Table 2 to see Industry based employment figures. Please note, due to some workers working in multiple roles and/or across multiple industries, total numbers are higher than those indicated in Table 1.

Table 2 Employment by Industry, Ranked across Australia and A.C.T., November 2021

Industry	Persons Employed Australia (% of workforce)	Persons Employed in ACT (% of workforce)
Health Care and Social Assistance	1,900,100 (14.3)	46,700 (13.8)
Retail Trade	1,281,300 (9.7)	26,700 (7.9)
Professional, Scientific & Technical Svcs	1,226,600 (9.3)	39,800 (11.7)
Construction	1,143,600 (8.6)	28,000 (8.3)
Education and Training	1,115,600 (8.4)	26,400 (7.8)
Public Administration and Safety	921,700 (7.0)	80,200 (23.7)
Manufacturing	864,300 (6.5)	7,800 (2.3)
Accommodation and Food Services	849,500 (6.4)	18,700 (5.5)
Transport, Postal and Warehousing	655,300 (4.9)	8,300 (2.4)
Other Services	543,800 (4.1)	14,900 (4.4)
Financial and Insurance Services	528,400 (4.0)	4,400 (1.3)
Administrative and Support Services	448,300(3.4)	8,700 (2.6)
Wholesale Trade	359,000(3.4)	3,100 (.9)
Agriculture, Forestry and Fishing	316,100(2.4)	7,200 (2.1)
Mining	271,300(2.0)	500 (.1)
Rental, Hiring and Real Estate Services	235,500(1.8)	3200 (.9)
Arts and Recreation Services	234,300(1.8)	7,400 (2.2)
Information Media & Telecos	192,500(1.5)	4,500 (1.3)
Electricity, Gas, Water and Waste Svcs	134,100(1.0)	2,300 (.7)

Source: LMIP, Employment Region Data, sourcing ABS Labour Force Survey, seasonally adjusted data.

Figure 2 provides an overview of occupations across Australia by gender and Figure 3 provides a breakdown of occupations in the ACT by gender. It is apparent that the number of females working in managerial roles within the ACT is higher (48.4%) than the national average (38.9% females), and this would likely be aligned with Public Service commitment to a more equitable workforce.

Figure 2 Employment by Occupation & Gender, Whole of Australia, Nov 2021(Link)

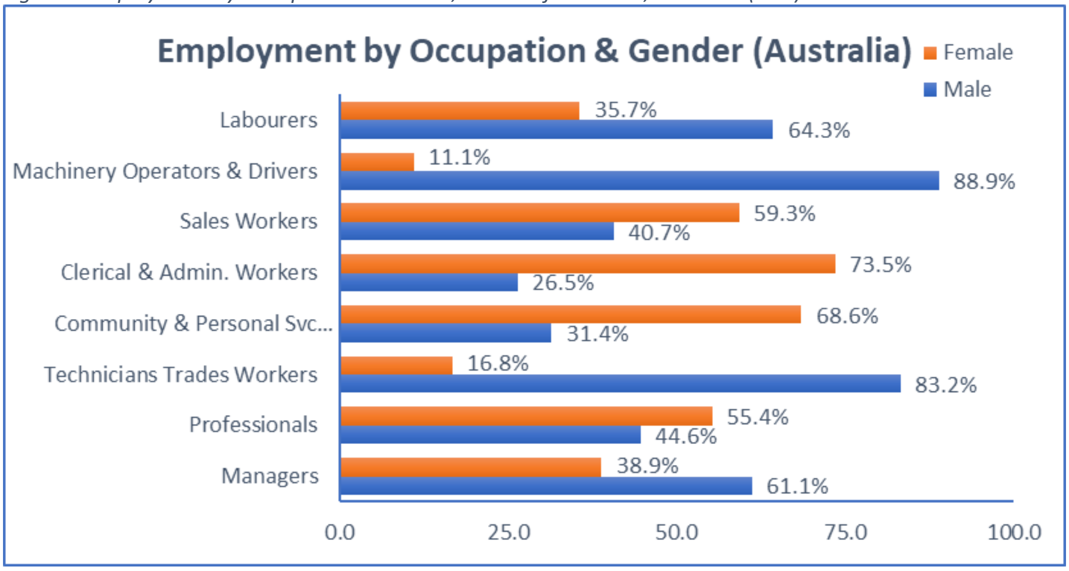
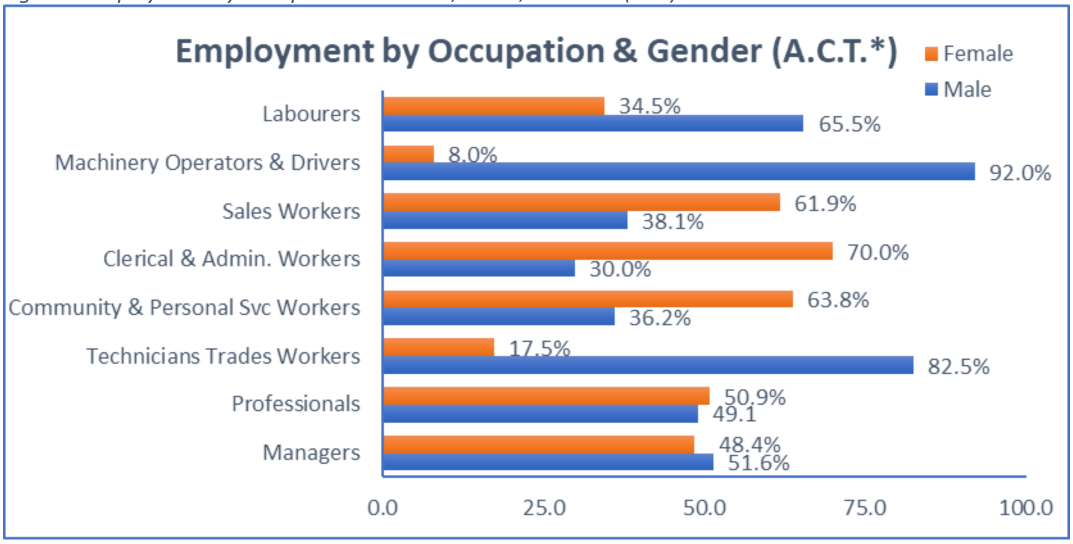


Figure 3 Employment by Occupation & Gender, A.C.T., Nov 2021(Link)



*Combines the ACT and the 'Capital Region', which contains areas from NSW.
Source: LMIP, Employment Region Data, sourcing ABS Labour Force Survey, four quarter average.

3. Research Questions

The study's overarching research question is:

In what field(s) is the ACT experiencing or likely to experience workforce shortages, and what are the barriers to attracting workers in demand to the ACT?

This research question explores employment dynamics, drivers and barriers to workforce attraction. There are three research questions and several sub-questions related to these themes (see Table 3).

Table 3 Research Questions

Label	Key RQ	Sub-questions
Employment Dynamics	1. What are the employment dynamics in the ACT?	1A. What are the long- and short-term trends in workforce supply and demand (by sector and occupation groups) in the ACT? 1B. What have been the flows of workers and jobs in the key sectors (e.g., proportions of jobs filled by non-ACT residents, proportion of workers entering and leaving the ACT, etc) 1C. Which occupations and sectors currently have the most significant workforce shortages (e.g. tech)? Which of these are of most concern to the ACT Government? 1D. How does the data on workforce supply in the ACT compare with the perceptions of employers and employer groups? 1E. What long-term workforce shortages can the ACT expect? How do these differ from current shortages? How can we explain workforce shortages and a concurrent increase in youth unemployment in the ACT?
Drivers of Workforce Shortages	2. What are the reasons/ drivers of workforce shortage in the ACT?	2A. What are the main drivers of workforce shortages in the ACT? 2B. Which drivers are short-term (associated with COVID) and can be expected to resolve post-pandemic e.g. cessation of international migration, reduced domestic migration? 2C. Which of the above factors and drivers are long-term, medium-term and structural? 2D. Which barriers to workforce supply are common across occupations/sectors, and which barriers are distinct rather than integrated with other barriers?
Recommendations /Interventions	3. Which interventions to attract workforce to the ACT are likely to be effective?	3A. Which interventions to attract workforce to the ACT are likely to be effective?

4. Methodology

To better understand the nature of workforce shortages, barriers to addressing those shortages and policy options, four phases of research were implemented:

Phase 1: Desktop Review: Grey literature searching including academic and industry papers, data and literature. Statistical regression analysis was conducted to identify significant relations between variables of interest.

Phase 2: Interviews: Semi-structured interviews were conducted with employers and employer representative groups in key industries and locations focussing on Property, Construction, Tourism, Hospitality and Retail. A total of 6 interviews were conducted with:

- Australian Hotels Association – GM ACT Branch
- National Retailers Association – CEO
- Canberra Business Chamber – CEO
- Master Builder Associations – CEO
- Canberra Region Tourism Leaders Forum – Chair
- National Zoo & Aquarium – Executive Manager of Business and Marketing
- Property Council of Australia – team interview

Phase 3: An online survey was distributed to employers within the ACT and 335 completed surveys were returned. Note: the survey findings are incorporated within the body of this report, and a full report of the survey findings is in Appendix 1.

Overall, the sample was representative of a wide variety of industries within the ACT:

- *Location:* Of 335 survey responses received, 19% indicated they were from Canberra, 15% specified northside Canberra; 14% inner south; 13% southside; 13% the city; 8% inner north; 5% indicated they were from outside the ACT, but operated within the ACT; 3% from Queanbeyan; and 2% from the broader ACT region (eg. Bungendore); with the remainder declining to respond.
- *Sectors:* 67% of respondents were employed in Private Business, 17% were from Non-Government Organisations (NGOs), 6% were from the Public Sector, 3% were from Higher Education, and 6% were Other types of organisations.
- *Industries:* Respondent organisations were from diverse industries including Healthcare and social assistance (16%), Accommodation and food services (12%), Construction (12%), Education and training (11%), Professional, scientific and technical services (7%), and Other services (19%).

Phase 4: Focus Groups. Six focus groups were conducted with participants representing key industries and locations including Health, Construction, Cybersecurity, Tourism and Hospitality:

1. People who moved to The ACT region for work over the past 5 years
2. Building, Construction and Trades employees in Sydney, Melbourne and South East NSW
3. Hospitality and Tourism employees in Sydney, Melbourne and South East NSW
4. Health and Community Services employees in Sydney, Melbourne and South East NSW
5. Cybersecurity employees and students in employees in Sydney, Melbourne and South East NSW and ACT
6. Workers from South East NSW across a variety of industries.

5. Results and Discussion

This section focuses on answering the research questions, sub-questions, and interpreting findings from all sources of data.

Employment Dynamics

Research Question 1: What are the employment dynamics in the ACT?

Skills shortages have been a challenge in the ACT prior to the pandemic, however, COVID has exacerbated the issue of workforce availability within the ACT.

Research question 1 has five sub-questions which will be discussed in relation to the findings.

6.1 Research Question 1A: What are the long- and short-term trends in workforce supply and demand (by sector and occupation groups) in the ACT?

This research question is designed to understand trends in workforce supply and demand within the ACT, broken down by industry group. Using the four key sources of data (secondary data, survey, focus groups, interviews) we indicate that there are shortages in particular industries – cybersecurity, health, retail, building and construction, hospitality and tourism:

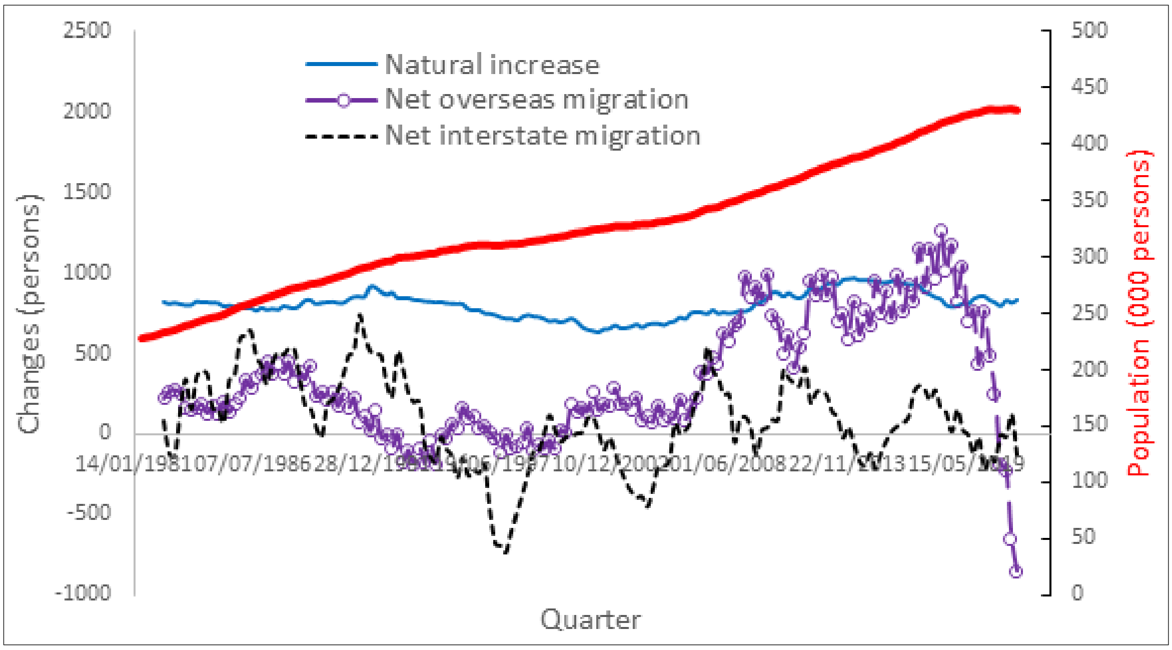
Secondary Data Evidence

ACT labour force has been growing steadily during the last three decades, aided substantially by overseas and interstate migration. The small sized, high skilled labour force is more mobile than that of the whole country. Three stylized features of the Territory's population are:

Population growth

The Territory's population has grown at a steady pace over the last four decades i.e. by approximately 89% from about 228,000 in 1981 to around 450 000 in 2021 (ABS, 2021). Apart from natural increase, population growth is largely driven by positive net overseas migration especially after 2000, and to a lesser extent interstate migration into the Territory. It is noted that population size alone is a crude measure of the labour resources available to the ACT, given the Territory is situated geographically far from major populated areas. Table 4 summarises the sources of population growth in the ACT during the same period. Natural growth accounts for only two thirds of total growth with more than a quarter of the growth coming out of net overseas migration. This provides an indication of the healthy expansion of the city and its economy and gives a sense of its ability to attract people from overseas in particular. On the other hand, population size is still relatively small, so the overall level of labour resource is limited. From Figure 4, it can be seen clearly that overseas migration plummeted as result of COVID, but we expect this trend will reverse as the virus increasingly becomes part of daily life.

Figure 4 ACT population and its growth (5-quarter moving averages)



Sources: Based on *National, state and territory population*, 3101.0 and *Labour Force, Australia*, 6202.0, ABS.

Table 4 Source of the population growth in the ACT (Jun 1981-Sept 2021)

Natural increase	67.2%
Overseas migration	26.6%
Net interstate migration	6.2%
Total growth	100%

Source: Based upon National, state and territory population, 3101.0, ABS.

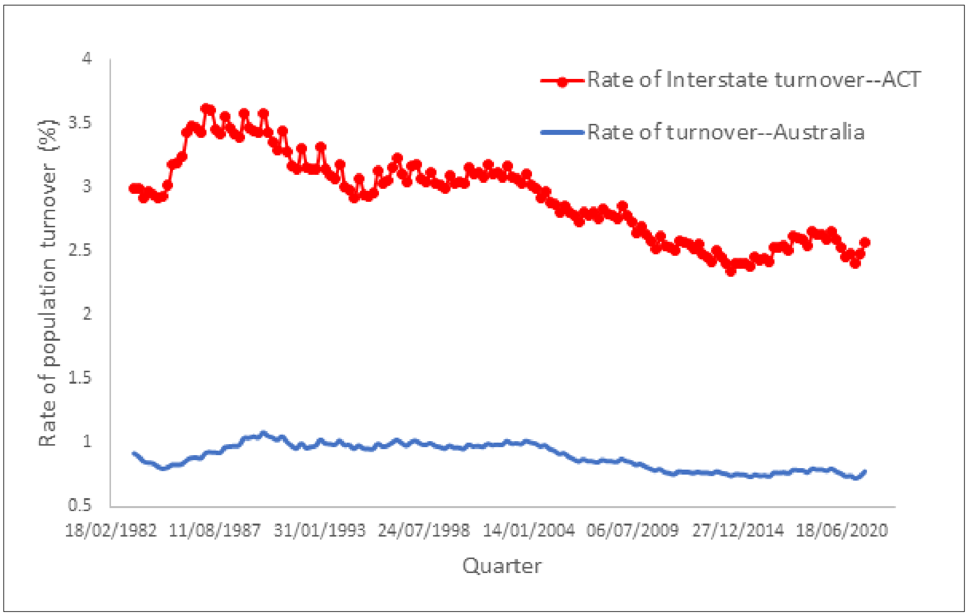
Interstate mobility

Second, to get a feel for labour force interstate mobility we calculated the rate of interstate population turnover, which is the sum of interstate arrivals and departures as a percentage of the total population. Figure 5 plots the smoothed interstate turnover series for both the ACT and Australia over the period June 1981 - Sept 2021. It is apparent that the population of the ACT is mobile i.e. about three times more than the nation as a whole. The ACT interstate turnover rate has been over 3% until early 2000, after which as the size of the population grew larger, it went down to about 2.5%, which remains much larger than the national average of 0.78%.

Proportion of skilled labour

Third, the ACT's labour force is characterised by a high proportion of high skilled labour. Table 5 indicates that about 46% of ACT residents between 15 and 74 years hold a bachelor's degree or above as compared to the national average of about 31%. In addition, 16% of the labour force holds a postgraduate degree, which is twice as high as the national average. Meanwhile, the labour force participation rates of the lower educated (e.g. less than tertiary education) in the ACT are significantly higher than in the rest of the country, with 76% of Advanced Diploma/ Diploma qualified people working, compared with 73.6% nationally; and 71.4% of people with Year 12 or equivalent employed, compared with 69.3% nationally).

Figure 5 Rate of population interstate turnover between June 1981 and Sept 2021 (9-quarter moving averages)



Source: Based upon *National, state and territory population*, 3101.0, ABS.

Table 5 Population, LFP, and unemployment by level of highest educational attainment (%)

Education level	ACT % of Pop	ACT % of LFP	ACT % of Unemploy.	Australia % of Pop	Australia % of LFP	Australia % of Unemploy.
Postgraduate Degree	16.1	83.2	2.8	8.1	83.3	3.7
Graduate Diploma/Grad. Cert.	5.2	72.9	2.7	3.6	74.7	3.0
Bachelor Degree	24.6	80.0	2.6	19.6	80.3	3.5
Advanced Diploma/Diploma	8.2	76.0	2.8	9.7	73.6	4.2
Certificate III/IV	11.1	76.5	3.6	17.6	73.2	4.6
Year 12 or equivalent	17.9	71.4	4.8	18.0	69.3	7.1
Year 11	3.2	59.1	7.5	5.1	56.7	9.0
Year 10	8.0	45.5	6.3	10.0	45.3	8.6
Below Year 10	4.8	28.6	11.4	6.6	24.8	13.7

Source: Population is for 15-74 years in 2021, Education and Work, Australia, May 2021, ABS; LFP and unemployment rates are the averages since the Quarter of Feb 2020 to May 2022, for 15 years and over (ABS, 6291.0.55.001 Labour Force, Australia, Detailed).

These factors combined imply that in relative terms low skilled labour is a scarcer resource than in other parts of the country. At the same time, although we do not have the data, we surmise that labour mobility may be positively correlated with skill level i.e. highly skilled labour tend to be more mobile than lower skill levels. This is because high skilled labour may be less sensitive to costs of working, e.g., commuting, moving costs, etc. This would again imply that unskilled labour in the ACT may be more scarce so that everything else being equal, sectors that use unskilled labour as an input may have to compete for unskilled labour more than their counterparts in the rest of the country.

Labour supply among lower participation groups

Table 6 summarises the Labour Force Participation (LFP) and unemployment rates for the young and older groups and for females, who traditionally have lower LFP than males, over a three year period.

These groups need to be paid particular attention because 1) owing to their lower participation in the labour market, younger (high school students), older and female population groups provide a potential source of additional labour resources, where suitable jobs could potentially be filled by these people and 2) unemployment amongst the younger group is an important policy issue in Australia and this group also constitutes the main workforce of key service industries (such as hospitality).

We also compared the period just preceding the outbreak of the COVID pandemic (Jan 2018 to December 2019) with the period that followed. The table shows, again, that participation and labour utilisation in the ACT among these groups are consistently higher than in the country as a whole. The COVID pandemic affected distinct groups differently. The following points are important:

The younger group: defined as those aged between 15-24. In the ACT, about 60% of the workforce aged 15-24 years are in full time education, compared with about 55% nationally. As shown in Table 5, both the LFP and the employment rates are high in the ACT relative to the rest of the country. Those who are in full time education are still highly active in the labour market, and this is even more pronounced after the COVID outbreak. The youth unemployment rate is also lower than in the pre-COVID period.

The older group: defined as those aged 65 years and over. the LFP rate of this group has increased by about one percentage point in the ACT since the COVID pandemic started and their unemployment rate decreased by about one percentage point. This outcome is notable and counter to changes observed at the national level for this group and may be yet another sign of a tightening labour market in the ACT.

Females: defined as females in the primary labour force age (15-64), are more active in the ACT labour market than the rest of the country and more so since the pandemic started. Their unemployment rate is also low, despite generally lower workforce participation compared to men.

Table 6 Labour force participation and unemployment rates among traditional lower participating groups before and after COVID

	LFP (%)				Unemployment rate (%)			
Groups	**2018-2019**		**2020-2022**		**2018-2019**		**2020-2022**	
	ACT	Aust.	ACT	Aust.	ACT	Aust.	ACT	Aust.
15-24 yrs*	68.5	68.0	71.3	68.1	8.7	11.8	8.6	12.2
not in education	90.1	86.4	89.0	84.9	6.7	10.1	7.0	10.8
In education	54.6	51.5	58.3	53.8	11.0	14.2	10.1	13.9
65 years and over#	13.9	14.4	14.9	14.6	4.4	1.73	3.3	2.29
Female (15-64 yrs)#	78.5	73.6	80.2	74.7	3.6	5.4	3.7	5.5

Source: Based on Labour Force, Australia, Detailed (6291.0.55.001) ABS. # are the averages of quarterly data; *are averages of monthly data. 2018-2019 is from Jan 2018 to Dec 2019; 2020-2022 is from Jan 2020 to May 2022.

Insights from data collection

In addition to findings from the secondary data, findings from the interviews, surveys and to a lesser degree, the focus groups, shed further light on workforce supply and demand in the region. Of the 335 survey respondents, 93% of the businesses surveyed had attempted to recruit in the past two years and it is notable that 63.5% of respondents had recruited in the two months prior to the survey. Table 7 provides an indication of the varied roles recruited. Hospitality, retail and service managers was the most common role recruited over the past two years, with 9% of respondents, however, with a great variation in titles, this should be broadly interpreted.

Table 7 Most recent recruited role (Which of these best describes the role?)

No. of paid staff	Private	NGO	Total	%
Hospitality, Retail and Service Managers	18	1	19	8.8
Hospitality Workers	15	–	15	6.9
Construction Trades Workers	13	–	13	6.0
Health Professionals	9	5	14	6.5
Education Professionals	9	2	11	5.1
Legal, Social and Welfare Professionals	5	5	10	4.6
Health and Welfare Support Workers	2	8	10	4.6
Other Technicians and Trades Workers	9	–	9	4.2
Arts and Media Professionals	5	2	7	3.2
ICT Professionals	7	–	7	3.2
Automotive and Engineering Trades Workers	7	–	7	3.2
Sales Assistants and Salespersons	6	1	7	3.2
Clerical and Office Support Workers	5	2	7	3.2
Business, HR & Marketing Profess.	5	–	5	2.3
Sports and Personal Service Workers	4	1	5	2.3
Specialist Managers	3	1	4	1.9
Chief Executives, General Mgrs & Legislators	2	1	3	1.4
Office Managers and Program Administrators	–	3	3	1.4
Other Clerical and Administrative Workers	2	1	3	1.4
Other Labourers	3	–	3	1.4
Cleaners and Laundry Workers	2	–	2	.9
Factory Process Workers	2	–	2	.9
Food Preparation Assistants	2	–	2	.9
Design, Engineering, Science & Transport.	2	–	2	.9
Engineering, ICT and Science Technicians	2	–	2	.9
Electrotech. and Teleco. Trades Workers	2	–	2	.9
Food Trades Workers	2	–	2	.9
Animal, Agricultural & Horticult. Workers	1	–	1	.5
Carers and Aides	1	–	1	.5
General Clerical Workers	1	–	1	.5
Inquiry Clerks and Receptionists	1	–	1	.5
Sales Representatives and Agents	1	–	1	.5
Road and Rail Drivers	1	–	1	.5
Construction and Mining Labourers	1	–	1	.5
Farm, Forestry and Garden Workers	1	–	1	.5
Other	13	6	19	8.8
Unanswered			13	6.0
Total	164	39	216	100

Twenty-six percent of private sector recruitment occurred within hospitality and retail roles, and 16% within construction and trade. Of the most recent role recruited, 62% were full time roles, 13% part time, and 23% were for casual roles. 45% of these roles required some experience (e.g. 1 to 5 years) and 37% of these roles were entry level. Very few roles were at a senior level i.e. requiring > 10 years experience (see Table 8).

Table 8 Roughly speaking, how many years of experience would the successful candidate require?

Years of Experience	Private	NGO	Total	%
< 1 (entry level)	62	8	70	37.0
1–5 (some experience)	62	24	86	45.5
6–10	22	4	26	13.8
11–15	3	–	3	1.6
> 15 (senior)	1	1	2	1.1
Not sure	2	–	2	1.1
Total	152	37	189	100
Total	174	42	216	100

N=189

Of those who had attempted to recruit in the past 2 years, 80% of them indicated they currently had a 'skills shortage' within their business. Nineteen percent indicated they did not currently have a skills shortage, and 1% of respondents were unsure. We asked survey respondents to describe the current skills shortages in their organisation in their own words. Table 9 is indicative of responses.

Table 9 Please describe the skills shortage your organisation has (e.g. digital skills, leadership, front of house, human resources, and so on).

Industry Sector	Org. Type	No. of comments	Comment
Performing Arts	Private	1	▪ Actors, Trainers in the performing arts.
Administration	Private	3	▪ Administration, HR, Operations ▪ Administration, sales, trade ▪ Reception
	NGO	1	▪ Administration
Aged care, Community Services, Social Work	NGO	9	▪ Home care workers, frontline staff to deliver services. ▪ Aged care, disability care, mental health specialist, ATOD specialist, psychologist, social worker, finance. ▪ Community Services/Social Work, Housing management. ▪ Disability Support Workers, Case Workers, Counsellors, specialists. ▪ Support Workers for aged care, Allied Health (Psychologists), Grant and Tender writer. ▪ Experienced trauma counsellors. ▪ Case management skills, experience in the OOHC sector, resilience. ▪ Social services and welfare staff on the South Coast of NSW. ▪ Social work/casework roles and overnight/weekend support roles.
Beauty	Private	2	▪ Beauty Therapy, Massage Therapy ▪ We are an RTO specialising in the Beauty and aesthetics industry. It is difficult to find trainers that have a current CERT IV.

Education	Private	1	▪ Educators for Early Education and Care and Outside School Hours Care.
	NGO	1	▪ Teachers, digital skills.
Engineering	Private	4	▪ Engineering, project management, sales. ▪ Engineers, project managers, commercial specialists. ▪ Engineers, training and employment specialists, project management, contracts administrators. ▪ Design drawings, quoting, engineer knowledge for hydrogeology.
Food & Beverage	Private	7	▪ Skilled cooks and chefs x 5 ▪ Barista, Kitchen staff. ▪ Food and Beverage, Housekeeping staff mid week; Middle Management positions.
Health Services	Private	4	▪ Experienced nurses. ▪ Practice Manager role. ▪ Dental specific knowledge - recording teeth, sterilising, assisting, managing patient database. ▪ Health Professionals.
	NGO	2	▪ Front line health professionals and peer workers. ▪ Trying to secure a physiotherapist.
Hospitality	Private	11	▪ Front of house x 9 ▪ Event planning & sales, reception. ▪ Supervisors in Stewarding and Service.
	NGO	2	▪ Human resources, support workers. ▪ Front of house.
Information Technology and Digital	Private	8	▪ Digital skills x 6 ▪ IT development, science. ▪ Data Analyst, Engineers, Project Managers. ▪ Technical skills such as Data Science.
	NGO	2	▪ Digital skills.
Legal	Private	3	▪ Legal industry experience. ▪ Support staff with legal experience. ▪ Lawyers with 3-6 years experience.
Project Management, Marketing, Management, Leadership, Sales	Private	8	▪ Leadership, membership sales, retaining members, social media. ▪ Operations management. ▪ Property Managers. ▪ Sales Representatives. ▪ We have need of more project managers, change managers, business analysts with HCD/design experience, solution designers. ▪ Marketing and Business Development skills. ▪ Interpersonal skills, sales. ▪ Leadership and management skills.
	NGO	3	▪ Human resources. ▪ Leadership skills transfer. ▪ Marketing expertise especially social media for arts/culture organisations.
Retail	Private	2	▪ Retail leadership. ▪ Retail Sales and Clerical.

Trades and Construction, Transport	Private	14	▪ Qualified carpenters x 4 ▪ Qualified mechanic 2 ▪ Auto electrician. ▪ On tools people with skills. ▪ Trade Skills. ▪ Staff with trade experience. ▪ Construction Estimating, Site Management, Project Management. ▪ Construction skills and safety requirements. ▪ Trade apprenticeships and traineeships. ▪ Truck drivers.
	NGO	1	▪ Apprenticeship and traineeship entry level roles.
Security	Private	2	▪ AGSVA cleared security guards and officers. ▪ Security guards communication skills.
Sport, Health & Fitness.	Private	3	▪ Sport specific skills. ▪ Qualified female personal trainers. ▪ Certificate IV in Fitness qualifications in Personal Training, gym floor and group fitness instruction.
	NGO	1	▪ Sports industry, specialist umpiring skills, sports industry - participation skills.

When exploring broad skills shortages across industries, Table 10 presents survey respondents' perceptions of the industries that were most likely to indicate a skills shortage (Note: this data is limited by small sample size). From all sources of primary data (interviews, focus groups, survey comments), it is clear that skills shortages exist across all industries within the ACT region.

Table 10 Skills Shortage and Industry (Q19B. Does your business/organisation currently have a skills shortage?)

	Skills Shortage			
Industry	**Yes**	**No**	**Not sure**	**% with skills shortage**
Health Care and Social Assistance	14	4	–	78%
Accommodation and Food Services	10	3	–	77%
Professional, Scientific and Technical Services	9	1	–	90%
Other Services	13	3	–	81%
Construction	7	2	–	78%
Education and Training	5	1	–	83%
Retail Trade	6	2	–	75%
Arts and Recreation Services	5	–	1	83%
Information Media and Telecommunications	2	2	–	50%
Rental, Hiring and Real Estate Services	3	–	–	100%
Agriculture, Forestry and Fishing	2	1	–	67%
Manufacturing	2	–	–	100%
Electricity, Gas, Water and Waste Services	1	–	–	100%
Transport, Postal and Warehousing	1	–	–	100%
Total	80	19	1	
%	80	19	1	

N=100

In the qualitative research, the following five key industry sectors surfaced and were explored in detail:

1. Hospitality and Tourism
2. Building, Construction and Trades
3. Health
4. Cybersecurity
5. Retail

1. Hospitality and Tourism

Hospitality and Tourism employers and employer groups reported significant pressure on the sector mostly due to the COVID pandemic. This sector was already experiencing workforce shortages prior to the pandemic, but they were exacerbated through the pandemic. In the ACT, one of the major challenges was people leaving the hospitality and tourism sector for the Public Service during the pandemic, and not returning to the industry. It was anticipated that with each year, the pandemic related problems would reduce, however, this would be predominately through attracting new workers to the sector, rather than former workers returning. Interestingly, these issues may not be due to the pandemic, as interviewees indicated the Tourism and Hospitality industry has often been deemed to be something you do for a 'short period'. However, perhaps the pandemic increased the speed of people leaving the industry, and the challenges replacing departing staff.

The Hospitality and Tourism focus group, consisting of workers from interstate, indicated that employees overall enjoy working in the field – they indicated that working with people, bringing joy to people and seeing the benefits of relaxation, and greater leisure time are all particularly attractive parts of the industry. Career progression was evident in the industry, however, the industry comes with unsociable hours, lower pay, and workplace uncertainty and worker shortages. The focus group participants indicated they would be reluctant to relocate to Canberra as the city was small, with no friends/ family in place, and no beach. They also perceived that career advancement in tourism and hospitality would be limited. They would be more likely to be attracted to Canberra if there was flexible time off, good health care, high pay, and a clear career path with promotion opportunities.

2. Building and Construction

Fluctuations in workforce were also a key issue in the property and construction sectors, and according to the Property Council, it was currently the worse they had seen, and the COVID-19 pandemic had impacted this.

According to the focus group of those working in building and construction, relocating to Canberra for a short-term contract can be challenging, because it may not work for your lifestyle (family, housing etc.). Furthermore, relocating for a short time could also be challenging because projects are often longer than initially anticipated. For some, a longer term contract (ie more than 6 months, ideally more than one year) would be a requirement for relocating.

When generally asking the focus group members what might motivate them to relocate, one said "double my salary". Another member said, "pay increase and cost of moving covered." Those in the construction industry focus group indicated that they valued that they could visibly and tangibly see their contribution to the world, benefiting individuals, communities and whole cities. One member mentioned enjoying meeting many different people in a day. Some people in construction were positive about life in Canberra believing they would be busier there with more work demand and less difficulty commuting. Others felt very settled in their current context and couldn't imagine operating from Canberra - they were particularly concerned about the quietness of the city and their lack of existing family/friends/community.

3. *Retail*

In the retail sector, a huge reduction in revenue was apparent for many traders through COVID-19, putting significant pressure on the sector. Similar to the hospitality and tourism sector, there were also changes in workforce, with staff opting to move to other industries for more certainty and not returning. The semi-structured interview with the Retail Association provided the insight that the retail sector frequently employs mothers, and a number of them were under so much pressure during COVID-19 that they opted out of the workforce entirely, or alternatively reduced to part time roles.

4. *Health*

The Health and Community Services sector was explored through focus groups and surveys, rather than interviews with industry groups. According to focus group participants of employees in the sector, there had been considerable impact due to COVID. Most of the health workers described COVID as creating a much greater workload in their context (with higher work demands through COVID protocols and understaffing) but not necessarily creating greater flexibility, as they still needed to go to their work locations to tend to patients. This was quite different to the experiences of those working within other industries. Some people in this group did indicate they experienced greater flexibility with working from home, where their role was more administrative/ leadership based, and reported this gave them greater balance and a chance to attend to housework while working from home. Yet others missed the social connections of colleagues and had seen an impact on their opportunities to work (aged care volunteering impacted, for example).

Those in the health and community services sector indicated that one benefit of their career is that it is likely to be 'recession proof' - that it was a very stable and credible career. Some talked about it as a 'calling', a very purposeful and values-driven role that benefits others. Yet the group also recognised it is a tough job with high burnout rates. Some spoke of the lack of career progression and the short-term contracts. This cohort were positive about the benefits of doing their work in Canberra. They felt that if they relocated to Canberra, their jobs would remain the same, but they would gain:

- more time in the day to do other activities without a big commute or time in traffic
- a better lifestyle with access to nature
- perhaps cheaper housing and less expensive than Sydney
- more opportunities to go to more engaging places

Survey respondents indicated that some issues related to the health sector were more systemic, generally related to funding concerns. Survey respondents indicated the sector needs more Government support to continue to provide low-cost allied health services. Furthermore, competition from private health, and pay and conditions in public health, means a lower supply of workers, putting pressure on the sector, unrelated to COVID-19. Recruitment is more challenging, post-COVID, because experienced staff left the sector (perhaps for early retirement, or to shift to other industries) and yet experience and understanding of the health sector is necessary for some roles (eg. Medical Practice Manager roles).

5. *Cybersecurity*

Cybersecurity was researched through focus groups, and the survey, rather than interviews with industry body representatives. Overall, members of the focus group appreciated the flexibility the industry provided them. They indicated that a move to Canberra might not be as interesting as the roles they were currently undertaking, as several participants preferred working for commercial businesses over Government. However, they indicated that "Government pays better". The respondents felt the most attractive aspects of cybersecurity work was flexibility; remuneration; and the challenge/ interest of the role. Disincentives to working in the industry include spending all day looking at a screen, long hours, out of business hours calls, and the need to continually learn. The deadlines and challenges also increase stress levels within these roles.

The focus group members indicated that to attract cybersecurity workers to Canberra, campaigns should share that salaries are high, it's a convenient city, and there are fly in, fly out options. Support for the rental market would be beneficial – cost and obtaining housing. Overall, they believe LinkedIn is best for job promotion, particularly if it's for a role in Cybersecurity where the group is conscious of who is contacting them. This focus group recommended Tik Tok and social media will be beneficial for a broader campaign targeting younger people (not necessarily within cybersecurity now or in the future).

Answering the RQ: What are the long- and short-term trends in workforce supply and demand (by sector and occupation groups) in the ACT?

The data collected has demonstrated that each industry has its own attractors, and concerns in attracting staff. In hospitality and tourism, workplace security and flexibility had been barriers for employees during COVID-19, and relocating to other industries has meant that the sector needs to attract new starters within the industry. In building and construction, the ability to find ongoing projects was a challenge for those considering relocation. Medium to longer term contracts were seen as desirable to workers, with a perceived ongoing pipeline of work. In the retail sector, workplace flexibility had been a concern during COVID-19 and now attracting people back to the sector, or into the sector, was necessary. Funding was raised as a systemic issue in healthcare, and this made the workload harder for those working in the sector, however, many of the staff in these roles were very passionate about the sector. Finally, in cybersecurity, the ACT was attractive due to payment in Government roles, however, it was perceived by those working in cybersecurity that the jobs might be less exciting than a commercial role based in another city (eg. Sydney or Melbourne).

Findings across all sources of data suggest that the workforce in the ACT is small, highly skilled and very mobile, which give greater options both within and outside of the ACT. This suggests the importance of training, internal promotion opportunities, and other strategies to build employee loyalty are important. In the short term, COVID-19 impacted workforce supply, however, due to shut downs, and some staff layoffs, in the longer term, attracting a workforce back to the industry, and managing pre-existing skills shortages are necessary. Furthermore, promoting staff within is deemed important, so that employers can recruit people for less skilled positions.

Recommendation:

Recruit under-represented staff: Employers should seek to recruit under-represented staff, which include older employees, and high school employees, who may be able to undertake applicable roles.

Build loyalty with existing workforce: Strategies to build loyalty are particularly important, and can include training, internal promotion, and other strategies such as workplace flexibility.

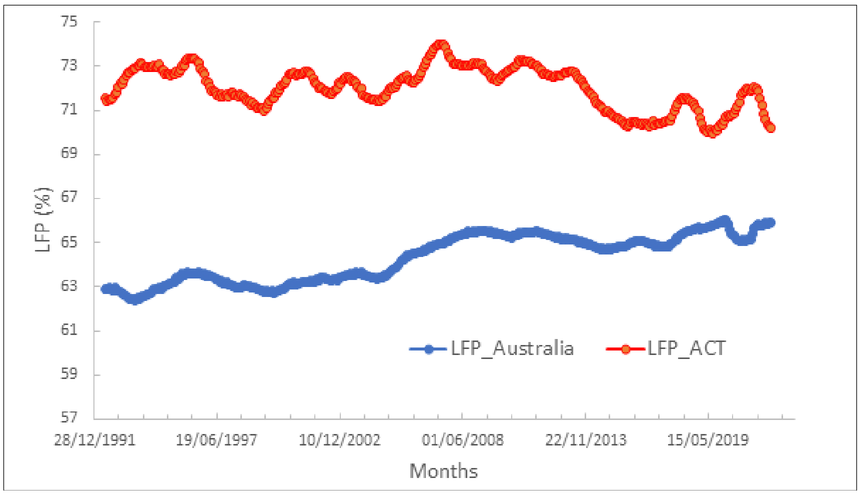
6.2 **Research Question 1B.** What have been the flows of workers and jobs in the key sectors?

Secondary data evidence

The level of labour force utilisation in the ACT has always been among the highest in Australia i.e. see Figures 4 and 5 which present the rates of labour force participation (LFP) and unemployment for the ACT and for Australia. Figure 6 shows that the LFP rate in the ACT has always been above 70% and far higher than the national average. This is notwithstanding a steadily increasing LFP rate in Australia since around 2004. Meanwhile, the unemployment rate is also lower in the ACT than in the nation as a whole as shown in Figure 7.[1]

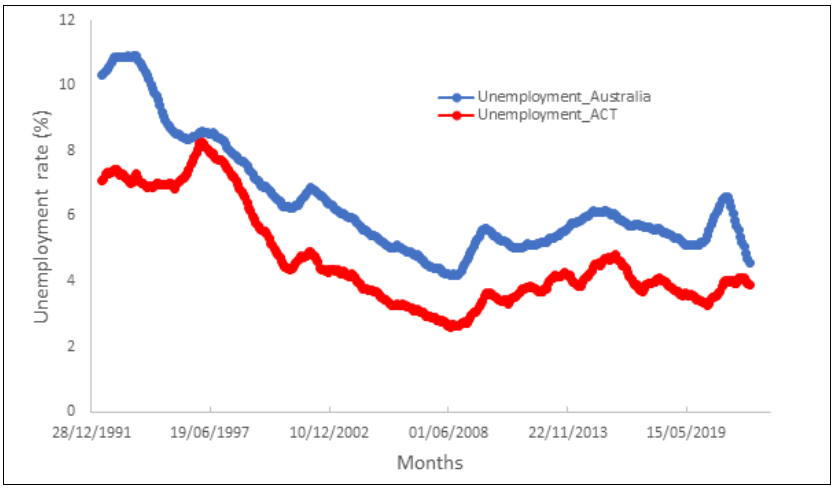
This dichotomy is also evident from the patterns of overall labour force utilisation displayed in Figure 8, where the overall rates of labour force underutilisation in the ACT and Australia are compared. The trend shows that over a period of more than four decades, the underutilisation rates in the ACT have been significantly lower than those of the whole country and lower than 10% since early 2000. We show this longer-term trend to demonstrate it is persistent – a longer term, structural issue. Furthermore, labour force utilisation is higher across most educational levels. These patterns indicate that while the ACT has been better able to use its labour resources than other jurisdictions, it also has less labour reserves from which to draw and would be expected to face capacity constraints faster than other jurisdictions. In other words, there is less staffing availability within the ACT than in other jurisdictions, and therefore pressures from workforce shortages are greater within the ACT.

Figure 6 LFP rates in the ACT and Australia (13-month moving averages)



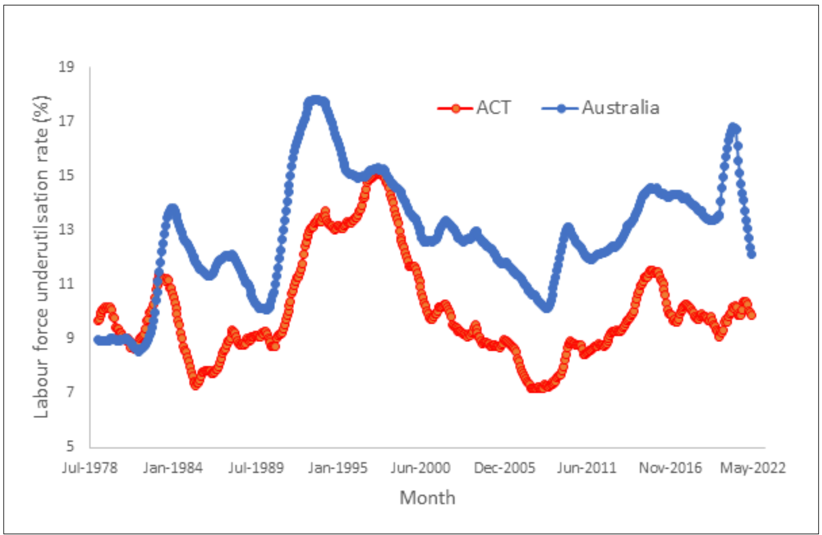
Source: Based on *Labour Force, Australia*, 6202.0, ABS.

Figure 7 Unemployment rates in Australia and the ACT (13 -months moving averages)



Source: Based on *Labour Force, Australia*, 6202.0, ABS.

Figure 8 Rates of Labour Force Underutilisation in the ACT and Australia (13-month moving averages)



Source: Based on *Labour Force, Australia*, 6202.0, ABS

Tables 11 provides a review of employment statistics for Australia and then more specifically for the ACT, demonstrating a higher employment / participation rate in the ACT. This should be considered alongside Figure 4, above, to see the long term trends. Furthermore, although Table 6 above shows slightly different data for unemployment rates, this is because it's over a 3 year period, compared to the graph below.

Table 11 Summary employment statistics for Australia, Labour Force Surveys

Statistics	Australia	ACT
Unemployment rate (15+)	3.5%	2.9%
Working Age Population (15-64)	16,512,500	283, 100
Participation rate (15+)	66.6%	72.1%
Youth Unemployment Rate (15-24)	7,7%	7.6%

Source: ABS Labour Force Surveys. The working age population is original data, December 2021The participation rate, unemployment rate and youth unemployment rate are seasonally adjusted data, December2022.

In summary, the ACT's labour force is relatively small in size, highly skilled, and very mobile compared with other jurisdictions. Labour resources in the ACT are also heavily utilised, and have been for a sustained period, demonstrating that this is a structural issue. Based on the analysis of the population and labour force structure, and given that the ACT is situated geographically far from major populated areas, the supply of labour, especially the unskilled, may be less accessible than in the other major cities. These patterns suggest that the labour shortages faced by the ACT are a long term and structural issue, rather than a short term or frictional one. The pandemic saw a plunge in overseas migration inflows, which worsened labour supply constraints, but this may be only a short-term, transient problem.

Insights from data collection

The overall sentiment raised within the interviews, focus groups and surveys was that there was evidence of a flow of workers outside of the ACT or out of particular industries into other industries. It was indicated by respondents that they observed a significant flow of workers from industries into the Australian Public Service through the COVID pandemic. Most interviewees indicated they were not expecting these lower skilled workers to return to the industries they had exited, and instead anticipated a return through training new staff, international migrants, greater rates of international students, and students finishing high school to enter the industry. Furthermore, increasing participation of young people (high school students) can contribute toward the workforce in the region. International students and youths are, of course, limited in number of hours of work they can participate in.

While recruitment has been an issue in several industries, when analysing responses to the survey, it is apparent that Health care and Hospitality and the service sector generally (see 'other services') were the fields that struggled the most to recruit (see Table 12). Of the 160 respondents, 31.9% had been recruiting for more than six months.

Table 12 Time to fill vacancy and Industry

Industry	1	2	3	4	5	6	7
Health Care and Social Assistance	1	1	3	8	5	–	8
Accommodation and Food Services	1	1	3	6	2	–	7
Professional, Scientific and Technical Services	1	1	3	3	2	1	2
Other Services	–	1	5	9	2	2	12
Construction	–	–	1	5	3	2	6
Education and Training	1	1	1	2	1	2	7
Retail Trade	1	1	2	2	2	–	3
Arts and Recreation Services	–	1	1	3	1	–	1
Information Media and Telecommunications	3	–	–	1	–	–	
Rental, Hiring and Real Estate Services	–	–	1	2	–	–	1
Agriculture, Forestry and Fishing	1	2	–	–	–	1	–
Manufacturing	–	–	–	1	1	–	1
Electricity, Gas, Water and Waste Services	–	–	–	1	–	–	2
Wholesale Trade	–	–	–	–	–	–	1
Transport, Postal and Warehousing	–	–	–	–	1	–	–
Total	9	9	20	43	20	8	51
%	5.6	5.6	12.5	26.9	12.5	5.0	31.9

1= < 1 week, 2= 1 to 2 weeks, 3= 3 to 4 weeks, 4= 1 to 3 months, 5= 4 to 6 months, 6= > 6 months and we stopped recruiting, 7 = > 6 months and we are still recruiting. N=160

Methods of job promotion by industry were also analysed. Table 13 shows that online job advertisements and use of social media are the most common methods of job advertisement promotion for almost all employers, while targeted head hunting is less commonly used across all industries. While this data does not show trends that enable conclusions to be drawn, we share it for the benefit of employers to see where other organisations are advertising.

Table 13 Position Advertising and Industry

	Position Advertising									
Industry	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Health Care and Social Assistance	19	12	9	7	5	1	–	2	5	–
Accommodation and Food Services	18	14	8	6	3	5	2	2	–	2
Professional, Scientific & Tech. Svc	7	9	4	5	1	1	–	1	2	2
Other Services	22	21	8	7	5	5	4	1	1	2
Construction	11	5	2	3	3	4	1	–	1	–
Education and Training	12	7	5	3	2	3	–	2	3	–
Retail Trade	6	4	6	2	3	1	4	1	–	–
Arts and Recreation Services	5	6	2	2	1		1	1	4	–
Information Media & Telecos	2	1	–	–	2	1	–	–	–	1
Rental, Hiring 7 Real Estate Svc	4	4	–	1	–		–	1	1	–
Agriculture, Forestry, Fishing	1	–	–	1	1	1	1	–	1	–
Manufacturing	2	2	1	–	2	1	1	–	–	–
Electricity, Gas, Water & Waste Svc	3	1	1	–	–	1	–	–	–	–
Wholesale Trade	1	1	–	–	–	1	1	–	–	1
Transport, Postal and Warehousing	1	1	1	1	–	1	–	–	–	–
Total	114	88	47	38	28	26	15	11	18	8
%	29	22	12	9.8	7.1	6.6	3.8	2.8	4.6	2.0

1=Online job websites, 2=Social media, 3=Internal advertising; 4=Industry websites, 5=Other, 6=Recruitment company, 7=Signage at premises, 8=Traditional mainstream media, 9=Profess./industry media, 10=Targeted head hunting. N=393

Overall, all roles and industries indicated they recruited locally rather than interstate/ overseas (see Table 14).

Table 14 Advertisement Location (ACT/ National / International)

Recruitment Markets*	**Private**	**NGO**	**Total**	**%**
Local only	83	23	106	57.3
National only	26	2	28	15.1
International only	3	1	4	2.2
Local and National	20	9	29	15.7
Local and International	–	–	–	–
National and International	2	–	2	1.1
Local, National and International	6	–	6	3.2
Other	9	1	10	5.4
Total	149	36	185	100

*Respondents were able to report multiple markets. N=185

Interestingly, 67% of respondents indicated there were not enough skilled candidates living locally (see Table 15), however, Table 16 shows that 57% of respondents advertised only locally. Fourteen percent advertised locally and nationally. Organisations are therefore encouraged to promote nationally and/or internationally to expand their potential reach.

Table 15 Perceived Barriers and Advertisement Location

Recruitment Barriers	1	2	3	4
Not enough skilled candidates living locally	16(8%)	32(17%)	126(67%)	15(8%)
Private Business	11	18	109	14
NGO	5	14	17	1
Competition with other opportunities in the public sector	26(14%)	26(14%)	106(56%)	31(16%)
Private Business	24	21	76	31
NGO	2	5	30	–
Competition with other opportunities in the private sector	28(15%)	51(27%)	93(49%)	17(9%)
Private Business	25	43	70	14
NGO	3	8	23	3
Attitudes to work have changed since the pandemic began	39(21%)	44(23%)	82(43%)	24(13%)
Private Business	30	35	70	17
NGO	9	9	12	7
Candidates unwilling to relocate to the ACT	44(23%)	39(21%)	49(26%)	57(30%)
Private Business	34	33	37	48
NGO	10	6	12	9
Arranging visas for workers coming from overseas	45(24%)	25(13%)	47(25%)	72(38%)
Private Business	31	20	43	58
NGO	14	5	4	14
The remuneration my business/organisation offer	59(31%)	71(38%)	40(21%)	1(10%)
Private Business	55	53	26	18
NGO	4	18	14	1
Limited career pathways in my business/orgs industry	60(32%)	76(40%)	30(16%)	23(12%)
Private Business	52	58	21	21
NGO	8	18	9	2
Lack of flexibility to work from home/work remotely	69(37%)	42(22%)	34(18%)	44(23%)
Private Business	56	31	27	38
NGO	13	11	7	6
Limited training opports. for my business/org. in the ACT	82(43%)	52(28%)	30(16%)	25(13%)
Private Business	66	39	25	22
NGO	16	13	5	3

1=not a barrier, 2=minor barrier, 3=major barrier, 4=unsure/not applicable. N=117 to 174 (varied by item).

Table 16 Method of job recruitment and whether not enough skilled candidates living locally is a major barrier

Table 16 'Not enough skilled candidates living locally' and 'Recruitment Markets'

Recruitment Barriers	1	2	3	4	5	6	7	8	Total	%
Not a barrier	12	1	–	1	–	–	–	1	15	8.4
Minor barrier	17	–	1	8	–	–	–	2	28	15.7
Major barrier	69	20	3	17	–	2	5	5	121	68.0
Unsure/not applicable	6	4	–	2	–	–	–	2	14	7.9
Total	104	25	4	28	–	2	5	10	178	
%	58.4	14.0	2.2	15.7	–	1.1	2.8	5.6		100

1=Local only, 2=National only, 3=International only, 4=Local and national, 5=Local and international, 6=National and international, 7= Local, national and international, 8=Other.

In regards to candidate location, Table 17 indicates that compared to other industries and role types, Professional, Scientific and Technical Services were more likely to attract workers from locations outside of the ACT compared to other industries, however, the majority of recruits were still local. This is most likely due to more skilled positions attracting higher remuneration (see Table 18).

While this data sought to understand 'most recent recruitment' only, it does indicate that ACT employers are more likely to recruit from within the ACT, having potential implications for promotional campaigns and targeted recruitment outside of the ACT. While this does not indicate employers cannot recruit from interstate/overseas, further understanding of recruitment history is recommended. Furthermore, strategies to attract interstate and overseas workers should not be discounted, however, based on the indications that local recruitment has tended to be more successful, it must be understood that success could be somewhat limited.

Table 17 Candidate Location and Industry

Industry	Candidate Location				
	Local	ACT Region	Elsewhere in Aust.	Overseas	Not sure
Health Care and Social Assistance	15	1	2	–	–
Accommodation and Food Services	12	–	1	–	–
Professional, Scientific & Tech. Svcs	6	1	3	–	–
Other Services	13	3	1	–	–
Construction	4		4	1	
Education and Training	4	1	1	–	–
Retail Trade	7	–	–	–	1
Arts and Recreation Services	4	–	2	–	–
Information Media & Telecos	3	–	1	–	–
Rental, Hiring & Real Estate Services	3	–	–	–	–
Agriculture, Forestry, Fishing	3	1	–	–	–
Manufacturing	2	–	–	–	–
Elect., Gas, Water & Waste Services	1		–	–	–
Transport, Postal and Warehousing	1	–	–	–	–
Total	78	7	15	1	1
%	76.5	6.9	14.7	1.0	1.0

N=102

Table 18 Position Remuneration and Industry

Industry	Position Remuneration								
	1	2	3	4	5	6	7	8	9
Health Care and Social Assistance	–	6	13	6	1	–	–	–	–
Accommodation and Food Services	4	7	6	1	2	–	–	–	–
Professional, Scientific & Tech. Svcs	1	2	2	2	–	–	1	5	–
Other Services	9	9	9	2	1	–	–	–	–
Construction	2	3	3	6	–	–	–	2	1
Education and Training	1	4	9	1	–	–	–	–	–

Retail Trade	4	4	2	1	–	–	–	–	–
Arts and Recreation Services	1	1	5	–	–	–	–	–	–
Information Media and Telecos	–	–	1	–	1	1	1	–	–
Rental, Hiring & Real Estate Svcs	–	3	1	–	–	–	–	–	–
Agriculture, Forestry and Fishing	2	1	–	1	–	–	–	–	–
Manufacturing	–	3	–	–	–	–	–	–	–
Elect., Gas, Water and Waste Svcs	–	–	1	1	–	1	–	–	–
Transport, Postal and Warehousing	–	–	–	1	–	–	–	–	–
Total	24	43	52	23	5	2	2	7	1
%	15.1	27.0	32.7	14.5	3.1	1.3	1.3	4.4	.6

1= < 40 000, 2=40 000 to 60 000, 3=60 001 to 80 000, 4=80 001 to 100 000, 5=100 001 to 120 000, 6=120 001 to 140 000, 7=140 001 to 160 000, 8= > 160 000, 9= Not sure. N=159

When considering factors to attract employees to work in the A.C.T., the top three incentives were interest in the role (24.0%), remuneration (18.3%) and full-time/secure employment (16.0%) (see Figure 9). When comparing incentives that attracted workers to a particular industry, notably, ‘interest in the role’ was deemed important for 29% of health care workers, 21% in hospitality and tourism, but only 9% of cases in Prof., Scientific & Tech. Services. For Prof., Scientific & Tech, Services, 18% indicated be attracted to the position based on ‘remuneration’, 15% based on ‘career progression’, and 15% on the ‘ability to work remotely (see Table 19).

Figure 9 Incentives

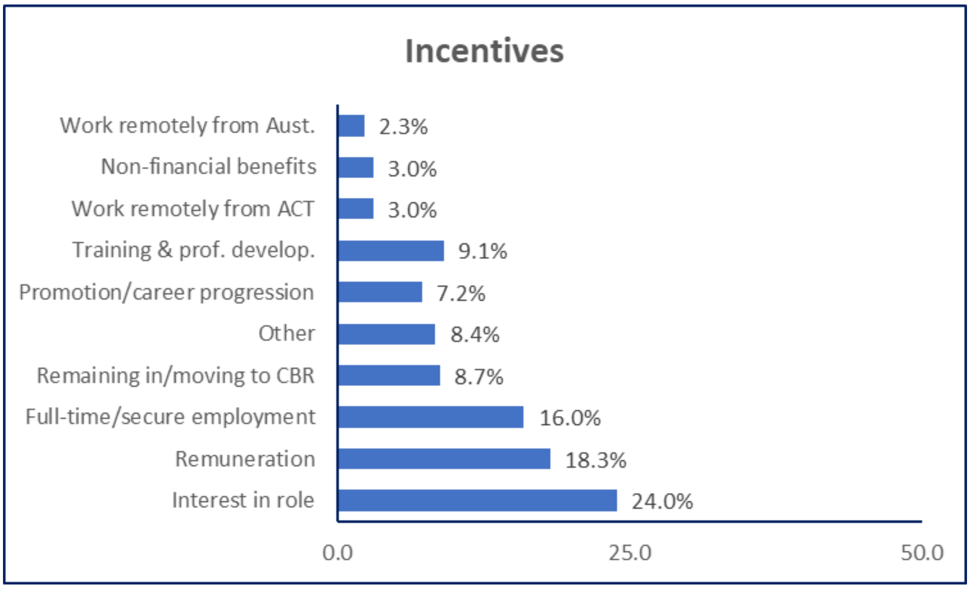


Table 19 Incentives and Industry

	Incentives									
Industry	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Health Care and Social Assistance	16	7	11	2	3	2	9	1	3	–
Accommodation & Food Services	8	8	6	5	4	3	1	1	1	–
Profess., Scientific & Tech. Svcs	3	6	3	3	2	5	3	3	2	3
Other Services	9	8	5	3	2	3	3	–	1	–
Construction	3	4	5	2	2	1	1		–	1
Education and Training	4	4	3	2	–	1	3	1	1	–
Retail Trade	6	–	1	2	2	2	1	–	–	–

Arts and Recreation Services	5	4	2	2	1	–	1	–	–	–
Information Media & Telecos	3	1	1	–	2	2	1	1	–	1
Rental, Hiring & Real Estate Svcs	3	2	1	–	–	–	1	1	–	–
Agriculture, Forestry & Fishing	1	1	–	1	3	–	–	–	–	1
Manufacturing	1	2	2	1	–	–	–	–	–	–
Elect., Gas, Water & Waste Svcs	1	1	1	–	–	–	–	–	–	–
Transport, Postal & Warehousing	–	–	1	–	1	–	–	–	–	–
Total	63	48	42	23	22	19	24	8	8	6
%	24.0	18.3	16.0	8.7	8.4	7.2	9.1	3.0	3.0	2.3

1=Interest in role, 2=Remuneration, 3=Full-time/secure employment, 4=Remaining in/moving to Canberra, 5=Other, 6=Promotion/career progression, 7=Training & prof. development, 8=Ability to work remotely occasionally from local area, 9=Other non-financial benefits, 10=Ability to work remotely from elsewhere in Australia. N=263

Answering the RQ: What have been the flows of workers and jobs in the key sectors?

The data demonstrates that the ACT has long had higher workforce needs compared to other jurisdictions, potentially due to smaller size, more skilled workers, and the high mobility and options of employees. Analysis indicated that there was a labour underutilisation rate within the ACT, which is significantly lower than the rest of the country, and this has occurred over more than four decades. Data collection indicates that in some key sectors, there have been significant flows of workers out of the industry. Interview data indicated this was an issue in tourism and hospitality in particular, while survey responses indicated that healthcare and services were the sectors reporting most difficulty in recruiting.

Recommendation

Understand recruitment trends in greater detail - It is recommended that further analysis of candidate locations at time of recruitment is undertaken, on a larger scale (rather than just 'most recent recruitment'). *Reasoning:* The current study indicated that for 'most recent' recruitment, ACT locals were more likely to be recruited, rather than people from interstate/overseas. This may be due to the pandemic/ skills shortages, or could be due to a longer term trend. It is therefore recommended that analysis of candidate location at the time of recruitment be undertaken, as these findings could impact decisions around promotional campaigns and recruitment advertising interstate and overseas. It is important to note that this recommendation does not indicate attraction for candidates outside the ACT will not be possible on a larger scale through implementation.

6.3 **Research Question 1C.** Which occupations and sectors currently have the most significant workforce shortages?

Secondary data evidence

The Skills Priority List (SPL) provides a detailed view of shortages as well as the future demand for occupations across Australia. The list is the backbone of analysis on occupations for input to a range of Australian Government policy initiatives, including targeting of skilled migration, apprenticeship incentives and training funding. The 2021 SPL organises occupations into 5 categories, based on current and future demand. The 2022 Skills Priority List provides a detailed review, available here: Source: NSC Skills Priority List (SPL), 2022

Technician and trade workers are most in shortage, nationally, with 47% of occupations in shortage. This is followed by professionals, where occupations are 39% in shortage. Areas/ professions with strong future demand on the top 20 employing occupations list include aged/disability care, child care, electricians and project administration roles (Skills Priority List, 2022), however, a large number of roles are more broadly listed in strong future demand, within shortages in the ACT (Skills Priority List, 2021).

The 2021 Skills Priority List was predominately utilised as the 2022 study was not released at the time of the research. Reviewing the 2022 Skills Priority List reveals shortages in 286 of 914 occupations nationally, an increase of 133 occupations since 2021. Similarly, there are 286 occupations in shortage, which are largely consistent with those occupations in shortage at the national level. The exceptions to this are procurement managers, training and development professionals, respiratory scientist, physicist, occupational health and safety adviser, radiation oncologist, social worker, anaesthetic technician and cardiac technician occupations where the ACT is experiencing a shortage while at the national level there is no shortage.

Insights from data collection

Our primary data collection (i.e. survey, interviews, and focus groups) indicates that the following occupations and sectors have significant workforce shortages within the ACT (see Tables 17 and 18):

- *Hospitality and tourism, accommodation and food services*
- *Healthcare, aged care, social assistance*
- *Professional, scientific and technical services e.g. Cyber, project management*
- *Trades and construction*
- *Retail*

On the National Skills Priority List, trades and construction, healthcare, aged care and social assistance, and professionals are linked as having increasing rates of shortages, and significant shortages. Retail Managers are in shortage, with moderate future demand, and project /program administrator workers are in shortage with strong future demand. In hospitality, tourism, accommodation and food services, it is reported that chefs are in shortage, and there are predicted strong future needs. In contrast, despite strong, future needs, clerks and waiters are not in shortage. This indicates that the needs of the ACT in hospitality and tourism are greater than national needs. Other sectors align between the industry sector needs on the Skills Priority List and the findings of this study within the ACT. This could mean that a collective approach could explore professional project management, health care, aged care, and community services, trades and construction and retail.

While skills shortages occurred before the pandemic, they have exacerbated since, particularly in some industries. The general consensus within the surveys, and interviews, indicated an expectation that workforce shortages would reduce due to emergence out of the COVID-19 pandemic. This was particularly relevant in Hospitality and Tourism and Retail. For Professional Services and Health Care, there was a perception that training programs needed to be implemented. Within Building and Construction, further recruitment from interstate/overseas was deemed important.

Answering the RQ: *Which occupations and sectors currently have the most significant workforce shortages?*

In the ACT, shortages in hospitality and tourism and building and construction were evident through insights shared in interviews and focus groups, however, according to survey responses, recruitment difficulties were most apparent in health care and community services and professional services. Both industries would therefore be deemed to have the most significant workforce shortages within the ACT. Furthermore, building and construction and professionals have increasing rates of shortages and significant future needs, while in retail, there is shortage, with moderate future demand.

Recommendations:

National strategy for technical, trades and professionals: It is recommended that the ACT work with other jurisdictions on a strategy for recruitment technical, trades and professionals, and these national needs are represented across several sectors. A national campaign to attract workers would be more effective than each jurisdiction seeking employees into this field.

Localised strategy within hospitality and tourism: Shortages within the ACT are apparent, and therefore should be addressed within the industry, through training of staff, and recruitment of younger and older employees where possible. A campaign targeting local employees, and those from other jurisdictions and overseas would be beneficial to attract employees to the industry.

6.5 Research Question 1D. What long-term workforce shortages can the ACT expect? How do these differ from current shortages? How can we explain workforce shortages and a concurrent increase in youth unemployment in the ACT?

The sentiment from industry groups in the interviews, and the data analysed both indicate optimism post-pandemic, however, given skills shortages occurred in the region prior to the pandemic, there are ongoing concerns that recovery may not be as fast as initially expected. Furthermore, employment growth in various sectors will exacerbate skills shortages in the region.

Secondary Data Evidence

The employment projections below are based on detailed data from the ABS Labour Force Survey. Projections are derived from best practice time series models that summarise information in a time series and converts it into forecasts. Forecasts are then combined from autoregressive integrated moving averages (ARIMA) and exponential smoothing with damped trend (ESWDT) models. The projection for total employment growth is consistent with employment growth to November 2020 and the Government's forecasts and projections for total employment growth from 2020-21 onwards, as published in the 2020-21 MYEFO. These projections are for total employment (i.e., both full-time and part-time employment), according to the definition of 'employed' used by the Australian Bureau of Statistics (ABS) in the Labour Force Survey. Tables 20 and 21 share employment projections to 2025 for the whole of Australia, and for the ACT, respectively. The data in Table 20 indicates that manufacturing is expected to decline across Australia by 0.7%. Growth across Australia is recorded for Retail (4.1%), Construction (6.8%) and Hospitality (16.8%). For the ACT (see Table 21), growth in the four industries – excluding manufacturing, which grows (2.6%) – is slower when compared with the national rate: retail (0.5%), construction (6.3%), and hospitality (7.1%). Despite the slightly slower rates of growth in the ACT, it is still possible to conclude that building and construction, technical services, health and social services, education, public administration, electricity, gas, water and waste and hospitality are likely to be key areas of growth in workforce demand and therefore shortages within the ACT in the coming years.

**LMIP does share data on occupation projections as well. However, these cannot be split by geography, so we have not included them here.*

Table 20 Employment Projections to 2025, by Industry, for the whole of Australia

Industry	2020 Employment Level ('000)*	2025 Employment Level ('000)*	Projected Employment Growth 2025 ('000)	Projected Employment Growth 2025 (%)
Agriculture, Forestry, Fishing	345.1	349.2	4.1	1.2
Mining	261.9	283.6	21.7	8.3
Manufacturing	**848.1**	**842.2**	**-5.9**	**-0.7**
Electricity, Gas, Water, Waste Services	153.0	164.7	11.7	7.6
Construction	**1,183.2**	**1,263.9**	**80.7**	**6.8**
Wholesale Trade	372.6	375.5	2.9	0.8
Retail Trade	**1,287.7**	**1,340.2**	**52.5**	**4.1**
Accommodation and Food Services	**831.9**	**971.8**	**139.9**	**16.8**
Transport, Postal & Warehousing	647.1	694.4	47.3	7.3
Information Media & Telecos	195.5	188.0	-7.5	-3.9
Financial and Insurance Services	490.0	518.8	28.8	5.9
Rental, Hiring & Real Estate Services	209.1	222.7	13.5	6.5
Professional, Scientific and Technical Services	**1,194.2**	**1,325.3**	**131.1**	**11.0**
Administrative & Support Services	450.5	487.3	36.8	8.2
Public Administration & Safety	880.5	917.3	36.7	4.2
Education & Training	1,094.4	1,213.0	118.6	10.8
Health Care & Social Assistance	1,753.6	2,003.1	249.5	14.2
Arts and Recreation Services	235.6	256.3	20.6	8.8
Other Services	472.8	481.7	8.9	1.9
Total	12,740.6	13,732.3	991.6	7.8

*As recorded in November of the year. Please note data for Australia are ABS seasonally adjusted. Source: Regional projections – five years to November 2025, from the LMIP (Link). BOLD rows are simply bold for emphasis (my own emphasis). I understand these to be our target industries.

Table 21 Employment Projections to 2025, by Industry, for the ACT

Industry	2020 Employment Level ('000)*	2025 Employment Level ('000)*	Projected Employment Growth 2025 ('000)	Projected Employment Growth 2025 (%)
Agriculture, Forestry, Fishing	1.2	1.2	0.0	-1.4
Mining	0.3	0.3	0.0	0.0
Manufacturing	**3.3**	**3.4**	**0.1**	**2.6**
Electricity, Gas, Water, Waste Services	1.6	1.7	0.1	7.1
Construction	**16.0**	**17.0**	**1.0**	**6.3**
Wholesale Trade	1.3	1.4	0.1	4.2
Retail Trade	**14.4**	**14.4**	**0.1**	**0.5**
Accommodation and Food Services	**15.2**	**16.2**	**1.1**	**7.1**

Transport, Postal and Warehousing	6.8	6.9	0.1	1.7
Information Media & Telecos	3.3	3.2	-0.1	-2.4
Financial and Insurance Services	6.9	6.9	0.0	-0.2
Rental, Hiring and Real Estate Services	2.3	2.3	0.0	-1.4
Professional, Scientific and Technical Services	**30.4**	**33.5**	**3.1**	**10.1**
Administrative & Support Services	6.9	7.0	0.1	0.9
Public Administration & Safety	71.2	74.2	3.0	4.2
Education & Training	20.2	21.7	1.6	7.7
Health Care & Social Assistance	25.6	28.8	3.3	12.8
Arts and Recreation Services	5.7	5.4	-0.3	-4.7
Other Services	10.1	10.4	0.2	2.3
Total	227.7	241.0	13.3	5.8

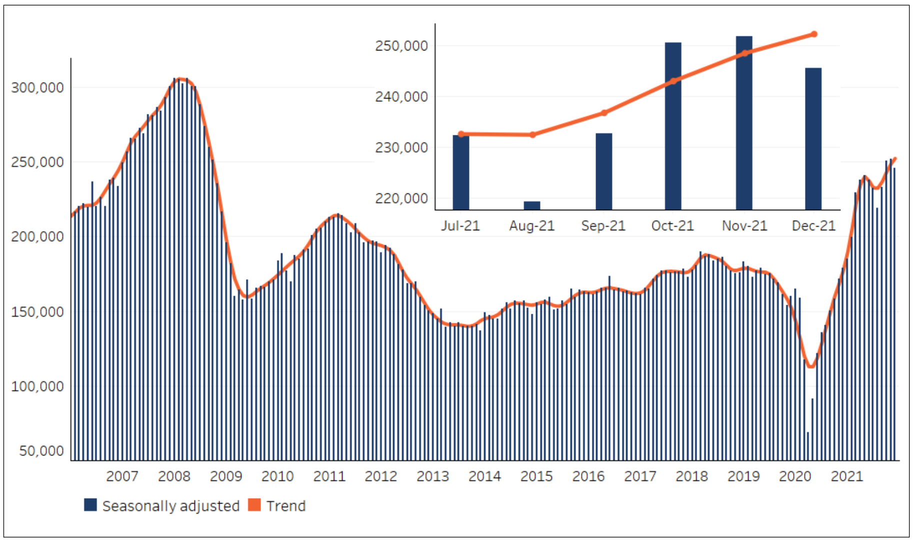
*As recorded in November of the year. Source: Regional projections – five years to November 2025, from the LMIP (Link). BOLD rows are simply bold for emphasis (my own emphasis). I understand these to be our target industries.

The Internet Vacancy Index (IVI) is the only publicly available source of detailed data on online vacancies, including for around 350 occupations (at all skill levels), as well as for all states/territories and 37 regions. The IVI is based on a count of online job advertisements newly lodged on SEEK, CareerOne and Australian JobSearch during the month. As such, the IVI does not reflect the total number of job advertisements in the labour market as it does not include jobs advertised through other online job boards, employer websites, word of mouth, in newspapers, and advertisements in shop windows. The IVI also does not take account of multiple positions being advertised in a single job advertisement.

Recruitment activity has recovered since the trough in April 2020. Job advertisements in Capital Cities, as measured by the National Skills Commission's Internet Vacancy Index (IVI), have risen to levels commensurate with those observed prior to the COVID downturn, while job advertisements in Rest of State areas have now surpassed previously observed levels. The incidence of recruitment difficulty among recruiting employers in 2020 has increased in Rest of State areas compared with 2019, while decreasing slightly in Capital Cities over the same period. The reason for the increased prevalence of recruitment difficulty in Rest of State areas is unclear, although is likely to be due to a number of factors, such as the closure of international borders (and therefore, access to a seasonal workforce) and the scale of recruitment activity.

In seasonally adjusted terms, job advertisements across Australia declined by 2.5% (or 6,200 job ads) in December 2021 to stand at 245,600 (Figure 10). This represents the first decline in recruitment activity following the recovery from the impact of the COVID Delta outbreak observed over the previous three months. Despite the fall in December, recruitment activity remains near its highest level since October 2008 (when 251,000 job ads were recorded by the Internet Vacancy Index).

Figure 10 Job advertisements in Australia (2007 to 2021)



Source: LMIP Vacancy Report.

The ACT recorded 6,800 job advertisements for December 2021 (Figure 11). This is a decrease of 9.0% on November, but an increase of 17.0% when compared with pre-COVID times. The top three occupations advertised were ICT professionals (1000); general-inquiry clerks, call centre workers, and receptionists (680); and corporate managers (310) (see Table 22).

Figure 11 Job advertisements in Australia by state/territory (Dec 2021)

Total job advertisements by State/Territory (seasonally adjusted)		Change over the month		Change over the year		Pre-COVID comparison	
		(no.)	(%)	(no.)	(%)	(no.)	(%)
New South Wales	79,400	▼3,000	▼3.7%	▲21,500	▲37.0%	▲20,800	▲35.5%
Victoria	63,400	▼3,900	▼5.8%	▲19,400	▲44.1%	▲17,700	▲38.9%
Queensland	48,600	▲30	▲0.1%	▲12,900	▲36.1%	▲17,600	▲57.0%
South Australia	13,200	▼60	▼0.5%	▲3,500	▲36.2%	▲5,600	▲73.6%
Western Australia	27,700	▲280	▲1.0%	▲7,200	▲34.9%	▲11,500	▲71.3%
Tasmania	3,100	▼50	▼1.6%	▲830	▲37.1%	▲1,300	▲75.3%
Northern Territory	2,900	▼50	▼1.7%	▲800	▲38.4%	▲1,200	▲73.0%
Australian Capital Territory	6,800	▼670	▼9.0%	▲780	▲13.1%	▲990	▲17.0%

Source: NSC (2022b) Vacancy Report Dec 2021.

Table 22 Top 10 advertised jobs in Australia & ACT, IVI insights, DEC 2021

Australia		
Rank	**Industry**	**Population**
1	General Inquiry Clerks, Call centre workers, and receptionists	18,800
2	ICT professionals	12,900
3	Sales assistants and salespersons	12,800
4	Carers and aides	11,900
5	Medical practitioners and nurses	10,900
6	Business, finance and human resource professionals	9,900

7	Hospitality workers	9,800
8	Automotive and engineering trades and workers	9,400
9	Corporate managers	9,100
10	Legal, social and welfare professionals	7,400
	ACT	
Rank	**Industry**	**Population**
1	ICT Professionals	1,000
2	General-inquiry clerks, call centre workers, and receptionists	680
3	Corporate managers	310
4	Business, Finance and Human Resource Professionals	290
5	Construction, production and distribution mangers	270
6	Legal, social and welfare professionals	260
7	Carers and aides	250
8	Sales assistants and salespersons	240
9	Office managers, administrators and secretaries	240
10	Information professionals	230

Source: LMIP public tableau dashboards, Dec 2021

Table 23 reports changes in the IVI by major occupations, rather than industry, for both Australia and the ACT. The ACT saw small increases in the number of advertisements for Technicians and Trades Workers (0.3%), and Community and Personal Service Workers (4.9%). All other major occupations saw considerable declines in the number of advertised positions (-6.0% to -11.0%). However, all occupations recorded significant increases in the IVI when compared to pre-COVID statistics (+1.9% to +42.0%).

Table 23 DEC 2021 State and Territory IVI by Australia's Major Occupations – Seasonally Adjusted

IVI BY OCCUPATION & S/T, DEC 2021*	INDEX (JAN-06 = 100)	MONTHLY CHANGE (%)	MONTHLY CHANGE (no.)	PRE-COVID (%)	PRE-COVID (no.)	TOTAL ADS
AUSTRALIA	**116.2**	**-2.5%**	**-6,200**	**46.0%**	**77,400**	**245,600**
Managers	126.5	-4.4%	-1,200	21.3%	4,500	25,800
Professionals	142.2	-3.7%	-2700	32.4%	16,700	68,200
Technicians and Trades Workers	139.8	0.4%	130	50.1%	11,200	33,500
Community and Personal Service Workers	222.9	3.1%	820	90.0%	13,200	27,800
Clerical and Administrative Workers	90.2	-4.0%	-1,500	31.9%	9,000	37,200
Sales Workers	84.2	-5.6%	-1,200	53.1%	6,800	19,500
Machinery Operators and Drivers	104.0	-0.7%	-100	69.4%	5,400	13,100
Labourers	74.4	1.9%	400	118.9%	11,600	21,300
ACT	**216.9**	**-9.0%**	**-670**	**17.0%**	**990**	**6,800**
Managers	200.3	-10.0%	-100	16.9%	130	890
Professionals	219.8	-9.8%	-270	10.2%	230	2,500
Technicians and Trades Workers	307.6	0.3%	0	24.9%	140	680
Community and Personal Service Workers	452.0	4.9%	30	42.0%	180	610
Clerical and Administrative Workers	202.5	-8.2%	-110	14.2%	160	1,300
Sales Workers	131.7	-6.0%	-20	19.8%	60	360

Machinery Operators and Drivers	210.8	-7.8%	-10	1.9%	0	130
Labourers	172,5	-11.0%	-40	33.5%	80	320

*Source: LMIP Vacancy Report, Dec 2021. S/T = state and territory.

The LMIP data on vacancies also records all job advertisements, across all occupations, from January 2006 to December 2021, by State and Territory. Below are graphs for Australia and the ACT that group occupations into high level categories (see Figures 12 and 13).

Figure 12 Australian IVI, by Major Occupation Groups (2006 – 2021). Seasonally adjusted.

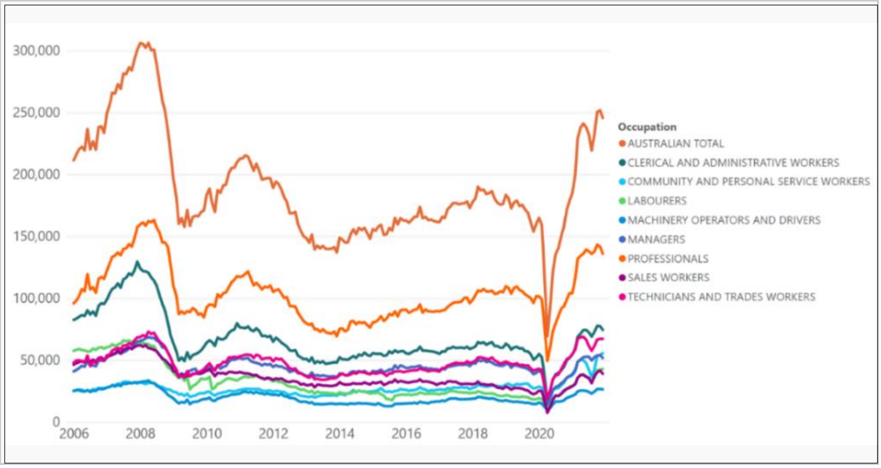
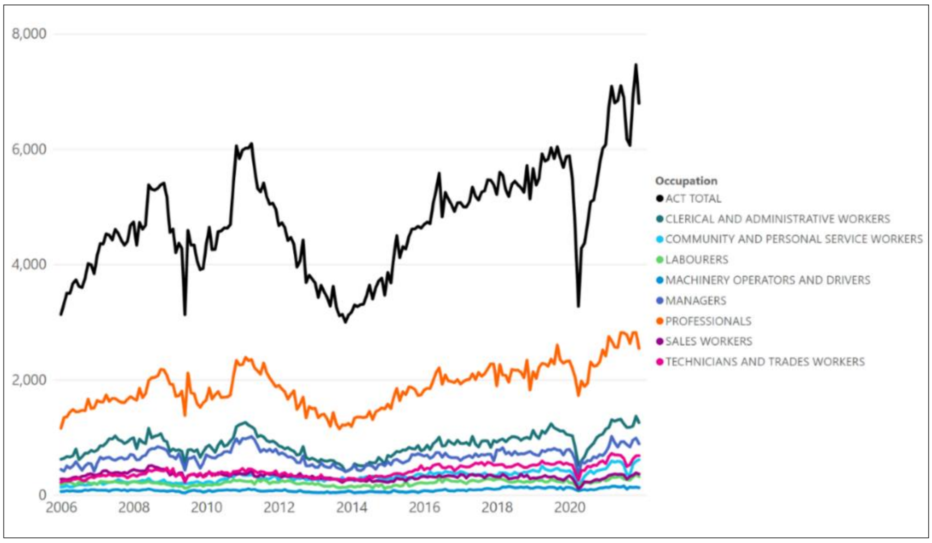


Figure 13 ACT IVI, by Major Occupation Groups (2006 – 2021). Seasonally adjusted.

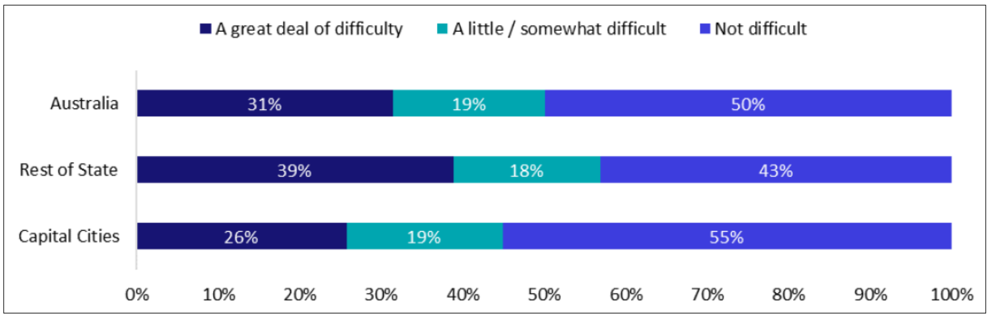


The National Skills Commission reported on current recruitment difficulties experienced across Australia in October 2021 (NSC, 2021d). The report presents results from their *Recruitment Experiences and Outlook Survey* (REOS), an ongoing survey of employers across Australia[2]. The data is most useful for understanding the Australian context, but less useful for the ACT, as small sample sizes prevented much ACT-specific data from being included.

Headline results include: recruitment difficulty rising from 43% in February 2021 to 52% in July 2021; recruitment difficulties being higher in 'Rest of State' areas (60%)* as opposed to 'Greater Capital Cities' (46%); higher skilled occupations (59%) were more difficult to recruit for than lower skilled (47%); unsurprisingly given COVID and the industry reports included in this report, Hospitality was one of the most difficult occupations to recruit for, with 63% of business recording difficulty; and, recruitment in Accommodation and Food Services also became harder when compared with March 2020, with 53% of participants stating it had become more difficult to recruit. Last, a lack of applicants and a lack of *suitable* applicants were the most common reasons for recruitment difficulty in 2021.

*It is important to note that the increase in recruitment difficulty in Rest of State areas following the COVID pandemic has predominantly occurred for lower skilled and medium skilled occupations (NSC, Trends in vacancies and recruitment in capital cities and rest of state areas, 2021a).
See Figure 14 for a breakdown of how recruiting businesses have felt about the severity of their recruitment difficulties.

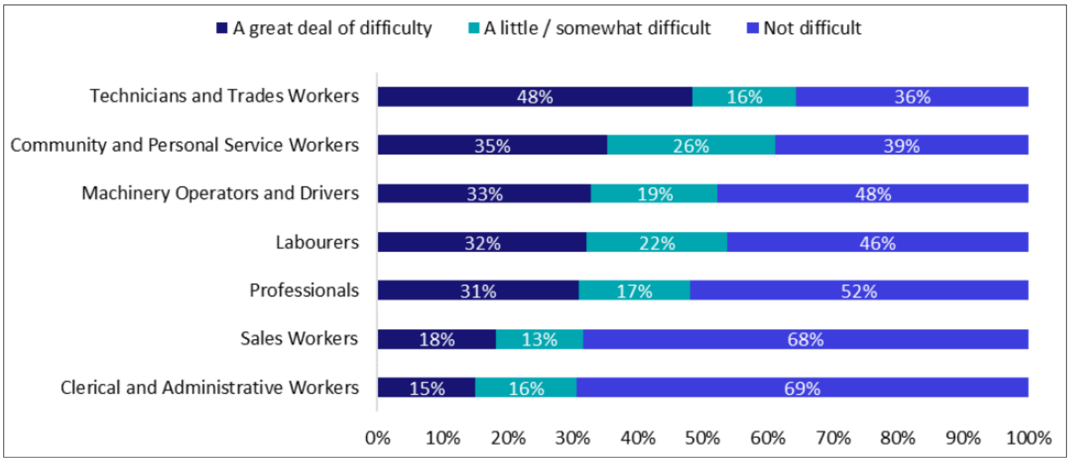
Figure 14 Severity of recruitment difficulty for recruiting employers, March to July 2021.



Source: NSC Employers perspectives on recruitment difficulty, 2021d, p. 5.

Figure 15 breaks down the severity of recruitment difficulty by occupation, within Australia. At a more detailed occupation level, there were certain occupations for which employers encountered a particularly high level of recruitment difficulty[3]. Food Trades Workers were overall the hardest occupation to recruit for, with 64% of recruiting employers experiencing a great deal of difficulty (and 20% a little/somewhat) over the March to July 2021 period. Other occupations which were particularly difficult to recruit for included Fabrication Engineering Trades Workers (59% a great deal, 11% a little/somewhat), Hospitality Workers (42% a great deal, 25% a little/somewhat), and Automotive Electricians and Mechanics (54% a great deal, 11% a little/somewhat).

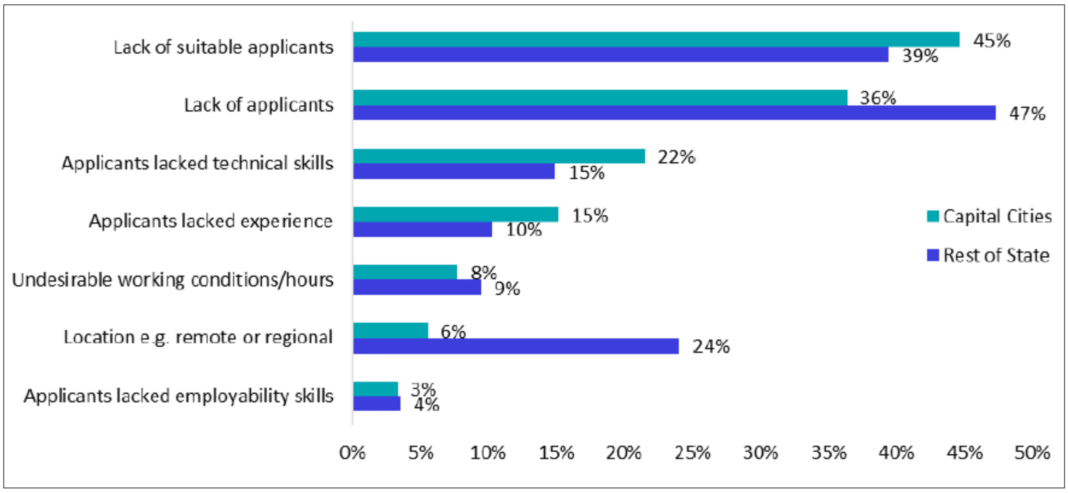
Figure 15 Severity of recruitment difficulty, March to July 2021 – proportion of recruiting employers – by major occupation group recruited for.



Source: NSC Employers perspectives on recruitment difficulty, 2021d, p. 5.4

Figure 16 displays the reported reasons behind recruitment difficulties, based on capital city versus regional areas.

Figure 16 Reasons for recruitment difficulty, 2021 to date – difficulty reported in most recent recruitment round.

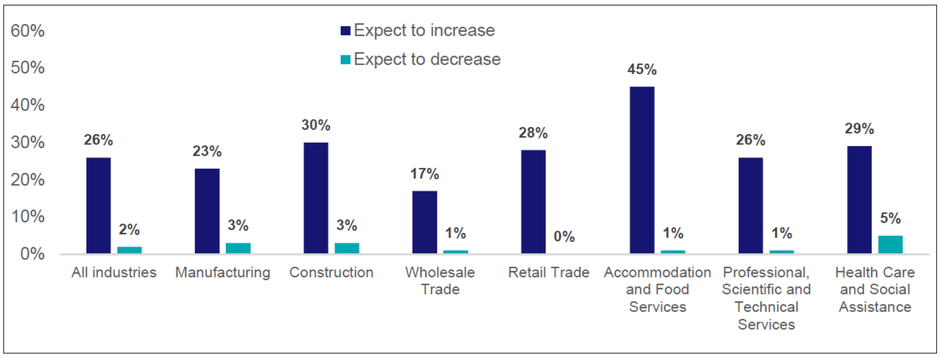


Source: NSC Employers perspectives on recruitment difficulty, 2021d, p. 9.

The authors of this report and the NSC both attribute the difficulties in hiring for hospitality and other accommodation and food services occupations to the COVID pandemic (NSC, 2021d, p. 5). They cite international border closures, and drops in non-sponsored temporary work visa holders, Working Holiday visas, and International Student Visas, mentioning how these groups tend to comprise the bulk of Australia's Hospitality and Accommodation and Food Services industries, and therefore expectations that the situation will improve in the coming years are projected. This data is based on collection in March-April 2021, and the changed situation since then will have impacted, thus following the National Skills Priority List and the ACT Critical Skills List are most relevant.

In December 2021, 26% of employers indicated they had expected to increase their staffing levels over the next 3 months. This was a decline from November 2021, which had been a record high for staffing expectations (30% expected to increase staff) and a month of record high employment growth according to ABS Labour Force data, however, it is important to acknowledge this data was collected as states and territories emerged out of significant lockdowns in November 2021. Updated data was not currently available. Accommodation and Food Services (45%) had the highest proportion of employers who expected to increase staff numbers over the next 3 months, a decrease of 13 percentage points from the November 2021 peak of 58%. See Figure 17.

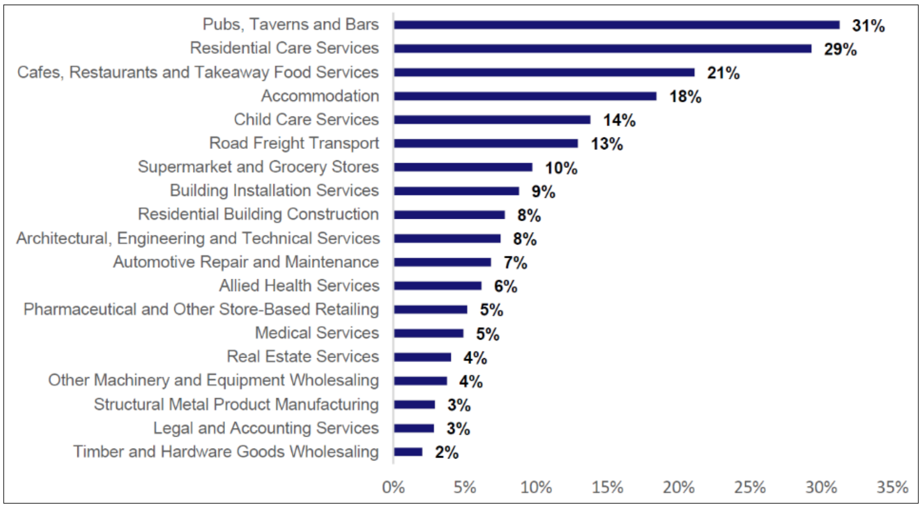
Figure 17 Staffing expectations over the next 3 months, by selected industries.



Source: NSC 2022a, Recruitment insights report Dec 2021, p. 6.

Australia wide, employers who had retention difficulty over the previous 3 months are far more likely to have attempted to recently recruit (70%) than those without retention issues (40%) (NSC, 2022a). Nearly three quarters (73%) of employers who had retention difficulty and recently attempted to recruit said that recruitment was difficult, and around a third (32%) had long-term unfilled vacancies at the time of the survey. The Accommodation and Food Services industry has by far been the most affected by retention difficulties, reported by over a fifth of employers in both Capital Cities and Rest of State areas. Figure 18 shows retention difficulty by selected industry sub-sectors[6]. From July to December 2021, Pubs, Taverns and Bars most commonly reported having retention difficulty in the previous 3 months (31%) followed by Residential Care Services (29%), Cafes, Restaurants and Takeaway Food Services (21%) and Accommodation (18%). Figure 15 demonstrates industry sub-sectors struggling to retain staff. The reasons for employers' retention difficulty changed from the previous 6 months. 'Competition from other jobs' remained most common reason for employers' retention difficulty, but a shift occurred where 'Nature of the work/industry' decreased from 28% to 19% over the quarter, and employers reporting 'Other' reasons increased from 19% to 28%. 'Other' includes a variety of COVID related reasons, including stress and low morale due to COVID, and vaccine requirements. The increase in this category may reflect the easing of restrictions and ending of lockdowns that occurred in October 2021.

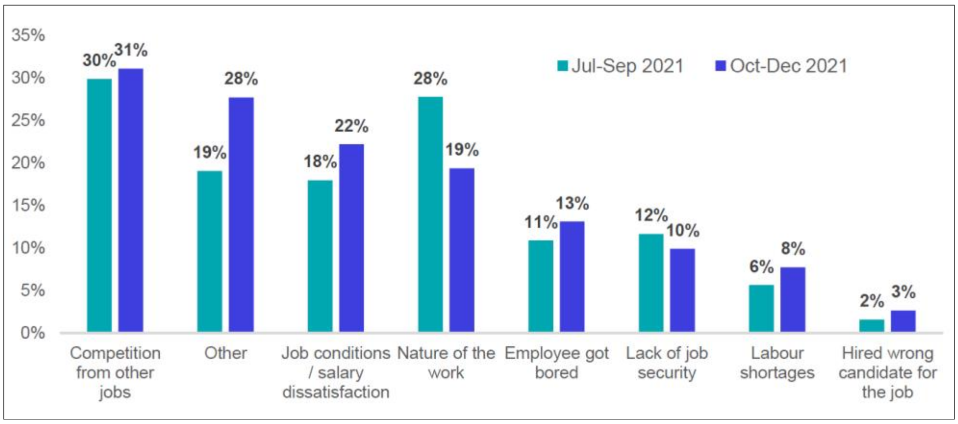
Figure 18 Retention difficulty by selected industry sub-sectors



Source: NSC 2022a, Recruitment insights report Dec 2021, p. 9.

Figure 19 provides an indication of reasons for difficulty retaining staff.

Figure 19 Reasons for employers' retention difficulty.



Source: NSC 2022a, Recruitment insights report Dec 2021, p. 9.

Figure 19 indicates that competition from other jobs, and job conditions or salary issues were major reasons for issues with retention of staff.

Insights from data collection

The primary data collection indicates that labour shortages have occurred pre-pandemic, however, have worsened across a number of industries since the onset of the pandemic, and are therefore likely to improve over time. The survey conducted for this study also highlighted recruitment difficulties since the COVID-19 pandemic commenced. Tables 24 and 25 indicate that 26% of respondents took 1 to 3 months to successfully recruit for their most recent recruitment, and 30% of respondents indicated that they are still trying to fill the position over six months later, which is notable. In contrast, before COVID, respondents indicated just 0.5% would take over 6 months to fill a position, with the majority positions filled within 4 weeks (62% of responses).

Table 24 How long did it take you to find the right applicant for the position (since advertisement/ announcement)?

Years	Private	NGO	Total	%
< 1 week	11	1	12	6.5
1 to 2 weeks	9	2	11	5.9
3 to 4 weeks	19	8	27	14.6
1 to 3 months	34	14	48	25.9
4 to 6 months	20	3	23	12.4
> 6 months and we stopped recruiting	6	2	8	4.3
> 6 months and we are still recruiting	50	6	56	30.3
Total	174	42	216	100

N=185

Table 25 Before COVID, typically, how long would it take to find the right applicant to fill such a vacancy?

Weeks	Private	NGO	Total	%
< 1 week	17	–	17	13.9
1 to 2 weeks	24	4	28	23.0
3 to 4 weeks	21	10	31	25.4
1 to 3 months	13	11	24	19.7
4 to 6 months	5	–	5	4.1
> 6 months	1	–	1	.8
Not sure	7	2	9	7.4
Non applicable	6	1	7	5.7
Total	174	42	216	100

N=122

Answering the RQ: *What long-term workforce shortages can the ACT expect? How do these differ from current shortages? How can we explain workforce shortages and a concurrent increase in youth unemployment in the ACT?*

Despite indications that there will be increased workflow post-pandemic, this analysis indicates that building and construction, technical services, health and social services, education, public administration, electricity, gas, water and waste and hospitality are likely to be key areas of growth in workforce demand and therefore shortages within the ACT in the coming years. Campaigns should focus on these sectors in particular. Furthermore, evidence has shown that labour force utilisation has been considerably higher in the ACT compared to other jurisdictions for a prolonged period, and therefore unlikely to resolve in the short term. The youth unemployment rate has decreased, nationally, to 7.5% (ABS, October 2022) and in the ACT, the youth unemployment rate has decreased from 6.1% in October 2021, to 3% in October 2022 (Labour Force, October 2022). Therefore, this higher youth unemployment rate seen during COVID-19 may have been related to confidence in working or lack of opportunities during COVID-19, but now we have seen a significant reduction in youth unemployment.

Recommendations:

Focus strategies on key sectors of growth: Industry groups, employers, and Government campaigns should focus on key sectors of likely growth and workforce shortages such as: building and construction, technical services, health and social services, education, public administration, electricity, gas, water and waste, hospitality and tourism and professional services.

Drivers of Workforce Shortages

Research Question 2: What are the reasons/drivers of workforce shortage in the ACT?

Research question 2 has five sub-questions which will be discussed in relation to the findings.

6.6 Research Question 2A. What are the main drivers of workforce shortages in the ACT?

Secondary Data Evidence

The labour market is an integrated part of the ACT economy, and so its equilibrium depends on what happens in other, related markets. It has long been established that labour market equilibrium in a local market depends not only on nominal wage, but also on the cost of living (such as housing or childcare costs) and on the amenities the local market provides (see Moretti, 2011; Roback, 1982, 1988; Rosen, 1979). The logic of the argument can be presented through the following example: If the average nominal wage is an extra $100 per week in City C than in City S but the mean rent in City C is also $100 more expensive than in City S, and if differences in amenities among the two cities are negligible, then a marginal worker (a worker yet to make a location decision) would be indifferent between living and working in either city.

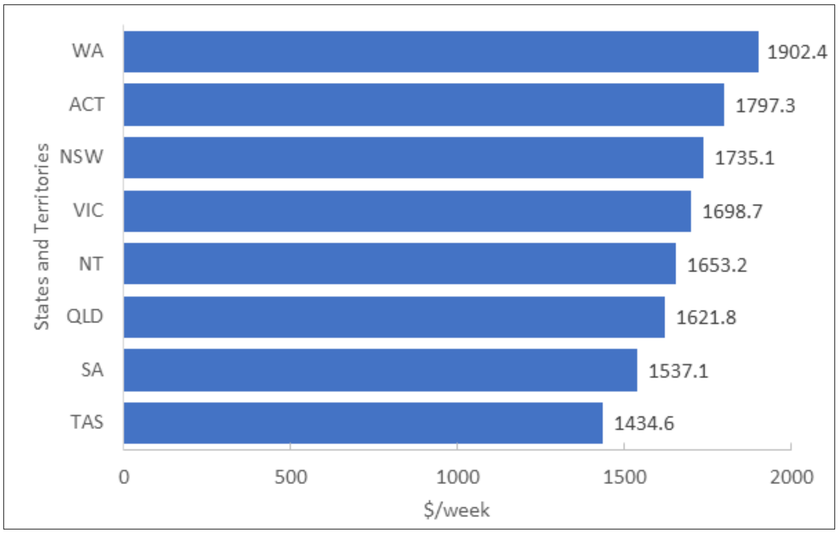
Other living costs also matter. For example, high childcare costs and/or unavailability of childcare are known to be key barriers preventing women from participating in the labour force and seeking paid work (see Breunig et al, 2014; Gong & Breunig, 2014). On average, high cost of living such as high childcare costs, housing costs etc. are factors that would be expected to negatively affect labour supply, especially the supply of low skilled workers.

Nominal wages in the ACT are high. Figure 20 shows that the average remuneration in the ACT is the second highest among all states and territories (WA has the highest wages due to the dominant presence of the mining industry). On the other hand, the cost of living in the ACT is also at the higher end of the country. For example, Figure 21 shows that the median weekly housing costs in the ACT is only lower than in Greater Sydney and Darwin, but comparable to Brisbane and Melbourne. The vacancy rate in the ACT is among the lowest in the country. The ACT also has the highest childcare costs in the country. The latest quarterly childcare report (DESE, 2022) shows that on average, Canberra families pay about $12.10 per hour for centre-based care, which is about 12 percent higher than the national average of $10.80. In addition, costs such as rates, car registration etc., which are also high by national standards, also count towards living costs. In summary, these costs could form significant constraints for workers considering a move to Canberra and for an ACT economy seeking to attract these workers.

A key factor affecting both supply and demand in the labour market is the presence of economies of scale. For example, the existence of the so-called *external effect* of human capital[3] puts small, isolated labour markets at a disadvantage relative to larger ones. This is because in larger, agglomerated markets, the concentration of workers with similar skills and of employers who demand such skills would be expected to lift overall factor productivity (and thus lower labour costs for employers) and enhance workers' opportunities of finding jobs (see Morreti, 2004). For some newer industries which require specialised skills, such as cyber-security, the disadvantage of a smaller market size could be a factor that limit the sector's ability to attract qualified workers. Although the ACT has about 7.4% of the cyber security workforce (which is after NSW 33%, VIC 28.2%, and WA 8.7%) (D'Rosario, 2022), the absolute size of the sector is still relatively small (68,400 professionals in total for the country).

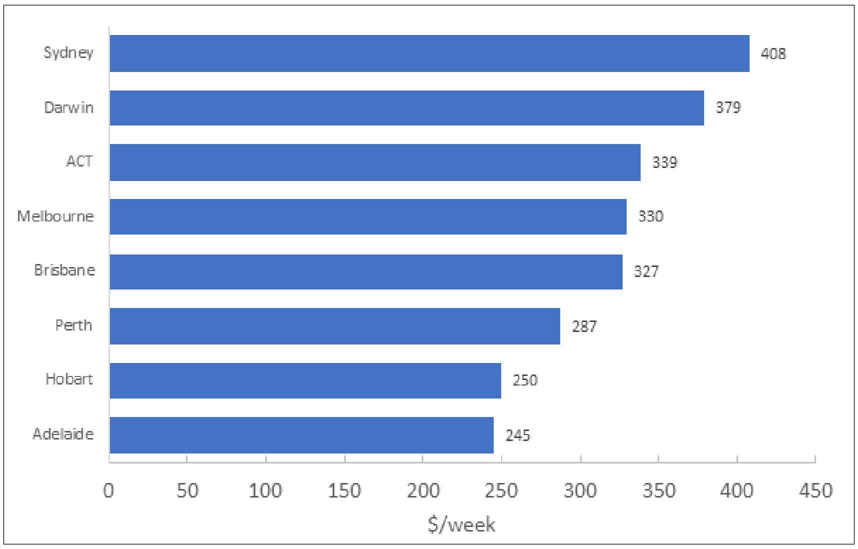
Nevertheless, the ACT does have important advantages that many other cities do not have in attracting workers. For instance, the quality of its amenities and its environment. Canberrans' access to commercial and community services is among the highest in the country[4]. The ACT is the safest place to live among all states and territories with a crime rate (of 573 per 100 thousand persons in 2020-21) well below the national average of 1,599 per 100 thousand persons.[5] It does not face the usual scourges of big metropolitan areas such as traffic jams, long commuting time etc. Labelled the 'bush capital' it was the OECD's pick for the World's most liveable city in 2014 and was voted the world's 3rd best city to visit in Lonely Planet's Best in Travel 2018. The Territory also has a pristine and enjoyable environment that other capital cities or cities of comparable size lack.

Figure 20 Average weekly earnings (ordinary time, adult rates) of the States and Territories (Nov 2021)



Source: Based on Average Weekly Earnings, Australia, ABS.

Figure 21 Median weekly housing costs in the greater capital city statistical areas (in 2019-20)



Source: Based on Housing Occupancy and Costs, 2019-20, Australia, ABS.

Insights from Data collection

In addition to issues highlighted above and the effects from reduced migration of skilled and unskilled workers, data from interviews, focus groups and survey responses indicated that the key drivers of workforce shortages in the ACT are housing availability/costs; cost of living; perception of Canberra; salary; work pipeline and other issues.

1. Housing availability and costs

Difficulties with cost of housing – rentals and buying houses – and also availability of suitable housing was repeatedly raised by informants through interviews, focus groups and surveys. This was the most common concern raised regarding relocating to Canberra, however it was also acknowledged that salaries were generally higher. For lower paid roles, however, housing costs were a significant concern. Respondents indicated that strategies around housing – having corporate housing, short term rentals, lower stamp duty, or other strategies around housing costs and availability would be beneficial.

2. General cost of living

In addition to the housing issues, the cost of living generally was a workforce attraction issue raised by a number of interviewees and focus group participants.

3. Perceptions of Canberra

Another concern related to workforce shortage was ‘perceptions of Canberra’ i.e. it’s cold, boring, or ‘just’ a Government city. This echoed the experiences of the focus group that consisted of people that had recently relocated to Canberra – a sentiment before their move was that it was ‘boring’, but after the move, many people changed their view, seeing that Canberra was not as boring as they had initially thought. In the focus group of people that had relocated to Canberra, one concern was that people were *always* ‘leaving’ – going to the beach, going home to visit family, travelling interstate etc – which made it challenging for people to build networks.

4. Remuneration and salary

Based on the cost of living in the ACT, expectations of salary have increased, and pressure on employers to pay more to attract staff was indicated as a key issue by industry groups. Our analysis indicated that the employment market within the ACT is likely to be less sensitive to salary increases, due to their high skills and high mobility. However, the survey results suggest that most recent recruitment from the respondents was at a lower skilled level i.e. entry level, or those with less than five years experience, with 82.5% of most recently recruited roles requiring less than 5 years experience. It could be suggested those in lower skilled roles are more likely to be attracted to wage offers. Table 26 indicates that salaries offered were generally about average (52%) or higher than average (45%).

Table 26 Compared to the market for similar roles, was the salary you offered for that role...?

Salary comparison to average	Private	NGO	Total	%
Much higher than average	17	2	19	10.1
Higher than average	57	10	67	35.4
About average	75	23	98	51.9
Lower than average	1	2	3	1.6
Much lower than average	1	–	1	.5
Not sure	1	–	1	.5
Much higher than average	17	2	19	10.1
Total	152	37	189	100

N=189

5. *Work pipeline*

Another concern, particularly raised by people working in the building/construction/property was the need for a greater pipeline of work. This meant that construction work should not be put on hold, as that reduces confidence for people considering a move to Canberra. They perceived a greater guarantee of work in other cities/states. Furthermore, the work pipeline in construction enabled employment for those working in the building and construction sector, but then also the completed projects created a greater buzz in the region, places to meet, etc., which were all deemed attractors to a location. In other industries, career progression was sometimes deemed a positive and sometimes raised as a barrier where a clear path to career progression is not obvious. Employment opportunities, therefore, should also provide a clear path to career progression, as this provided more encouragement for people to relocate.

6. *Other factors*

In addition to the factors listed above, availability of childcare, infrastructure, and other factors have all contributed to workforce shortages in the ACT. Some of these issues are industry specific – for example, childcare was specifically raised as an issue in the retail sector. Another factor indicated within interviews and focus groups was that as employees seek more flexibility in their work, employees move toward a more ‘gig-economy’ model, rather than necessarily seeking full time work. This has also been apparent as workers feel it is ‘safer’ than relying on one employer. This has impacted on employment rates in particular sectors, such as retail and tourism and hospitality.

Although issues of reduced migration of skilled and unskilled workers was raised as a major barrier to workforce shortages in the industry interviews, 83% of the survey respondents indicated most recent roles were recruited locally (see Table 27), however it is also important to note that almost 60% of job advertisements were only advertised locally. This data may be representative of the COVID pandemic impacting the ability to recruit candidates internationally, and potentially impacting recruitment elsewhere in Australia, however, not attempting to advertise interstate or internationally would obviously significantly impact recruitment outside of the ACT. It may also be due to workforce shortages impacting on recruitment outside of the ACT. Alternatively, it could be indicative of international migrants already in Canberra (e.g. International students or migrants) taking roles in some industries, and therefore being deemed 'local' recruitment. Furthermore, the type of role will impact the responses below as most recent recruitment were for roles requiring less than five years experience , and due to cost of relocation, people with less experience, and seeking lower skilled roles may be less likely to relocate, compared with those seeking roles requiring more experience.

Table 27 At the time of recruitment, where did the successful candidate live?

Candidate Location	Private	NGO	Total	%
Locally	71	22	93	77.5
ACT region	5	2	7	5.8
Elsewhere in Australia	14	4	18	15.0
Overseas	1	–	1	.8
Not sure	1	–	1	.8
Total	92	28	120	100

N=120

Answering the RQ: *What are the main drivers of workforce shortages in the ACT?*

To conclude this question, the drivers of workforce shortages are relation to issues of attraction of employees, and retention issues. These include: housing availability/costs; cost of living (including child care costs and availability); perception of Canberra; salary for lower skilled roles (and cost of living issues); work pipeline and other issues. It is important to consider strategies and communication around these barriers. For example, promotional work on the perception of Canberra, the housing costs relative to salary, and things to do in Canberra could be beneficial.

3.7 Research Question 2B. Which drivers are short-term (associated with the COVID pandemic) and can be expected to resolve post-pandemic?

Secondary data evidence

Between March and July 2021, over 2,100 recruiting employers were asked how their most recent recruitment compared to recruitment done for the same occupation prior to the onset of COVID in March 2020. Results show that 40% of recruiting employers found it more difficult to recruit in 2021 than pre-March 2020, while only 9% found it less difficult to recruit (NSC, 2021d, p. 6). The remainder (51%) encountered recruitment difficulty at about the same level as experienced pre-March 2020.

Over half (53%) of recruiting employers within the Accommodation and Food Services industry and 41% of recruiting employers in Manufacturing found it more difficult recruiting in their most recent recruitment round compared with pre-March 2020 (NSC, 2021d, p. 7). On the other hand, just 28 per cent of recruiting employers in Professional, Scientific and Technical Services found recruitment more difficult now than prior to March 2020. (NSC, 2021d, p. 7). Figure 22 illustrates the degree to which businesses stated they were impacted by COVID from April 2020 to July 2021. Figure 23 shares the prominent reasons behind the impacts.

Figure 22 Businesses impacted a great deal or not at all by COVID-19, April 2020 to July 2021

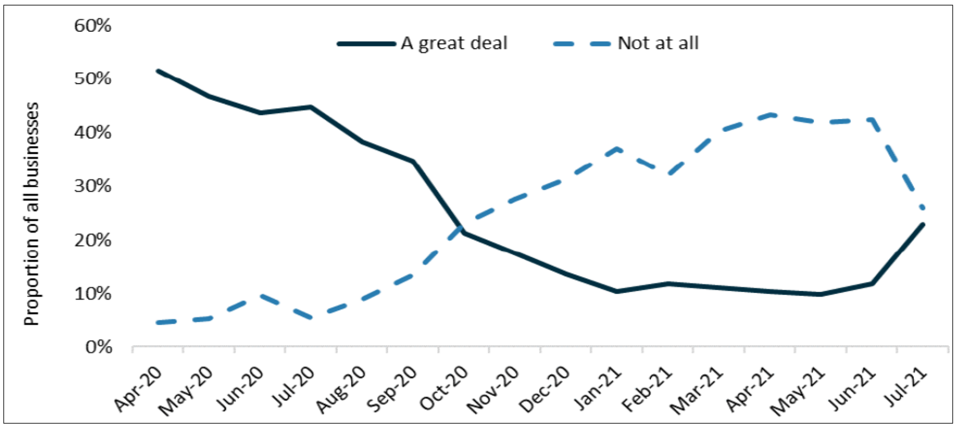
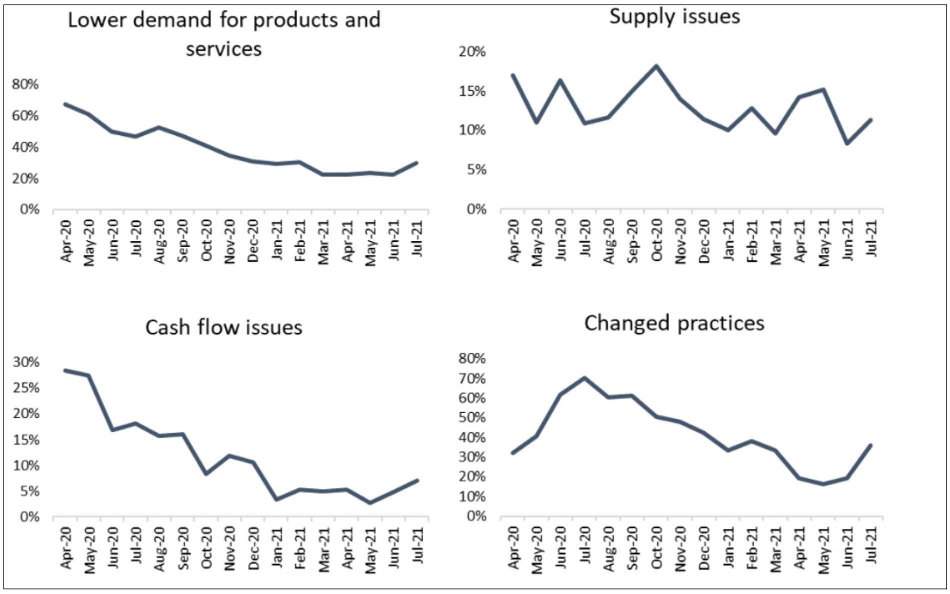


Figure 23 Effects of COVID-19 on businesses, April 2020 to July 2021



Source: NSC (n.d.) Impacts of COVID-19 on business, p2.

The NSCs *Australian Jobs* (2021c, p. 4) report provides a detailed summary of the impact of COVID. The report indicates that the ACT has lower part time employment compared with the data for the country overall. Data is presented in Figure 24 below.

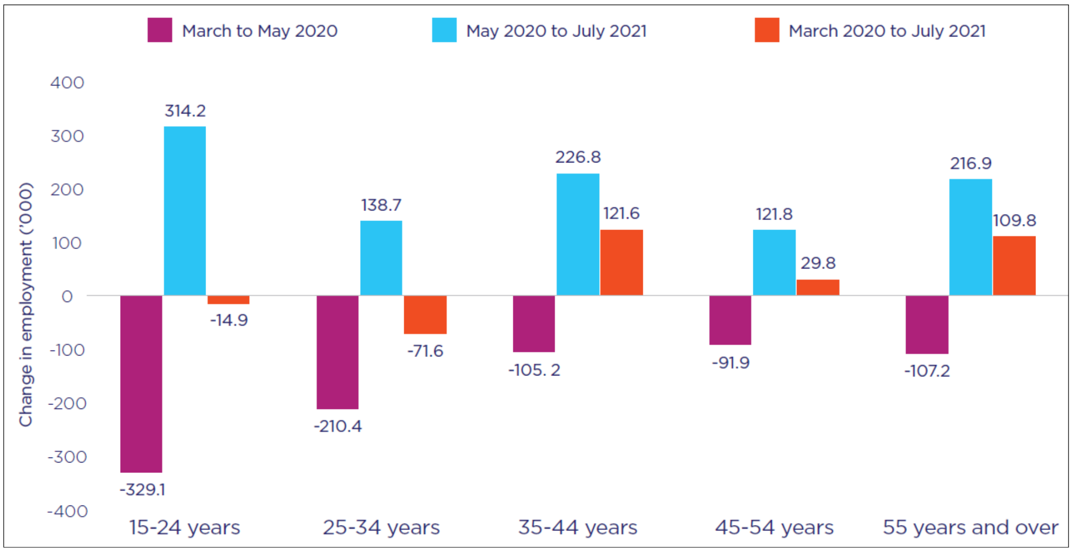
Figure 24 Employment Profile by Region

Employment by region, ACT	**Employment**			**Employment Profile**		
	Employ't May 2021	5 year change to May 2021		Part-time	Female	Aged 55 years or older
Region	**'000**	**'000**	**%**	**%**	**%**	**%**
ACT	**237.2**	**18.7**	**8.5**	**27**	**50**	**16**
Australia	**13125.1**	**1177.9**	**9.9**	**32**	**47**	**20**

Sources: ABS, Labour Force (seasonally adjusted and annual averages of original data); ABS, Characteristics of Employment; ABS, Education and Work; National Skills Commission, Internet Vacancy Index.

Young people (aged 15 – 24) were particularly hit by the pandemic due to over-representation in the service industries most impacted in the pandemic. Furthermore, due to being lower skilled, they had less options to shift to other industries and are "often the first to be retrenched by employers in times of economic difficulty." (NSC, 2021c, p. 5).[7] Figure 25 below describes employment throughout the pandemic, by age cohort. It shows that in the early stages of COVID (March to May 2020), youth (15-24 year old's, followed by 25-34 year old's) appear to be the most impacted in terms of *changes in employment*. The NSC states however, that the current state of youth employment is uncertain. "Youth employment fell by 10,900 (or 0.6%) over the month to July, alone, while the number of hours worked by youth declined by 0.7% over the period." (NSC 2021c, p. 5).

Figure 25 Change in employment since start of economic downturn (%), by age group.



Source: NSC 2021c Australian Jobs, p. 5.

Although less impacted by closures compared with other jurisdictions, activity reduction, and business closures impacted on employment within the ACT due to COVID. Between March and May 2020, employment within the ACT fell by 4.2% and the participation rate decreased from 72.3% in March 2020 to 69.7% in May 2020. The unemployment rate rose from 3.2% in March 2020 to 4.8% in June 2020. Employment in the ACT increased between May 2020 and July 2021, but still remained 2.4% below its pre-pandemic level. Furthermore, the employment participation rate was 70.8% in July 2021, below the rate recorded in March 2020; while the unemployment rate (4.3% in July 2021) was still above the pre-pandemic unemployment rate. Recruitment was increasing, with job advertisements 1.2 times higher than pre-pandemic levels (NSC 2021c).

Insights from data collection

In addition to the analysis of the impact of COVID on the ACT labour market included above, it was determined from the data collection (interviews, focus groups, and surveys) that COVID-19 had a considerable impact on workforce shortages within the ACT.

Answering the RQ: *Which drivers are short-term (associated with the COVID pandemic) and can be expected to resolve post-pandemic?*

COVID-19 was a short term issue related to workforce shortages, particularly in relation to a flow of workers voluntarily leaving some industries, and some layoff or work reductions, resulting in people moving industries. International migration issues also impacted in the short term. Furthermore, some people voluntarily opted out of the workforce during the pandemic (eg. Taking an earlier retirement). Longer term issues with workforce supply are expected to continue. Within lower-paid roles, the higher cost of living is a main driver to continued workforce shortages. This is particularly evident when the long-term labour force utilisation of the workforce within the ACT is considered.

6.7 **Research Question 2D:** What factors are long-term, medium-term and structural?

Secondary data evidence

When considering the long term and structural issues, it's important to consider the mobility and employment status of residents. In any labour market, labour mobility matters at least as much as the employment or participation status of its participants. In a mobile labour market, an unemployed or discouraged, non-participating individual will typically have more chances of finding a job and re-engaging with the labour market. In addition, those individuals who have a job but wish to change their hours of work (e.g., between full and part time work) will also find it easier to do so if there is high mobility in the labour market. In the cases of 'suppliers' market', high mobility would mean that the labour costs to the employers (the demand side) would be higher e.g., higher hiring and retention costs. Table 28 presents mobility patterns in the ACT's labour market before and after the COVID outbreak. Table 29 presents the same information for the whole country. Taken together, the following observations are notable.

1. *In general, the ACT's labour market is very mobile compared with other jurisdictions.* Looking at the pre-pandemic years of 2018-19 for example, about 27 percent of the unemployed in any given month secured employment the next month, around 11 percent of part time workers moved into full time employment the following month, and only about 6 percent of them became either unemployed (1%) or stopped their participation (i.e. dropped out of the labour force, 4.9%).
2. *Since the pandemic started, mobility statistics changed little in the ACT but the labour market became slightly less favourable for the unemployed and for part-time workers.* This is evidenced by a monthly pattern of less unemployed finding jobs (24.7%) and more part-time workers moving out of jobs (1.2%) and, prominently, out of the labour force (5.7%). The likelihood for full time employees to become jobless the next month also increased from 1.7% to 1.9% since the pandemic. However, more non-participants joined the labour force than before the pandemic, with 8% of non-participants monthly turning economically active in the labour market compared to about 7% before the pandemic. This may be due to the so-called 'added worker effect' i.e. when household income is negatively affected by job loss for one household member, other members may increase their labour supply to compensate for the income loss (Gong, 2011). This also indicates there may be untapped workforce supply able to consider working (part time or full time), where it works for the household. *The ACT labour market performs more strongly than the national labour market.* In any given month, the jobless have consistently better chances to find jobs, and the inactive to enter the labour force if they wish, and employed workers are also less likely to leave their jobs in the ACT than in the country as a whole.

Table 28 Month to month mobility in the ACT

		Jan 2020 – Dec 2022				
Previous month	Total (000 persons)	Transition into current month status (%)				
		F/time employed	P/time employed	Unemployed	NLFP	Total
F/time employed	141.5	94.4%	3.7%	0.4%	1.5%	100%
P/time employed	50.1	11.4%	81.7%	1.2%	5.7%	100%
Unemployed	7.7	10.3%	14.4%	55.0%	20.3%	100%
NLFP	80.5	2.3%	3.2%	2.5%	92.0%	100%
		Jan 2018 – Dec 2019				

Previous month	Total (000 persons)	Transition into current month status (%)				
		Full-time employed	Part-time employed	Unemployed	NLFP	Total
F/time employed	135.5	94.4%	3.9%	0.4%	1.3%	100%
P/time employed	51.6	10.9%	83.2%	1.0%	4.9%	100%
Unemployed	6.9	11.5%	15.5%	52.3%	20.7%	100%
NLFP	76.8	1.7%	3.1%	2.3%	92.9%	100%

Source: Based on Labour force Australia (6202.0), ABS. The averages over the monthly data (using current month weights).

Table 29 Month to month mobility in Australia

Jan 2020 – Jun 2022						
Previous month	Total (000 persons)	Transition into current month status (%)				
		F/time employed	P/time employed	Unemployed	NLFP	Total
F/time employed	7,232	92.8%	4.9%	0.6%	1.7%	100%
P/time employed	3,322.4	11.3%	81.4%	1.6%	5.7%	100%
Unemployed	602.5	8.9%	13.7%	55.9%	21.5%	100%
NLFP	5,703.6	1.9%	3.1%	2.6%	92.4%	100%
Jan 2018 – Dec 2019						
Previous month	Total (000 persons)	Transition into current month status (%)				
		F/time employed	P/time employed	Unemployed	NLFP	Total
F/time employed	7,010.6	93.1%	5.0%	0.5%	1.4%	100%
P/time employed	3,271.2	11.1%	82.4%	1.4%	5.1%	100%
Unemployed	561.7	8.0%	12.1%	57.9%	22.0%	100%
NLFP	5,398.3	1.5%	2.9%	2.6%	93.0%	100%

Source: Based on Labour force Australia (6202.0), ABS. The averages over the monthly data (using current month weights).

Insights from data collection

In addition to the findings considered above, interviewees indicated that issues persisting over the medium and long-term include cost of housing, general cost of living, perceptions of Canberra, and work pipelines. Other medium to long term issues, although not necessarily structural in nature include a lack of training.

While promoting within the ACT commonly occurs in industries, where workers for lower skilled work don't move, sometimes it is essential to recruit people outside of Canberra to hire more qualified people. This is where issues occur attracting staff outside of the ACT occurs. Furthermore, organisations indicate there are challenges where there is poaching from 'within the ACT' which does not really fix this issue. This is coupled with a shortage of lower skilled workers in the sector, requiring training.

The inability to work from home, in some key industries, was also presented as a long term barrier to attracting the workforce now there is a greater desire for flexibility and 'working from home' jobs, post-COVID-19. This is particularly relevant in some industries (eg. Hospitality and tourism and health) over others (eg. Government roles, or other administrative roles).

Survey respondents also voiced frustrations related to local and federal governments in relation to persisting workforce barriers. These included payroll tax, workers compensation, and other costs of doing business within the ACT being higher than in other jurisdictions, Government regulations, and the use of contractors in the federal government pushing up the cost of recruiting staff due to competition.

Answering the RQ: *What factors are long-term, medium-term and structural?*

When considering the long term and structural issues, it's important to consider the mobility and employment status of residents. In general, the ACT's labour market is very mobile when compared to other jurisdictions. Furthermore, mobility statistics changed very little through the pandemic.

Medium and longer term issues include: cost of housing, general cost of living, perceptions of Canberra, work pipelines, mobility of the labour market in the ACT, and workforce/ job security meaning people are less likely to leave when happy. Other medium to long term issues, although not necessarily structural in nature include a lack of training.

6.8 Research Question 2E. Which barriers to workforce supply are common across occupations/sectors, and which barriers are distinct rather than integrated with other barriers?

Insights from data collection

In addition to the COVID-19 pandemic, which was raised repeatedly as an issue to workforce attraction, other barriers to workforce supply were commonly raised across all sources of data. The cost of living in the ACT was one of the most commonly mentioned across all sources of data, however, this is mostly relevant for attracting people to The ACT. Overall barriers to workforce supply in the ACT raised throughout interviews, surveys and focus groups include:

- Cost of living in Canberra
- Reducing rates of international migration
- 'Industry-hopping' during the pandemic
- Inability to provide financial and non-financial workplace incentives, eg. Workplace flexibility, higher wages, etc.
- Opting out (e.g. skilled people retiring or opting for part time roles/ 'gig economy' roles)

This report has showed commonality across industry sectors in relation to these barriers. Industry specific barriers mentioned included:

- Training – mostly an issue within property, building and construction and cybersecurity sectors
- Having children home during COVID-19, and now in a post-pandemic phase, as children are unwell – this was indicated as a major concern within the retail sector due to the inability to work from home
- Limitations with the introduction of technology was a barrier raised across several industry sectors, but most pointedly in retail where greater use of self-service technologies or online ordering systems are required to be introduced or strengthened within some organisations
- Furthermore, although industry hopping was raised in several industries, this was most prominent in tourism and hospitality.

Answering the RQ: Which barriers to workforce supply are common across occupations/sectors, and which barriers are distinct rather than integrated with other barriers?

In summary, issues raised as barriers to workforce supply include:

- Cost of living in Canberra
- Reducing rates of international migration
- 'Industry-hopping' during the pandemic
- Inability to provide financial and non-financial workplace incentives, eg. Workplace flexibility, higher wages, etc.
- Opting out (e.g. skilled people retiring or opting for part time roles/ 'gig economy' roles)
- Training
- Technology limitations within the sector

Recommendations/Interventions

Research Question 3: Which interventions to attract workforce to the ACT are likely to be effective?

6.9 **Research Question 3A.** Which interventions to attract workforce to the ACT are likely to be effective?

Insights from data collection

It is important to note what attracted applicants to positions within Canberra, as indicated in the survey. Interest in the role was the most common reasons applicants applied (24%), followed by remuneration (19%), and secure employment (15%) (see Table 30).

Table 30 Which of these incentives do you think were important for the successful applicant?

Incentives*	Private	NGO	Total	%
Interest in the role	52	20	72	23.8
Remuneration	45	12	57	18.8
Full-time/secure employment	34	13	47	15.5
Remaining in/moving to Canberra	20	6	26	8.6
Something else – please specify	20	5	25	8.3
Promotion/career progression	19	5	24	7.9
Training and professional development	19	5	24	7.9
Ability to work remotely occasionally from local area	8	2	10	3.3
Other financial benefits	7	3	10	3.3
Ability to work remotely from elsewhere in Aust.	5	2	8	2.6
Total	230	73	303	100

*Respondents were able to report multiple incentives. 96 respondents did not answer i.e. N=120

'Other' Responses to the question above – "Something else – please specify"

Incentives	Private	NGO	Total	%
Flexible hours	6	3	9	36.0
Industry type	5	1	6	24.0
Organisation culture	5	–	5	20.0
Visa sponsorship	2	–	2	8.0
Salary packaging/other material benefits	2	1	3	12.0

Total	20	5	25	100

N=25

Suggested interventions were discussed in detail in focus groups and interviews. The process of understanding skills shortages and interventions within the ACT was praised, and acknowledged that focus groups enabled the development of shared initiatives. It was suggested that further and specific solutions can be further co-created / co-designed within particular industry groups, or with employers. Co-design could be done a number of ways, including:

- organisations or discussing strategies to attract people to the industry with existing employees. Industry based focus groups, for this report, were useful to determine strategies and issues. Having people working for the organisation could provide greater recommendations that are organisation specific. Speaking with a group of recent recruits around the process, and what attracted them to the role, for example, could be beneficial. Doing this in a focus group context would allow ideas to build between participants. This could also be done by industry associations/ groups
- Co-designing training strategies, within organisations or industry groups, will be beneficial.
- Process redesign could be done with employees and consumers to determine ways to reduce reliance on staffing, and opportunities for self-service technology engagement, or process alterations

Considering all sources of data (surveys, focus groups, and interviews), the following potential interventions were commonly identified by the respondents:

Interventions suggested by data collection

Interventions suggested	Details raised from data sources	Comments on interventions based on analysis
Promotional campaign – jointly funded by the ACT Government and organisations in the region	A major recommendation raised across the interviews was the idea that a promotional campaign should be run, encouraging people to move to Canberra and work in Canberra.	The analysis conducted for this report has indicated that for most employers, the most recent recruitment reported was for people already living in the ACT. It is therefore important to consider data around recruitment, and staff locations. Most recent recruitment may have been local due to the pandemic, and would certainly be impacted by the majority of organisations promoting job advertisements locally only. Further understanding of why organisations are only advertising the majority of jobs locally is important prior to significant investment in a promotional campaign aimed at attracting people to live and work in the ACT, however, organisations are encouraged to promote job opportunities nationally and even internationally where appropriate.
Web portal integrated with the campaign	A major strategy recommended across a wide variety of industries was the use of a portal, integrated with the	It is important to note that www.canberra.com.au already exists and delivers much of the content

	promotional campaign. The portal is envisioned to be a 'one stop shop' for those considering relocating to Canberra, for those whose partners have been offered jobs in Canberra, etc. And provides details on housing, public transport, entertainment, regions, schools, and advertises all jobs, enabling an application. It was also recommended that organisations could 'share' applications if people opted in for this, so if someone was highly regarded, but not selected, their application could be shared with other organisations within the industry.	requested. If a promotional campaign is undertaken, integration with this website should be undertaken. Alternatively, further promotion of this website could occur.
Industry based financial incentives	Financial incentives were frequently suggested as a way to motivated people to live in the ACT. However, it was acknowledged that this might be more complex than doing so in an area such as nursing. Not all financial incentives were Government based, however, with some recommendations for employers to offer greater salaries, greater training, relocation incentives and rent support.	Economic analysis has suggested that Canberra employees would be less likely to be influenced by increasing salaries, due to the higher skills they hold and their greater levels of mobility, however, wage offers must still be attractive and competitive. Higher wage offers may attract staff from other jurisdictions. Furthermore workplace flexibility is deemed to be an attractor for highly skilled and mobile staff.
Non-financial incentives	In addition to higher incomes, providing greater workplace flexibility, such as working from home, was deemed to be attractive for employees. This is not possible in some industries, such as retail and tourism and hospitality, and interviewees raised this as an issue of industry attractiveness. For those industries, promoting non-financial incentives is recommended. Hours of work was raised as being key barriers to workforce attraction, particularly when industry stability was impacted during the COVID-19 pandemic. In these industries, employees needed to find other areas of work, and this often resulted in staff members seeing more regular hours and stable employment. Flexibility in terms of working from home was difficult to impossible within the retail, building and construction and hospitality and tourism industries, but there were other ways the industry could be more flexible, such as not requiring Saturday work, allowing early finishing time for school pick ups, and providing a week day RDO.	Based on the analysis, these non-financial incentives are all critical and likely to be very attractive to employees based in the region.

Training incentives	Offering training – on the job, or funded incentives by the ACT or Federal Government – was regularly recommended mostly within Building and Construction and Cybersecurity. Training can include Government incentives, employer based programs, employer sponsored incentives for trainees, and traineeships supported by industry associations.	This recommendation was important for staff progression and retention, as well as workplace satisfaction.
Strategies for cheaper and more available housing	Housing costs were a common theme raised throughout the survey, and therefore recommendations for incentives around housing were also regularly made, including Government and organisation support for lower cost housing and greater housing availability/certainty upon relocation	The ACT is the second most expensive city in Australia for housing. Despite this, incomes are higher. It is important to highlight this in all recruitment promotion, and promotion aimed at increasing relocation to the ACT. Furthermore, where possible, housing availability should be addressed. This could include organisations offering free rent for an initial period of relocation, having organization based housing for new staff, and other incentives.
Self-service technologies and robotics	A theme stated in a few interviews was the importance of lower reliance on staffing in areas where self-service technologies or robotics can support service delivery. These include robots for customer service; online ordering systems; greater use of self-service technologies to enhance service delivery	A concern related to self-service technologies and robotics was the expertise needed, however, the initial cost would benefit the organisation in lower staff reliance, and longer term cost savings.
Development within the ACT to improve the perceptions of the region and employment	A major theme, raised within the building and construction industry (interviews and focus group), was to continue development projects within The ACT to increase confidence around a pipeline of work for work opportunities. The Retail Association also indicated the importance of development, from the perspective of increasing employment and perception of Canberra. A common theme arising in multiple interviews and focus groups was the perception of Canberra. It was recommended within the focus group of people relocating to Canberra that it was important to consider a centralised 'hub' for meeting and activities. It is important, therefore, to address perceptions in any campaign that is implemented.	The perception of Canberra was repeatedly raised as a concern across focus groups and interviews. Canberra was deemed to be 'boring' or a 'Government town' but in reality, those that relocated to Canberra found it more exciting than they had first expected. Continued development is important, to ensure workforce attraction within building and construction, but would also increase perceptions of Canberra, and therefore enable greater work force attraction opportunities.
Greater use of remote outsourcing	One recommendation, which is already being implemented by some businesses, is to utilise remote outsourcing of professional services, flying people in, or using remote work for professional skills that do not need to occur in Canberra.	Organisations should utilise remote outsourcing where feasible, and skills are not available within the ACT.

Faster visa processing	A key issue that arose in a number of interviews, particularly in Hospitality and Tourism, was the inability to attract workers from overseas. This was particularly the case for lower skilled work, and included Visa processing. This was being addressed by the Department of Home Affairs	Continued work on international recruitment, and visa processing is occurring and should continue.
Fast train development	Although not indicative of common recommendations, the Fast Train between Canberra and Sydney was mentioned as a possibility to alleviate workforce shortages by a few interviewees	This suggested long term strategy could be one possibility to increase the ability of people to commute to work, however, this does not align to overall analysis.

Table 31 lists specific recommendations for organisations seeking to attract workers to the ACT, based on discussion in the focus groups.

Table 31 Strategies for organisations seeking to attract workers to Canberra

Give time off	• Make the transition slower or smoother – ways to go home and visit family and friends regularly – a day off - 3 day weekend and paid transport to go back home to visit. • Having time to enjoy it – some time off.
Offer financial and career incentives	• Relocation fees. • Cover living expenses – if moving from another space. • Financial gains, and longer contracts. • Promising more career progression – live in Canberra for a year and then you can come back to Melbourne in the upper rung in the ladder. A steppingstone in the ladder or more job stability. • Cheaper housing, subsidise rent. • Work with the govt to offer them opportunities – work together with Canberra.
Provide benefits for the whole family	• Offering support for not just the person employed but also the family as well – what are you offering – scholarship for schooling, not just a one-person decision. • Not an old people city – wanting to have kids in the next years – why should I have my young family starting there.
Promote Canberra	• Talk up the things that Canberra has – advance electric cars, something modern that Canberra offers – that is different. • Hear more about the culture – how it's inclusive, a lot of cultures and you feel safe • The population isn't so big – your voice gets heard and that's cool – safety in being heard.

Elements needed in a promotional campaign

As a promotional campaign was commonly recommended, it was important to understand what to incorporate into a campaign should one be developed. While it is anticipated that further research would be undertaken, common themes related to promotional campaigns included:

- Open spaces
- Big city feel (for those coming from regional areas) and small city feel (for those coming from capital cities)
- Incentives – career progression and opportunities

- Salaries are higher
- Vibrant city
- Snow/ Beach

The research participants suggested use of social media for all campaigns, including Tik Tok, Instagram, Facebook, YouTube and LinkedIn, in addition to newspapers. The focus group participants also suggested running information sessions/ a Canberra Expo with career opportunities. This campaign would need to be partnered with a web portal, which would provide interested parties with information related to Canberra, such as real estate, things to do, and job advertisements categorised by industry/ role type.

7. Summary of Recommendations

Based on the incentives recommended by respondents across the study and deeper analysis of associated workforce issues through all sources of data, the following recommendations are made by the authors of the report.

Recommendations for Industry:

Short- to medium term:

Build loyalty with existing workforce*:* Strategies to build loyalty between the employer and their workforce are particularly important in light of skills shortages, and can include training, internal promotion, and other strategies such as workplace flexibility.

Organisations should consider greater use of *remote outsourcing* for specialist service-based skills e.g. Web development, marketing, administration etc.

Consider non-financial incentives, such as workplace flexibility where possible within the role/ industry. This could include a day off, 3 day weekend, travel expenses paid to return home to visit friends/ family, and other strategies to make the transition of relocating easier. Furthermore, these incentives can lead to greater staff recruitment and retention.

Consider industry-based financial incentives such as incentive payments for employment; housing set up costs or organisation owned housing options for relocating employees; transport reductions etc.

Longer term:

Recruit under-represented staff: Employers should seek to recruit under-represented staff, which include older employees, and high school employees, who may be able to undertake applicable roles. Women have a relatively high participation rate in the ACT, but it is still lower compared to men, as some women opt to stay home with children, or work part time. Women may seek to increase hours, or seek employment when children are at school, and therefore organisations could actively target career re-entry, and provide relevant training and support to encourage a return to work. Furthermore, part time employees may consider full time opportunities. Where possible, promotion for roles should be done nationally and internationally, rather than just locally.

Change organisational processes and integrate greater use of technology: Organisations should continue to utilise process improvements, and greater use of self-service technologies, online ordering, and robotics where possible to reduce staffing reliance, increase efficiencies, and ultimately, build cost effectiveness. Furthermore, some customers prefer engagement with technologies, however, other customers will prefer staff engagement, and therefore, where demand exists, options should be provided. It is important to note, however, that process changes will become accepted by consumers as they get more familiar with them.

Recommendations for Government and Industry, together:

Short- to medium term:

Understand recruitment trends in greater detail - It is recommended that further analysis of candidate locations at time of recruitment is undertaken, on a larger scale (rather than just 'most recent recruitment'). The findings indicated that most recent recruitment occurred within Canberra, rather than with candidates from interstate and overseas. Most recent recruitment may have been skewed by post-pandemic difficulties in attracting staff from interstate/ overseas, however, if it is apparent that longer term it is difficult to attract staff from overseas/ interstate, training and job promotion within Canberra will be of greater importance.

Focus strategies on key sectors of growth: Industry groups, employers, and Government campaigns should focus on key sectors of likely growth and workforce shortages such as: building and construction, technical services, health and social services, education, public administration, electricity, gas, water and waste, hospitality and tourism and professional services.

Create a promotional campaign with a message targeted at various segments and industries. It is recommended that an initial promotional campaign relating to Canberra could be initiated by the ACT Government, however, industry associations and key employers in industries should work together for industry-based promotion. It is important to note that most recent recruitment attracted local candidates. Therefore, the analysis of location of candidate at the time of recruitment recommended above is encouraged prior to large scale investment in a promotional campaign, however, a promotional campaign is likely to increase interest relating to roles in the ACT, and research participants indicated that this was particularly important as promotion was occurring in other jurisdictions. This campaign should be integrated with a *web portal* with details about relocating to Canberra, and jobs, segmented by industry – www.canberra.com.au is a site that already offers much of this information, so can be integrated with the campaign. Furthermore, industry specific campaigns and sites can be integrated. Any promotional campaigns relating to moving to and working in Canberra should incorporate the logic that while cost of living is higher, salaries are also higher, as one concern from those outside of Canberra is that cost of living is higher.

Continue development within the ACT to improve perceptions of the region, and create a more consistent pipeline of work for those in building, construction and property

Determine ways for *faster Visa processing*. This is particularly the case for skilled migration, and within particular industry sectors, however all visa categories are currently backlogged and faster processing would lead to greater employment rates

Build further on training incentives e.g. further Government incentives, employer based programs, employer sponsored incentives for trainees, and traineeships supported by industry associations. This will support further skill development in key areas. Strategies can include funding support to employers or individuals to participate. Free training, in addition to incentives to participate, can increase participation rates. To motivate employees to complete programs, organisations can offer incentives such as time off for completing training, gift cards, or bonuses.

Longer term:

National strategy for technical, trades and professionals: It is recommended that employers and the Government within the ACT work with other jurisdictions on a strategy for technical, trades and professionals, and these national needs are represented across several sectors.

Localised strategy within hospitality and tourism: Shortages within the ACT are apparent, and therefore should be addressed within the industry, through training of staff, and recruitment of younger and older employees where possible.

Recommendations for Government:

Short- to medium term:

Negotiate with the Federal Government on the needs category: The findings of this study support recent calls on the Australian Government to consider the ACT to be assessed under a 'high needs category' for skills shortages, and therefore, it is recommended that the ACT Government continue negotiation with the Federal Government for the ACT to be assessed under the high needs category.

Longer term:

Explore strategies for the *fast train* between Canberra and Sydney where possible, to support recruitment from Sydney

19. Conclusions

This report has detailed comprehensive findings across four sources of data: industry reports and academic literature; interviews with business and industry associations; focus groups with employees and surveys with employers. Major contributing factors to current workforce shortages are:

- Housing availability and costs
- General cost of living
- Perceptions of Canberra
- Remuneration and salary
- Work pipeline
- Training for new staff
- Other factors

It is important to note the following forces that influence the labour market in the ACT region:

- The labour shortage problem the ACT government faces is at least partly structural i.e. the ACT labour market is constrained by the structures of the Territory's public sector-centred service economy, high-skilled population, and by its relative geographic isolation from all the major population centres.
- The COVID pandemic did affect the labour market. At the very least, it negatively affected the Territory's real wages and opting out by a number of skilled professionals in the region; in addition to reducing rates of migration
- Some developing but small industries (such as cybersecurity) face the external effect of overall staffing issues
- Labour mobility is relatively high in the ACT and the ACT's attractiveness to interstate and international workers lies partly in the quality of its amenities and its high degree of liveability.

To alleviate workforce shortages in the ACT, there are several strategies that organisations could consider, detailed in the recommendations section of the report. Some of these are to:

- Build loyalty with existing workforce: Strategies to build loyalty are particularly important, and can include training, internal promotion, and other strategies such as workplace flexibility.
- Collaborate with the ACT Government to invest in promotion and marketing of the ACT as a desirable place in which to live and work.
- Offering more training and development to new and existing staff; and consider training incentives
- Encourage women, younger people (eg. High school leavers, and high school students) and especially older workers to re-enter the labour market.
- Focus on the organisation and industry values, inviting people to participate and become part of making a difference for the community, industry, etc.
- Review business processes, and strategies for greater use of self-service technologies, robotics, or outsourced labour.
- Consider housing strategies to attract workers from outside the ACT region to relocate.
- Consider other financial and non-financial incentives to maintain staff loyalty and support recruitment of staff
- Organisations should consider greater use of remote outsourcing for specialist service-based skills e.g. Web development, marketing, administration etc.

To alleviate workforce shortages in the ACT, some strategies that Government could consider (often working with industry) include the following, however, more detail is provided in the recommendations section of this report:

- Understand recruitment trends in greater detail - It is recommended that further analysis of candidate locations at time of recruitment is undertaken, on a larger scale (rather than just 'most recent recruitment'). Assisting organisations to offer financial (e.g. housing, relocation) and non-financial incentives and assistance (e.g. training).
- Focus strategies on key sectors of growth: Industry groups, employers, and Government campaigns should focus on key sectors of likely growth and workforce shortages such as: building and construction, technical services, health and social services, education, public administration, electricity, gas, water and waste, hospitality and tourism and professional services.
- Work with industry to create a relevant promotional campaign, to focus on perceptions and roles. Any promotional campaigns relating to moving to Canberra should incorporate the logic that while cost of living is higher, salaries are also higher, and www.canberra.com.au should be updated and integrated within any promotional campaign
- National strategy for technical, trades and professionals: It is recommended that the ACT work with other jurisdictions on a strategy for technical, trades and professionals, and these national needs are represented across several sectors.
- Localised strategy within hospitality and tourism: Shortages within the ACT are apparent, and therefore should be addressed within the industry, through training of staff, and recruitment of younger and older employees where possible.
- Invest further in *infrastructure* to make Canberra a better place to live, work, and socialise with people and *marketing* to promote the benefits of living and working in Canberra.
- Explore strategies for the fast train between Sydney and Canberra where possible
- *Continue development within the ACT to improve perceptions of the region*, and create a pipeline of work for those in building, construction and property

The ACT region's workforce has experienced much recent change and the COVID pandemic served to accentuate challenges associated with the landscape in which organisations across all sectors and industries operate. Notwithstanding, all organisational stakeholders have a strong foundation built on high levels of individual and collective technical knowledge, skills, experience, hard work, and passion for their products, customers, organisations, and the ACT community as a place to work, live, and thrive. They have and will continue to demonstrate great commitment towards worker success and satisfaction, organizational effectiveness, and community advancement. By evolving the mindsets and skills of all stakeholders relating to the contributing factors of workforce skill shortages and appropriate individual and collective organisational and government responses, ACT organisations will be able to effectively innovate and lead into the future and, in turn, great synergies will follow. We recommended that surveying could be conducted on a biennial basis to measure the impact of interventions, progress, how key areas are impacted, and to identify emerging issues, trends and needs.

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Data

Australian Bureau of Statistics – Census data 2016 & 2021 (Link)
Interactive Data Files – Australia Occupation Summary (Census 2016) (Link)
Interactive Data Files – ACT Occupation Summary (Census 2016) (Link)
Employment Region – Employment by Industry, Australia (Link)
Employment Region – Employment by Industry, Capital Region including ACT (Link)
Employment Region – Employment by Occupation by Gender, Australia (Link)
Employment Region – Employment by Occupation by Gender, Capital Region including ACT (Link)
Regional projections – five years to November 2025 (Link)
Occupational projections – five years to November 2025 (Link)
Vacancy Report – IVI Data – January 2006 onwards (Link)
Vacancy Report – Detailed Occupation Data – March 2006 onwards (Link)
LMIP Public Tableau Dashboards (Link)

Other potentially insightful papers regarding the impact of COVID-19, and recovery from the pandemic:

- A snapshot in time: the Australian labour market and COVID-19 (NSC, 2020a, Link).
- The shape of Australia's post COVID-19 workforce (NSC, 2020b, Link).