

# Building the Future

Why Women are Key to Victoria's Next Building Boom

March 2023



# Executive Summary

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Construction accounts for 9% of Australia's GDP or \$360 billion in revenue.<sup>1</sup>

The value of construction work carried out in Victoria in the 2022 March quarter totalled \$14.7 billion dollars, an 8.1% increase from the previous year.<sup>2</sup> Total construction work in Victoria accounted for over 12% of total economic activity in the fiscal year to 30 June 2021.<sup>3</sup>

With continued growth, the Victorian construction industry is facing ongoing challenges meeting its projected workforce needs. In this report, we provide a detailed analysis of how investing in attracting and retaining women in the Victorian construction industry is central to meeting future workforce demands. We also outline key opportunities and barriers for success in this endeavour.

We draw in our analysis on past growth and future trends to develop estimates of future demand for labour in the construction industry, and proportionate demand for women workers. This demonstrates how strengthening women's participation is critical as labour demand continues to outpace supply.

Our projections show that labour demand, as measured by total workforce, industry growth and vacancies on current trends, appears set to continue to outpace supply, as measured by enrolments, and permanent and temporary migrant intake. Consequently, promoting more women to enter the industry, and ensuring women remain in the industry is critical to meeting the sector's current and future workforce needs.

A projected modest annual growth target for women's participation of just 0.4% will mean that by 2040, almost 20% of the construction workforce will be women. This growth is projected to plug 26,000 forecast vacancies.

We also present findings from a survey of women currently working 'on the tools' in the Victorian construction industry, conducted in August 2022, to provide key insights into how women are faring in the industry, and their perceptions on what needs to change for the number of women in the workforce to increase.

These findings point to where government and industry interventions can be most effective in increasing the growth trajectory of women working in construction. Notably, the survey finds that most women surveyed feel positive about their careers in the industry. The majority want to stay in construction long-term and would recommend the industry to their female friends. Most also see positive cultural changes in the industry in terms of gender equity and agree that opportunities for women are increasing.

Balancing work with family and inflexible hours are the biggest barriers to women staying in construction. Increased flexibility including more part-time roles and rostering flexibility; continuing and amplifying cultural changes to reduce harassment and discrimination; and promoting careers in the industry to women are all key to improving women's participation.

<sup>1</sup> Australian Industry and Skills Commission (AISC) (2022) Industry Cluster Snapshot, Construction. <https://nationalindustryinsights.aisc.net.au/industries/construction>.

<sup>2</sup> Australian Bureau of Statistics (2022). Construction work done: Australia, preliminary. <https://www.abs.gov.au/statistics/industry/building-and-construction/construction-work-done-australia-preliminary/latest-release>

<sup>3</sup> Master Builders Victoria (2021). Victoria's booming building and construction industry drives the nation despite lockdowns. <https://www.mbav.com.au/news-information/media-release/victoria%E2%80%99s-booming-building-and-construction-industry-drives-nation>.

## KEY FINDINGS

- Data projections indicate that the Victorian construction industry will not meet its future labour needs without increasing the number of women in the workforce. By 2040, national construction vacancies are projected to be approximately 26, 000.
- Immigration and skilled visa schemes alone cannot fill these vacancies. Skilled migration is declining with a projected number of only 1,721 visas in 2040.
- A modest annual growth target for women's participation of just 0.4% would mean that by 2040, almost 20% of the construction workforce will be women. This growth is projected to plug 26,000 forecast vacancies.
- From our survey findings, 87% of women currently working in construction in Victoria want to stay in the industry long-term.
- 73% surveyed would recommend working in construction to their female friends, and 71% also believe the industry is improving in terms of support and opportunities for women.
- 75% feel their co-workers are respectful towards women, and 72% feel industry leaders encourage respect towards women.
- In terms of attracting and retaining more women in the industry, the most identified needs were:
  - more women in senior leadership positions (63%);
  - more information on construction careers provided to women (60%);
  - more mentoring opportunities for women (53%);
  - better gender equity training and workplace cultural change (41%);
  - flexible or family friendly schedules (41%).
- Of the women who were planning to leave the industry, the top two reasons were balancing work and family responsibilities (67%) and inflexible rostering or inflexible hours (44%).
- Findings suggest that current industry and government interventions must be effectively targeted to increase the number of women in the industry over the next two decades. Programs like the Victorian Governments' minimum requirements for women on projects, while initially modest, will reward those companies who can meet the challenge of increasing participation.

# Introduction

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Despite some slowing due to COVID-19, the construction industry in Victoria accounted for over 12% of total economic activity in the fiscal year to 30 June 2021.<sup>4</sup> The value of construction work carried out in the 2022 March quarter totalled \$14.7 billion dollars, an 8.1% increase from the previous year.<sup>5</sup>

Simultaneously, the Victorian construction industry is facing a challenge in meeting its projected workforce needs.

This report explores the continuing growth of the construction industry in Victoria. Specifically, the report demonstrates that encouraging more women to enter the construction industry and having strategies in place to retain them is an important goal in meeting current and projected construction industry labour needs. Skilled migration should play a secondary, support role in filling the labour shortage.

The lack of women employed in construction is a widely recognised challenge to meeting industry growth, especially in construction trades. Construction remains the most male dominated sector in Australia. While low participation rates of women in construction is a global phenomenon, Australia does not compare well to other countries, with our participation rate half that of the European Union.<sup>6</sup> Government and sector attempts to address this have so far not translated into meaningful change, with the same proportion of women employed in the sector as two decades ago.

However, modest annual growth targets of the women in the industry can translate to significant change by 2040 and can successfully meet industry workforce needs.

In the first sections of this report, we provide quantitative evidence via the Automatic Regressive Integrated Moving Average (ARIMA) forecast modelling approach, exploring the construction workforce both in Victoria and nationally to 2040. Australian Bureau of Statistics (ABS) and industry data was analysed to determine projected labour shortages, contrasting the anticipated workforce against labour demand. A literature and data scan explored the current and historical percentage of women in construction. Analysis of enrolment and graduate numbers in key construction courses was broken down by gender to assess the likely growth in percentage of women in construction over time. Historical trends to labour shortages in relation to temporary and permanent migration, and some projection, revealed the extent of migration labour that would be required to meet the projected construction labour demand. For limitations and technical notes on this analysis, see Appendix 1.

In the second half of the report, further analysis is provided from a survey of female construction workers currently employed in trades-based roles in Victoria (n=131). The survey was conducted online and distributed through Incolink's membership database.

<sup>4</sup> Master Builders Victoria (2021). Victoria's booming building and construction industry drives the nation despite lockdowns.

<sup>5</sup> Australian Bureau of Statistics (2022). Construction work done: Australia, preliminary.

<sup>6</sup> Construction Skills Queensland (2018). Women in construction: An opportunity missed? [https://www.csq.org.au/wp-content/uploads/2018/11/CSQ2531-Women-in-Construction\\_2.pdf](https://www.csq.org.au/wp-content/uploads/2018/11/CSQ2531-Women-in-Construction_2.pdf)

Participants' responses provide a snapshot into the experience of women who are working 'on-site' in the construction industry. The survey explored themes of overall perceptions and experiences of working in the industry; what attracts women to the industry; perceptions of pay equity; retention and career progression and areas for improvement in attracting and retaining women in the workforce. The survey included an open-ended question for respondents to describe their experience as a woman in the industry in 2022 in their own words.

We conclude by outlining some current government and industry responses to the issue that can contribute to growth of women in the industry.

The report finds that increasing women's participation in the construction workforce presents a key opportunity to meeting the industry's current and future workforce needs. Improving on both cultural and structural changes in the industry is the key to making this growth sustainable.

## Industry Trends and Forecasted Growth

Construction is a leading employer and generator of economic activity Australia-wide. Construction accounts for 9% of Australia's GDP or \$360 billion in revenue.<sup>7</sup>

While there has been a downturn in the sector due to COVID-19, construction work and employment in Victoria continues to increase, and plays a critical role in the state's economy. In January 2022, CommSec's State of the States report showed construction work in Victoria was nearly 22% above its decade average, with Victoria the strongest performing state for the industry.<sup>8</sup>

However, the sector faces challenges, including increased material costs, pushed by global uncertainty and supply chain issues, increased interest rates and inflation, and a sustained lack of suitable workers.

Based on current and historical trends, we forecast that the Victorian construction industry will reach \$42.4 billion by 2030, and \$49.95 billion by 2040. These represent rises of 13.6% and 33.8% over 2019 (the last measure pre-COVID) value respectively.

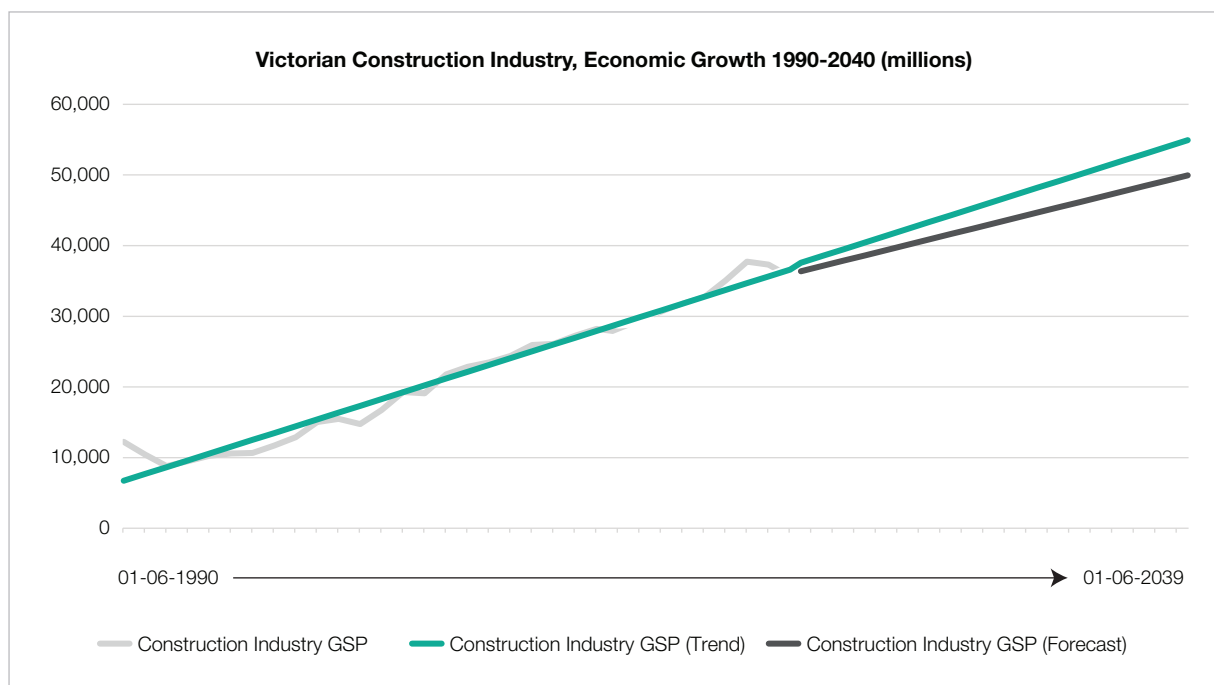


Figure 1: Victorian Construction Industry, Economic Growth 1990-2040 (millions)

<sup>7</sup> Workplace Gender Equality Agency (2022). Gender equality workplace statistics at a glance 2022. <https://www.wgea.gov.au/publications/gender-equality-workplace-statistics-at-a-glance-2022>

<sup>8</sup> Office of the Premier of Victoria (2022). Media Release: Victoria's construction sector is booming. <https://www.premier.vic.gov.au/victorias-construction-sector-booming>



Victoria also continues to see increased employment in the construction sector. 330,900 Victorians are employed in construction, up from 176,500 two decades ago. Over those same two decades the share of the Victorian workforce employed in construction increased from 7.5% to 9.4%. Employment was largely unaffected by the COVID-19 pandemic.<sup>9</sup>

Construction employment has grown more quickly than the rest of the economy. Over the last 20 years there has been an 87% growth in construction jobs in Victoria, compared to 51% for all industries.<sup>10</sup>

## EXISTING AND PROJECTED SKILLS SHORTAGES

Despite impressive employment growth, both the Australian and Victorian construction industries face significant skills shortages, including in the building and engineering professions and construction trades.<sup>11</sup>

2022 analysis from the National Skills Commission shows that all (100%) of the 17 construction trade occupations on the Skills Priority List have a shortage of labour. This compares to just 19% of occupations on the Skills Priority List across all industries. National Skills Commission forecasting posits that, for the medium term, 94% of these construction occupations will continue to have a moderate shortage.<sup>12</sup>

Advertised vacancies in construction are at the highest point in more than a decade.<sup>13</sup> In Victoria only 52% of vacancies are filled, the lowest percentage nationally.

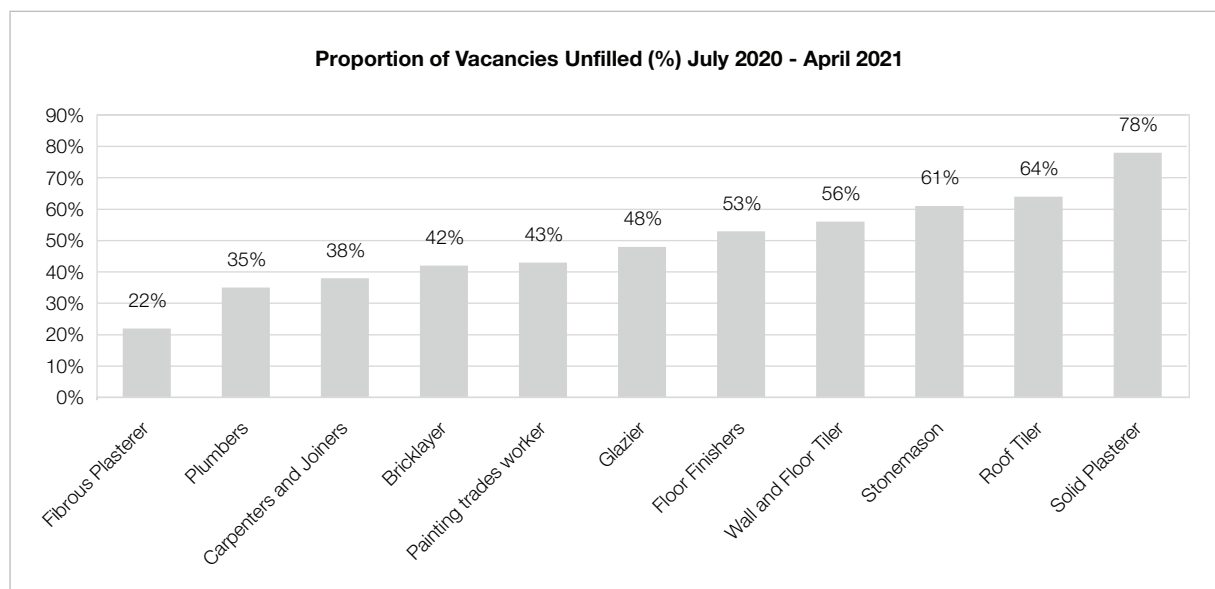


Figure 2: Proportion of unfilled vacancies, July 2020-April 2021. Data obtained from National Skills Commission, Skills Priority List Findings, Construction Trades Workers.

9 Australian Bureau of Statistics (2022). 6291.0.55.001 Labour Force, Australia, Detailed. <https://www.abs.gov.au/statistics/labour/employment-and-unemployment/labour-force-australia-detailed/latest-release>

10 Ibid.

11 Peihua Zhang, R., Holdsworth, S., Turner, M., & Andamon, M. (2021). 'Does gender really matter? A closer look at early career women in construction', *Construction Management and Economics*, 39:8, 669-686., DOI: 10.1080/01446193.2021.1948087

12 National Skills Commission (2022). Skills priority list findings: Construction trades workers. <https://www.nationalskillscommission.gov.au/sites/default/files/2022-01/33%20Construction%20Trades%20Workers.pdf>

13 Ibid.

Our forecasting shows labour shortages will continue. Overall labour demand, as measured by total workforce, industry growth and vacancies on current trends, appears set to continue to outpace supply, as measured by enrolments, and skilled and temporary migrant intake.

Figure 3 below shows national job vacancy rates in the industry since November 2009. It is expected that job vacancies will increase by 10% by 2030 and 36% by 2040 above February 2020 (pre-COVID) figures.

In 2030, national vacancies are projected to be greater than 20,000, while in 2040 they are projected to be nearly 26,000. The high levels of vacancy rates seen during the COVID-19 period are not forecast to be ongoing, however, the forecasts do predict increased vacancy rates over time, a trend observed from 2015 onwards.

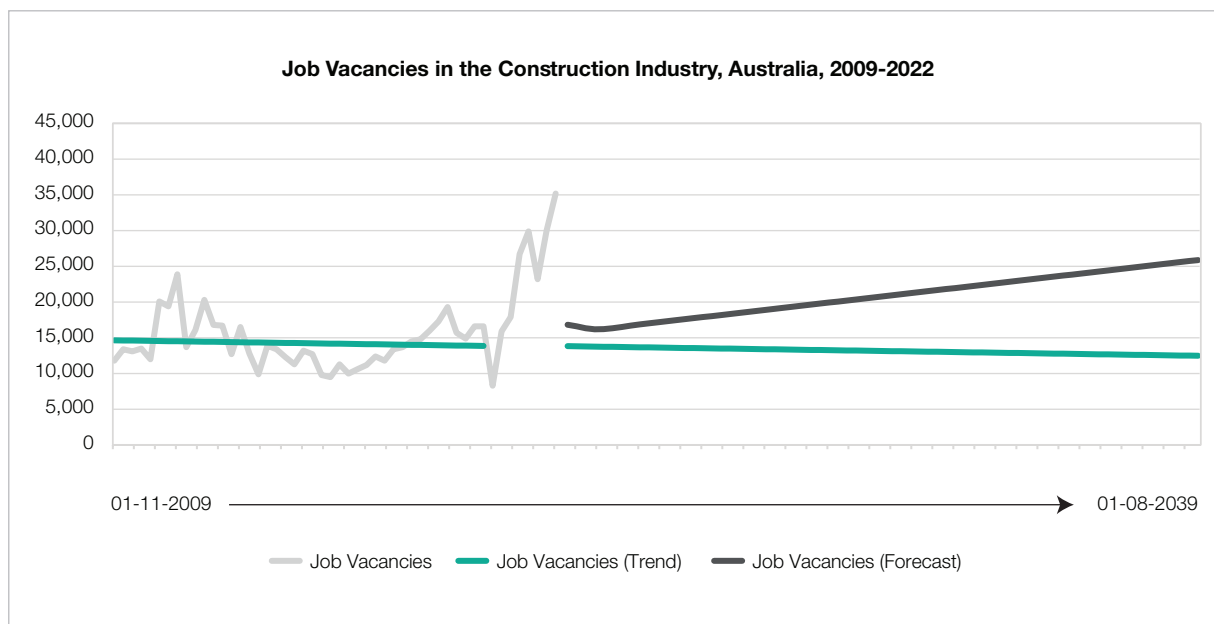


Figure 3: Job Vacancies in the Australian Construction Industry, 2009-2040

The trend to date in the figure above shows the sharp spike in vacancies across in the 2020-21 period due to COVID. The forecast reflects likely normalisation to pre-COVID trends.

## WOMEN IN CONSTRUCTION IN VICTORIA

As of May 2022, there are currently 39,200 women in the Victorian construction industry, making up 11.8% of the workforce.<sup>14</sup> ABS Labour Force Survey data shows women's representation was just 0.4 per cent lower at 11.5 per cent in 1984 (compared with 11.8% Australia wide), signifying effectively no change in the last 37 years.

<sup>14</sup> Workplace Gender Equality Agency (2022). Gender equality workplace statistics at a glance 2022.



Nationally, heavy and civil engineering has seen the most growth in female participation over the last 10 years but makes up only 9% of the overall construction workforce. Women are largely employed in clerical and administrative roles, with fewer than 3 in 100 women employed as technicians and trades workers. Women make up less than 6 in 100 persons employed as labourers and machinery operators and drivers, jobs which comprise almost 25% of the construction workforce.<sup>15</sup>

When looking at major trades and technical positions in construction in Victoria, the number of women has remained persistently low, with some growth seen during COVID. The three largest trades in the construction sector see women employed mainly around the 1% level, and rarely reaching over 4% in any quarter.<sup>16</sup>

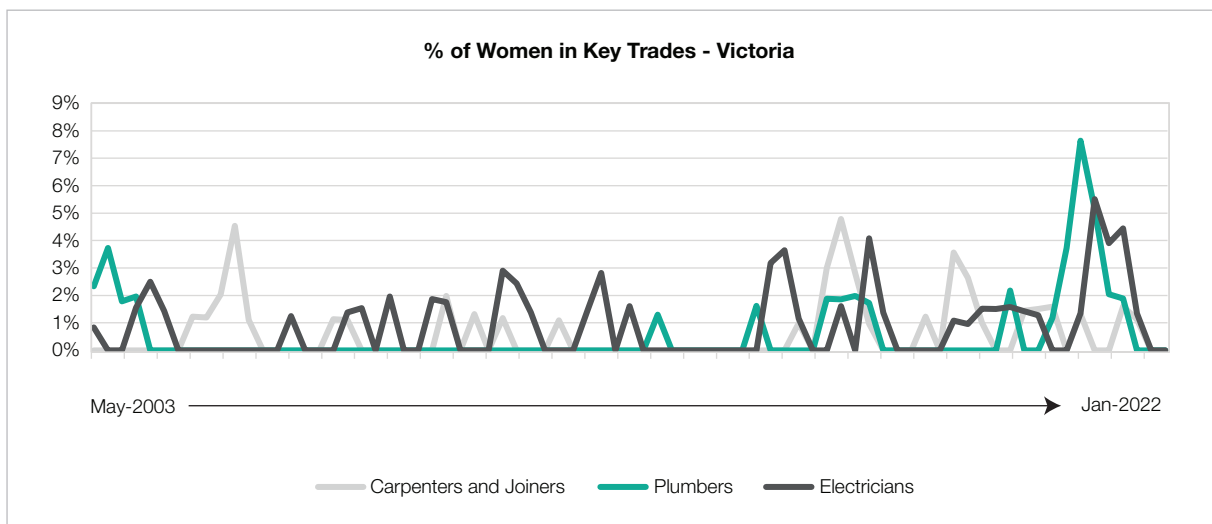


Figure 4: Percentage of Women in Key Trades in Victoria. Data sourced from ABS, Employed persons by Occupation unit group of main job (ANZSCO), Sex, State and Territory, 6291.0.55.001 - EQ08

Forecasts suggest that both total construction workforce and women's participation are set to increase. However, significant growth in women as a proportion of the workforce is likely to require strategic intervention and investment from government and industry.

Our forecast figures in the following section look at the significance of return on a modest projected annual growth target of women in the industry until 2040.

In the chart below, we project women's participation in the industry based on an annual growth rate of 0.4%. At this rate of growth, the proportion of women to total workforce will be 19% by 2040, comprising 81,500 workers.

<sup>15</sup> Australian Bureau of Statistics (2019). 6291.0.55.001 - EQ09 - Employed persons by Industry division (ANZSIC) and Occupation major group (ANZSCO) of main job and Sex, August 1986 onwards. <https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/6291.0.55.003Feb%202019>

<sup>16</sup> Ibid.

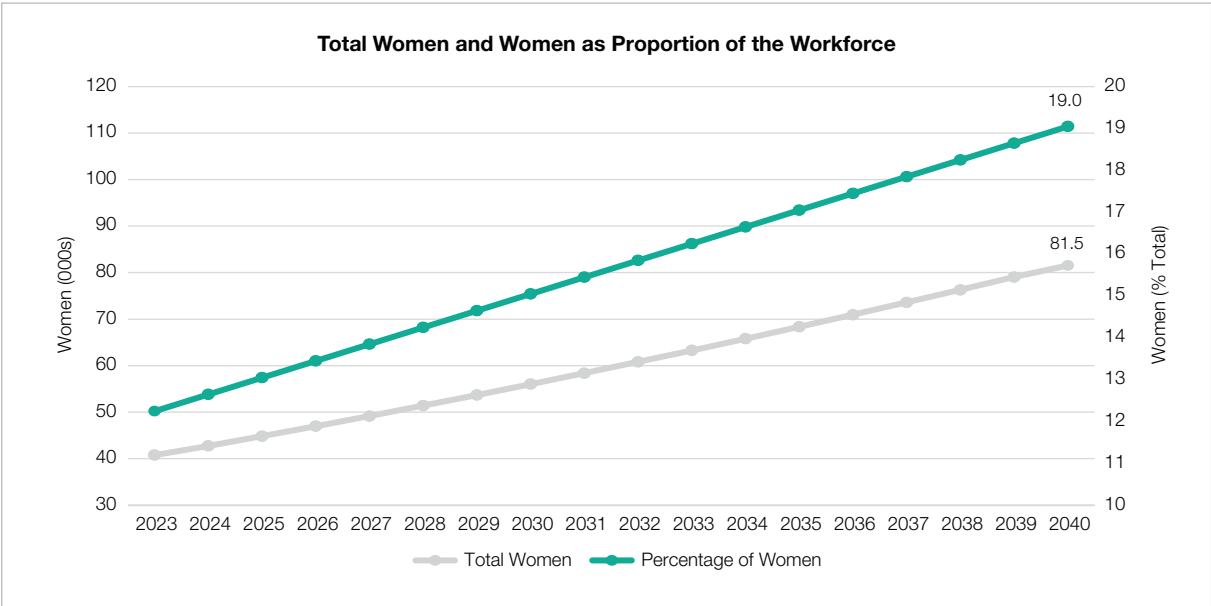


Figure 5: Projected Growth of Women (Total and Percentage of Workforce) in the Victorian Construction Industry at 0.4% Annual Growth

In contrast, with no intervention, and based only on historical trends to date, the full-time female workforce is projected to increase to only 9.4% by 2040, to reach 34,500 full-time positions, out of an estimated total workforce of 369,000.

If we increase combined (full-time and part-time) women’s participation by just 0.4% per year, we will achieve 19% participation by 2040.

Assuming these increases would add to the existing workforce this would add more than 30,000 new workers, more than enough to fill an estimated 26,000 vacancies, as shown below in Figure 6.

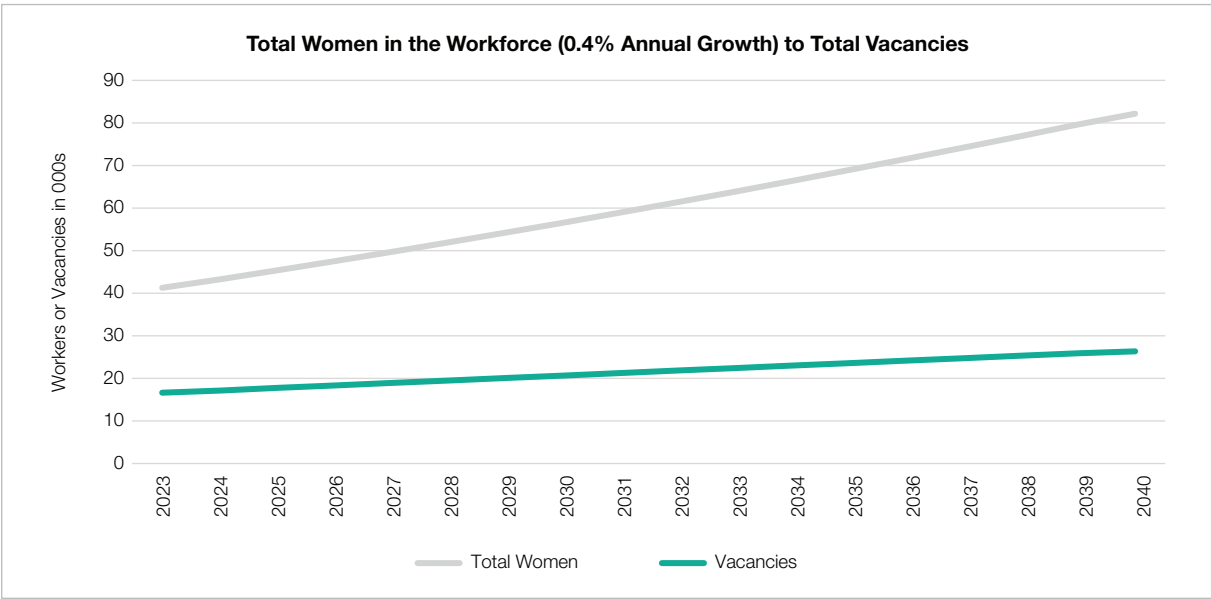


Figure 6: Total Women in the Workforce (0.4% Annual Growth) to Total Vacancies, 2023-2040

Investing in women's participation in the industry therefore shows significant return over time in meeting labour shortages.

In contrast, as we will show below, forecast growth in permanent and temporary migration appears unlikely to be able to address the labour shortage.

## MIGRATION

Attempting to fill workforce gaps through visa schemes is an improbable short-term fix for existing skills shortages. The granting of temporary skilled visas has been in decline since peaking a decade ago.<sup>17</sup>

For construction specifically, the trend of declining visa numbers is pronounced. In 2011-12 construction accounted for 13% of all skilled migration visas granted. Last financial year it dropped to just over 6%.

As demonstrated in the figure below the trend of decreasing skilled migration visas was established before COVID-19.

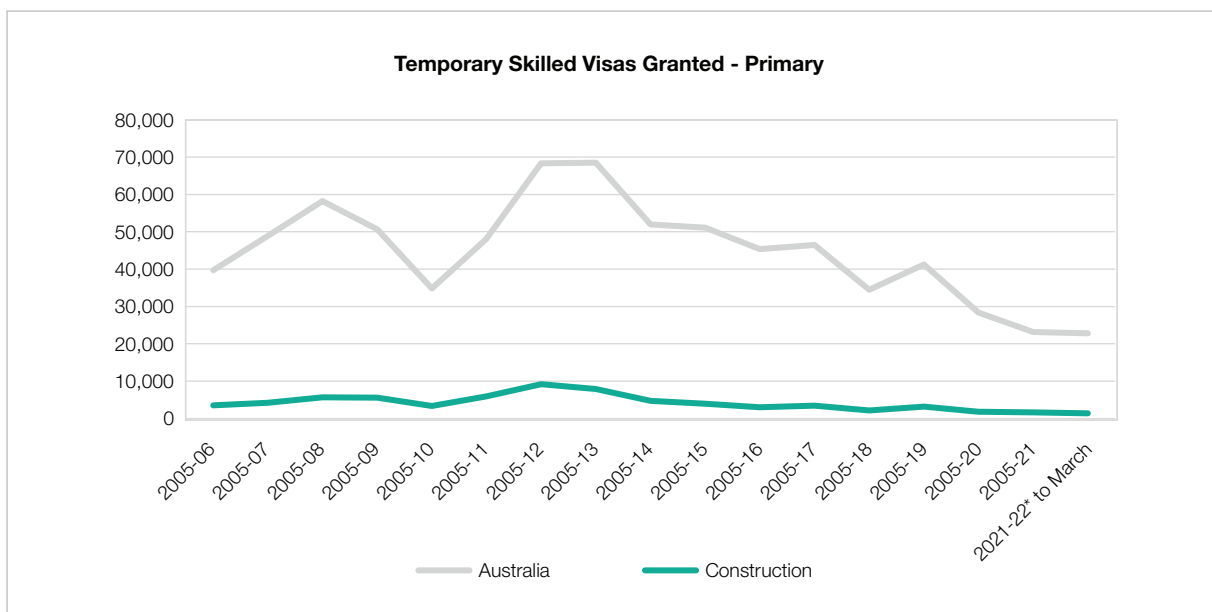


Figure 7: Temporary Skilled Visas Granted, 2005-06 to 2021-22. Data sourced from Department of Home Affairs, Temporary resident (skilled) visas granted<sup>18</sup>

Technician and trade worker occupations in the temporary skilled migration category which are a significant element of construction worker demand have also fallen.<sup>19</sup>

Continuing from these trends to date, our forecasts to 2040 for Victoria (Figure 8 below) do not project sufficient growth in migration to meet future workforce needs.

<sup>17</sup> Department of Home Affairs (2022). Temporary resident (skilled) visas granted. <https://data.gov.au/dataset/ds-dga-2515b21d-0dba-4810-afd4-ac8dd92e873e/details?q=temporary%20skilled%20migration>.

<sup>18</sup> Department of Home Affairs (2022). Temporary work (skilled) visa program. <https://data.gov.au/dataset/ds-dga-2515b21d-0dba-4810-afd4-ac8dd92e873e/details?q=temporary%20skilled%20migration>.

<sup>19</sup> National Skills Commission (2022). Skills priority list findings: Construction trades workers.

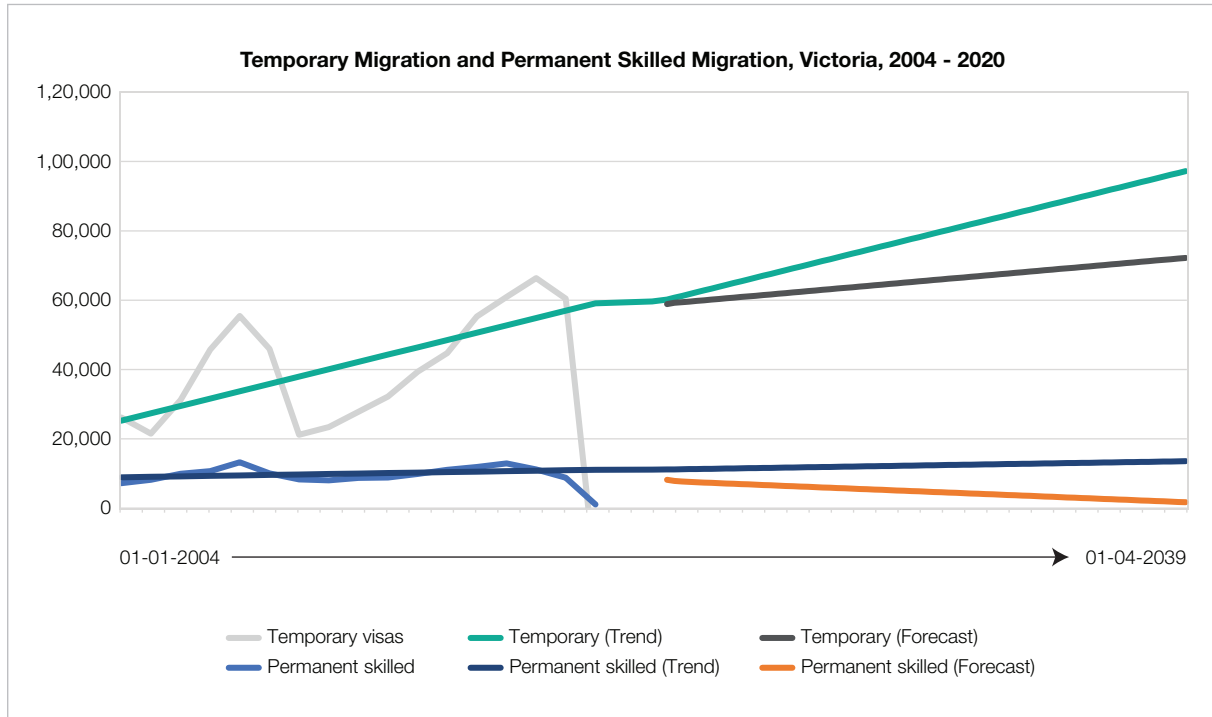


Figure 8: Temporary Visas and Skilled Permanent Visas, Forecast to 2040.

Figure 8 shows different patterns for temporary visas and skilled permanent visas since 2004. While temporary migration shows a steady increase, with projected net figures of 64,680 in 2030 and 72,209 in 2040, skilled permanent migration shows a decline, with projected net figures of 5,208 in 2030 and 1,721 in 2040.

These projections translate into modest increases of 7.0 and 19.4 per cent in 2030 and 2040, respectively, for temporary visas, and sharp decreases of -40.9 and -80.5 per cent in 2030 and 2040, respectively, for skilled permanent visas.

As such investing in strategies that can achieve a 0.4% annual growth of women's participation seems a more feasible approach to the construction industry shortages than depending on migration trends.

## VICTORIA'S WOMEN IN CONSTRUCTION STRATEGY

Continued commitment from industry and government is critically important to meet the projected targets for women's participation outlined in this report. The Victorian Government, in consultation with the Building Industry Consultative Council (BICC), has implemented and evaluated a construction sector strategy "Building Gender Equality: Victoria's Women in Construction Strategy 2019-2022" from the broader state Gender Equality Strategy launched in December 2016.

The Women in Construction Strategy included:

- A Careers Day to encourage young women and their careers teachers to consider construction careers.
- The **Building Futures** website to promote trades and semi-skilled roles.
- A support program for women thinking about a career in construction and seeking work opportunities.
- The development of recruitment standards to promote gender equity.
- Provision of Safe Respectful Workplaces training program.
- Work with industry and government parties to develop model EBA clauses, amend the Amenities Code and develop a Code of Conduct on appropriate and inclusive behaviours and a complaints process that protects confidentiality.<sup>20</sup>

For projects contracted by the State Government after 1 January 2022 and worth more than \$20 million suppliers must meet the following minimum onsite gender equality targets:

- Trade covered labour: women are required to perform at least 3% of the contract works' total estimated labour hours for each trade position.
- Non-trade Construction Award covered labour: women are required to perform at least 7% of the contract works' total estimated labour hours for each non-trade Construction Award covered labour position.
- Management/supervisory and specialist labour: women are required to perform at least 35% of the contract works' total estimated labour hours for each staff position.
- Suppliers are required to engage women who are registered apprentices or trainees to perform building and construction work for at least 4% of the contract works' total estimated labour hours for apprentices and trainees.<sup>21</sup>

The Government suggests the key benefits include:

- Drawing from a wider talent pool, broadening perspectives and ideas, stimulating innovation, improved staff retention, a better reflection of the consumer base, improved reputation and greater profitability.
- Increased representation of women would assist in addressing the medium to longer term skills gap that the construction industry is facing based on current workforce settings.

<sup>20</sup> Francis, V., Chugh, R., Yang, W., Tivendale, L., & and Cunningham, E. (2021). The evaluation of the Victorian women in construction strategy program. Construction Strategy Program, Faculty of Architecture, Building and Planning, The University of Melbourne. July 2021.

<sup>21</sup> The Victorian Government (2022). Building Equality Policy. Point 21, <https://www.vic.gov.au/building-equality-policy>

## Survey Findings

Our survey research involved 131 female construction workers currently employed in on-site roles in the Victorian industry. Women who responded to the survey came from a variety of sub-sectors with the majority working in Heavy and Civil Engineering (50%), followed by Construction Services (39%) and Building Construction (11%).

Specific roles occupied by participants include labourer (26%), technician or trade worker (21%), traffic management (19%), machinery operator and driver (11%), manager (6%) and other (17%), which included roles such as crane operator, plumber, peggy or rail safety.

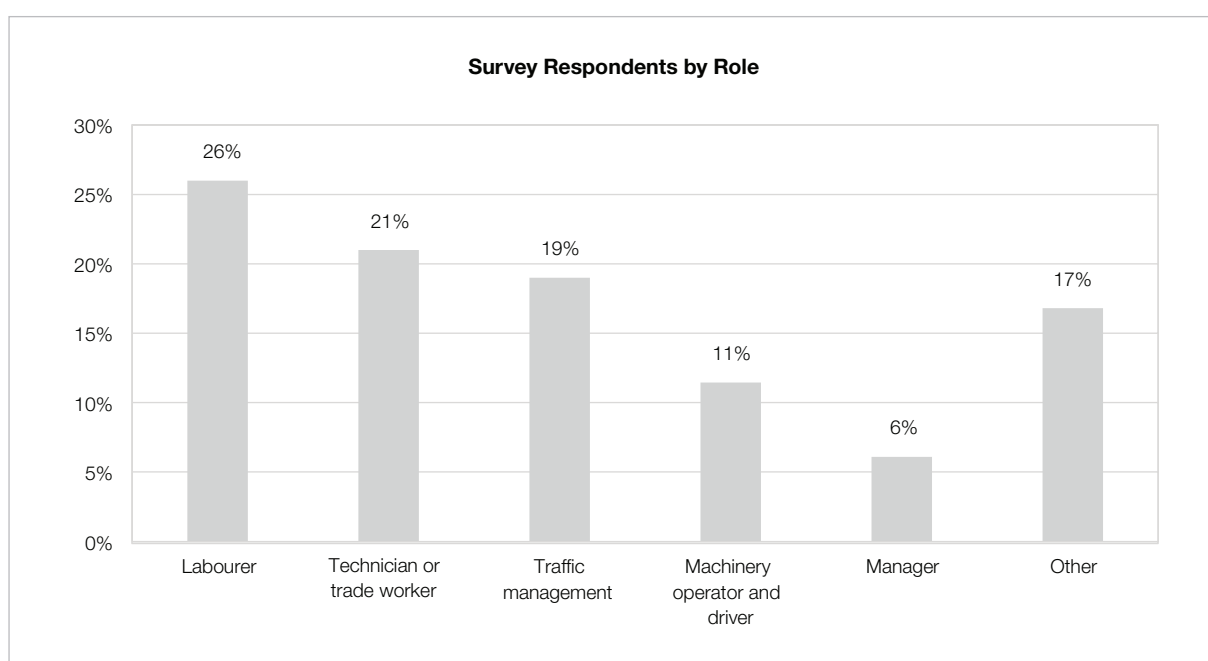


Figure 9: Incolink Women in Construction Survey, Survey Respondents by Role, August 2022

The majority of survey respondents (66%) had worked in the construction industry between 0 and 5 years. 19% had worked in the industry between 6 and 10 years and 8% 11 to 15 years.

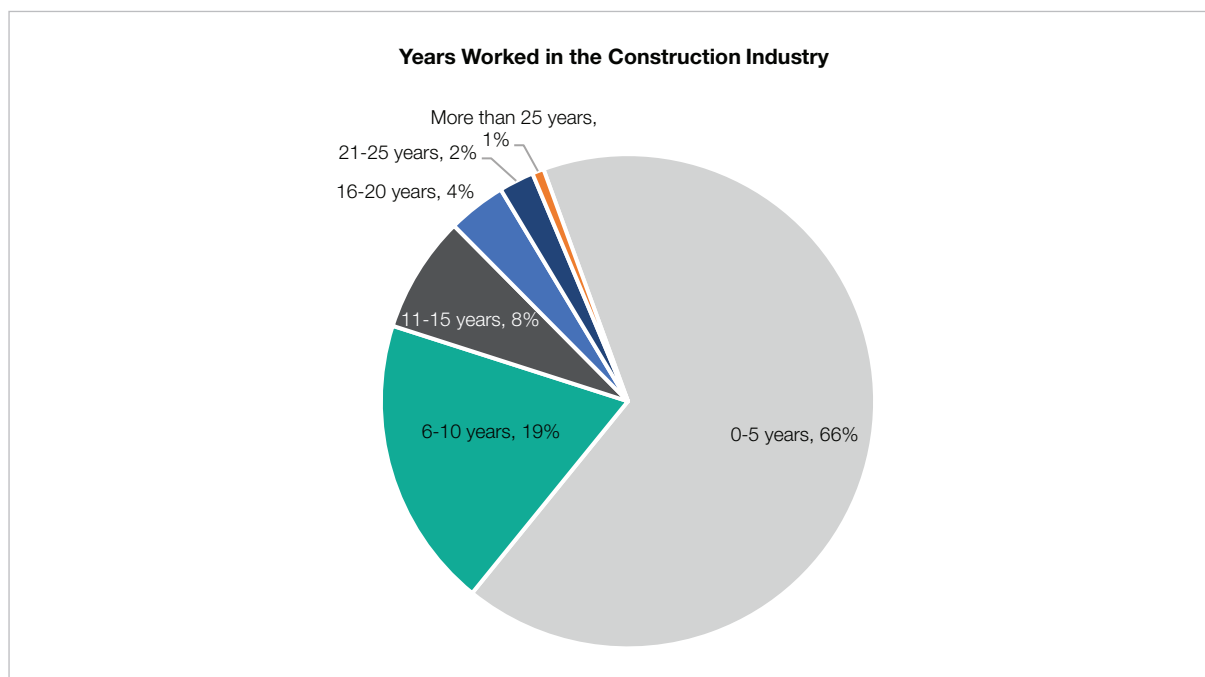


Figure 10: Incolink Women in Construction Survey, Years Worked in the Construction Industry, August 2022

Current employment categories included: permanent full-time (43%), casual (43%), employed through an agency/labour hire (7%), fixed term full-time (5%), self-employed (2%) and permanent part-time (2%).

Ages ranged from 18 to 65+, with over 60% of the respondents between 25 and 44 years old. 22 survey respondents (17%) were currently undertaking an apprenticeship.

The majority of participants (74%) had completed a certificate, year 12 or equivalent (24%) or an advanced diploma or diploma (15%).



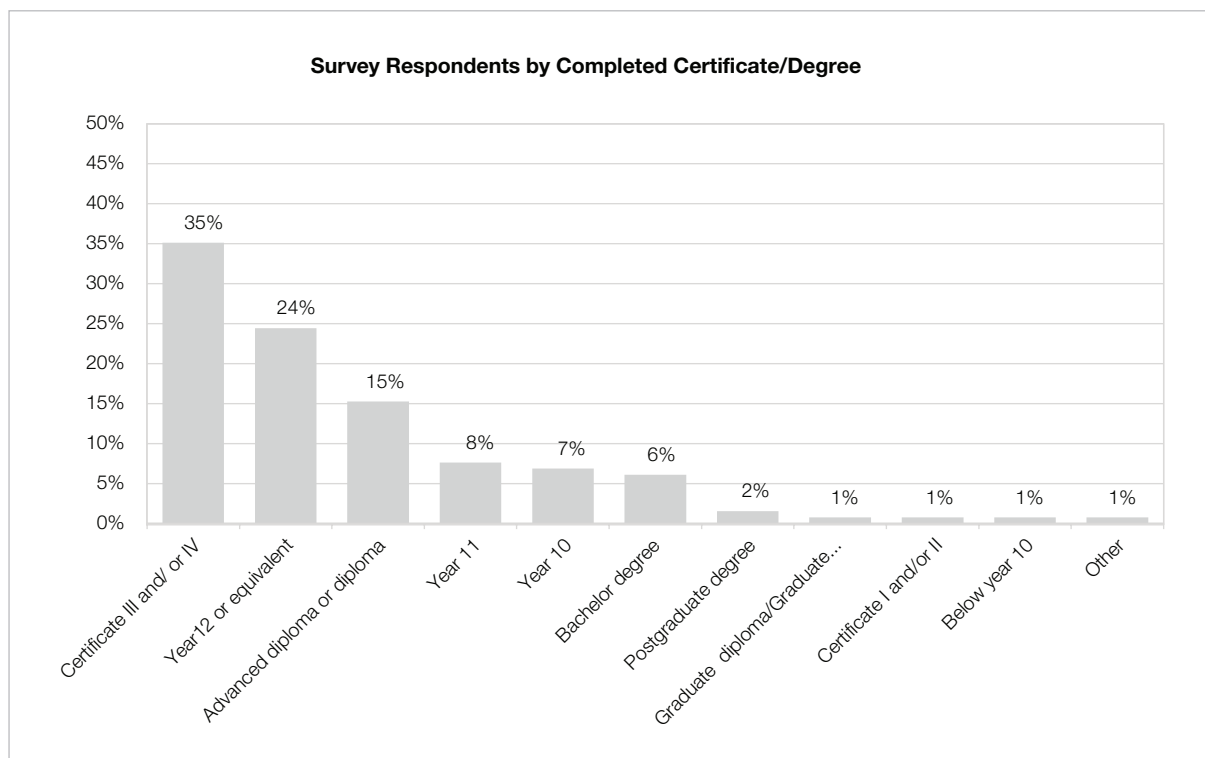


Figure 11: Incolink Women in Construction Survey, Survey Respondents by Completed Certificate/Degree, August 2022

## OVERALL PERCEPTIONS AND EXPERIENCES OF WORKING IN THE INDUSTRY

Overall, respondents of the survey had mostly positive perceptions of working in the industry. Equal and significant proportions agreed or strongly agreed that they would recommend working in the industry to their female friends (73%) compared to their male friends (also 73%), although a larger proportion (60%) indicated strong agreement for male friends compared to female friends (43%).

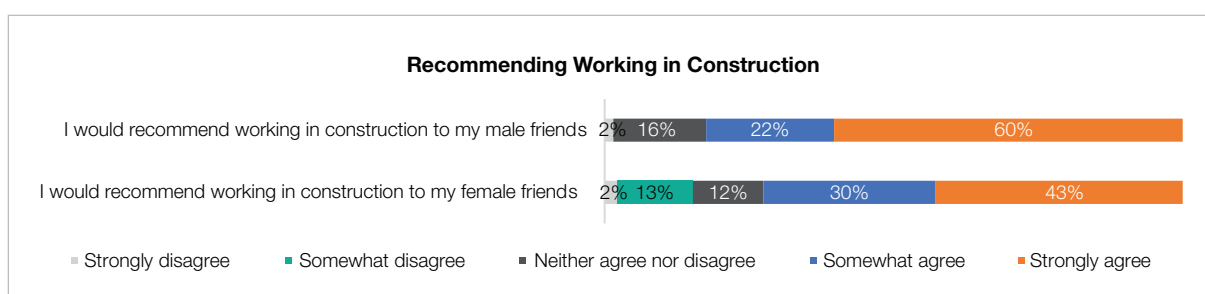


Figure 12: Incolink Women in Construction Survey, Recommending Working in Construction, August 2022

Asking more specifically about perceptions of workplace and industry culture related to gender within the construction industry showed that the majority of respondents (82%) agreed that the construction industry has a male dominated culture.

However, 66% also believed that their employer treats men and women equally in the workplace and 55% agreed that there is a positive culture within the industry in relation to employees of different genders.

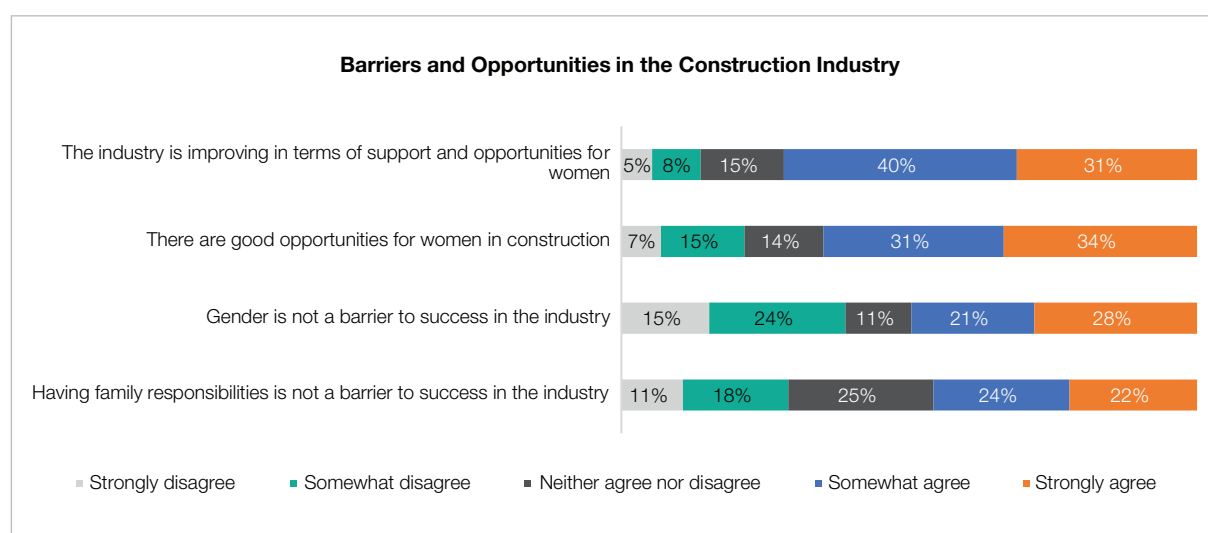


Figure 13: Incolink Women in Construction Survey, Culture in the Construction Industry, August 2022

Some respondents used the open-ended section at the end of the survey to elaborate on the male dominated culture within the industry, which they feel is one of the most intractable issues:

*There is little to no training towards older 'old school' men that the industry is changing and they need to accept change.*

**Manager** | Construction Services, 25-34 years old

*You're not going to change the "boys club" culture any time soon.*

**Labourer** | Heavy and Civil Engineering Construction, 25-34 years old

Those comments generally reflected less progressive gender attitudes among older-aged workers and more acceptance and support among younger male colleagues.

Women's perceptions regarding the barriers and opportunities they face in the construction industry show generally positive perspectives about opportunities and support, but mixed perspectives about the barriers to success that women may face.

The majority (71%) agreed that the industry is improving for women in terms of support and prospects and 65% thought that women have good opportunities in construction. However, only half (49%) believed that gender is not a barrier to success in the industry, and less than half (46%) think that family commitments are not a barrier to success.

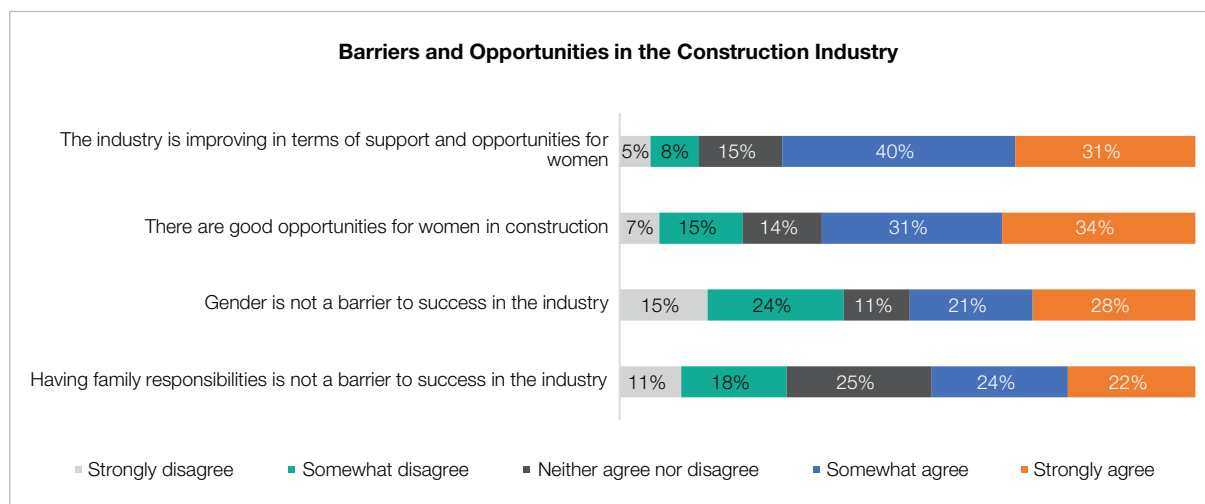


Figure 14: Incolink Women in Construction Survey, Barriers and Opportunities in the Construction Industry, August 2022

Looking more specifically at the everyday culture in the workplace highlights that the majority of survey respondents felt respected at work. But there are still a significant minority of women who feel that they are not valued or respected as much as their male counterparts.

*I have to be twice as good as the mediocre males I'm surrounded by. It's bloody exhausting sometimes.*

**Crane Operator** | Heavy and Civil Engineering Construction, 35-44 years old

Almost three quarters (72%) felt that people in leadership encouraged respect towards women and 75% agreed that their co-workers were respectful towards their female colleagues. 58% agreed that they were respected and valued as much as their male counterparts.

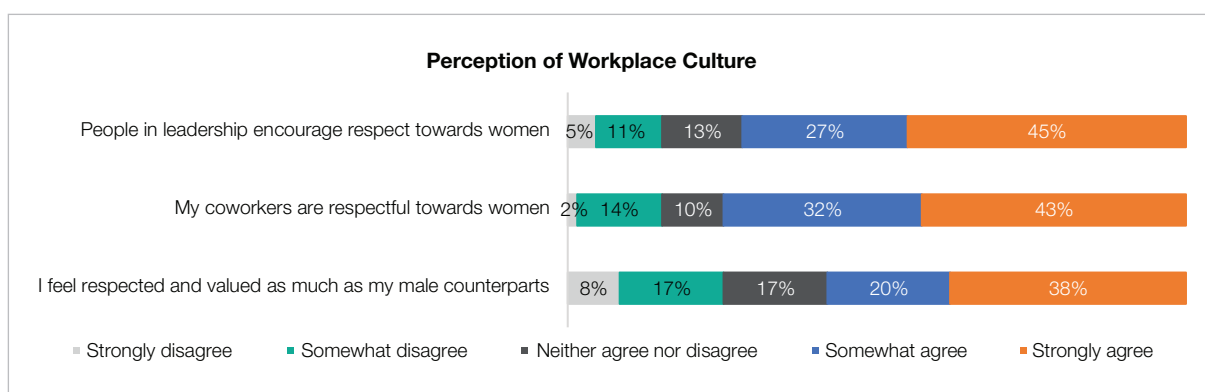


Figure 15: Incolink Women in Construction Survey, Perceptions of Workplace Culture, August 2022

In open-ended responses, a number of women reflected on positive cultural change in the industry over time, either seeing improvements over the course of their career, or seeing a younger generation of male workers displaying more respectful behaviour towards women than their older counterparts:

*Younger men have been quite pleasant in my workplace while older men have been the main problem, they have been more likely to make comments that make me uncomfortable and to give other males more work/ opportunities to learn [than me].*

**Labourer** | Building Construction, 18-24 years old

*I started in 2009. Has completely changed for the better. Used to be porno magazines etc in cribs and it was normal. I have not seen one in a crib for years now. A lot more females around now so I don't feel like I stand out.*

**Peggy** | Heavy and Civil Construction, 35-44 years old

Much of the wider literature reflects the experiences of these women, finding that sustained cultural change and shift in worker behaviour is needed to bring about meaningful progress towards gender equity. Jones et al. (2017) suggest as solutions training intended to build respectful relationships, and 'site saturation' which involves diverse stakeholders collaboratively reinforcing gender equity programs and activities.<sup>22</sup>

## WHAT ATTRACTS WOMEN TO THE INDUSTRY

Attracting young women to consider careers in the construction industry has been challenging for several decades, despite increases in women's overall workforce participation, with women overall more likely to consider university than trades post-secondary school.

Struthers and Strahan's<sup>23</sup> research into the views of young Australian women on male dominated trades identified key factors that could lead young women to not considering construction careers:

- When there is no or limited knowledge of the industry.
- When there are barriers to getting into the industry, including in high school with stubborn perceptions around maths and sciences and gender or perceptions around gender aptitude for practical activities.
- When there is a negative portrayal of the industry, or negative experience of women working in it.
- Believing that working in the industry will not meet personal goals, including professionally, financially, for future prospects, ongoing employability and family goals.
- When the influence of socialisers such as parents and teachers are negative to the industry, or there is a perceived lack of ability to make a contribution to society.

They also note the factors that may assist, including internships and work experience; having a parent in the industry; and early access to information or exposure to the industry.

<sup>22</sup> Jones, A., Clayton, B., Pfitzner, N., & Guthrie, H. (2017). Perfect for a woman: Increasing the participation of women in electrical trades. <https://vuir.vu.edu.au/34849/1/Women%20%20Electrical%20Trades%20VU%20October%202017.pdf>

<sup>23</sup> Struthers, K., & Strahan, G. (2019). 'Attracting women into male-dominated trades: Views of young women in Australia'. International Journal for Research in Vocational Education and Training 6, 1, 1-19.

In terms of our survey respondents' motivations, most indicated they were attracted into the construction industry by the earning potential (50%). Other main attractors were the practical and hands-on nature of the work (40%) and encouragement from family or friends who work in the industry (30%). Only a small proportion of women felt that flexibility and hours (16%) or the ability to manage family responsibilities alongside work (12%) were key attractors for the industry.

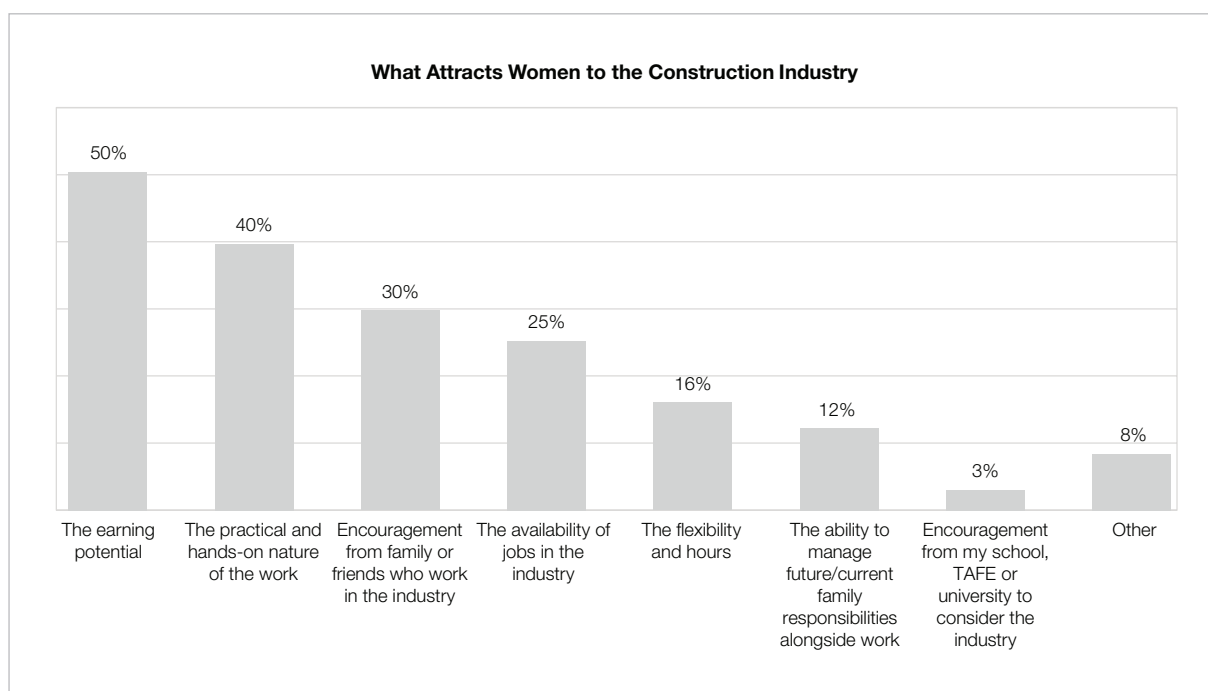


Figure 16: Incolink Women in Construction Survey, What Attracts Women to the Construction Industry, August 2022

Notably, very few participants (3%) indicated that they received encouragement from their school, TAFE or university to consider the industry, further reiterating how gendered attitudes towards career pathways are persistent in educational contexts and are potentially a key barrier to attracting more women to the sector.

As one survey participant noted from her personal experience, there can be considerable and long-term impact on women's careers from early discouragement in educational settings:

*Retrain school career counsellors and other people in roles like those to stop them discouraging girls and women regarding trade options. This happened to me when I was 15, it caused me to do other jobs for 20 years before starting to get into a trade job.*

**Labourer** | Construction Services, 35-44 years old

Sustained action across industry, unions, the VET and school sectors, career advice and government can encourage more women to consider construction careers, including advertising campaigns, opportunities for mentoring and building industry connections, and tailored training and careers advice. A Victorian case example is the **Building Futures: Women in Construction** initiative, which works to inform and educate women on what they need to do to prepare for work in the construction sector as well as working with employers to harness available work opportunities.

There are some optimistic trends in enrolment data over the last five years in Victoria, with the percentage of women in training in key trades showing some growth. In the two largest construction trades, carpentry and plumbing, women have increased from less than 1% of trainees (0.64% in plumbing and 0.84% in carpentry) to 2.19% and 1.48% respectively.

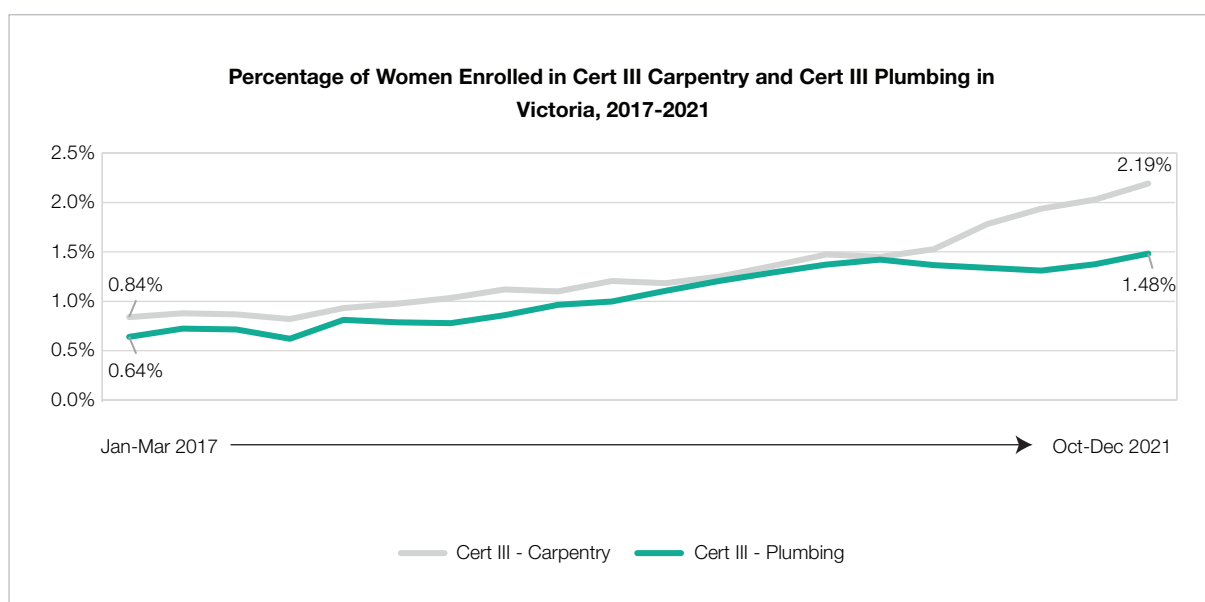


Figure 17: Percentage of women enrolled in training for key trades 2017-2021, Data sourced from The National Centre for Vocational Education Research (NCVER) Data Builder<sup>24</sup>

Continuing to grow enrolments in VET pathways in key trades will be a critical part of achieving annual 0.4% growth targets.

<sup>24</sup> The National Centre for Vocational Education Research (2021). Percentage of women enrolled in Cert III Carpentry and Cert III Plumbing in Victoria, 2017-2021. <https://www.ncver.edu.au/research-and-statistics/data/databuilderreport>

## PERCEPTIONS OF PAY EQUITY

The overall perception of pay equity amongst respondents was positive, with 70% believing they are fairly compensated compared to others doing similar work and 72% agreeing (41% of them strongly) that women and men are paid the same rates if they perform similar work.

However, lower rates of agreement were found in relation to career advancement opportunities, with only 50% of the survey respondents believing that men and women had equal chances of promotion or advancement.

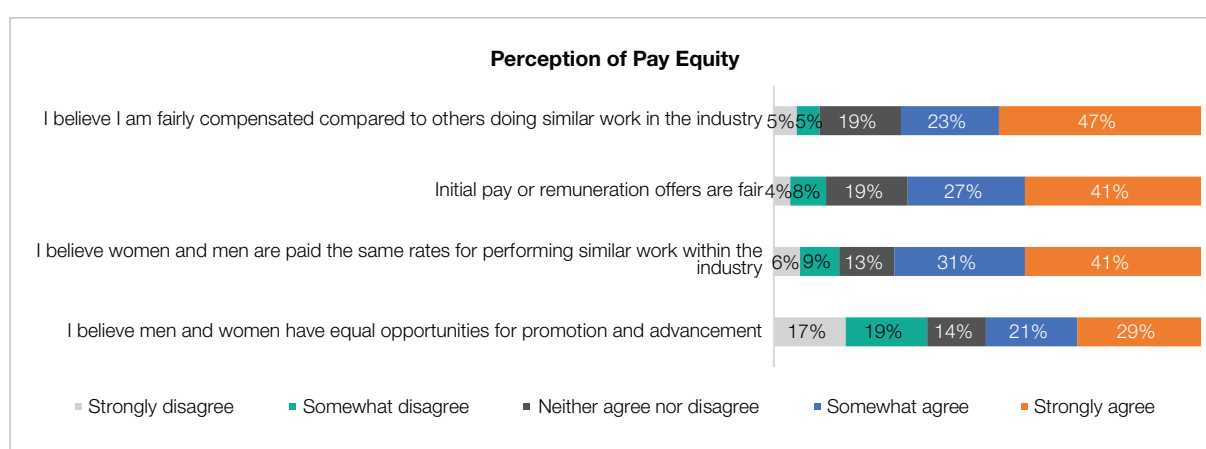


Figure 18: Incolink Women in Construction Survey, Perceptions of Pay Equity, August 2022

## RETENTION AND CAREER PROGRESSION

Research shows that increasing the proportion of women in the workforce in male-dominated occupations can be central to cultural change, and that gender representation quotas have a role to play in reaching the 'critical mass' where cultural change takes place.<sup>25</sup> However, representation quotas need to be accompanied by broader society-wide efforts to break down gender stereotypes.<sup>26</sup>

Retention of women already working in the industry is just as important as attracting women in. Providing women with ways to grow their careers and have new opportunities as their careers progress is critical to retention, as is the provision of flexible working arrangements for women who have families.

<sup>25</sup> Birkvad, I. (2016). The secret behind Norway's gender quota success. Kilden. <https://kjonnsforskning.no/en/2016/10/secret-behind-norways-gender-quota-success>

<sup>26</sup> Gerber, P. (2022). Women in construction: Smashing down the concrete walls that keep them out. Monash University. <https://lens.monash.edu/@politics-society/2022/03/07/1384504/women-in-construction-smashing-down-the-concrete-walls-that-keep-them-out>



Currently, women are more likely than men to leave the construction industry at any stage of their career. This staff turnover has been described as the “leaky pipeline” phenomenon.<sup>27</sup>

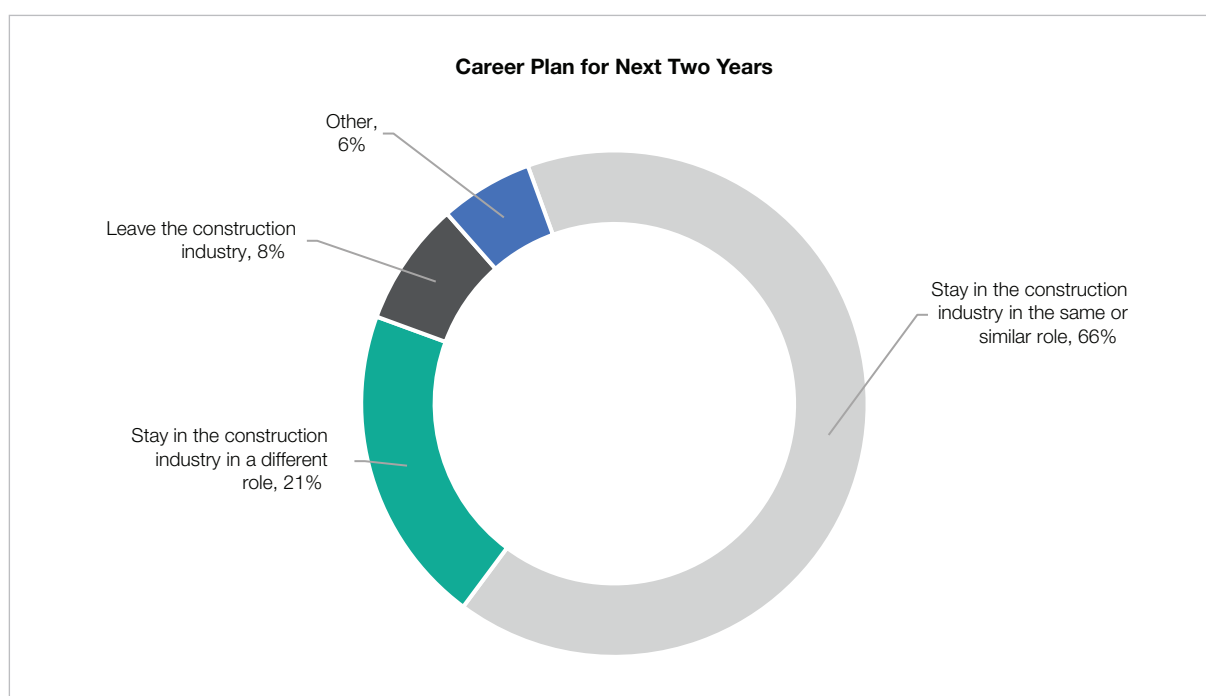


Figure 19: Incolink Women in Construction Survey, Career Plan Next Two Years, August 2022

Of those women who get into the industry, many have concerns about the possibility of combining work and family when they decide to have children and how their careers might be affected.<sup>28</sup> Research shows that these women are less often employed in site-based technical positions that have greater responsibility and chances of promotion and are instead often given office-based supporting positions.<sup>29</sup>

The majority of survey respondents (87%) reported that they planned to stay in the construction industry. Of those, 66% expected to stay in the same or similar role, whereas 21% intended to work in a different role within the industry.

Of those who planned to leave the construction industry in the next two years, 5% stated that they were leaving the industry for a different field, 2% intended to focus on family responsibilities and 1% planned to take up full or part-time study.

Asking those respondents who intended to leave the construction industry for their main reasons (they could select multiple answers) showed that 67% elected balancing work/family responsibilities, followed by inflexible rostering/hours (44%).

<sup>27</sup> Peihua Zhang, R., Holdsworth, S., Turner, M., & Andamon, M. M. (2021). 'Does gender really matter? A closer look at early career women in construction'.

<sup>28</sup> Ibid.

<sup>29</sup> Ibid.

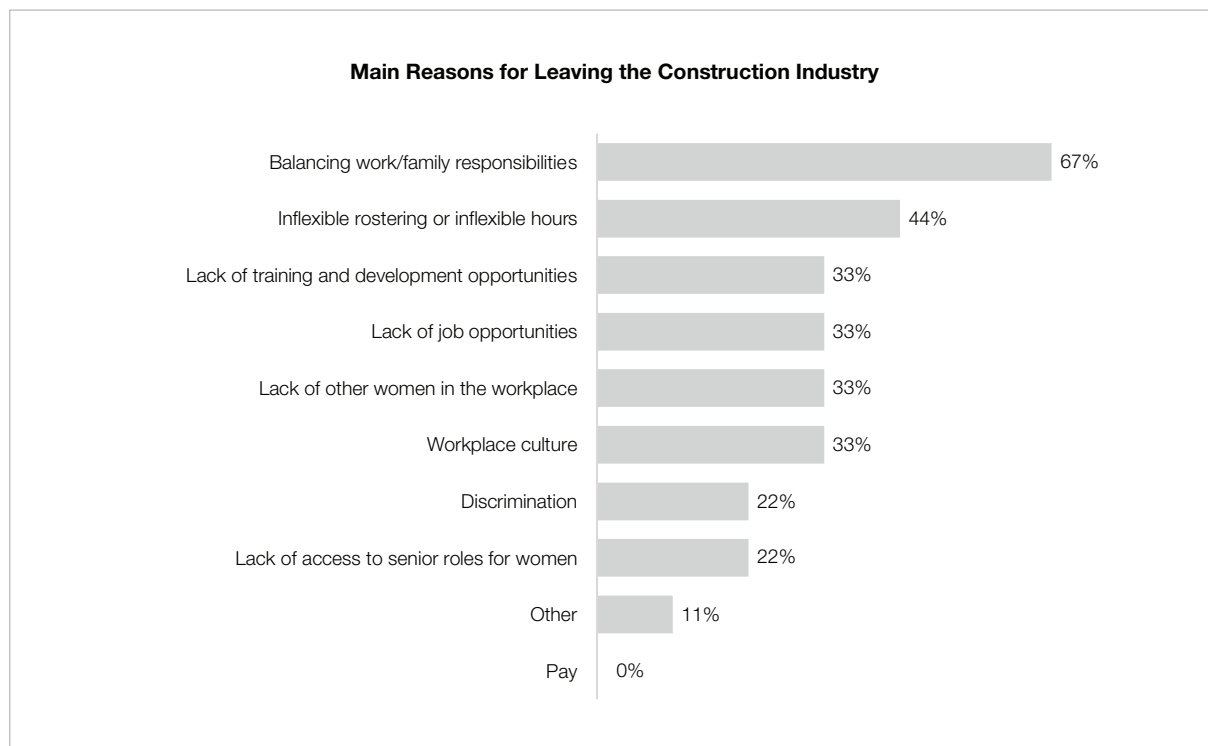


Figure 20: Incolink Women in Construction Survey, Main Reasons for Leaving the Construction Industry, August 2022

The incompatibility of work in construction with family responsibilities was an issue for many women in the survey. One participant elaborated:

*I love the industry and I am very fortunate to have my job. However, I worry that when and if I decide to have children, I may have to try and get more flexible working options and try and keep some work benefits if I can (part-time) as opposed to casual work. (Working from home isn't really a possibility in my industry). This is my only concern and I'm sure may be the same for attracting women in the industry in the future.*

**Traffic Management** | Construction Services, 35-44 years old

Offering more flexible work options for women who want to stay in the industry when they have children is integral to increasing and retaining the proportion of women working in construction.

The future aspirations of survey respondents indicate that they are ambitious and eager to progress their careers. The majority of respondents (79%) want to have more opportunities for training and professional development, 59% would like to progress to a senior leadership position and 62% want to take on more responsibility in their current role. More than half (53%) desire to have a position with better job security and 48% want to retrain for a different type of role in the industry.

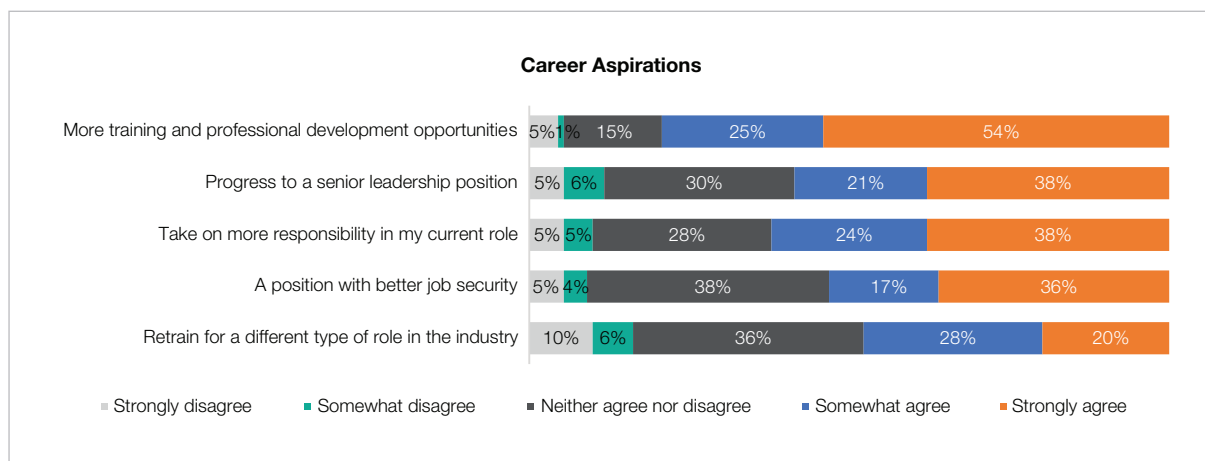


Figure 21: Incolink Women in Construction Survey, Career Aspirations, August 2022

## PERCEPTIONS OF AREAS FOR IMPROVEMENTS

Survey respondents felt that the key areas for improvement to attract and retain women in the industry were representation of women in leadership roles, mentoring opportunities, cultural change and female-friendly facilities. Having more women in senior leadership positions (63%) and more mentoring opportunities for women (53%) were the most selected options. Two thirds (60%) of those surveyed also think that providing more information on construction careers to women will increase the number of women entering the industry. Other measures women want to see implemented included: better gender equity training and workplace cultural change (41%), flexible/family friendly schedules (41%) and more female-friendly facilities, such as bathrooms, on site (40%).

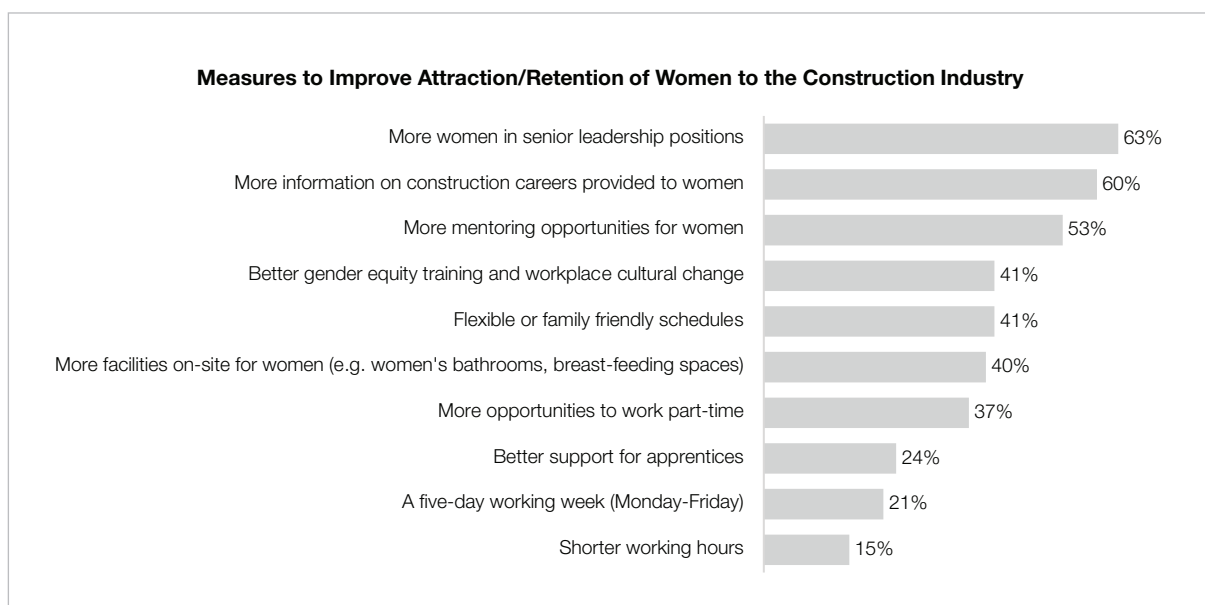


Figure 22: Incolink Women in Construction Survey, Measures to Improve Attraction/Retention of Women in the Construction Industry, August 2022

Given that seeing more women in senior leadership positions is one of the most commonly selected items that workers believe would improve attraction and retention of women, strategies to grow women's representation in the workforce should include improving the ratios of women in leadership as well as their overall participation.

Two-thirds of organizations in the construction sector have no female representation on their boards.<sup>30</sup> This is out of step with corporate Australia, where women comprise 34.2% of all ASX200 board members and every ASX200 board has at least one member who is a woman.<sup>31</sup>

However, there are emerging trends towards positive change here. Women pursuing construction management education is on the rise in Victoria, with enrolments of women in VET construction management courses increasing 250% between 2017 and 2021.<sup>32</sup>

The need for increased work flexibility was another central area of improvement in relation to attracting and retaining female workers in the industry. The perception among participants generally was that work schedules were in conflict with caring responsibilities, as reflected in this quote:

*There is no time for women to have a family in this industry because our hours are 7am - 5:30pm.*

**Plumber** | Construction Services, 35-44 years

Offering more family friendly, flexible work schedules, including part-time work, is thus critical when recruiting more women into the sector, given that almost half of the women employed in Australia work part-time.<sup>33</sup>

<sup>30</sup> Ibid.

<sup>31</sup> Australian Institute of Company Directors (2021). Board diversity statistics. <https://www.aicd.com.au/about-aicd/governance-and-policy-leadership/board-diversity/Board-diversity-statistics.html>

<sup>32</sup> The National Centre for Vocational Education Research (2021). Percentage of women enrolled in Cert III Carpentry and Cert III Plumbing in Victoria, 2017-2021.

<sup>33</sup> Australian Bureau of Statistics (2022). Labour force Australia, January 2022, cat. no. 6202.0. <https://www.abs.gov.au/statistics/labour/employment-and-unemployment/labour-force-australia/jan-2022#data-downloads>

# Conclusion

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Increasing women's participation in the Victorian construction industry workforce is critical to meeting industry growth and labour requirements over the next two decades.

Modest year-on-year growth of just 0.4% will show significant returns in terms of filling projected vacancies and new job creation. But achieving this growth will require ongoing strategic interventions from government and industry. Women's participation in key trades must be promoted in order to fill specific workforce gaps, and women's retention and promotion into senior leadership positions is also critical to ameliorate the 'leaky pipeline' effect and to provide career role models for attracting younger women to the sector.

Unified approaches led by government, industry, unions and education providers that focus on a cultural shift are key to improving the construction industry for women. This includes training to build respectful relationships and 'site saturation,' where diverse stakeholders collaboratively reinforce gender equity programs and activities. Proactive approaches to the structure of recruitment, selection and promotion processes will also ensure more women are represented at all levels of the industry.<sup>34</sup>

Our survey research indicates that women currently working in the industry in Victoria feel quite positive about workplace culture and gender equity on the whole. In terms of their overall experience, the majority feel respected and supported by co-workers and leaders in their current roles and report a strong sense of pay equity. Most feel both opportunities and workplace culture are improving for women in the industry over time and would recommend careers in the industry to other women.

However, very few feel that they were encouraged to pursue a construction career during their education. The lack of flexibility in the structure of the industry makes it difficult for women to balance construction careers with family responsibilities.

The Victorian construction industry is well placed and resourced to support ongoing initiatives to achieve 20% participation of women by 2040. Successful programs to address other complex sector challenges like suicide and mental health, such as Incolink's Bluehats program and the MATES in Construction movement provide case studies of how industry programs can tackle cultural change agendas when employers, employees, unions and government work in collaboration.

Further, programs like the Victorian Government's minimum requirements for state government contracts, while initially modest, will reward companies who can increase participation rates and, over time, will increase representation of women in the workforce.

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<sup>34</sup> French, E. & Strachan, G. (2013). Equal employment opportunity and its links to the participation of women in the construction industry: The case of Australia. In Kyriakidou, O. (Ed.) Proceedings of the 6th Equality, Diversity and Inclusion International Conference. EDI International Conference, Greece, pp. 1-19.

# Appendix 1

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## LIMITATIONS AND TECHNICAL NOTES ON PROJECTIONS

This report uses forecasts to project labour demand and supply over time, until 2040. The approach used here is ARIMA (Automatic Regressive Integrated Moving Average) modelling. ARIMA has three separate parameters that determine forecasts and confidence intervals. These have been determined using an automated procedure, supplied by the Python *pmdarima* package. In certain cases, this automatic selection has been swapped with a close alternative that exhibits similar performance but more intuitive results. This approach has modest complexity, but is statistically more robust than simple trendlines. All data in the projections has been sourced from the Australian Bureau of Statistics or the Department of Home Affairs unless otherwise indicated in the report.

There are a number of limitations concerning the data and its analysis:

1. Vacancy figures are available by industry and by state - but not for both. Industry (national) figures have been preferred, as a better approximation to state industry figures. Since the Victorian construction industry has grown faster than the industry nationally, these figures are likely underestimates.
2. Migration figures (skilled permanent and temporary) are unavailable at an industry level. It is assumed that use of migrant labour in the construction industry more or less equals that of the Victorian economy overall.
3. Enrolment data is only available for a short period of time, pre-COVID (2016-20). This is a period of unusually strong growth.
4. Some data sets are available annually; others are quarterly. Where available, quarterly data is used for descriptive and forecasting analysis, since projections will be more robust.

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