Queensland Unions

Queensland Productivity Commission Inquiry 2025

“Improving Productivity in the Construction Industry”

2 June 2025 Submission

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Submission Summary of Recommendations

- With the 'pause' on BPIC and related statements by Government of savings of between 25 and 30 per cent on construction costs, Government procurement policies should not facilitate a race to the bottom for competition on the basis of wages, and contractors tendering for work should not be disadvantaged for tendering on the basis of existing enterprise agreement rates of pay.
- To address the ageing workforce and ongoing skills shortages across all sectors of the construction industry, industry stakeholders must come together to agree upon initiatives to attract, employ and retain more women at all levels within the industry, including addressing current work practices such as long working hours, conditions of employment, and other factors such as poor workplace culture.
- In addition to Construction Skills Queensland initiatives and funding, the State Government should as a priority consult with all industry stakeholders about state government funding for initiatives to support apprenticeship completions, including wage subsidies for apprentices and mentor support.
- To address the lack of focus on non-fatalities or serious injuries in the industry, the WHS Regulator should collect and publish annual data on the types of notifiable incidents, including serious injuries and illnesses and dangerous incidents, across each industry and industry sector, working with the WHS Industry Consultative forums for input and advice.
- To address the ongoing disputation and lack of compliance with work health and safety duties about effectively managing the risk of heat stress on Queensland construction worksites, the WHS Regulator should develop in consultation with industry and unions Guidelines and a Code of Practice outlining prevention measures for heat stress in the construction industry as a matter of priority and to ensure that all PCBU's in construction can comply with their duty of care to ensure the health and safety of all workers, so far as is reasonably practicable.

Queensland Council of Unions

The Queensland Council of Unions (QCU) is the peak body for unions in Queensland representing 400,000 union members.

The QCU has been representing the industrial, economic and social objectives of Queensland workers and their families since 1885.

Productivity in the Construction Sector

Numerous reports, including from the Productivity Commission, show that productivity in the Australian construction industry has fallen or stagnated over a long period of time driven by a number of key factors: low levels of innovation and technology adoption; skills shortages and an ageing workforce; industry fragmentation; cost pressures and procurement models; and external disruptions such as COVID, weather and supply chain issues.

Yet while this has been occurring, a large focus from some stakeholders has tended to be on labour productivity and the correlation between productivity and wages. For example, the State Government has announced that the 'pause' on BPIC in late 2024 will result in savings of around 25 per cent.[1] Yet the Mangan Report has demonstrated that wages in the construction industry have been driven by the excess demand for building and construction and the resultant national competition for the required workers.[2]

At a macro level, comparing construction to Australian industry overall, labour productivity declined in construction by 1.8 per cent compared to 3.7 per cent in 2023-24, with output growth failing to keep pace with a record increase in hours worked in construction of 5.7 per cent and all industries at 6.7 per cent in the same period.[3]

As a general statement, the additional hours performed by workers were not matched by business investment in systems and technologies that would allow them to work efficiently.[4] In construction, workers were also more likely to be working additional hours due to ongoing skills shortages, rising project costs and project deadlines.

Perhaps of more concern is the recent research on productivity in the housing sector:

> *"…new estimates of housing construction productivity tell a story of decades of poor performance. This set of proxy measures for dwelling construction productivity encompass*

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1 https://statements.qld.gov.au/statements/102441.

2 Professor John Mangan, University of Queensland and Economic Planning and Impact Consultants Pty Ltd 'The Economics of Best Practice Industry Conditions with Special Reference to the Queensland Building and Construction Industry' (May 2025).

3 Australian Productivity Commission (2024). Productivity Bulletin 2023–24. Australian Government. https://www.pc.gov.au/ongoing/productivity-insights/bulletins/bulletin-2024/productivity-bulletin-2024.pdf.

4 Australian Productivity Commission (2025). Productivity before and after COVID-19 Research Paper.

the entire homebuilding process, from site preparation and project management to the installation of fixtures and fittings. They indicate that over the past 30 years:

- *the number of dwellings completed per hour worked by housing construction workers has declined by 53% (physical productivity)*
- *gross value added per hour worked – a more comprehensive measure that controls for quality improvements and increases in the size of housing – has declined by 12% (labour productivity).*[5]

Productivity performance has also been variable by housing type with labour productivity in house construction falling by 25 per cent since 2001-02. In contrast, labour productivity in higher-density housing construction – townhouses, units, and apartments – increased by 5 per cent over the period, including a short period of rapid productivity growth between 2005-06 and 2013-14.[6]

At the same time, construction costs have increased by 40 per cent in the last five years and residential build times have increased by up to 80 per cent over the last 15 years.

The Productivity Commission summarises the reasons for the decline in productivity to include complex slow approvals, lack of innovation, lack of scale, and workforce issues. Notably, workforce issues include ongoing skills shortages, including stagnating apprenticeship commencements and completions and competition with other construction sectors in recent years.[7]

In Queensland, there are also a number of interconnecting issues which are impeding the delivery of housing and infrastructure outside of productivity: Queensland's growing population, housing and infrastructure demands, and the Government's commitments to the 2032 Olympics underpinned by an ongoing skilled labour shortage in the building, construction and housing industry sectors.

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5 Australian Productivity Commission. Housing construction productivity: Can we fix it? Research paper.
6 Ibid.
7 Ibid.

Construction Industry

There are three major sectors within the construction industry: building construction, civil construction, and housing.[8] While there are similarities in types of work, all three have different characteristics that affect skills shortages and influence wages and conditions.

The Building construction sector focuses on the construction of commercial, institutional, and industrial buildings, including:

- Office towers and commercial complexes
- Hospitals, schools, government buildings
- Factories, warehouses, and retail outlets

Projects are often driven by private developers, government agencies, or corporations requiring diverse skills: architecture, engineering, project management. There is an emphasis on building systems integration, fit-out, and compliance.

The civil construction sector deals with large-scale infrastructure projects mostly related to public works and includes construction of:

- roads, highways, bridges, tunnels
- railways and airports
- water supply and sewage systems
- dams and flood mitigation
- utilities and energy infrastructure (e.g., pipelines, power stations)

It is typically government-funded or characterised by large private contracts reliant on heavy machinery, earthworks, and engineering skills. Projects are often long duration and capital-intensive. Contractors may include large multinational firms or specialised civil contractors.

In both building and civil, the workforce tends to stay within each industry sector following project to project. Wages are traditionally higher in building than civil, although both sectors face competition with the mining industry and interstate projects.

The Housing construction sector specialises in residential buildings, including:

- Detached houses
- Townhouses and duplexes
- Apartment blocks and multi-residential units

It is primarily driven by private developers, individual homeowners, and volume builders and is characterised by shorter project timelines, repetitive, modular designs in volume

[8] Australian Bureau of Statistics (ABS) – Construction Industry Overview; Master Builders Australia – Industry Sectors Description; Infrastructure Australia – Infrastructure and Construction Insights.

housing, a mix of small to medium-sized enterprises (SMEs) and larger builder companies and requires compliance with local planning and building codes.

Housing traditionally has the lowest average wages of the three sectors reflecting the different composition and nature of the residential construction.

Workforce Size and Characteristics

Queensland's construction industry employs approximately 277,000 workers as of November 2024, eighteen per cent (42,700) more workers than the same period three years prior (November 2021).

The profile of the workforce within construction varies per industry sector.

For Civil construction, the workforce profile includes a range of highly skilled and specialised roles such as civil engineers, surveyors, project managers, and heavy machinery operators, as well as skilled trades such as concreters, steel fixers, plant operators, and crane operators.

These are often long term projects, with workforce staying on-site for extended periods, with jobs frequently in remote or regional locations (e.g., highways, mines) and Fly-in fly-out (FIFO) workforce common for remote sites.

The workforce is generally fairly mobile following jobs intrastate and interstate.

The Building construction sector workforce profile also has a diverse range of skill sets spanning from design to finish including architects, engineers, and project managers, with trades such as carpenters, electricians, plumbers, bricklayers, painters, and glaziers. There are generally more specialist trades and subcontractors and the workforce tends to be more permanent or long-term employed through contractors on particular projects.

It is a larger workforce than civil due to the number of ongoing commercial and institutional projects.

The Housing construction sector workforce profile also includes a broad range of skills, often entry-level to intermediate with carpenters, painters, plumbers, electricians, bricklayers, labourers, including apprentices.

It is often seasonal work, influenced by market demand and weather with the workforce a mix of small contractors, sole traders, and medium-sized builders who often work locally or regionally.

BPIC Wages

Background

In 2018, the former Labor Government introduced the Best Practice Industry Conditions (BPIC) procurement policy for contractors tendering for State Government funded major infrastructure major projects above $100 million.

The BPIC procurement policy established minimum standards and conditions for contractors tendering for work, including wage rates, conditions of employment, work health and safety standards and other training and employment requirements for apprentices, women and Indigenous Australians.

BPIC had several key objectives including:

- Local regional community benefits by engaging local suppliers
- Compliance requirements with labour laws, environmental regulations and social responsibility criteria
- Safety, workforce management and industrial relations conditions
- A training policy for at least 15% of total labour hours to be undertaken by trainees, apprentices and other workforce training initiatives
- An Indigenous employment goal of 3% of assessable spend by 2022.

In December 2024, the LNP Government announced they were pausing BPIC ostensibly because BPIC created a 30% additional tax on Government projects.

In 2025, the Queensland Council of Unions commissioned independent research from respected economist, Emeritus Professor John Mangan of the University of Queensland, to evaluate the effect of BPIC on the economic outcomes on construction projects such as costs, wages, productivity and industrial conflict; and their performance in delivering workforce diversity, increased training, improved safety and their impact on local economies. The following is a summary of the report's key findings.

Key Findings

The report applied a balanced scorecard approach making key findings within the context of seven key propositions.

1. **Did BPIC reduce or fail to increase productivity in building and construction activity in Queensland?**

Key Findings:

The industry in Queensland was not exempt from the problems that beset the rest of the industry nationally and internationally, but the available data suggests that productivity in Queensland was equal or better than the national average.

The value of output per worker in Queensland was on part with other Eastern states and very close to the national average.

BPIC did not impact on the relative position of the Queensland construction industry in any significant way, or at least in a way that produced differences in productivity values.

2. **Did BPIC raise costs across the board in the construction industry and impact on housing construction costs and consequently house prices and rent?**

Key Findings:

Wages in the building and construction industry were not the major contributor to costs in the industry nor were BPIC wages above the Queensland all industry average, and especially after 2020, were not above market determined wages.

Other costs in the industry which were widespread across the country and internationally, were driven by supply constraints in materials and added regulatory costs rather than wages.

3. **Did BPIC introduce wage disruptors in the industry and exceed the rest of industry market wages?**

Key Findings:

No evidence to suggest that wages on BPIC projects either exceeded industry determined wages or were market leaders in wage determination over the period 2018-2024.

While initially BPIC wages were at the higher end of industry wage, it is also clear that by 2023-24 wages on BPIC projects were at or below industry rates.

Wages in building and construction in Queensland after 2022 were driven, not by enterprise agreements covering a relatively few large-scale Government funded projects, but by the excess demand for building and construction and the resultant national competition for the required workers.

4. **Did BPIC help increase diversity in the workforce including greater female and Indigenous participation and an increase in apprentices?**

Key Findings:

The BPIC period saw a growth in construction apprenticeships for both male and females.

There was a clear increase in female participation in the industry accelerating after 2021 with the peak in both female participation and apprenticeship growth occurring under BPIC.

5. **Did BPIC embolden unions, shift the balance of power in the industry and lead to a rise in industrial conflict?**

Key Findings:

The construction industry has traditionally had a high rate of industrial conflict measured in working days lost, perhaps due to the nature of the work and risks involved.

In some quarters in 2024, Construction accounted for more than half the days lost.

The industry in Queensland contributed to this, particularly in the June 2024 quarter but which related to days lost on the Cross River Rail project – a non-BPIC project.

Working days lost in Queensland during 2018-24 were below that for Victoria and New South Wales and for the most part were on par with the whole of Australia.

6. **Did BPIC contribute to an Indigenous Construction workforce?**

Key Findings:

There was a significant increase in Indigenous employment in the Queensland construction industry both in terms of total employment and in the take up of apprenticeships from 2021 to 2024. There was an above average increase after the start of the BPIC period.

7. **Did BPIC make significant contributions to local economies through the use of local suppliers and contractors?**

Key Findings:

Two regional projects were considered. Country Bank Stadium (now Townsville Stadium) which involved 480 local businesses across the supply chain with $163 million of economic activity put into the local Townsville economy. 93.7 per cent of construction hours were undertaken by local contractors.

87 apprentices and 7 trainees were employed for the construction of the Cairns Court House. 95 per cent of training hours were undertaken by local workers.

Other

Did BPIC impose a 30% tax on Government projects?

The Report establishes that BPIC did not incur a 30 per cent tax on Government projects.

Nor is its removal likely to lead to a 25 per cent reduction in costs in the sector.[9]

[9] https://statements.qld.gov.au/statements/102441.

Construction wages in Queensland over the BPIC period were either equal to or below industry rates of pay.

Industry rates of pay were being driven by the excess demand for building and construction work and increased competition for skilled labour (as was the case nationally).

The major contributors to this shortage are ongoing population growth with additional infrastructure needs particularly in growth areas and the regions, major events such as the Olympics, an aging workforce, and insufficient training being undertaken in the industry.

Pausing or abolishing BPIC will not reduce costs which are attributed to other interconnected factors such as:

- the lack of skilled labour and project delays
- material costs and supply chain disruptions
- increased construction infrastructure demand & Government infrastructure demand post COVID
- land and housing demand
- regulatory and compliance costs
- project financing and inflation

The critical workforce issue that needs addressing is how to fill the massive labour skills shortage to meet projected construction demand over the next decade.

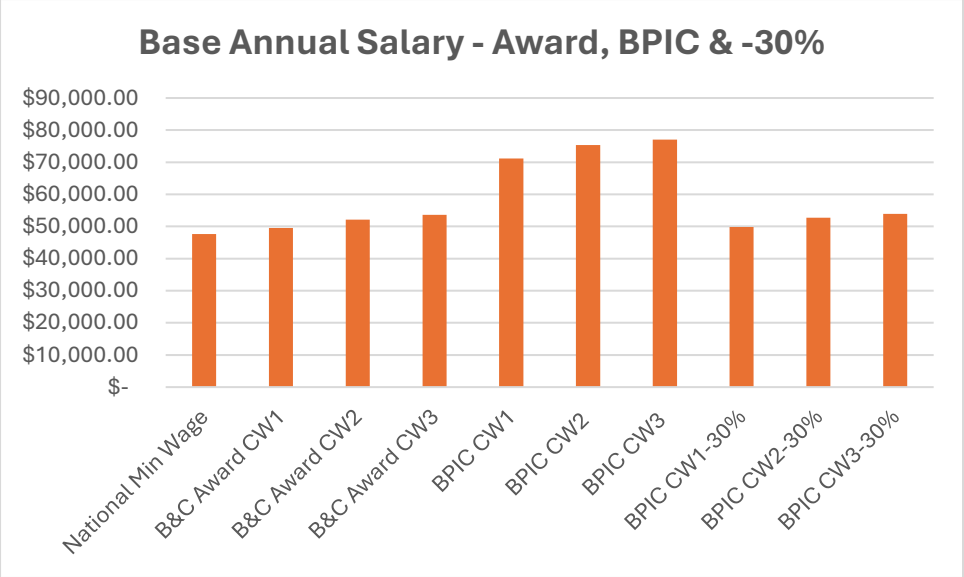
What is the 30% tax?

The 30% tax alluded to is contained within an unpublished document by the Queensland Master Builders Association (QMBA) and refers to a so-called wage premium negotiated by the CFMEU (only one construction union of five).

It should be noted that the difference between minimum award wage rates of pay and those paid under enterprise agreements in the industry currently sits at around 40%.

A cut of 30% in industry wages would mean construction workers on Government infrastructure jobs would be paid the worst in the industry, losing an average of $20,000 plus per annum from their base annual salary.

Under this type of strategy, a four year qualified tradesperson would be offered a base salary of just $50,000 a year – $6,000 a year more than the National Minimum Wage.



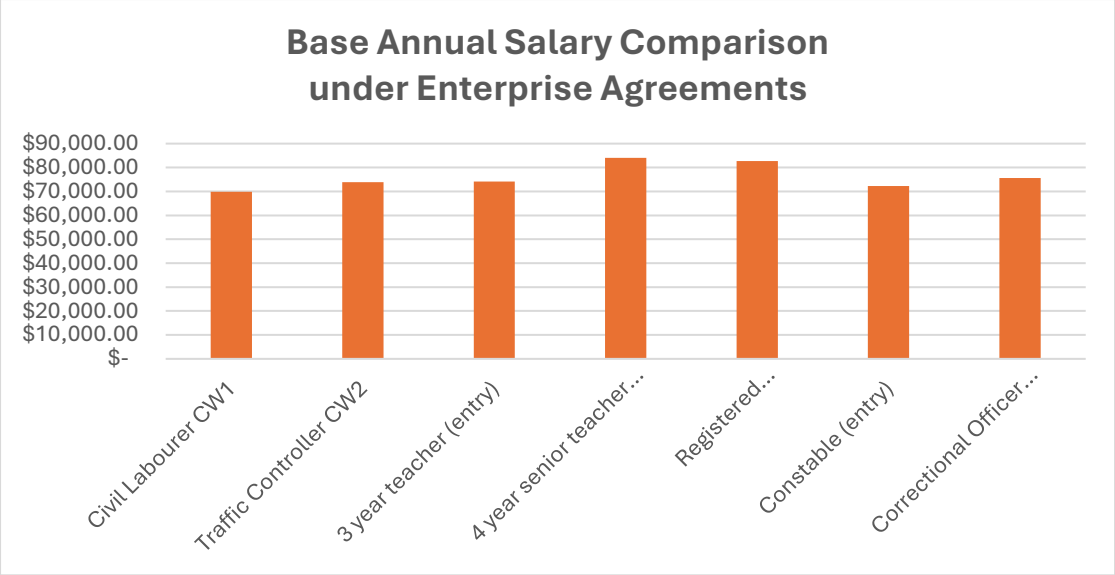
In the context of low unemployment, a growing population, and a tight labour market, cuts to wages for construction workers will likely see a further exit of skilled workers from the industry transitioning to work in the mining sector or other project work interstate.

Under BPIC did construction workers earn twice the wages of a nurse, teacher or police officer?

It has been asserted by some within the industry that BPIC doubled the wages of construction workers compared to essential public sector workers such as nurses, teachers, police and correctional officers.

It is very clear that these wages are not correct and that any BPIC factor reflects the penalty rates and overtime that a traffic controller and civil labourer would attract if they worked a fictitious 55 hour work week for 52 weeks of the year working on every public holiday and rostered day off, and including penalty payments for hours worked outside of the ordinary daily hours and for weekend work. The same could apply for a police officer or nurse working 55 hours per week as per above.

In contrast, the following table is an extract of the annual salary of a traffic controller, civil labourer, nurse, teacher, police officer and correctional officer as they would receive their salary working their ordinary working week of 36 hours and 38 hours a week. This is based on actual salaries from the relevant enterprise agreement.



Source: Fair Work Commission and Queensland Industrial Relations Commission enterprise agreement databases.

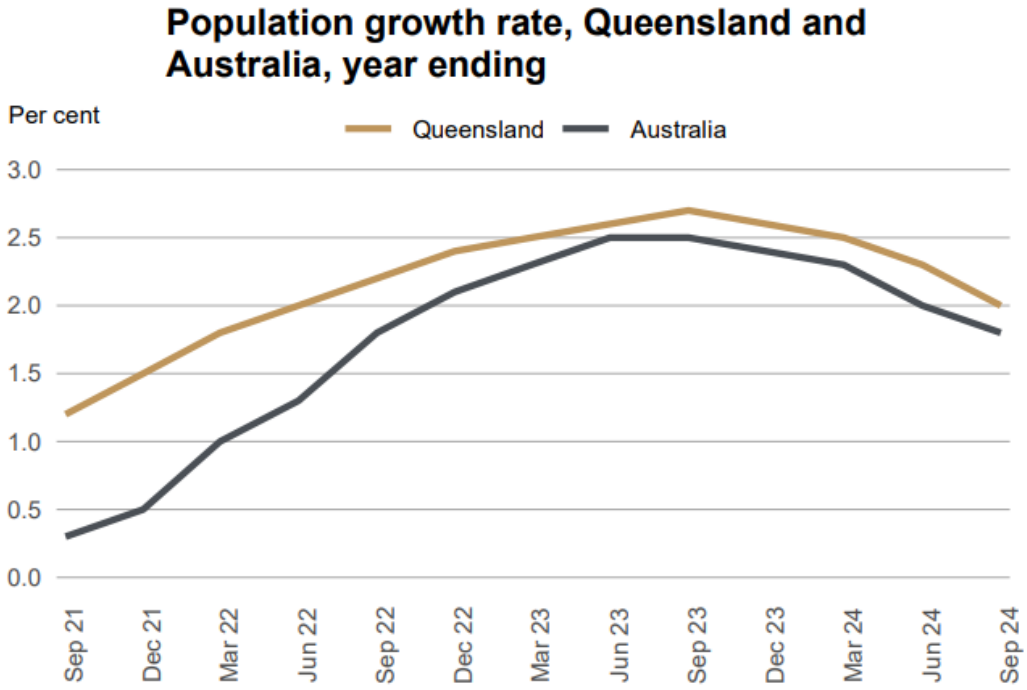
Recommendation

- With the 'pause' on BPIC and related statements by Government of savings of between 25 and 30 per cent on construction costs, Government procurement policies should not facilitate a race to the bottom for competition on the basis of wages, and contractors tendering for work should not be disadvantaged for tendering on the basis of existing enterprise agreement rates of pay.

Queensland Population Growth, Housing and Infrastructure Needs

Queensland's population growth has been faster than the nation since post COVID.

For instance, between March 2020 and March 2024, Queensland's population grew by over 400,000 people – from around 5.1 million to 5.5 plus million, equating to an annual average growth rate of around 1.6 and 2 per cent, one of the highest among Australian states.



Source: table by Queensland Government Statistician's Office[10]

By 2046, population growth is expected to see an additional 1.2 million people[11] in the Greater Brisbane region increasing the total population to 3.75 million.[12]

Population growth for the rest of Queensland (RoQ)[13] is projected to be slower – between 0.7% to 1.6% with an additional 494,000 to 1.33 million additional people taking the total RoQ population to between three and four million in the same period.

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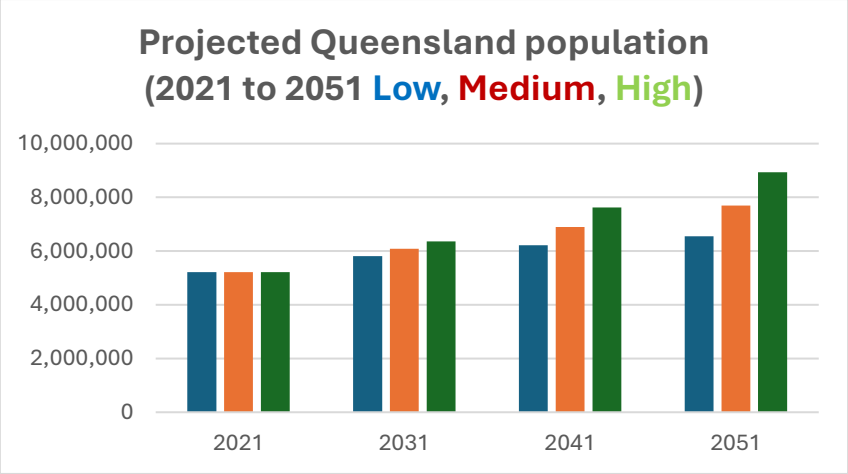
10 https://www.qgso.qld.gov.au/issues/3091/population-growth-qld-202409.pdf

11 Applying the medium series.

12 The Greater Brisbane Greater Capital City Statistical Area (GCCSA) includes the nine Statistical Areas Level 4 (SA4s) of Brisbane–East, Brisbane–North, Brisbane–South, Brisbane–West, Brisbane Inner City, Ipswich, Logan–Beaudesert, Moreton Bay–North and Moreton Bay–South.

13 The Rest of Queensland (RoQ) is comprised of the 10 SA4s of Cairns, Central Queensland, Darling Downs–Maranoa, Gold Coast, Mackay–Isaac–Whitsunday, Queensland–Outback, Sunshine Coast, Toowoomba, Townsville and Wide Bay.



Source: Queensland Government Statistician's Office 'Projected Population 2021 to 2051'.

The direct impacts of population growth have and will continue to:

- see additional housing demand placing increased pressure on housing supply, especially in rental markets, and contributing to rising home prices and rents;
- impact on infrastructure and services placing significant strain on transport, schools, hospitals, and water/utilities infrastructure;
- increase demand for construction, healthcare, education, and service workers; and
- exacerbate skills shortages by continuing population growth outpacing training and migration.

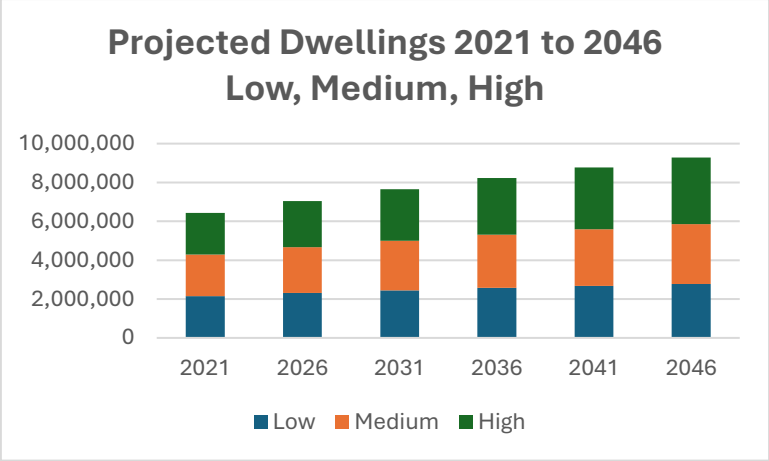
Housing Supply and Demand

Based on projected Queensland population growth, an additional 932,870 dwellings need to be built between 2021 and 2046 or an average of 40,000 new dwellings to be built per year.[14]

Projected dwellings (a), by series, Queensland (b), 2021 to 2046 (c):

	Total private dwellings (d) (e)					
	2021 (f)	**2026**	**2031**	**2036**	**2041**	**2046**
Series	**— number —**					
Low series	2,143,627	2,312,091	2,451,242	2,577,562	2,683,750	2,772,421
Medium series	2,143,627	2,349,372	2,542,762	2,732,960	2,908,664	3,076,497
High series	2,143,627	2,388,934	2,645,074	2,910,877	3,173,395	3,436,823

[14] Queensland Government Statistician's Office.



Yet, according to ABS data, Queensland recorded annual private dwelling completions of approximately 32,000 to 35,000 per year between 2018 and 2023, noting the long-term average over the past 10–15 years for Queensland fluctuates between 30,000 and 32,000 completions per year.[15]

This means that with an existing shortfall of between 40,000 to 50,000 private dwellings, there is a projected cumulative shortfall of between 175,000 to 220,000 private dwellings by 2046.[16]

Financing and Interest rates

There are several other factors contributing to the ongoing housing deficit such as financing and interest rates, rising construction costs, and competing demands with infrastructure and Olympic priorities.

Post COVID, interest rates and inflation have had significant and compounding effects on housing construction prices and housing affordability in Queensland.

Residential construction costs increased by 30 per cent or more since 2020 driven by general inflation but especially for materials such as timber, steel, concrete; fuel and labour.[17]

Key materials experienced rapid price rises due to global supply chain disruptions (COVID-19, war in Ukraine), domestic shortages and surging demand (e.g., from HomeBuilder stimulus), and rising freight and energy costs.

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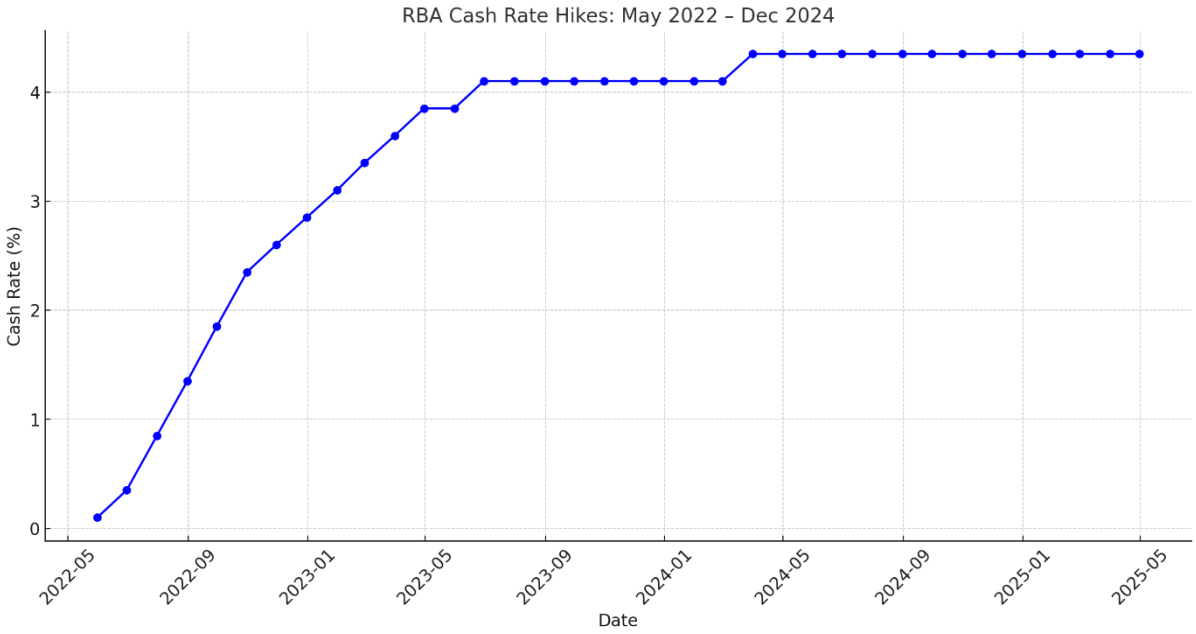
[15] Australian Bureau of Statistics. (2024, December). Building Activity, Australia. ABS. https://www.abs.gov.au/statistics/industry/building-and-construction/building-activity-australia/dec-2024, Table 38: Number of dwelling unit completions, private sector, original data:

[16] Queensland Government's Housing Summit Outcomes Report (October 2022); Queensland Housing Summit Outcomes Report (PDF)

[17] CoreLogic Cordell Construction Cost Index (CCCI), ABS.

Housing affordability has been mainly driven by interstate migration and interest rates with the Reserve Bank of Australia (RBA) raising the cash rate from 0.10% in May 2022 to over 4.3% by late 2024, the fastest rate-hike cycle in decades.



This caused a major jump in:

- Home loan interest rates (surging mortgage repayments)
- Construction finance costs (making projects less viable)
- Investor borrowing costs, limiting housing investment

As a result, the ability to service mortgages worsened, especially for first-home buyers; fewer people could qualify for loans, reducing home ownership access; and many Queenslanders were pushed into the rental market, driving up rental demand and prices.

As a direct result, rents in Queensland rose 30–50% in some regions (especially SEQ), worsening rental stress and housing insecurity.

Housing Affordability and Rental Prices

In addition to population growth and a lack of available housing, land supply shortages and construction costs have also contributed to pushing up the average cost of a home in Queensland.

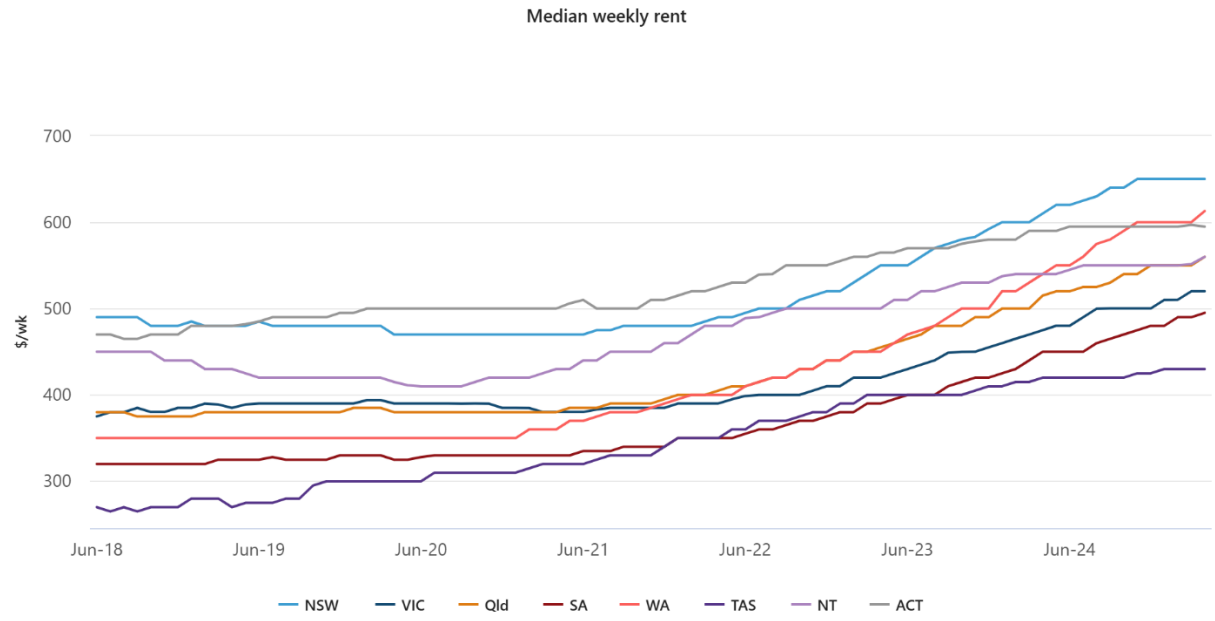
ABS figures show the mean dwelling price across Australia as at December 2024 at $976,800. Queensland ($923,600) has the third largest mean price in the country, while the lowest mean price remains in the Northern Territory ($500,900).[18]

[18] Australian Bureau of Statistics. (Dec-quarter-2024). Total Value of Dwellings. ABS. https://www.abs.gov.au/statistics/economy/price-indexes-and-inflation/total-value-dwellings/latest-release.

The mean price of residential dwellings in New South Wales ($1,214,100) remains the highest in the country, followed by the Australian Capital Territory ($956,800).

Queensland is the second highest state for median rent with growing population, more people seeking to enter the renting market driving an overall high occupancy rate.

This is consistent with the increase in median rents in all states and territories which began increasing more strongly in 2021 post COVID and continued to increase between 2021 and 2024.[19]



Source: Australian Bureau of Statistics, Latest insights into the rental market 28/05/2025

According to the Real Estate Institute of Queensland's (REIQ) latest Residential Vacancy Rate Report for the March 2025 quarter, 24 of the 50 regions tightened, 12 held steady, and just 14 saw any relief. The statewide vacancy rate has slipped from 1.0% to 0.9% reinforcing the entrenched strain on rental supply.

Notably, the pressure is being felt across most of the state, with 38 out of 50 local government areas (LGAs) and subregions reporting vacancy rates of 1.0% or less – placing vacancy rates firmly in 'tight' territory and far below the REIQ's recommended benchmark of 2.6–3.5%.[20]

Infrastructure Development

Population growth has also driven unprecedented demand for Government investment in services such as health and hospitals, schools, transport and energy and water infrastructure.

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19 Australian Bureau of Statistics. (2025, May 28). Latest insights into the rental market. ABS. https://www.abs.gov.au/articles/latest-insights-rental-market.

20 https://www.reiq.com/resources/media-releases/queenslands-rental-market-a-new-year-even-fewer-options.

In response, the Queensland 2024–25 State Budget saw allocations of:

1. a record $26.9 billion for Health and Hospitals including funding for hospital upgrades, new health infrastructure, regional health services, and mental health initiatives.[21] This was at the time, the largest-ever health budget in Queensland's history.
2. $20.2 billion to the Department of Education[22] to support:
   - New and upgraded school infrastructure
   - Teacher recruitment and retention
   - Support for inclusive education and student wellbeing
   - Early childhood education access and expansion
3. a record $37.4 billion over four years for transport and road infrastructure across the state, including:[23]
   - Bruce Highway upgrades
   - Coomera Connector (Second M1)
   - Gold Coast Light Rail Stage 3
   - Logan and Ipswich motorway upgrades
   - Regional roads and bridge projects
   - Active transport and public transport investments
4. $26 billion over the next four years for energy infrastructure, as part of its Queensland Energy and Jobs Plan,[24] including for:
   - Renewable energy projects (solar, wind, hydro)
   - Publicly-owned transmission and distribution network upgrades
   - The development of Clean Energy Hubs
   - Battery storage systems and pumped hydro projects (like Borumba Dam)
   - Transition support for energy workers and communities
5. a total investment of $7.1 billion towards infrastructure for the Brisbane 2032 Olympic and Paralympic Games,[25] including:
   - $2.7 billion for the Gabba redevelopment (now under review as of mid-2024)
   - $2.5 billion for the Brisbane Arena (Roma Street precinct)

   Funding for:

     - Upgrades to regional and metropolitan sporting venues
     - Athlete villages (Brisbane, Gold Coast, Sunshine Coast)
     - Transport infrastructure to support Games delivery

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21 Queensland Treasury – Budget Paper 2: Budget Strategy and Outlook (2024–25).
22 Queensland Treasury – Budget Paper 4: Budget Measures (2024–25).
23 Queensland Treasury – Budget Paper 3: Capital Statement (2024–25).
24 Queensland Treasury – Budget Paper 3: Capital Statement (2024–25).
25 Queensland Treasury – Budget Paper 3: Capital Statement (2024–25).

This infrastructure program was funded in a 50/50 split with the Australian Government under the Olympic Infrastructure Intergovernmental Agreement.

2025 Budget Updates

As of May 2025, the new state Government has announced significant changes to Olympics infrastructure plans, reversing several key projects from the previous Government's 2032 Olympics investment strategy. This included the scrapping of the Pioneer-Burdekin pumped hydro energy storage project, and the cancellation of the $2.7 billion Gabba Redevelopment with funds to be redirected to suburban and regional sporting infrastructure and an emphasis on upgrading existing venues across SEQ rather than constructing new megaprojects.[26]

The proposed Herston Park Olympic Stadium — a key venue under the revised Brisbane 2032 plan — is still under assessment with estimated costs range from $1.6B to $2.5B, depending on design and legacy use.

There have also been a number of cuts or delays to key health projects in Queensland in 2025,[27] including the:

- Cairns Hospital Expansion Delay

  A planned $350 million upgrade for emergency and critical care delayed by at least 2 years with Government citing budget pressures and reassessment of project scope.

- Gold Coast University Hospital Upgrade Postponement

  $280 million planned capacity and facility upgrade deferred.

- Toowoomba Health Precinct Redevelopment Scaled Back

  Major redevelopment funding reduced by $150 million.

- Mental Health Facilities Expansion Deferred

Noting these readjustments to the State Government's investment in major infrastructure and Olympics projects, there still remains a significant body of infrastructure construction work to be completed prior to 2032.

Industry and Interstate Competition

Queensland contractors in both the major building and civil industries are currently competing for skilled labour across a range of high-demand infrastructure and construction projects both within Queensland and interstate. This competition is driven by overlapping large-scale projects and a tight skilled labour market.

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26 Queensland Treasury – 2025–26 Budget Update (Preliminary Statements).
27 Queensland Treasury – 2025–26 Budget Update (Preliminary Papers).

For instance, competing projects within Queensland include:

- Brisbane 2032 Olympics Infrastructure
- Major venue builds (e.g., Brisbane Arena, Herston Park Stadium)
- Transport upgrades (Cross River Rail, Coomera Connector)
- Queensland Health Infrastructure
- Hospital expansions and redevelopments (e.g., Sunshine Coast, Cairns)
- State Road and Transport Projects
- Bruce Highway upgrades
- Regional and metro road/bridge works
- Residential and Commercial High-Rises
- Inner-city towers in Brisbane, Gold Coast
- Renewable Energy Infrastructure
- Solar farms, battery storage, transmission upgrades

There are also competing interstate projects such as:

- Sydney Metro and WestConnex (NSW)
- Ongoing large transport infrastructure projects
- Melbourne Metro Tunnel (VIC)
- Western Australia's Mining and Energy Infrastructure
- Large-scale mining expansions and gas projects
- New South Wales and Victoria Residential Developments
- High-rise apartments and urban renewal projects[28]

In Queensland, the civil and building construction sectors are in significant competition with the mining industry for skilled labour—particularly in regional areas and during overlapping boom cycles. This competition has become more pronounced in recent years due to a surge in both public infrastructure investment and mining project expansions.

Both sectors rely on many similar skilled occupations, such as plant and machine operators (civil and mining), electricians, fitters and boilermakers (building and mining); project managers and engineers (all sectors); surveyors, geotechnical specialists (civil and mining); truck drivers and crane operators (civil and mining); and general labourers (all sectors).[29]

Mining wages are significantly higher, with mining workers earning 25–50 per cent more in equivalent roles (e.g. machine operators, electricians). Many mining roles also offer FIFO incentives, accommodation, and food allowances.

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[28] Queensland Government – Infrastructure Pipeline Overview 2025; Queensland Master Builders Association – Industry Outlook Report 2025; Civil Contractors Federation Queensland – Labour Market Update 2025

[29] Construction Skills Queensland.

This has seen intense and growing labour competition between civil, building and mining, particularly in regional areas with construction often losing out to mining on wages and incentives.

The housing residential sector, characterised traditionally by lower wages and low training investment, continues to face significant pressure on labour costs and skills competition with both civil, building and mining, particularly competition with regional infrastructure projects.

Summary

- Queensland's major population growth, including ongoing projected growth has placed increased pressure on the housing sector and infrastructure requirements.
- Queensland will need an additional 1 million dwellings to be built by 2046 – an average of 40,000 new dwellings each year, yet current supply is around 32,000 to 35,000 a year.
- Existing unmet demand for housing exacerbated by future population growth means there will be a continuing unmet demand for housing, resulting in ongoing pressure on the available rental market and homelessness without intervention.
- The main factors impacting on housing construction prices and housing affordability include inflation, interest rates, increased construction costs, and lack of housing supply driven by Queensland's ongoing growth in population.
- Queensland is the second highest state for median rent caused by growing population and housing affordability issues for new entrants, with more people seeking to enter the market driving an overall high occupancy rate.
- Queensland has unprecedented demand for investment in services such as health, schools, transport, energy and water infrastructure driven by population growth, yet regardless of revisions to infrastructure and Olympic venues, there remains a high demand for work and skilled labour to undertake these projects up until at least 2032.
- Contractors in the building and civil sectors of construction compete for scarce skilled labour across infrastructure projects in Queensland and interstate, as well as with the mining industry. Housing faces similar competition, particularly against mining and regional infrastructure projects.

Ongoing Skilled Labour Shortages

Infrastructure Australia estimates a national shortfall of 197,000 public infrastructure workers,[30] noting there is 'a significant geographical shift in investment to the north', and that 'the projected increase in demand for these northern areas intensify local supply constraints especially in regional areas where attracting skilled workers is challenging'.

Like the rest of Australia, the Queensland building and construction industry is currently experiencing a skills shortage across multiple trades and professional roles.

Construction Skills Queensland (CSQ) projects an average demand of 122,600 construction workers required to complete the projected construction pipeline in the next eight years, with a projected 8 year average shortfall of 18,200 construction workers amid strong demand and ongoing supply constraints.[31]

Persistent shortages occur in the trades (carpenters and joiners, electricians and plumbers), civil construction workers and plant operators, and construction managers and supervisors.[32]

CSQ lists key occupations in demand for the building pipeline to include carpenters and joiners, building and plumbing labourers, painting trades workers, plumbers, electricians, concreters, and plasterers; and key occupations for engineering including structural steel workers, miscellaneous labourers, earthmoving and other plant operators, electricians, concreters, civil engineers and construction managers.

Most of the demand appears to be regionally concentrated in South East Queensland but remote and regional areas also struggle to attract skilled tradespeople, worsening local shortages.[33]

These shortages are driven by a combination of:

- an unprecedented Eastern seaboard high demand for construction and infrastructure investment
- an aging workforce
- a lack of sufficient investment in training programs and apprenticeships
- labour competition within the sector, with interstate projects and with the mining industry.

Various industry reports all point to an ongoing skills shortage, especially in key trades such as carpentry, plumbing and electrical work.

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30 https://www.infrastructureaustralia.gov.au/reports/2024-infrastructure-market-capacity-report.
31 Construction Skills Queensland 'Horizon 2032 – Imagining Queensland's Future Construction Workforce' 2025 Edition.
32 Ibid.
33 Ibid.

These skills shortages are also the primary driver of upward wages pressures in construction,[34] just as stronger demand for labour across the economy has resulted in the wage price index rising above 3 per cent, with the Reserve Bank of Australia forecasting the wage price index to remain at 3 per cent out until June 2027.[35]

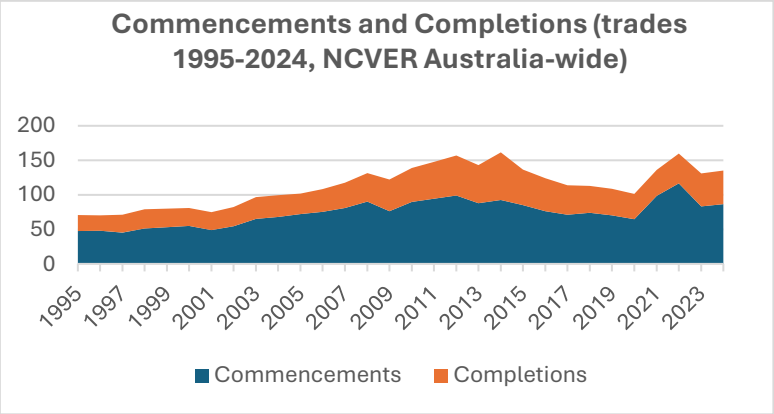
Increasing labour force participation in the construction industry is therefore critical to lifting productivity and project delivery, but both attraction and retention issues need to be addressed at the same time.

CSQ recommended strategies to address the future workforce gap include:

- expanding the apprenticeship and training programs to attract new entrants to the industry
- promoting diversity and inclusion, particularly increasing female participation
- strengthening retention strategies to reduce high dropout rates among apprentices, and
- investing in regional workforce development.[36]

Aging Workforce and Low Apprenticeship Completion Rates

The number of overall apprentices in construction declined fifteen per cent from 2010 to 2020 but increased from 2021 onwards due to the reintroduction of a number of government employer incentives. However, apprenticeship completions in the industry have continued to remain low at around 53-57 per cent,[37] leading to a decrease in new trade qualified workers in the industry, and exacerbating the overall workforce shortage.



At the same time, the construction industry like many others across Australia has an ageing workforce, meaning there are more experienced workers retiring faster than

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34 Professor John Mangan University of Queensland and Economic Planning and Impact Consultants Pty Ltd 'The Economics of Best Practice Industry Conditions with Special Reference to the Queensland Building and Construction Industry' (May 2025).

35 https://www.rba.gov.au/publications/smp/2025/may/pdf/statement-on-monetary-policy-2025-05.pdf.

36 Ibid.

37 NCVER (National Centre for Vocational Education Research), "Apprentices and Trainees Completion and Attrition Rates" reports.

replacements are entering the industry. In Queensland, this means there is an estimated 43,200 workers that will need to be replaced over the next decade to maintain a total construction workforce of around 240,000 workers in Queensland.[38]

The most common barriers affecting completion rates are:

- low wages during apprenticeship period
- inconsistent work or poor-quality employers (host turnover)
- lack of mentoring/support, especially in small firms
- workplace culture issues or unsafe conditions
- relocation or transport barriers for rural/regional apprentices
- alternative employment offers before completion[39]

For instance, first year adult construction apprentices earn 32 per cent less than the adult national minimum wage, with most apprentices only matching or exceeding the National Minimum Wage in their fourth and final year.

Apprentice Wages: Building and Construction General On-site Award [MA000020]

Year of Apprenticeship	Approx. Weekly Pay (Age 21+, full-time)	Approx. Hourly Rate	% of National Min. Wage
Year 1	~$621	~$16.35	~68%
Year 2	~$738	~$19.40	~81%
Year 3	~$884	~$23.26	~97%
Year 4	~$1,032	~$27.15	~113%

Note: Rates vary by age, school completion, and whether apprentices are adult apprentices (21+).

For apprentices aged under 21, wages are even worse with an 18 year old 1st year building apprentice (Year 12 completion) earning only $14.94 per hour or $567.76 per week base salary compared to an entry level 18 year old in the fast food industry earning $17.96 per hour part time or $22.45 per hour as a casual.

From a competition perspective, apprentice wages are clearly too low to attract and retain the numbers required within the industry. One way of addressing this has been to provide government funded direct incentive payments to apprentices such as those available under the Australian Apprenticeships Incentive System.[40]

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38 Based on an assumption of a total construction workforce in Queensland of approximately 240,000 people and an 18 per cent proportion of the current workforce aged 55 and over (those most likely to retire within the next 5 to 10 years).

39 NCVER reports.

40 https://www.apprenticeshipsupport.com.au/about/who-we-are/news-and-events/australian-apprenticeships-incentive-reform#:~:text=Payments%20to%20Australian%20Apprentices%20Four%20six-

In addition to higher wages and/or government subsidies directly to apprentices, other recommended factors to improve completion across the industry include providing structured support (mentoring, pastoral care).

Construction Industry Hours, Conditions and Culture

Other ways to improve attraction and retention of workers in the industry include addressing workplace hours, working conditions and workplace culture.

For instance, Infrastructure Australia's Construction Industry Culture Taskforce has found that working conditions within the industry are directly impacting on the availability of workers with:

- 64 per cent of current workers required to work more than fifty hours each week
- 59 per cent unhappy with their work-life balance, and
- Only 26 per cent thinking they can combine construction with parenthood.[41]

A Construction Industry Culture Pilot Interim Report, led by RMIT University in collaboration with the Construction Industry Culture Taskforce (CICT),[42] tracked five pilot infrastructure projects trialling a five-day work week to address challenges such as the lack of time for life, poor health and wellbeing, and difficulty in attracting a diverse workforce.

A survey conducted as part of the Report at three of the pilot sites found 84 per cent of workers on an annual salary and 61 per cent of workers on an hourly wage were in support of a five-day work week compared to a six-day work week.

This Report found that cultural change in the industry is one of the key ways to address the acute skills shortage that has led to escalating labour costs and stagnant productivity in an industry.

Similarly, a report by BIS Oxford Economics 'The Cost of Doing Nothing',[43] found that prior to COVID, cultural issues in construction incurred a total economic cost of nearly $8 billion, with $708 million attributed to the impact of rigid long work hours including absenteeism, reduced morale and increased turnover rates, and another $4.2 billion of productivity impacts from related illness and injuries.

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monthly%20payments%20over,to%20access%20a%20payment%20of%20up%20to%20%245%2C000.%2A.

41 https://www.constructionindustryculturetaskforce.com.au/why/; https://cict.mymedia.delivery/wp-content/uploads/2023/04/Culture-Standard-Factsheet.pdf.

42 "Culture in Construction Pilot Projects: Interim Report" published by Construction Work Health and Safety Research @ RMIT University.

43 https://cict.mymedia.delivery/wp-content/uploads/2021/05/The-Cost-of-Doing-Nothing-Report.pdf.

Fig 27. Summary of estimated costs of the current construction culture

Cost Category	FY18
Fatalities/Injuries/Illnesses:	
Productivity	$4,166,073,753
Morbidity	$1,410,039,138
Administration	$306,950,442
Mortality	$120,000,000
Medical	$98,609,683
Total	**$6,101,673,016**
Additional Costs (Not included in Total)	
Long Work Hours - Productivity	$707,560,019
Mental Illness - Presenteeism	$642,988,805
Male Worker Suicide - Marginal Mortality	$532,801,466

Source: BISOE analysis

Employment of Women

The construction industry in Queensland, like nationally, continues to struggle with attracting more women to its workforce with significant underrepresentation. In Queensland, female employees make up 17.8% of total employment representing 49,631 employees.

However, when narrowed to construction trade jobs, female representation is much lower, at around 5 per cent increasing from 3 per cent between 2019 and 2024,[44] and as of December 2023, only 5 per cent of apprentices in training were female and female trade employees at only around 4 per cent.[45]

With unemployment at around 4.1 per cent nationally and in Queensland,[46] both male and female total employment across Australia stood at record highs in April 2024 with an employment to population ratio steady at 64 per cent with the male participation rate at 70.8 and females at 62.8 per cent.[47]

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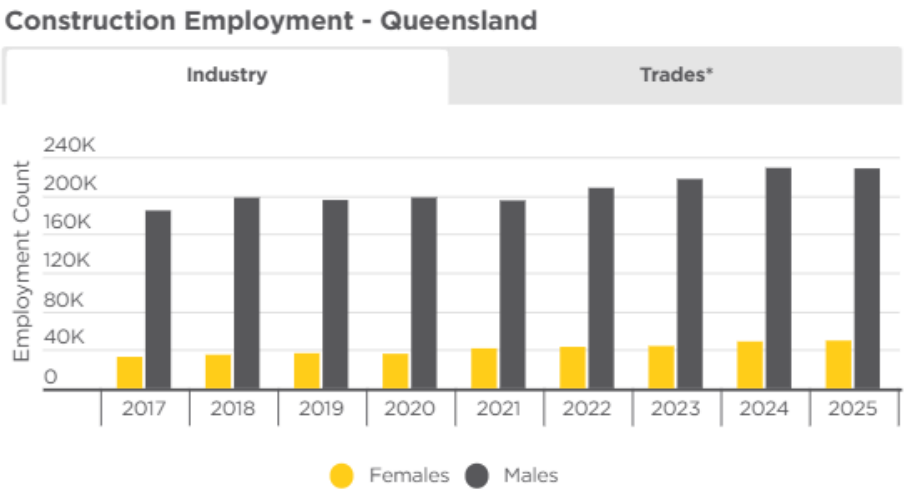
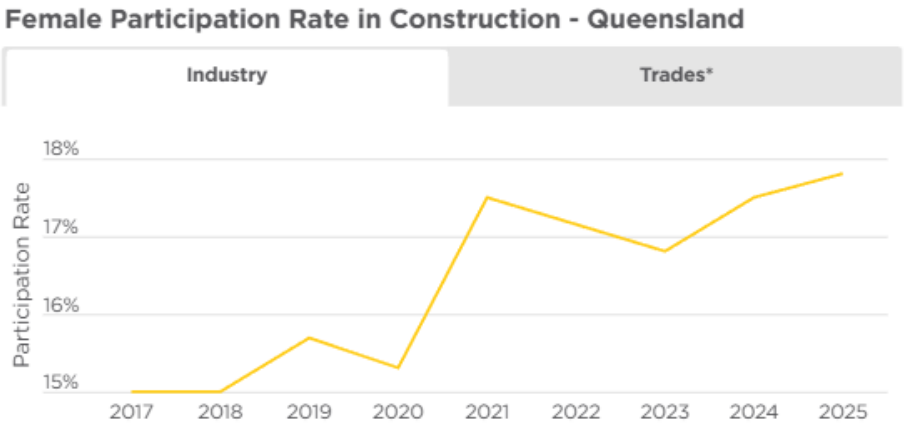
44 Queensland Major Projects Pipeline 2024, CSQ Labour and Skills Report.
45 Construction Skills Queensland HORIZON 2032 'Imaging Queensland's Future Construction Workforce' 2025 Edition.
46 Australian Bureau of Statistics. (2025, April). Labour Force, Australia. ABS.
47 Jobs and Skills Australia 'ABS Labour Force Results – April 2024'.





CSQ figures show that this improved from 15 per cent in 2017 or an increase of 16,904 workers over this time but demonstrates there is significant room to lift the participation rate in the industry.[48]

For example, if women's participation in the industry were lifted equal to men (currently 228,232) that would bring over 178,000 extra construction workers into the Queensland industry.

[48] https://www.csq.org.au/knowledge-centre/interactive-data/women-in-construction-workforce/ and https://www.csq.org.au/wp-content/uploads/2021/02/Women-in-Construction-2021.pdf

Workforce Composition Data

The Workplace Gender Equality Agency (WGEA) workforce composition data for the industry from 2023-24 shows a number of disparities in the employment of women.

	Heavy & Civil Engineering	**Building & Construction (non-residential)**	**Residential Construction**
% of women employed	20%	25%	37%
% of women employed as managers	16%	17%	30%
% of women employed as non-managers	21%	28%	39%
% of women employed full time	19%	21%	33%
% of women employed part time	62%	73%	86%
% of women employed casual	18%	25%	63%
% of women employed as clerical and admin workers	72%	58%	82%
% of women employed as community & personal service workers	73%	50%	55%
% of women employed as labourers	12%	30%	4%
% of women employed as professionals	28%	31%	51%
% of women employed as technicians and trades workers	7%	6%	12%

Source: WGEA Workforce Composition Data 2023-24 Construction Industry

For instance, more women are employed in the residential construction industry as a proportion of workforce size compared to civil and building. All sectors reflect a relatively high percentage of women employed as clerical and admin workers and to a lesser extend in community and personal service worker roles e.g., nurses.

Residential construction has a low number of women employed as labourers (4 per cent) compared to civil and building at 12 and 30 per cent respectively.

In the areas of key skills shortages, more women – just over half – are employed as professionals in residential compared to just under one third in civil and building.

Notably, between 6 and 12 per cent of women are employed as technicians and trades workers – another key skill shortage area.

Summary

- The Queensland construction industry faces an industry shortfall of around 18,200 construction workers each year to complete the projected construction pipeline by 2032.
- The skills shortage is being experienced in multiple trades and professional roles.

- Two key factors underpinning the shortage are the ageing workforce and low completion rates of apprenticeships. Construction workers are retiring faster than replacements are entering the industry.
- Low apprentice wages are a key issue in the high drop out rate in Years 1 and 2.
- Women's employment in the construction industry has risen slightly in recent years to 17.8 per cent in Queensland but only 4 per cent of women are in trades jobs and 5 per cent of apprentices are women.
- More women are employed in residential construction predominantly in professional roles compared to more women employed as labourers in building and civil.
- There would be an additional 178,000 construction workers in Queensland if women's participation in the industry were lifted equal to men.

Recommendations

- To address the ageing workforce and ongoing skills shortages across all sectors of the construction industry, industry stakeholders must come together to agree upon initiatives to attract, employ and retain more women at all levels within the industry, including addressing current work practices such as long working hours, conditions of employment, and other factors such as poor workplace culture.
- In addition to Construction Skills Queensland initiatives and funding, the State Government should as a priority consult with all industry stakeholders about state government funding for initiatives to support apprenticeship completions, including wage subsidies for apprentices and mentor support.

Work Health and Safety and Productivity in Construction

Work Health and Safety and Productivity

Work-related injuries and illnesses disrupt Australia's available labour supply as well as the average productivity of the labour force due to the ongoing impact of premature mortality and permanent withdrawal from the workforce. The short-term productivity impacts of work-related injury and illness are largely absenteeism and presenteeism.

In a report commissioned by Safe Work Australia in 2022, Deloitte Access Economics (DAE) found that Australia's economy would have been $28.6 billion larger each year without work-related injuries and illnesses by avoiding productivity losses and costs from work-related injuries or illness between the period 2008 and 2018.

In relative terms, this equates to Australia's Gross Domestic Product (GDP) being 1.6 per cent higher each year on average, almost equivalent to the direct annual contribution to the economy from the Agriculture industry.[49] In Queensland, the annual economic impact from reducing work-related injuries or illnesses would have increased GDP by 1.3 per cent each year.[50]

The DAE Report concluded that if the average 623,663 work-related injuries or illnesses on each year incidents did not occur, then Australia would have avoided:

- a productivity loss of 2.2 million FTEs
- other employer overheads of $49.5 billion

Finally, if all work-related injuries and illnesses were removed, economic activity would have been stimulated across nearly all sectors, but Construction and Heavy Manufacturing industries which have the greatest number of work-related injuries and illnesses, would have been the most positively affected relative to others (12.6 per cent and 8.5 per cent higher).

The Report concluded:

> *"This is particularly revealing given we often lean on the industrial relations framework to tackle issues relating to wages and productivity growth. This suggests that work, health and safety (WHS) has a substantial role to play in contributing to Australia's economic prosperity".*

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[49] Deloitte Access Economics (2022) 'Safer, healthier, wealthier: The economic value of reducing work-related injuries and illnesses'; https://www.safeworkaustralia.gov.au/doc/safer-healthier-wealthier-economic-value-reducing-work-related-injuries-and-illnesses-summary-report.

[50] Ibid.

The WHS Legislative Framework

Under the Queensland work health and safety legislative framework, every person conducting a business or undertaking (a PCBU) has a duty to ensure the health and safety of:

(a) workers engaged, or caused to be engaged by the person; and
(b) workers whose activities in carrying out work are influenced or directed by the person;

while the workers are at work in the business or undertaking.[51]

This primary duty of care includes among other things:

- the provision and maintenance of a work environment without risks to health and safety;
- the provision and maintenance of safe systems of work;
- the provision of adequate facilities for the welfare at work of workers in carrying out work for the business or undertaking, including ensuring access to those facilities;
- the provision of any information, training, instruction or supervision that is necessary to protect all persons from risks to their health and safety arising from work carried out as part of the conduct of the business or undertaking;
- that the health of workers and the conditions at the workplace are monitored for the purpose of preventing illness or injury of workers arising from the conduct of the business or undertaking.[52]

A duty imposed on a person to ensure health and safety requires the person to eliminate risks to health and safety, so far as is reasonably practicable, and if it is not reasonably practicable to eliminate risks to health and safety, to minimise those risks so far as is reasonably practicable.[53]

More than 1 person can concurrently have the same duty,[54] however a duty cannot be transferred to another person,[55] and each duty holder must comply with that duty to the standard required by the Act, even if another duty holder has the same duty.[56]

Further, where there a multiple duty-holders who have the same duty in relation to a matter, each duty holder must so far as is reasonably practicable, consult, cooperate

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51 Work Health and Safety Act 2011 (Qld) (WHS Act) s 19.
52 WHS Act s 19(3)(a), (c), (e)-(g).
53 WHS Act s 17.
54 WHS Act s 16.
55 WHS Act s 14.
56 WHS Act s 16.

and coordinate activities with all other persons who have a duty in relation to the same matter.[57] This is referred to as shared duties.

For instance, there will be multiple duty-holders on all types of construction worksites – for example, a principal contractor, sub-contractors, individual contractors (ABN'ers) etc – who between them have shared duties and responsibilities to consult, cooperate and coordinate work health and safety measures with each other.

Finally, every PCBU has a duty to consult workers who carry out work for the business or undertaking who are, or are likely to be, directly affected by a matter relating to work health or safety.[58] Consultation with workers is required when:

- identifying hazards and assessing their risks
- when making decisions to eliminate or minimise those risks
- when making decisions about the adequacy of welfare facilities for the welfare of workers
- when proposing changes that may affect the health and safety of workers
- when making decisions about procedures for monitoring the health of workers or resolving issues about work health and safety (among other matters).[59]

These duties mirror the same duties that exist under the model work health and safety legislative framework that is applied in the majority of other Australian states and territories.

Workers' Compensation Injuries and Claims

Australia has a current work-related injury rate of 3.5 per cent – that is, the proportion of people who experienced a work-related injury or illness in the previous 12 months.[60]

Across Australia, 76 per cent of work-related traumatic injury fatalities and 61 per cent of serious workers' compensation claims occurred in just 6 industries:

- Agriculture, forestry and fishing
- Public administration and safety
- Transport, postal and warehousing
- Manufacturing
- Health care and social assistance, and
- Construction.

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57 WHS Act s 46.
58 WHS Act s 47(1).
59 WHS Act s 49.
60 Safe Work Australia 'Our Data. Your Stories. 'Key Work Health and Safety Statistics 2024''.

The Queensland fatality rate in 2023 was 1.8 per 100,000 workers, the second highest to the Northern Territory at 3.6 per 100,000 workers. Across Australia, it was 3.4 fatalities per 100,000 workers in the construction industry.[61]

Australia wide workers' compensation data also found an average:

- 10.7 incidence rate (serious claims per 1,000 workers)
- 6.6 frequency rate (serious claims per 1,000,000 hours worked)
- 7.2 weeks median time lost, and
- $14,400 median compensation paid.[62]

The same data shows that serious claims are concentrated in certain parts of the labour market. For instance, in the 2022-23 period, the four industry divisions with the largest number of serious claims accounted for half (81,500 or 50.8%) of all serious claims, despite representing 36.0% of jobs. Construction was the second highest industry for serious claims at 12 per cent (16,600 claims).[63]

Serious claims by industry division, 2022-23 (Safe Work Australia)						
Industry Division	**Claims (count)**	**Claims (%)**	**Incidence Rate**	**Frequency rate**	**Median time lost (weeks)**	**Median compensation paid ($)**
Health care and social assistance	26,500	19.10%	12.7	8.9	7.2	$11,700
Construction	**16,600**	**12.00%**	**17.2**	**8.8**	**8.5**	**$18,500**
Manufacturing	13,800	10.00%	16.7	9.1	7.0	$15,800
Public admin and safety	13,600	9.80%	16.7	9.9	7.4	$18,000
Education and training	11,000	7.90%	9.2	6.1	5.2	$12,700
Transport, postal and warehousing	10,200	7.30%	17.1	9.3	8.8	$18,400
Retail trade	9,500	6.80%	7.0	5.2	6.5	$10,500
Accommodation & food services	7,400	5.40%	7.8	6.2	4.4	$6,600
Admin & support services	5,600	4.00%	8.7	5.2	8.0	$12,500
Wholesale trade	5,000	3.60%	14.4	7.9	7.2	$15,300
Other services	3,900	2.80%	9.1	5.4	7.6	$16,200
Agriculture, forestry and fishing	3,800	2.70%	20.9	11.3	7.0	$13,400

61 Safe Work Australia 2023.
62 Safe Work Australia 2023.
63 Ibid.

Serious claims by industry division, 2022-23 (Safe Work Australia)						
Mining	3,100	2.20%	15.2	7.1	10.8	$34,300
Arts and recreation services	2,600	1.90%	11.1	8.6	6.0	$9,200
Professional, scientific and tech services	2,400	1.70%	2.0	1.1	7.7	$17,700
Electricity, gas, water & waste services	1,400	1.00%	10.7	5.7	8.2	$20,400
Rental, hiring and real estate services	1,300	0.90%	6.5	3.6	8.3	$16,900
Information media and telecomms	600	0.40%	3.3	1.9	4.6	$13,100
Financial and insurance services	570	0.40%	1.1	0.6	15.2	$32,400

Source: Safe Work Australia 'Our Data. Your Stories. Key Work Health and Safety Statistics Australia 2024.

As can be seen from the previous table of serious claims per industry, the Australian construction industry has the second highest amount of claims and the second highest incidence rate of claims per injury (second to health care and social assistance, and agriculture, forestry and fishery). It also has one of the highest frequency rates for serious claims.

In Queensland, construction is the second largest industry, rising 9.9 per cent over the previous year to stand at 279,300 employees in February 2024.[64]

Similar to national figures, claims from the health care and social assistance industry in Queensland accounted for the largest proportion of statutory claim payments in 2022–23 (15.2 per cent). Construction accounted for 14.8 per cent of statutory payments, while manufacturing accounted for 12.6 per cent.[65]

Construction was also among the top three industries represented among common law claims: manufacturing (16 per cent), health care and social assistance (15.2 per cent), and construction (13.8 per cent), lodged in the Queensland workers' compensation scheme.[66]

64 Jobs and Skills Australia Industry profile, Queensland Feb 2024.
65 Office of Industrial Relations 'Queensland workers' compensation scheme statistics 2022–23'.
66 Ibid.

Overall, Queensland construction had the highest amount of claims lodged per industry size at 42.8 claims per 1000 employed people compared to 33.1 claims per 1000 people employed across all industries.[67]

Considering the overall loss to the Australian and Queensland economy, significant improvements to productivity in the Queensland construction industry could also be gained by a major focus on preventing fatalities and injuries across the industry.

Construction High Risk Hazards

Particular hazards are likely to impact within different industry sectors depending on the nature of the work and environment also contributing to lost productivity. For instance, Safe Work NSW reports the most common causes of serious injury or death on construction sites are:

- falls from heights
- contact with electricity
- being hit by falling objects
- moving plant

However, this excludes data which is not recorded with respect to illnesses and diseases as a result of work in the construction industry, including dust related diseases and mental health conditions and illnesses.

The high risk nature and consequences of these hazards means that they along with a number of other hazards are regulated within the WHS framework, meaning PCBU's are required to put in place specific measures to prevent their risk,[68] and specific stand-alone WHS Regulations exist for the construction industry such as for falling objects, noise, hazardous manual tasks, confined spaces, falls, plant and structures, asbestos and silica, among others. These regulations are consistent with the model WHS regulations adopted by other Australian states and territories.

BPIC and WHS High Risk Issues

BPIC contained a number of WHS measures that outlined industry standards for particular WHS issues such as heat stress not contained within WHS Regulations or industry codes of practice, as well as particular WHS training around high risk hazards such as asbestos containing materials, silica and mental health issues.

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67 Ibid.
68 Work Health and Safety Regulations.

Heat Stress and Productivity

Heat stress has a significant negative impact on labour productivity in the construction industry, both in Australia and internationally. It affects worker health, safety, output, and project timelines—particularly in hot and humid climates like much of Australia.

It is estimated that in high heat conditions, labour productivity drops by up to 35 per cent for outdoor workers undertaking work exceeding safe thresholds.[69] Under these conditions, more frequent breaks are required by individual workers, slowing work and there is often increased absenteeism due to heat-related illness and a higher risk of incidents, especially when cognitive function is impaired by heat.

Safe Work Australia estimates that productivity losses due to heat could reach $1.6 billion annually by 2030, and construction workers are among the highest risk groups for heat-related illness. The CSIRO also warn that more frequent extreme heat days will increase labour disruption in the construction sector, especially in Queensland and Western Australia.[70]

The United States Centers for Disease Control and Prevention (CDC) reports that construction workers account for thirty six per cent of all heat-related deaths in U.S. workplaces, recommending engineering controls and mandatory rest breaks.[71]

Internationally, the International Labour Organisation (ILO) predicts global productivity losses equivalent to 80 million full-time jobs due to heat stress with construction work accounting for nearly 20 per cent of those losses.[72]

Heat Stress Statistics

Section 35 of the Act requires a PCBU to notify the Regulator in the event of a fatality, a serious injury or illness, or a dangerous incident. A serious illness or injury includes immediate treatment as an in-patient in a hospital.[73] However, the Queensland WHS Regulator does not publish records of annual notifiable incidents under the WHS Act, which include incidents that result in hospitalisation.

It has been reported that on 28 December 2023 Daniel Sa'u a labour hire worker on the Cross River Rail Salisbury site died after returning home from work.[74] Over the period from December 2023 to February 2024 unions also claimed that there had been 25 workers injured at Queensland worksites due to heat stress.[75] The tragic death led to

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69 Source: https://www.sydney.edu.au/heat-health.
70 Source: CSIRO State of the Climate Reports.
71 Source: CDC Heat Stress in Construction.
72 ILO – Working on a Warmer Planet Report (2019).
73 WHS Act s 36.
74 https://www.brisbanetimes.com.au/national/queensland/worker-dies-after-signs-of-heat-stress-hundreds-walk-off-cross-river-rail-site-20240119-p5eynr.html.
75 https://www.abc.net.au/news/2024-02-15/queensland-cfmeu-workers-protest-worksite-conditions/103470738.

delays to the Cross River Rail project from site shut downs and subsequent industrial action to improve heat policy management, with the Cross River Rail Delivery Authority admitting at least eighteen workers had been taken to hospital after complaining of or displaying "suspected heat-related symptoms".[76]

Notably, there are currently no regulatory requirements to publish industry data about treatment as an in patient in a hospital and it is therefore difficult to place a precise number on the amount of people in construction who are seriously affected by heat stress in Queensland from work-related incidents, although Workplace Health and Safety Queensland (WHSQ) has previously identified heat stress as a serious risk and that there were over 300 accepted workers' compensation claims in Queensland for heat-related illnesses between 2014 and 2019, averaging to approximately 60–70 workers per year making a formal claim related to heat stress.

The real number affected is likely to be much higher, possibly in the hundreds or over a thousand annually, due to underreporting.

Why Mandatory Temperatures?

There is a range of evidence that worker productivity declines significantly at high heat and humidity thresholds i.e., temperatures above 35°C, or at 29°C combined with 75% relative humidity, particularly in outdoor and physically demanding jobs like construction. Both Australian and international research confirms that such heat conditions impair physical performance, cognitive function, and safety, leading to reduced output and increased risk.

The WHS Queensland Regulator provides information and tools to help manage the risk of heat stress.[77] This includes an online Heat Stress (Basic) Calculator assessment tool to help identify and manage risks of heat related illness.

Using this tool and applying an air temperature of 29 degrees Celsius and 75 per cent humidity, an acclimatised worker working without shade with a single layer of clothing for a period of more than 2 hours undertaking moderate work including sustained hand and arm work such as hammering, handling of moderately heavy materials, is considered a high risk.[78]

High risk means the onset of a heat-induced illness and should require immediate steps to be taken to implement controls to reduce the risk.

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76 https://7news.com.au/news/cross-river-rail-denies-heat-stress-claims-as-wife-says-workers-death-could-have-been-prevented-c-13603145.

77 https://www.worksafe.qld.gov.au/safety-and-prevention/hazards/hazardous-exposures/heatstress.

78 https://onlineservices.oir.qld.gov.au/etools/views/calc/heatStress.xhtml.

BPIC and Heat Stress Guidelines

Because of the major risk of heat stress from working in the Queensland construction industry, BPIC contained Hot Weather Guidelines measures consistent with clauses also contained within a range of industry enterprise agreements:

Clause 14. Hot Weather Guidelines

Under this Policy when air temperature reaches:

a) 35°C; or
b) 29°C and 75% humidity or more, after three hours from commencement of each trades shift in southeast Queensland it shall constitute inclement weather (Extreme Hot Weather).

This definition will be subject to review in other regions. This must be incorporated in the Employer's OHS Procedures for all applicable Projects.

Before finishing work, Employees must be alerted to possible Extreme Hot Weather forecasted for the following day by the PCBU, Site manager, and HSRs. This will allow preparation for works to be modified to reduce this category of heat exposure. For forecasting, planning and guidance the Bureau of Meteorology (BOM) shall be used for weather observations. Monitoring heat on the day will be done with a calibrated wet bulb thermometer.

When Extreme Hot Weather is forecasted for the following day, the Employer's Site Manager, WHS Committee and WHS Representatives will consult and determine what actions are to be taken to reduce exposure and modify the program and/or workload prior to the Extreme Hot Weather, which may include:

a) rescheduling work so that certain tasks are performed during the cooler part of the day, or on another day
b) reducing the time spent doing hot tasks (for example, by job rotation)
c) arranging for more workers to do the job
d) providing extra rest breaks in a cool area
e) providing cool drinking water and ice (machines) near the work site
f) increasing air movement by fans or coolers
g) installing shade cloth to reduce radiant heat from the sun
h) consideration must be given to working an eight-hour day.

Once the temperature reaches extreme levels, the following process will be followed:

a) Where the temperature reaches 35°C, there will be an orderly cessation of work and preparations for safe completions of critical tasks currently under way and/or applicable modifications to the program and workload.
b) where the temperature is 29°C and 75% humidity or more after three hours from the commencement of a shift, there will be an orderly cessation of work and preparations for safe completions of critical tasks currently under way and/or applicable modifications to the program and/or workload.

If there are areas of the workplace that are below any Extreme Hot Weather, work shall continue as normal in those areas, Employees unable to work elsewhere may be transferred to these areas below the extreme levels if work is available. Employees may walk a reasonable distance through areas effected by extreme hot weather to and from amenities, provided it does not pose an imminent risk to their health or safety. The primary objective is to ensure that there is no reasonable concern for an
Employee undertaking the work of an imminent risk to their health or safety,
Extreme Hot Weather shall be measured on site by a temperature gauge compliant to Australian Standards and shall be undertaken in accordance with the manufacturer's operating instructions.

The Parties agree that a measurement taken using the Wet Bulb in Globe Temperature index mode will not be used. Wet bulb thermometers will be used in temperature mode and then humidity mode separately and combined will be an acceptable method of measuring extreme hot weather. It is the responsibility of the PCBU to implement these guidelines.

The PCBU shall supply a Wet Bulb Thermometer for each job and depot.

These guidelines envisage three different scenarios:

1. when there is forecast hot and humid weather of 29 degrees and 75 per cent humidity
2. when the temperature hits 35 degrees or more, and
3. when the temperature hits 29 degrees and 75 per cent humidity 3 hours after the commencement of work.

In the first instance, when weather is forecast of 29 degrees and 75 per cent plus humidity e.g., for the following day, consultation is required between the Employer's Site Manager, WHS Committee and WHS Representatives to determine what actions are to be taken to reduce exposure and modify the program and/or workload prior to the Extreme Hot Weather.

This is consistent with the duty of care of the PCBU to consult workers about health and safety matters that affect them, including where there are Health and Safety Representatives. It is also consistent with adopting control measures to adopt controls to minimise the risk of a hazard where it is not practicable to eliminate that risk.

These control options are outlined below in accordance with the WHS hierarchy of control principles:

Control Measure	**Hierarchy of Controls**
Rescheduling work so that certain tasks are performed during the cooler part of the day, or on another day	Administrative control
Reducing the time spent doing hot tasks (for example, by job rotation)	Administrative control

Arranging for more workers to do the job	Administrative control
Providing extra rest breaks in a cool area	Administrative control
Providing cool drinking water and ice (machines) near the work site	Administrative control
Increasing air movement by fans or coolers	Engineering control
Installing shade cloth to reduce radiant heat from the sun	Engineering control
Consideration must be given to working an eight-hour day.	Administrative control

The second scenario envisaged under the policy is where the temperature actually reaches 35°C (although planning for forecast weather of the same temperature would also envisage similar approaches). In this scenario, there is to be an orderly cessation of work and preparations for safe completions of critical tasks currently under way and/or applicable modifications to the program and workload.

The third scenario is where the temperature hits 29°C and 75% humidity or more after three hours from the commencement of a shift. Similar to where the temperature hits 35°C there is to be orderly cessation of work and preparations for safe completions of critical tasks currently under way and/or applicable modifications to the program and/or workload.

Under both scenario two and three, recommended control measures allow for cessation of work and critical tasks affected by the heat and humidity, but allow for administrative controls such as modifying the work program or transferring to safer work in the conditions.

In all scenarios, the control measures are options to be considered during consultation with workers and their representatives to minimise the risk of heat stress considering the conditions of a particular job site and for forecast weather only. They are about preparing and adjusting the work to deal with an increased and foreseeable risk and are entirely consistent with standard WHS control measures and the WHS legislative framework.

This is because working in hot or humid environments, especially when these two conditions are combined, risks heat-related conditions, including heatstroke, a potentially fatal illness.

WHS Training

A key control measure to manage foreseeable types of hazards and their risks is the duty of a PCBU to provide information, training, instruction or supervision that is

necessary to protect all persons from risks to their health and safety arising from work carried out as part of the conduct of the business or undertaking.[79]

Common industry training includes induction training for all construction workers in the building and construction industry sector for Asbestos Containing Materials Awareness, Silica Awareness and Mental Health training. These were included in BPIC to ensure all workers across major infrastructure projects were provided with the appropriate training in an industry context and are common features of industry enterprise agreements.

Asbestos Containing Materials Training

A study by the Centre for International Economics for the Asbestos Safety and Eradication Agency estimated the cost on hospital and primary care from asbestos related diseases at $192 million in 2015, with a further $321 million in indirect costs from productivity losses and an estimated monetary value of lost quality of life at $10.8 billion. Average costs for healthcare alone per separation for patients with asbestosis is estimated at $20,562 which is a direct cost.

There remains 6.4 million tonnes of asbestos materials in the built environment in Australia with a death toll of 4,000 per year from exposure or around three times the national road toll. A study by Urbis in 2023 has found that bringing forward the removal of asbestos containing materials by three decades from 2100 to 2073 would have a positive NPV of more than $3 billion with a benefit cost ratio of $3.03. Much of the economic benefits come from reducing disability adjusted life years from asbestos related diseases which sits at 54,750 years in 2019 alone. It is estimated that approximately 25,000 to 28,000 premature deaths from asbestos related diseases can be prevented.

Silica dusts

It is estimated that 584,000 Australian workers including workers in construction were exposed to respirable crystalline silica in 2016 with uncontrolled exposure risking up to 103,000 silicosis cases and 10,000 lung cancers. Modelling commissioned by Safe Work Australia has estimated the value of life saved and illness avoided per silicosis case prevented at $4.6 million.

The prevention of just a handful of cases of asbestos related diseases and silicosis from the inclusion of mandatory training and procedures would deliver a strong productivity benefit and economic return.

Mental Health

There are further strong productivity returns from investment in preventative mental health programs. The median time lost and compensation paid for mental health conditions has been assessed by Safe Work Australia to be four times greater than that

[79] WHS Act s 19(3)(f).

of all injuries and illnesses. In construction the largest category of mental health related impacts were from work related harassment and/or workplace bullying at 37% followed by work pressure at 27%.

Summary

- Work health and safety has substantial role to play in contributing to Australia's economy.
- Australia loses around $26.4 billion each year due to work-related injuries and illnesses with an annual economic impact of a 1.3 per cent reduction in Queensland's GDP.
- There are a range of WHS regulations requiring the construction industry to take specific measures to prevent foreseeable construction hazards due to the high risk nature of the industry.
- The Australia wide fatality rate for the construction industry was 3.4 fatalities per 100,000 workers compared to the average of 1.4.
- The Queensland construction industry was the second highest industry for serious workers compensation claims comprising 14.8 per cent of all claims, and 13.8 per cent of all common law claims.
- Overall, construction had the highest amount of claims lodged per industry size at 42.8 claims per 1000 employed persons compared to 33.1 claims per 1000 people employed across all industries.
- Considering the overall loss to the Australian and Queensland economy, significant improvements to productivity in the Queensland construction industry could also be gained by a major focus on preventing fatalities and injuries across the industry.
- In 2015, asbestos related deaths in Australia cost the workforce and broader economy $192 million in hospital and primary care costs and a further $321 million in indirect costs, while Safe Work Australia estimates the value of life saved and illness avoided per silicosis case at $4.6 million.
- Preventative mental health measures such as mental health training is an investment in productivity returns with mental health injuries arising from harassment and bullying in construction around 37 per cent.
- Safe Work Australia estimates that productivity losses due to heat could reach $1.6 billion annually by 2030.
- Heat stress has a significant negative impact on labour productivity in the industry affecting worker health, safety, output and project timelines – with productivity losses of up to thirty per cent in outdoor workers, with more breaks required, slower work, increased absenteeism and increased risk of heat related illnesses and conditions.

- Qld WHS Regulator assessment tools with 29 degrees Celsius and 75 per cent humidity for outside construction work is considered a high risk which could mean the onset of heat induced illnesses and where immediate steps should be taken to prevent its risk.

Recommendations

- To address the lack of focus on non-fatalities or serious injuries in the industry, the WHS Regulator should collect and publish annual data on the types of notifiable incidents, including serious injuries and illnesses and dangerous incidents, across each industry and industry sector, working with the WHS Industry Consultative forums for input and advice.
- To address the ongoing disputation and lack of compliance with work health and safety duties about effectively managing the risk of heat stress on Queensland construction worksites, the WHS Regulator should develop in consultation with industry and unions Guidelines and a Code of Practice outlining prevention measures for heat stress in the construction industry as a matter of priority and to ensure that all PCBU's in construction can comply with their duty of care to ensure the health and safety of all workers, so far as is reasonably practicable.

The Economics of Best Practice Industry Conditions with Special Reference to the Queensland Building and Construction Industry

Report prepared by John Mangan

University of Queensland and Economic Planning and Impact Consultants Pty Ltd

May 2025

epic

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1.0 Executive Summary

This report is not written as an endorsement of BPICs as they emerged in Queensland over the period 2018-2024, nor as a critique. Rather it is an attempt to objectively evaluate the program both in terms of the criticisms levelled against it and, perhaps more importantly, in terms of the achievement of its stated objectives.

The BPICs were a multifunction program, designed to bring economic rigour and financial accountability to large Government funded projects during a period in the Queensland Building and construction industry that was characterized by peak demand, a shortage of skilled workers (which was exacerbated by strong inter-state competition for labour), and a period of national and world-wide supply constraints. Added to this, were several societal goals such as increased labour force diversity, increased apprenticeship training, and socio-economic goals such as improved health and safety outcomes in an Industry which is second only to Agriculture, Forestry and Fishing in terms of workplace fatalities and injuries.

It is this multiplicity of aims which makes rigorous evaluation of the program difficult. In the long run, the economic goals, the socio-economic goals, and the societal goals should move in the same direction. A financially transparent project with a safe and diverse workforce should, in the long run, provide the best economic outcomes. But this is not necessarily true in the short run, where the achievement of these goals is not necessarily mutually inclusive. To fully evaluate the program all its objectives need to be taken into an account, quantified, and ranked in importance. Unfortunately, no agreed criteria for evaluating and weighting the mixed aims of BPICs are available. For example, is cost efficiency more important than workforce diversity and if so, by how much?

A further consideration is that the BPICs existed for a relatively short period (2018-2024) and applied to a relatively small section of the Building and construction industry. In some ways this helps the evaluation because it allows comparison of the outcomes of BPIC, in terms of productivity, wage outcomes and industrial conflict with the rest of the industry. On the negative side, the short period of operation and the relatively few observations of BPIC projects makes econometric analysis difficult and likely to be statistically unreliable.

The evaluation of the program will be in two sections. The first will look at the standard project economic outcomes such as the costs, wages, productivity, and industrial conflict aspects of BPICs by way of comparison with the rest of the Building and construction industry in Queensland and Australia. The second is to consider the performance of the BPICs in delivering the workforce diversity, increased training, improved safety, and impact on local economies that were part of their stated performance indicators. The report will then consider both parts as part of a general evaluation of the program.

Two related criticisms of BPICs came from independent Queensland Treasury Modelling and were outlined in the Ministerial statement following the temporary suspension of the BPIC program.

These were:

- "If BPICs continued in its current form, Queenslanders would pay an additional 7% rent over the next five years and 22,000 homes would not be built across the State".[1]

And

- "Independent economic modelling by Queensland Treasury over 2024-30 estimates BPICs are likely to increase project costs by up to 25 per cent and create a net economic cost of up to $17.1 billion".

Without access to the reports in question, it is difficult to evaluate the Treasury Modelling. However, if BPICs were likely to yield such results it would be expected that the indicators listed above for BPICs would differ significantly from other projects within the same industry and in comparison, to non-BPIC states.

1.1 Wages

- Analysis from the Australian Institute of Business and Economics (based on 2023/24 data), show that wages were not a major part of total input costs for the industry, averaging about 17%. This compares with 22% for Queensland industry, nor did the industry record above average profits (measured by Gross operating surplus minus wages).
- However, there were differences across the Building and construction industry. Specifically Residential building had % wage costs at 13% and % profits at 12%, Non-residential building (23%, 23%, respectively), heavy and civil (21%, 16%) and other construction (32%, 18%).
- The period 2020-2024 saw increases in wages (+2.96%)[2] across Australian industries in general. This rise was common to both the Public and Private sectors which almost mirrored each other in terms of wage movements.
- The Construction industry played its part in this wage increase, rising 3.4 % over the period, which was the 5th highest behind, Electricity, Gas, Water and Waste, Manufacturing, Mining and Transport, Storage and Warehousing.
- Wage rises in construction in Queensland (over the period) at 3.7% were slightly above average, equal to the ACT and second only to Tasmania (3.9%).
- These wage increases are largely explained by market forces, particularly the joint effect of skill labour shortage and, pent up demand following Covid-19 and the slowdown in skilled migration.

[1] https://statements.qld.gov.au/statements/101618.
[2] 5 period quarterly average using DEEWR annual average data

1.2 BPIC Wages – BPIC wages were at or below current market prices

- Based on data supplied by the Civil Contractors Federation Queensland (CCF), hourly BPIC wages for a construction worker level 5 CW5, at $41.26, were 15% above the industry average.[3]
- Data supplied by the Fair Work Commission show close correlation in wages (using CW5 workers) across 10 construction firms/projects in Queensland entered into between 2023-2024 which supports the view that market forces rather than specific industrial agreements determined wages in construction.
- Moreover, the reported BPIC wages were level or below the hourly wages for CW5 for larger contractors such as BMD ($48.57) and CPS ($41.17) who were dealing with large projects like BPIC projects.
- Given the nature and the size of the projects involved, the overheated Building and construction market and the time requirements behind major government initiatives, these data suggest that BPIC wages were at or below current market prices.
- This is not to suggest that they were optimum or efficiency wages in the wider context of the industry, a judgement like that would require more detailed economic modelling. Rather, that they did not appear excessive given the conditions, or out-of-line with what was occurring in the Building and construction industry over Australia and with major companies within the Queensland Industry.
- These data give support to claims that BPIC wages were at or even below market prices for labour at the time.
- The similar wage rates offered by large companies gives support to the concept that Construction firms were paying *efficiency wages*, where larger firms pay a wage premium to achieve higher productivity and other goals and gain advantage in the labour market[4].

1.3 Productivity – There is no evidence of below productivity outcomes from BPICS

- Multi Factor Productivity (MFP) in the Australian construction industry suffered a long-term decline from a peak in 2014 to a low in 2023.
- This has been partially offset in 2024 with a 2% rise in MFP.
- The reasons for the long period of decline in productivity in the construction industry are complex but similar patterns have been found internationally. The following reasons have been offered up:
    - Slow technological take up in the global construction industry which has focused on control not productivity
    - Inability to implement or achieve scale economy gains
    - Those scale and cost gains that did occur were often passed on downwards to customers and upwards to suppliers to maintain market share

[3] The data is sourced from records of CCF.
[4] For an introduction to the efficiency wage theory see, Efficiency Wage Theory.

- Projects have become more complex, but this complexity has not been matched by design capability
- Insufficient skilled labour training or replenishment
- The focus on meeting deadlines rather than improving productivity as a key metric.

Specific MFP data for productivity in the industry in Queensland are not available. However, some indirect data can be gleaned from the AIBE model using data for value of output and total employees across the Construction industry in selected States.

The data shows that the industry in Western Australia had the highest productivity value at $606,773 per employee and Tasmania the lowest at $397,698. Queensland was close to the Australia average at $453,450, slightly below New South Wales but above Victoria.

There is no specific data on MFP or single productivity measures for BPIC projects. However, if they were below average this was not sufficient to lower the Queensland level below the National average or other States. Therefore, based on available evidence, it would be hard to show BPIC projects demonstrated below average productivity outcomes.

1.4 Building costs – The cost to build a new house in Queensland remained below the national average

- Global construction costs have significantly increased between 2020 and 2024[5], with reports indicating a rise of around 3.1% in building construction prices during this period.
- This rise in costs were driven by factors like increased demand for housing and supply issues with chain disruptions caused by the COVID-19 pandemic.
- Within Australia, prices received by Building and construction businesses increased at 31.1% (from September quarter 2020 to June quarter 2024) and were in line with Global trends.
- This was driven by growth in house construction prices which rose 40.8% over the period 2020-2024. Other residential building construction rose 25.3%, non-residential building construction rose by 27.1%.
- Yet the latest available data from the ABS for 2023 shows that the cost to build a new house in Queensland was below the national average with the average cost of a new apartment in Victoria at $452,273 compared with $424,837 in Queensland for 2023.
- For 2025, quantity surveyors are advising clients that prices in Brisbane are comparable with other capital cities. A review of the available data indicates there is no indication of any constraint from Queensland in building costs related to BPICs.

[5] https://www.turnerandtownsend.com/insights/international-construction-market-survey-2024/.

1.5 Benchmarks for Major projects in Queensland

Cairns Convention Centre Expansion (with BPIC)

- The $176 million Cairns Convention Centre expansion was estimated to support 570 full time jobs during construction and involved 1,000 local workers throughout delivery of the project.
- The project commenced construction in 2020, was delayed by the outbreak of COVID and was completed for opening in 2023.
- The project was delivered within the budget of $176 million.
- There were no major injuries or fatalities on site during construction.

North Queensland Stadium (with BPIC)

- The North Queensland Stadium (Country Bank Stadium) was completed in Townsville at a total cost of $290 million an increase of 16 per cent from the original project budget of $250 million.
- The cost increases were attributed to Buy Queensland local procurement requirements and Best Practice Industry Conditions not being included in the original project costing as well as other additions including installation of stadium Wi-Fi. Others have cited with contractors regarding both the regularity of wage rises and the respective obligations between contractors and the State Government[6].
- The project commenced construction in July 2017 and was handed over to Stadiums Queensland on schedule in December 2019.

Cross River Rail (without BPICs)

- The Cross River Rail project does not have the full industrial relations provisions under Best Practice Industry Conditions applied. The project has experienced ongoing industrial action and disputes between the main contractor CPB and the CFMEU.
- There were safety concerns including over the management of asbestos at the start of the project. There was a further serious safety incident with a worker falling from scaffolding and incidences of heat stroke and worker fatality.
- In 2023 it was reported that the cost of Cross River Rail has increased by $960 million or 17.5 per cent to $6.3 billion.
- In December 2024 it was reported that there could be another $1.5 billion in costs related to the project running late and contractor claims with negotiations ongoing. Many of these costs are related to global supply chain issues as well as industrial issues on the site.

[6] Conversations with Union sources.

1.6 Socio economic and societal goals

Female participation in the Building and Construction industry increased significantly during the BPIC period

- During the BPIC period Female participation in trades in construction increased from 1.1% in 2016 to 3.9% in 2024 or from 1,459 to 6,210.
- Female participation in the Queensland Construction industry rose consistently from 2021, rising approximately 2.5 percentage points from 2021 to 2024, the period where BPICs were most prominent.

1.6.1 Apprenticeships and Training in construction increased significantly during the BPIC period

- The Building and construction training policy contained within BPICs requires that at least 15% of total labour hours on eligible projects are performed by apprentices, trainees, or through other workforce training units.
- There were significant increases in apprentices in construction in total since 2015.
- NCVER data show up to June 2024 by Construction Skills Queensland also show growth in females in construction apprenticeships in Queensland up from 553 in 2016 to 1,912 in 2024 with the strongest growth over the period since 2021.
- The growth in construction apprenticeships was across both male and females.

1.6.2 Industrial conflict in the industry during BPIC remained consistent with the whole of Australia and below Victoria and New South Wales

- The BPIC period 2018-2024 saw working days lost in Queensland in the construction industry below that for Victoria and New South Wales and for the most part on a par with the whole of Australia.
- The most significant project for industrial conflict in Queensland related to the cross-river rail project in 2023/24 which threw up logistic challenges and was not a fully BPIC project.

1.6.3 Indigenous employment and training accelerated during the BPICs period

- The construction industry has historically been a major area for Indigenous employment.
- Census data show that construction remains the second highest employer of indigenous people at 7,519 behind health care and social assistance at 12,392[7].
- One in ten indigenous workers were employed in the construction industry in 2021.
- Between the 2016 and 2021 Census indigenous employment in construction and participation have both grown steadily with strong growth in the trade's areas.
- The growth rate in apprenticeships filled by Indigenous persons accelerated after 2021 and during the BPICs period.

[7] https://www.csq.org.au/knowledge-centre/interactive-data/indigenous-construction-workforce/.

- It will be remembered that the employment and training welfare of Indigenous Australians was a key platform in the rationale behind BPICs.

1.6.4 The BPIC program made significant contributions to the local economy

- *Country Bank Stadium Townsville*- The project involved 480 local businesses across the supply chain and $163 million of economic activity into the local economy.
- The project supplied 93.7 per cent of construction hours by local contractors on 16 July 2019.
- *Cairns Court House*- During construction, 87 apprentices and seven trainees were trained. Lend Lease Building Pty Limited were required to evaluate trade package tenders on workplace health and safety and the employment of apprentices and trainees.
- Approximately 77 apprentices and 10 trainees were working on the stadium on 16 July 2019 with 95 per cent of training hours by local workers[8].

1.7 Conclusions

In contrast to standard union/employer agreements, the BPIC program as it was introduced through Government procurement policies in Queensland, was a multipurpose program. Not only did it have standard economic objectives of achieving good economic outcomes such as productivity gains, solving skilled labour shortages and easing cost pressures on Government funded infrastructure projects, but also had built into the agreement societal and socio-economic goals such as increased labour force diversity, increased apprenticeship training, support for local economies and improved health and safety outcomes. To rigorously evaluate the program all its objectives would need to be taken into an account, quantified, and ranked in importance. Unfortunately, no agreed criteria for evaluating and weighting the mixed aims of BPICs are available.

The major claims made against BPICs as they were operating in Queensland are predictive of what may happen over the next 5 years. Specifically, modelling from Queensland Treasury suggested if BPIC policies continued:

- "Rents would rise an additional 7% rent over the next five years and 22,000 homes would not be built across the State[9].

And –

- Over 2024-30 estimates BPICs are likely to increase project costs by up to 25 per cent and create a net economic cost of up to $17.1 billion.

The data and hypothesis of these results are currently not available. However, the validity of these predictions seems to depend on several factors. First, that the BPIC program was forcing costs up in the Residential housing market, possibly through a demonstration effect on wages, and second, this additional cost pressure will reduce the rate of house construction and third, the impact of this reduced supply of houses will flow through into

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[8] https://documents.parliament.qld.gov.au/com/TPWC-2297/RN2456P201-79D2/qon-29Jul2019-HPW.pdf NGO3.

[9] https://statements.qld.gov.au/statements/101618.

higher rents. Until the temporary halt in the BPIC program, this chain of events did not appear to be happening. House construction prices in Queensland remain below those in non-BPIC states and the percentage growth in house building in Queensland is above the national average, including New South Wales and Victoria.

Therefore, in the absence of this modelling, the evaluation in this report is based on observations of the performance of the BPICs 2018-2024 as it was instituted during a period in comparison with industry aggregates and inter-state comparisons from non-BPIC states. All these areas faced similar excess demand and were in an industry that faced long term declines in productivity and was caught up in a spiral of rising costs caused by supply chain issues. The similarity of these circumstances should allow meaningful direct comparisons.
After reviewing the available data on BPICs the report concludes that:

- hourly wages paid on BPIC projects were initially at the higher end of wages paid in the Queensland construction industry but similar or below that were paid by other large contractors in the State.
- Fair Work Commission data supports the view that wages in the construction industry in Queensland were driven by market forces not specific industrial awards.
- Data show that wages in the Queensland construction industry were at or below the Australian average for most of the 2018-2024 period.
- Given these facts and the supply constrained environment that were operating, BPIC wages could be regarded as market rates.
- In terms of costs, it would be expected that, the additional societal goals that were added on to the performance indicators for BPIC projects, would cause some upward pressure on project costs.

In this case the benefits of these societal and socio-economic benefits need to be evaluated as a positive against any additional costs to the operations in BPIC projects.

However, If BPICs did inflate building costs across the industry in Queensland it does not show up in the data or through inter-state comparisons of residential house and townhouse building cost. In both these areas Queensland costs are below those for Victoria and New South Wales for 2023/24.

In summary, the BPICs were an ambitious plan to combine economic feasibility and financial transparency to the construction of large-scale Government infrastructure projects in Queensland and stabilise the supply of skilled labour. They also had a wide agenda of societal and socio-economic goals such as greater workforce diversity, improved training, apprenticeship participation and greater safety standards in a dangerous industry.

Given this multiplicity of goals, it would be unlikely that any program would be the cost-minimising efficient program as outlined in economic textbooks, particularly in the over-heated environment of the Queensland Building and Construction market of the 2020s. *Yet the claims that the program was destabilising the Building and construction industry in Queensland are not supported by the available data.*

This conclusion is not a blanket endorsement of the program nor the process by which it was conceived or administered. When Governments intervene in industrial relations arrangements and add in the potentially costly local content provisions (which are almost certainly anti-competitive in a strict sense) they need to assign shadow prices to these programs to allow a rigorous cost benefit analysis of the programs to take place. Such shadow prices are not currently available for public scrutiny regarding societal aspects of the BPIC program.

In their absence, the report fell back on a consideration of the performance of the BPICs based on their stated aims and made use of specific data on BPICs and, more frequently, on industry level data. In terms of the standard economic outcomes, it appears the outcomes from BPIC projects were essentially in line with market forces in the tight conditions of the construction labour market. With regards to their societal and socio-economic outcomes, although causation cannot be directly applied, they appear to have achieved considerable success in terms of greater workforce diversity, especially for females and indigenous, increased training take-up including growth in apprenticeships and clear and verifiable support for local economies. The relative importance of these achievements must be weighed against any additional economic costs that implementing the entire program may have incurred.

2.0 Introduction

Best Practice Industry Conditions (BPICs) are guidelines designed to ensure high standards in various industries, particularly in construction and civil projects. They were integrated into the Queensland Government's procurement policy as part of the Queensland Procurement Policy (QPP) in 2018. This initiative aimed to ensure that companies winning tenders for major government-funded construction projects adhered to best practice principles, including favourable industrial entitlements for workers and stringent work health and safety controls[10].

Specifically, the issues covered in BPICs typically cover aspects such as:

- Ensuring safe working environments
- Promoting fair and equitable treatment of workers
- Maintaining high-quality workmanship and materials
- Implementing eco-friendly practices and minimising environmental impact
- Encouraging participation from diverse groups, including First Nations women, and mature-age workers**.**

The BPICs, which differed slightly across subsections of the Building and construction industry, engendered considerable comment within the industry. To some they were an example of union over-reach, unnecessary Governmental intrusion into the industrial relations of the industry and dilution of management control of projects. To others they were a necessary and overdue step to ensure workplace health and safety in a dangerous

[10] BPICs varied over the period 2018 to 2024, For the latest version see, Standard Best Practice Industry Conditions - Building Construction Projects 2023-2027.

industry and a means of stabilising the supply of skilled labour in an over-heated market[11].

This report considers each of these aspects using publicly available data and insights and research from industry players. Some of this research included personal conversations and individual views, which cannot be directly assigned but their inclusion adds to the comprehensiveness of the report. It must also be noted that the BPICs, as they evolved in Queensland, have a relatively short history (2018-2024). They were implemented in a period, particularly post COVID-19, when the Building and construction industry was experiencing peak demand both from major Government infrastructure projects, major private sector capital works, high inter-state competition for skilled labour and high rates of migration.

The resultant cost inflations and skilled labour shortages across the industry make accurate decomposition of the individual impacts of BPICs difficult. In any comprehensive analysis a number of factors will need to be evaluated, including their direct contribution to costs in the Building and construction industry and any demonstration effect on other parts of the industry that they may have had. Similarly, the impact of BPICs on societal goals such as improved health and safety, greater labour force diversity and reduced industrial conflict, need to be part of the decomposition problem.

Towards this purpose this report examines the structure of the industry in Queensland and describes the industrial and economic environment in which BPICs were introduced. It considers the widely held pros and cons of the BPICs in Queensland prior to their temporary cessation with a view to quantifying these for including in a broad economic evaluation of the overall policy.

Within this evaluation it is argued that due to the complexity surrounding the net impacts of BPICs, a wide regimen of costs and benefits should be included in the economic evaluation, although this will entail some difficult quantification issues. The report concludes with an overall evaluation of the BPICs and some policy suggestions going forward[12].

[11] In the course of completing this report, the author spoke to a wide range of industry participants. Some of their remarks were in confidence and I have attempted to provide a flavour of their comments without specific assignation.

[12] I am grateful to he views expressed by Damian Long (CCF), Paul Dunbar (CFMEU) Stacy Schinnerl (AWU) Ben Young (Hutchinsons Builders) Rohan Webb (AMWU) and Scott Gartrell. The study also benefitted greatly from the data collection and research by Tim Linley.

2.1 The Implementation of BPICs in the Building and construction industry

The Construction industry in Australia and overseas has, over the last decade, faced several structural issues including a relative lack of technological innovation, increased complexity of design, slow productivity growth and increased legislative requirements[13]. These were exacerbated by the COVID-19 pandemic which increased supply constraints and reinforced material cost increases[i].

BPICs were introduced partly in response to this and were designed to address various challenges in the construction industry, including safety concerns, labour disputes, and the need for consistent quality standards. They encompass a range of principles, such as fair wages, safe working environments, and the use of skilled labour throughout the industry.

2.2 BPICs in Queensland

In Queensland, BPICs are integrated into the Queensland Procurement Policy (QPP), which governs how government-funded projects are to be managed. The QPP emphasises the importance of using procurement to support local jobs and businesses, drive economic growth, and achieve social and environmental outcomes. The BPICs were intended to form a key component to this policy by ensuring that projects funded by the government adhered to the highest standards of practice[14].

2.3 Industry reaction to BPICs

Though initially accepted by the major contractors in the industry as a means of stabilisation, BPICs were often seen in less favourable light. However at least one spokesman for contractors described them as 'being driven by the CFMEU and were *"a blatant way of obtaining patterns agreement across the industry*[15]*".* The same source suggested that initially the BPICs acted as an accelerator on wages in the industry and set a new benchmark, although that same source later argued that by 2024 the rest of the industry had adapted, and wage equilibrium was restored to the industry.

The BPICs were also seen by some contractors, through right of entry clauses and the right of control over the hiring of contractors, as a means of extending union control over the industry. Finally, they were also seen in the context of union rivalry within the Building and construction industry, principally between the CFMEU and the AWU[16].

[13] The top cost drivers in the construction industry "Why Building Costs Are Rising Faster Than Ever - Ian Hewitt & Associates".

[14] BPICs were differentiated by industry for example Transport/Civil BPIC, the Construction BPIC and the Renewable Energy BPICs.

[15] Discussion with the author. For discussion of pattern agreements see, *Pattern bargaining | European Foundation for the Improvement of Living and Working Conditions*.

[16] Contractors have cited this dispute as an example of inter union disputes associated with BPICs "Union workers from CFMEU and AWU clash" ABC News.

2.4 Temporary suspension of BPICs

In November 2024, the Queensland government announced a temporary suspension of BPICs on new major projects. They cited concerns expressed by some industry sources about cost escalations in projects and potential flow-on impacts of BPICs on the wider construction sector.

According to the Queensland Government the suspension aims to boost productivity and reduce costs by increasing market competition. Reports from the Queensland Master Builders Association and *Tulipwood Consulting* have been cited in support of this decision[17], but it has been criticised by Queensland Trade unions who argue that such reports fail to value the improvements BPICs have made to health and safety, social inclusion and workforce morale and stability[18]. The Queensland Productivity Commission (QPC) has been tasked with reviewing the long-term impacts of BPICs and providing recommendations for their future implementation.

2.5 What are the major concerns about BPICs?

There are a few direct and related issues which have been cited as problems or potential problems with BPICs in Queensland. These are listed below and considered later in the report in the overall evaluation process. These include:

- BPICs either reduced or failed to increase productivity in Building and construction activity in Queensland
- BPICs added to labour costs on projects and acted as a stimulus for wages in building and construction work on non-BPIC projects[19]
- BPICs brought Government legislation directly into the industrial relations of Building and construction Queensland and may or may not have been compatible with Fair Work Commission legislation
- BPICs reduced managerial discretion, particularly in the hiring of subcontractors and increased costs because of the reduction of competition in the sub-contractor market, accompanied by a subsequent drop in transparency
- BPICs led to an acceleration of industrial disputes
- BPICs did not provide the shifts in labour force diversity, workplace injury and worker morale as foreshadowed in the agreements.

In considering these factors it should be remembered that BPICs are the result (with some additional Governmental input) of negotiations between unions and employers. Historically, many union-negotiated agreements are seen, at least initially as unnecessary cost impediments[20].

[17] See, Easy Labour – Identifying Construction Industry Cost Drivers in Queensland.
[18] The conceptual basis for this conclusion is well summarised in *Economic Policy Institute* "Unions are not only good for workers, they're good for communities and for democracy: High unionization levels are associated with positive outcomes across multiple indicators of economic, personal, and democratic well-being | Economic Policy Institute.
[19] Sometimes known as a contagion effect.
[20] For a discussion of this issue see https://australiainstitute.org.au/research/topic/unions-collective-bargaining/.

This is not surprising as unions function primarily to benefit their members and as a result it would be expected that wages and conditions of a unionised workforce would exceed that of non-unionised and unorganised labour[21]. This is particularly true of a dangerous industry such as Building and construction which, in 2023, had the second highest mortality rate among Australian Industries and third in terms of overall workplace industries[ii].

Countervailing this additional *union cost effect* is the promise of improved productivity, greater safety, and less industrial disputes that employer/union cooperation can bring[22]. When these benefits, some of which take time to materialise, are fully costed they defray or even exceed the additional *union effect* gains. Moreover, this cost/benefit equation between employer and worker gains varies over time. In periods of severe labour shortages, the union differential will grow, because unions provide a more stable environment for labour recruitment and will reduce (at least in real terms) during period of lower economic activity.

In short, it is expected and their normal and proper economic role, for unions to negotiate terms and conditions more than non-unionised labour. This is clearly the case with the negotiation of BPICs in Queensland prior to November 2024[23]. However, it is important to examine the BPICs in the context of the benefits they might have brought and the post-Covid labour market environment from which they sprung and the clear correlation of wages across the industry which are a clear indication of the predominance of market determined wages.

Like all negotiations, the balance of power between workers and employers will shift as economic conditions shift. In recent years, a shortage of skilled workers and pent-up demand for construction has tipped the balance in favour of organised labour on big projects and facilitated favourable BPICs. This is the natural outcome of scarcity in economics, a rise in price (wages and on costs) because of high demand.

To unions, in addition to bringing a benefit to members, BPICs were a stabilising force which guaranteed a continuity of skilled labour supply in a labour constrained industry and as the best means of improving the safety record of a dangerous industry. They also had important implications for gender equity and social inclusion, the benefits of which take time to materialise and are often difficult to quantify.

However, it is important to note that this report is not designed to advocate on behalf of specific BPIC arrangements, in an absolute sense. Currently, the program has been linked with higher costs and reduced productivity based on limited and restricted economic modelling. It is important for effective industry policy to thoroughly investigate this research when it becomes publicly available. Consequently, the report sets out to examine the empirical evidence on the impact of BPICs, and to test the claims that BPICs independently added to the costs of construction on Government projects in Queensland, initiated adverse cost flow-on effects to other parts of the Building and construction industry and, consequently, to the Queensland economy.

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[21] The well publicised "union differential" in Australia is estimated to be between 3% and 10% across the economy and larger in some industries. See Cai and Lin (2008) https://researchportalplus.anu.edu.au/en/publications/union-wage-effects-in-australia-is-there-variation-along-the-dist

[22] https://www.verovoting.com.au/blog/why-enterprise-bargaining-is-essential-for-organisations-success/

[23] Standard Best Practice Industry Conditions - Building Construction Projects 2023-2027.

To do this, it is important to recognise the multi-purpose of and their emphasis on societal as well as economic goals. Some of these factors require time to correctly evaluate and are difficult to quantify but their impact on the industry and the economy can be substantial[24].

Without doubt BPICs as they have applied to large scale Government construction projects in Queensland have delivered benefits to union members, but this is just as would be expected amid a severe shortage of skilled labour. The more important question is, did BPICs represent an efficient means of stabilising the workforce in a troubled industry, as well as achieving the social goals of improved safety and equity within the construction industry?

3.0 The Union/Employer trade-off

The bargaining space between workers (and their Union representatives) periodically changes with changes in economic conditions and this leads to variations in the costs and benefits of the agreement25. This is a fundamental point made by Freeman and Medoff in the widely cited study of "what do trade unions do and their view on unions and economic performance". They rightly emphasise that union effects on productivity vary with respect to the labour relations environment and degree of competition. They argue "what unions do to productivity is one of the key factors in assessing the overall economic impact of unions."

Twenty years later Bennett and Kaufman continued this research and argued that, in general unions tend to increase productivity, although the effect varies to no small extent with respect to time and place and the associated labour relations environment.

If collective bargaining in the workplace were systematically to increase productivity and not to retard growth, a strong argument could be made for policies that facilitate union organisation.[26]

To illustrate this further consider the following simplified version of worker/employer bargaining agreements in which the object:

[24] For example the Deloitte Economics Report "The Economic Benefits of Improving Social Inclusion" deloitte-au-economics-benefits-improving-social-inclusion-181119.pdf.
[25] What do Unions do for economic performance, What Do Unions Do for Economic Performance? | 7 | What Do Unions Do? |
[26] See also Bennett, G and Kaufman, B (2004), (PDF) What Do Unions Do?: A Twenty-Year Perspective.

$$\text{Net Employer Benefits} = \sum_{t=1} (B_t - C_t).(1+r)^t \quad (1)$$

Where B_t represents the total benefits gained from the agreement (for example improved productivity, better workforce morale and less industrial disruption and turnover. (C_t) represents the total costs associated with the agreement (eg. higher wages, benefits, administrative costs). r is the discount rate, reflecting the time value of money and t is the total time- period considered .

Expanding $B_{(t)}$) and ($C_{(t)}$) into more specific components:

$$B_t = P_{(t)} + S_{(t)} + R_t \quad (2)$$

Were.

P_t = Productivity gains over time

S_t = Employee satisfaction and morale improvements over time

R_t = Reduction in turnover and recruitment costs over time

$$C(t) = W(t) + B(t + At \quad (3)$$

were,

W_t = Increased wages over time

B_t = Additional benefits (e.g., healthcare, retirement plans) over time

A_t = Administrative and compliance costs over time

So, the dynamic equation becomes:

$$\text{Net Benefits}(t) = (P_{(t)} + S_{(t)} + R_{(t)}) - (W_{(t)} + B_{(t)} + A_{(t)}) \quad (4)$$

This equation allows employers to evaluate how the net benefits of entering an agreement with unions change over time. If the net benefits remain positive or increase over time, it suggests that the agreement continues to be advantageous for the employer.[27]

[27] See Doucouligos, C. and Laroche, P. (2003) "What do Unions do to Productivity?" Industrial Relations https://onlinelibrary.wiley.com/doi/full/.

3.1 Economy-wide concerns

The above example is confined to an individual employer/union negotiation. BPICs are more widespread and, as such, have within industry and, economy wide impacts.[iii] The industry wide impacts result from the demonstration or flow-on effects where agreements in higher end construction can flow on to other sectors of the industry. The economy wide effects then flow from the significant role Building and construction plays in the economy. These macro-economic impacts add much greater complexity to the evaluation of individual BPICs and the economic impacts of BPICs. These broader issues are dealt with in section (4). Two other major influences in the performance of BPICs, both individual and collective, which add complexity to the union/employer trade off model are Government legislation and the inter-union industrial relations climate.

3.2 Queensland Government Procurement Policy for Public Works in Building and construction

The Queensland Government's Procurement Policy for Public Work (QPP)s, particularly in the Building and construction sector, was designed to ensure that procurement activities deliver value for money, support local businesses, and promote ethical and sustainable practices. In application in the Building and construction industry in Queensland[28], the policy had six core principles. These were:

- Achieve Value for Money: This principle emphasises the importance of obtaining the best possible outcome for the government and the community. It considers factors other than cost, including quality, service, and whole-of-life costs.
- Apply a Responsible Public Procurement Approach: This principle ensures that procurement activities are conducted in a manner that is ethical, sustainable, and socially responsible.
- Ethical behaviour, embed Integrity, probity, and accountability: These principles mandate that all procurement activities are conducted with the highest standards of integrity and transparency.
- Leadership in procurement practice: This principle encourages continuous improvement and innovation in procurement practices.
- Collaboration across the industry: This principle promotes collaboration between government agencies, suppliers, and other stakeholders to achieve better procurement outcomes.
- Support Strong Governance and Planning: This principle ensures that procurement activities are well-planned and governed. It involves establishing clear roles and responsibilities, as well as robust governance frameworks. A number of key requirements or performance indicators were set concerning the use of BPICs in the procurement policy.

[28] https://www.forgov.qld.gov.au/finance-and-procurement/procurement/procurement-resources/procurement-policies-and-frameworks/queensland-procurement-policy-2023.

3.3 Key requirements

Contracts negotiated within the Procurement and Practice Policy were required to:

- Provide benefits to local suppliers: For significant procurement projects, a local benefits test of up to 30% is applied. This aims to improve opportunities for local suppliers and ensure that procurement activities contribute to the local economy.
- Best Practice Principles: For projects over $100 million or declared procurement projects, the QPP requires the application of best practice principles, including those involving safety, workforce management, and industrial relations.
- Ethical Supplier Mandate and Threshold: The QPP mandates that all suppliers must meet ethical standards associated with labour laws, environmental regulations, and social responsibility criteria.
- Building and Construction Training Policy: This policy requires that at least 15% of total labour hours on eligible projects are performed by apprentices, trainees, or through other workforce training initiatives.
- Indigenous Procurement Policy: The goal is to achieve 3% of addressable spend by 2022, thereby supporting Indigenous economic development.

***Conclusion**:*

These aims were built into BPICs. It is important to consider progress made in these areas in any full economic evaluation of BPICs.

3.4 Can social goals like diversity conflict with economic principles?

The pursuit of social goals, such as diversity and equity, often intersects with economic principles in complex ways, particularly when these are applied to selected industries in isolation from the rest of the economy. Goals such as diversity initiatives aim to create inclusive environments and equitable opportunities. In contrast, the core principles of economics typically focus on efficiency, profitability, and market dynamics. In the short run, in particular, strict economic goals and broader social goals need not be mutually inclusive, and this incongruity can lead to a reduction in performance across both sets of goals[29].

Social goals like diversity aim to promote inclusivity, representation, and equity within organisations and society. These goals are driven by ethical considerations and the belief that diverse perspectives enhance creativity, problem-solving, and decision-making. In the case of BPICs and the Procurement Policy in general, the application of these performance indicators brought Government Procurement policy beyond the normal health and safety regulation, into play and constrained the traditional union/employer relationship. In contrast strict economic principles prioritise efficiency, cost-effectiveness, and the maximisation of resources.

[29] See, Le Grand, J "Equity versus Efficiency; The Elusive Trad off" Equity Versus Efficiency: The Elusive Trade-Off | Ethics: Vol 100, No 3 and Granovetter, M "The Impact of Social Structure on Economic Outcomes" The Impact of Social Structure on Economic Outcomes | 4 | v3 | The Soc.

These principles are grounded in the idea that markets operate best when resources are allocated to their most productive uses, often measured by profitability and economic growth. Clearly in mixing two sets of performance indicators there is room for conflict. In particular, the implementation of social initiatives can involve short-term costs, such as training programs, recruitment efforts, and policy changes. These costs may conflict with the economic principles of minimising expenses to maximise profits and raise short term operating costs.

However, the longer-term benefits of diversity, such as improved innovation and employee satisfaction, may outweigh these initial costs. In addition, Economic principles often emphasise meritocracy, where individuals are rewarded based on their skills and performance. Diversity initiatives, on the other hand, may involve quotas or affirmative action policies to ensure representation of under-represented groups. Finally**,** Markets are driven by supply and demand dynamics, which may not always align with social equity goals.

3.5 The need to broaden performance evaluation criteria for BPICs

The BPICs have joint aims, to provide value for money on Government contracts (efficiency) but also to address areas of diversity, inclusion, and indigenous policy. As argued above, these in the long run, need not be incompatible. In particular, moving away from narrowly focussed economic outcomes can bring in other longer term economic benefits such as enhanced innovation and creativity through diverse teams bring varied perspectives and experiences, which can lead to more innovative solutions and creative problem-solving.

In addition, a company may attract a broader talent pool and may achieve improved reputation and market reach: Organisations that prioritise diversity often enjoy a better reputation and stronger brand loyalty. This can translate into increased customer base and market reach, ultimately increasing profits.

Finally, inclusive workplaces tend to have higher employee satisfaction and retention rates. This reduces turnover costs and enhances organisational stability, aligning with economic principles of efficiency and cost-effectiveness. All of these are longer term impacts which may not be shown up in the short-term balance sheet or short-term assessment of productivity. The way of incorporating these factors into a comprehensive cost benefit analysis is to broaden the calculation regimen, place a value and a suitable present value discount rate of these aspects (which are often hard to quantify) and provide a comprehensive economic evaluation[30].

3.6 The industrial relations environment for the introduction of BPICs into Building and construction

The industrial relations environment in Queensland's Building and construction industry into which the BPICs were introduced is complex and dynamic, shaped by the interactions between various stakeholders, including unions, employer (contractors), and government

[30] See Weimer, A. and Vining, A. (2017) "Policy Analysis | Concepts and Practice | David L. Weimer, Aidan R. Vi and Carroll, A. and Shabana, k (2019) "The Business Case for Corporate Social Responsibility: A Review of Concepts, Research and Practice - 2010 - International Journal of Management Reviews - Wiley Online Library.

bodies. The consequence of this was that there were differing views about the necessity and value of BPICs. From the union side the main players are

- Construction, Forestry, Mining and Energy Union (CFMEU): The CFMEU is one of the influential unions in the construction industry. It is the largest union with its majority of coverage in the Building and construction industry with around 20,000 members in Queensland.
- Australian Workers' Union (AWU): The AWU represents workers across various industries, including civil construction. The union has around 20,000 members in Queensland.
- Electrical Trades Union (ETU): The ETU represents electrical workers across all industry sectors including in Building and construction, Civil construction, Renewable Energy and the Power and Manufacturing sectors.
- Australian Manufacturing Workers Union (AMWU): the AMWU represents a wide range of workers in the manufacturing sector as well as sheet metalworkers and fabricators in the construction industry.
- The PPTEU union, representing plumbers, and like the ETU is a generalist trade union with membership in the Building and construction sector.

The relationship between the four unions is both collegiate and competitive and demarcation disputes sometimes arise. As well, disputes arise over jurisdictional matters, types of industrial action and industrial arrangements. The most publicised of these disagreements has been about coverage in the Civil construction sector between the AWU and the CFMEU where the AWU has most coverage under its eligibility rules.

For example, the Gold Coast Light Rail Stage 3 Project saw a significant dispute involving the Australian Workers' Union (AWU) and the Construction, Forestry, Maritime, Mining and Energy Union (CFMEU). The conflict was centred on the approval of a single enterprise agreement for the project. The AWU opposed the agreement on several grounds, including the claim that the CFMEU was not a bargaining representative for the agreement and that the Notice of Employee Representational Rights (NERR) was invalid. The AWU argued that the work covered by the agreement was civil construction work, which went beyond the scope described in the NERR.

The dispute ended with the AWU finally gaining coverage of the project but only after lengthy court deliberation. This dispute highlights the complexities and challenges in union representation and agreement approvals in large infrastructure projects in Queensland. Another notable feature of the industrial relations climate at the time was that the value of BPICs was seen differently across the main unions. The AWU with its broader coverage had some concern about the legality of BPICs and how they interacted with Fair Work Commission Rulings[31].

The union mainly covered BPICs in Civil construction particularly transport related projects. While they saw the BPICs as providing some benefits they saw conditions of employment in the Building and construction industry as being driven by market conditions, essentially

[31] From conversations with relevant unions.

independent of BPICs. This led to the view that by 2022, prevailing industry conditions produced outcomes that equalled or surpassed the BPICs. They were also concerned about Government legislation impacting on existing industrial agreements and Fair Work Commission Rulings.

The CFMEU dealt with BPICs in high rise building and there was some concern from others in the industry that the CFMEU might use the BPICs to achieve pattern agreements across the industry and as a result extend their coverage and membership. It is within the occasionally fractious inter-union relationships within the Queensland Building and Construction industry that the performance of the BPICs should also be considered.

4.0 Structure of the industry and how this sets the environment for the evaluation of BPICS

To cast more light on this, it is best to move away from an evaluation of specific BPICs to consider their aggregate impact in Queensland in terms of cost and productivity outcomes in the Building and construction industry (all sectors) and the broader (if any) impacts upon the Queensland economy. This in turn requires an examination of the current industrial structure of the Building and construction industry in Queensland.

The data used in this section are derived from the non-linear, multi-region economic impact model[32], constructed by the *Australian Institute for Business and Economics* (AIBE) at UQ. The model was originally developed by West and Jackson and modified at the University of Queensland by Mangan and others and has been frequently used for both public and private sector clients[33]. In this case the data used in the model is based on the 2023/24 ABS National and State Accounts[34]. The data subdivides the industry into 4 sectors, emphasising that the Building and Construction Industry is not homogeneous. The main subsectors are:

- Residential construction: This sector includes the construction of houses, apartments, and other residential buildings. It typically represents a significant portion of the industry, driven by population growth and housing demand. This subsector currently accounts for between 50% and 55% of the industry by value of total production. By 2025 this is predicted to be worth $23.6 Billion[35].

- Non-residential building construction: This includes commercial buildings such as offices, retail spaces, and industrial facilities. It also covers institutional buildings like schools and hospitals. This section currently accounts for 20% to 25% of the total value of production and is predicted to be valued at a medium point in 2035/36 at $10.7 Billion.

- Heavy and Civil Engineering construction: This sector involves large infrastructure projects such as roads, bridges, tunnels, and water supply systems. It is crucial for public infrastructure development and maintenance and was the focus for BPICs.

[32] For a description of the model and assumptions of the model see appendix 2.
[33] See, West, G. and Jackson, R. (2004) "Non Linear Input -Output: Practicality and Potential https://www.semanticscholar.org/paper/Non-Linear-Input-Output-Models.
[34] https://www.abs.gov.au/statistics/economy/national-accounts/australian-national-accounts-state-accounts/latest-release.
[35] https://www.mbqld.com.au/__data/assets/pdf_file/0023/224159/MBA.

Predicted to be worth $8.5 Billion by 2025/26.

- Other construction: This category includes specialised construction activities which don't fall under the main sectors, such as landscaping, site preparation, and the hire of construction machinery with operators. This subsector currently holds 15-20% of the value of production of the Building and construction industry. In 2025/26 the median value of production will be approximately $8.5 Billion. Overall, in terms of value, the total construction activity in Queensland is projected to reach approximately $51.3 Billion by 2026[36].

In total, the Building and construction sector accounts for approximately 7 to 7.5 per cent of Queensland's Gross State Product (GSP, 2022/3) and directly employs 242,000 full-time and a further 34,000 part-time workers[16]. In 2022-23, the sector paid wages of $22 billion and yielded profits of $11.8 billion, amounting to total factor Income of $33.8 billion.

According to the AIBE model, using ABS State accounts data for 2022/3, average wage costs across the industry make up about 17% of total industry costs. However, there are differences between the subsectors. Table (1) sets out the relative importance of employee compensation and Gross operating surplus in the Building and construction sub-sectors as well as in comparison industries such as Manufacturing, Retail trade and professional scientific and technical services.

Table (1) Wages and Profits in Building and Construction (Queensland)

Building Sector and Comparison industries	**Compensation of employees as % of total production**	**Gross Operating Surplus and Mixed income as % of total production**
Residential Building	0.13	0.12
Non-Residential Building	0.25	0.23
Heavy and Civil Engineering	0.21	0.16
Other Construction	0.32	0.18
Manufacturing	0.19	0.16
Retail trade	0.36	0.22
Professional, Scientific, and technical	0.34	0.14
Queensland All Industries Average	**0.22**	**0.18**

Source AIBE Non-Linear Mode (2024) and ABS State Accounts 2022/23

[36] https://www.mbqld.com.au/news-and-publications/reports-and-statistics.

It can be seen from Table (1) that differences exist between the four subsectors in terms of the relative importance of compensation of employees and Gross operating surplus. Wages make up the smallest share of wages in total costs of production, in Residential building which at 13% of total costs is well below the Queensland all industries average of 22%.

Other Construction has the largest proportion of wage cost at 32% (well above the Queensland average) followed by Non-residential building at 25% and Heavy and Civil construction at 21%.

Gross operating surplus (or profits) is defined, in the context of structural business statistics, as value added minus personnel costs. It is the surplus generated by operating activities after the labour input has been compensated. The data in Table 1 suggests that, apart from Residential building (which is below average all-industry levels) profit levels in the Building and construction sector are similar both across the other sub-sectors of the industry and the State-wide all-industry average and, in comparison with other sectors such as Retail trade and Manufacturing and the Queensland all-industry average.

***Conclusion**:*

The main conclusions to be drawn from the data are that, apart from Other Construction, wage costs in the Building and construction industry are similar or marginally above the Queensland all industries average as are profit levels. As with most industries, labour costs are an important component but those in Building and construction, at least in 2023/24, are not excessive in comparison to other industries and the State average.

4.1 Recent Growth patterns

Post-Covid-19 the sector has made only small contributions to GSP growth of between 0.2 and 0.4 percentage points per annum. However, the construction sector growth is expected to pick-up this decade leading into the 2032 Olympic Games with the Queensland Government committing to a $25 billion per year capital program in the Non-financial Public Sector (NFPS) over the four years from 2024-25[18].

Yet the industry total sector growth will be likely dampened over the next 3 to 5 years by looming fiscal pressures (i.e. limits to net debt accumulation that may force future governments to reduce the capital program[19]), skilled labour shortages and (in the longer-term) Commonwealth Government policies designed to reduce the flow of net overseas migration from the post-Covid peak of 518,000 in 2022-23[20]**.**

4.2 Wage Determination in the Queensland Building and construction industry

Wages in the Queensland Building and construction industry are primarily determined, institutionally, by Modern Awards and Enterprise Agreements and externally by market forces[37]. Both factors tend to move in the same direction although with lags. The key institutional components are modern awards, enterprise agreements, individual common law contracts, and Fair Work Commission rulings.

Modern awards set out minimum standards and conditions for employees performing specific types of work. The Building and Construction General On-site Award 2020 is a significant award in this industry, covering various roles from general building to civil construction[38]. These awards are supplemented or substituted by enterprise agreements which are negotiated between employers and employees (or their representatives, such as unions) and can provide conditions above the minimum standards set by Modern Awards, particularly in times of excess demand and labour shortages. They often include specific pay rates, working conditions, and other employment terms.

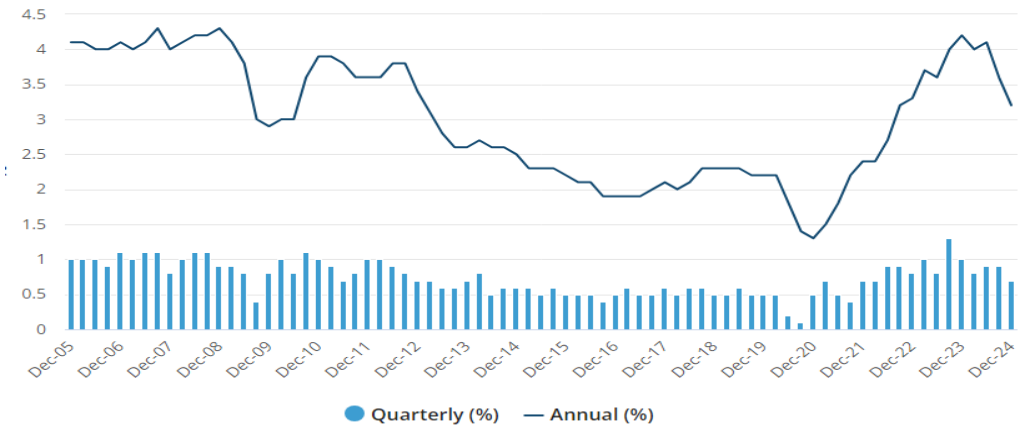
In addition, there is room for individual common law contracts which can be negotiated directly between an employer and an employee, provided they meet or exceed the minimum standards set by the relevant Modern Award or Enterprise Agreement.
Finally, wages in the industry are overseen by the Fair Work Commission. It should also be remembered that Industrial arrangements effectively don't apply in large segments of small building construction. Most of the labour there are contractors and sub-contractors.

4.3 National wage outcomes in the Building and construction industry

Union negotiations on wages and conditions tend to be upward flexible and downward rigid39. In periods of excess demand union power is directed at achieving market rates, even when these exceed bargain agreements. This normally occurs during periods of labour shortage and employers will often make above award offers to attract labour. It is the expected (or anticipated) behaviour for wages to rise during periods of high demand. In discussions with union representatives, they saw BPICs as a set of minimum standards and, if anything putting a floor on wages growth during the 2021/22 period, when there was considerable upwards pressure on wages. For example, pronounced wage growth (in aggregate) across all industries occurred between December 2020 and December 2024, as can be seen in Figure 1.

[37] Awards and wages | Master Builders Queensland.
[38] Awards and wages | Master Builders Queensland.
[39] Gurrazzt, M. and Meecheri, N." From wage rigidity to Labour Market Institutions: A turning point in explaining unemployment Journal of Socio Economics 41(2) 289- 297.

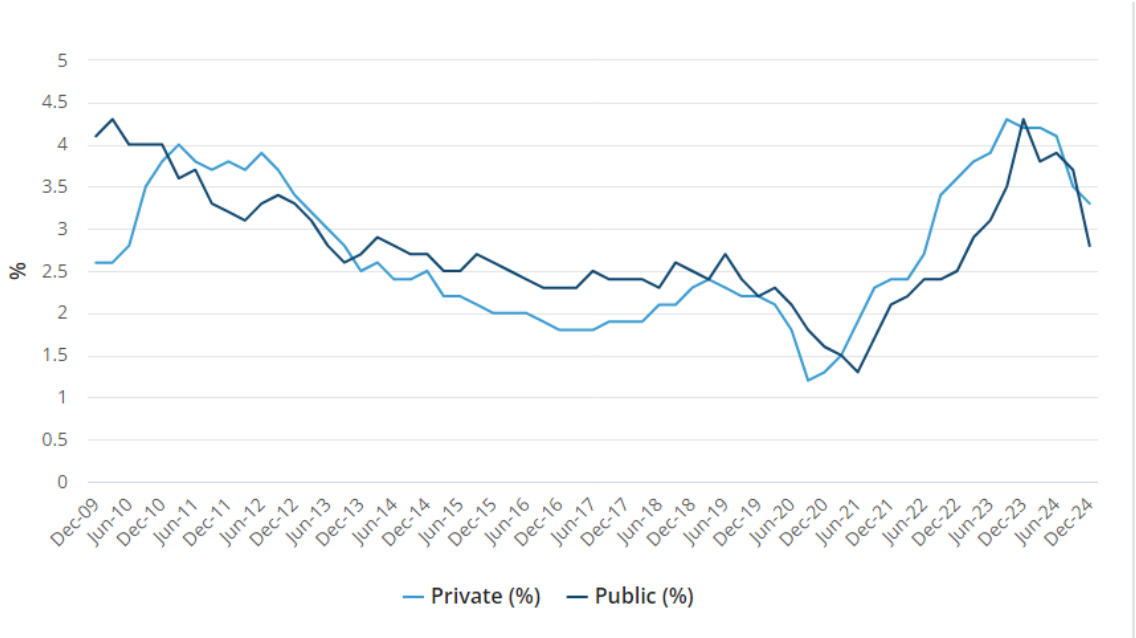
Figure 1 All sector WPI, quarterly and annual movement (%), seasonally adjusted



Source: Wage Price Index, Australia, December 2024 | Australian Bureau of Statistics

This wage growth occurred in both private and public sectors, with wage changes closely mirroring each other, as can be seen in Figure 2.

Figure 2 Annual wage growth by sector, seasonally adjusted



Source: Wage Price Index, Australia, December 2024 | Australian Bureau of Statistics

The Building and construction industry played a part in this wage growth. Table 2 sets out the average annual percentage change in wages over this period. Construction is at the higher level nationally at 3.4 but level with the all-industries average growth rate.

Table 2 Annual Average Change by industry

Mining	3.5
Manufacturing	3.7
Electricity, gas, water and waste services	4.7
Construction	3.4
Wholesale trade	3.3
Retail trade	3.2
Accommodation and food services	3.3
Transport, postal and warehousing	3.8
Information media and telecommunications	3.3
Financial and insurance services	2.9
Rental, hiring and real estate services	3.1
Professional, scientific and technical services	2.8
Administrative and support services	3.6
Public administration and safety	3.0
Education and training	3.3
Health care and social assistance	2.8
Arts and recreation services	2.9
Other services	2.9
All industries	3.2

Source Wage Price Index, Australia, December 2024 | Australian Bureau of Statistics

While Queensland was in the upper level of States by wage increase, it was not the wage leader, as can be seen in Table (3).

Table 3 Average Annual Change in Wages by State 2018-2024

State	Annual change (%)
NSW	2.9
VIC	3.2
QLD	3.7
SA	3.1
WA	3.3
TAS	3.9
NT	3.4
ACT	3.7
Australia	3.2

Source Wage Price Index, Australia, December 2024 | Australian Bureau of Statistics

At 3.9%, Tasmania had the highest all industries wage growth with Queensland and the ACT at 3.7%. New South Wales had the lowest percentage growth at 2.9%[40].

Similarly in terms of earnings, the median earnings of Construction workers in Queensland appear to be on a par with those in other States. Jobs and Skills Australia report that the median wage for

[40] It should be remembered that percentage changes over a relatively short period may be misleading.

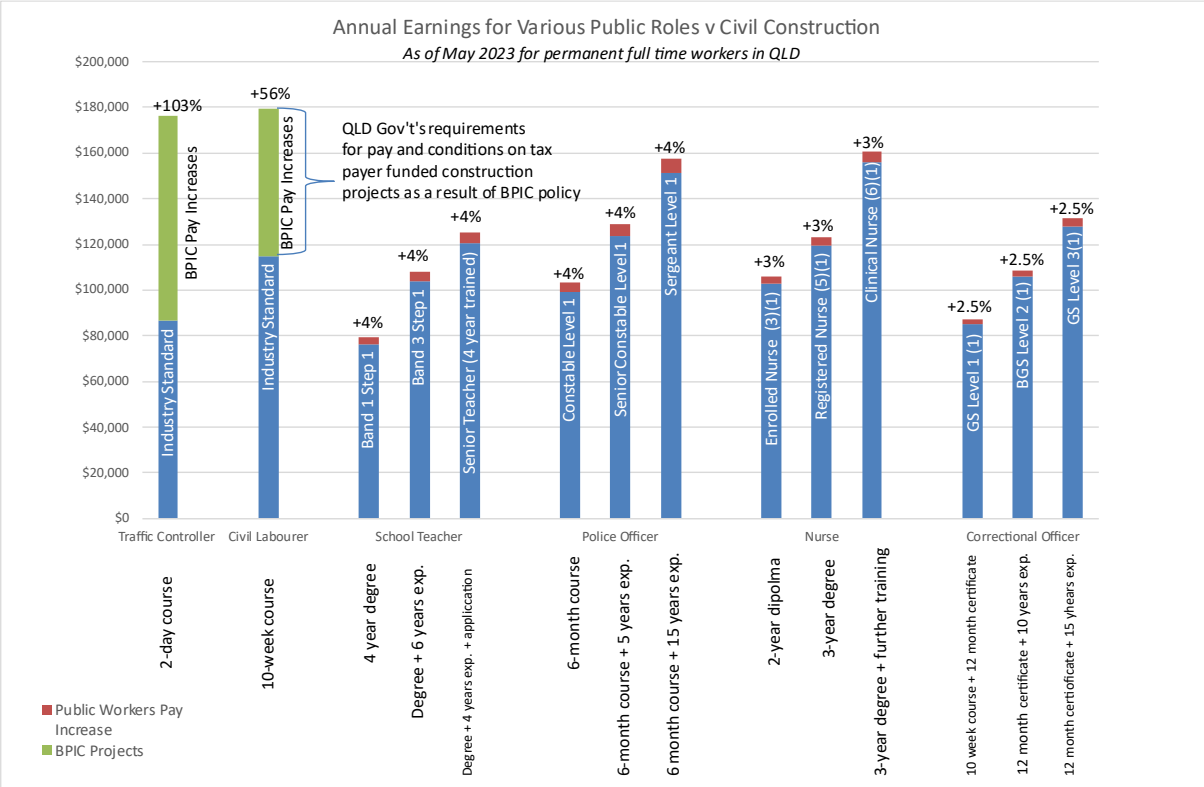
construction workers across all states was $1598 per week with only Western Australia ($1700 per week) significantly differing.

Notably, construction workers in Queensland were not the pace setters in either 2022 or 2023. More importantly in the key years of 2023 and 2024, that was left to Victoria and Western Australia, respectively. Only twice in this period (2018 and 2024) did earnings of construction workers in Queensland exceed the all-State average.

4.4 Were BPIC wages out of line with the rest of the construction industry in Queensland[41]

There is a perception among Contractors in Queensland that under BPIC, wages increased beyond what might be expected by comparison with other occupations. They based this on data supplied by the CCF (shown in Figure 3) where Construction worker wages are favourable compared to others in the economy such as Nurses, Police and Teachers.

Figure 3 Wage comparisons, Construction workers and others



Source CCF (2024)

Figure 3, although not directly from ABS sources, does show that workers in the Civil construction industry were comparatively well paid. However, this type of comparison does not allow for the difference in job conditions such as actual weekly hours of work, job tenure, labour on-costs such as superannuation and stability of work. Construction workers have less stable employment and are engaged in a riskier environment[42].

[41] The author is grateful to Ms Iida Moerk Larson for supplying the data used in this section on behalf of the Civil Contractors Federation.

[42] Some theories of wage determination put forward a "disutility of work" criteria where riskier jobs attract higher wages.

Most importantly, these construction wages were being determined amid an unusually tight labour market for skilled building workers. It would also appear the BPIC component is made up of penalty rates and overtime for an average 55 hour week compared to other occupational annual wages for a 38 hour week.

A different comparison of the relative wage position of BPIC impacted workers comes from comparing the wage for a Construction worker (Award Level 5 CW5). Table 4 compares the hourly award rate of pay with BPIC rates, rates paid by other contractors and the Queensland industry average (see Table 4). The data again was supplied by the CCF.

Table 4 Wages for CW5 workers across the Qld Construction industry 2023-2024

Source (CCF Qld Contractors)	**$ Hourly wage rate CW5**
Industry award	25.16
BPIC	41.28
CPS	41.17
BMD	48.52
Bielby	33.91
J F Hull	35.24
Q Birt	33.50
Acciona	33.75
FH	31.59
McIlwain	31.22
John Hall	34.56
Average	35.93

Source supplied by Civil Contractors Federation (2025)

It can be seen from the data in Table 4 that CW5 workers on BPIC were near the top of hourly earnings and approximately 15% above the award wage. Research by Cai and Inn (2008) shows that union negotiated wages or the union differential effect in Australia is normally distributed 3% and 10%, which means the BPIC wage was above the normally expected range[43]. However, it is also notable that large contractors in Queensland such as BMD were paying above BPIC rates such was the demand for skilled labour in the industry.

[43] See, Cai, L. and Lin, A (2008) "Union Wage Effects in Australia: Is there variation along the distribution" The Economic Record (84) 496-510.

Moreover, data from enterprise agreements approved by the Fair Work Commission confirms the industry view that BPIC wages, although initially higher after the onset of BPIC, were at or below the prevailing market rates. Table (5a) lists base hourly rates for CW5 workers across 10 employers/projects over the period July 2023 to January 2025. The statistical behaviour of these data is shown in Table (5b).

Table 5(a) Hourly base wage rate CW5 construction worker 2023-2025

Company	Hourly wage rate $A	Date of agreement
BMD Group (BMD Holdings)	39.52	01/01/2025
Bielby Holdings Pty Ltd	42.76	30/08/2024
Bielby and JF Hall Joint Venture	43.89	01/07/2024
BMD and Beilby Joint Venture	43.89	01/07/2024
J.F. Hull Holdings Pty Ltd	45.55	01/07/2023
Fulton Hogan , J.W. Hull and McIlwain	45.89	01/07/2024
Acciona Construction Australia	39.03	01/01/2025
Acciona and Fulton Hogan Joint Venture	43.89	01/07/2024
Acciona and Georgiou Pty Ltd Joint Venture	45.89	01/07/2024
Acciona agreement for Brisbane Metro	59.26	01/07/2024

Source Fair Work Commission

Table 5(b) Descriptive statistics CW5 base rate 2023-2025

Observations	Mean value	Standard deviation	Coefficient of variation	Minimum	Maximum
10	44.9	5.3	0.12	39.03	59.26

The data indicate a close conformity between the base rate for CW5 workers across a range of employers/projects (and spatial locations). The mean value is $44.90 with a low coefficient of variation of 0.12[44]. The outlier value in table (5a) is the $59.26, paid on the Brisbane metro program, which is not a State Government project (Brisbane City Council). These data strongly suggest a market equilibrium in wage rates was operating in the Building and Construction industry during 2023 and 2024. This supports the industry view that market forces were determining and equilibrating wages in the sector during that period and does not support the view that BPIC projects were outliers or a disruption to market determined wages in the industry.

While workers under BPICs were well paid by community standards, the data strongly suggests that these wages were in line or below with wages in other construction agreements operating in the industry and so can be identified as market wages. Furthermore, there is no data to support

[44] By way of interpretation the value of the coefficient of variation ranges between 0 and 1, the closer to 0 the less variation. A figure of 0.12 shows low variation.

the suggestion that, over the period, BPIC wages were market disrupters or out of line with wages being paid for construction workers elsewhere.

By community standards it appears that workers in the industry were relatively well paid, but this should be seen in the context of a dangerous industry characterised by excess demand and skilled labour shortage across Australia and where many construction workers are required to work up to 55 hours per week compared to a standard work week of 38 hours. In addition, the BPICs covered Government funded projects. These were priority projects with tight timelines for delivery.

Conclusion

The main consideration in this section is that wages in the Building and construction industry in Queensland during the period 2018-2024 took place against the backdrop of wage increases across all industries and all States. From the aggregate and industry specific data it is hard to see any wage movements in construction workers rates against the national trend. At no time between 2018 and 2024 were Queensland wages the pacesetters in National wages and in only two years were they above the all State average. When compared to the industry average hourly earnings paid by the large-scale contractors, they were strictly in line or below aggregate industry wages. The data in Table 5(a) and 5(b) show a strong conformity of wages in the industry during the period 2023-2024 and does not indicate that BPICs were outliers or wage disruptors.

Yet wage growth was only one of the structural and cost issues facing the Building and construction industry, in Queensland and world-wide.

4.5 Common Cost drivers in Building and construction internationally and in Australia

In recent years, while the main cost drivers in Building and construction can vary by region, in Australia and internationally the Building and construction industry have been impacted by a common range of cost increases and input shortages[45], and specifically in Queensland[46]. These common features include:

- Demand surge: (particularly in Australia) where the high demand for residential construction, spurred by high immigration, low interest rates and government incentives, has driven up costs.
- Material Costs: particularly for essential materials like steel, cement, and timber which fluctuate due to global supply and demand, transportation costs, and geopolitical factors.
- Labour Costs: the availability and cost of skilled labour was and is a consistent constraint to the industry and this shortage is accompanied by an inevitable increase in wages. Labour costs, particularly in Queensland were driven up by additional layers of management and administration in response to increase regulation[47].

[45] See, The top cost drivers in the construction industry5Why Building Costs Are Rising Faster Than Ever - Ian Hewitt & Associates.
[46] Easy Labour – Identifying Construction Industry Cost Drivers in Queensland
[47] Productivity in Australian construction has dropped in 20 years as the number of professionals employed in the industry surged

- Regulatory Costs: compliance with local building codes, safety regulations, and environmental standards can add to the overall cost.
- Technology and Equipment: the adoption of advanced construction technologies and the cost of heavy machinery can also drive up expenses.
- Economic Conditions: inflation, interest rates, and economic stability in a region can influence construction costs.

4.6 Cost increases all around the World

According to available data, global construction costs have significantly increased between 2020 and 2024[48], with reports indicating a rise of around 31.1% in building construction prices during this period, driven by factors like increased demand for housing and supply chain disruptions caused by the COVID-19 pandemic.

Highest increases were in Prague, Czechia which saw increases in building prices between 2020 and August 2023 at 49.3%[49]. Other notable increases occurred in Toronto, Canada which experienced a 40.5% increase in construction prices since 2020.

Similarly, in the United States construction costs have risen significantly, with an overall increase of around 14.1% year-over-year by the end of 2024[iv]. This increase is driven by factors such as labour shortages, inflation, and supply chain disruptions.

In Geneva, the construction cost index for new buildings rose from 100 in October 2020 to 115 in October 2024[50]. This represents a 15% increase over the four-year period. This dramatic increase is attributed to inflation, currency devaluation, and rising costs of building materials and labour[51].

However, a slowdown in price inflation in construction is expected with Global Average inflation predictor. Construction cost inflation is projected to settle at 3.3% globally in 2024, with regions like Africa expecting higher inflation rates around 5.7%[52].

4.7 Australia-specific cost increases

In Australia, construction costs are still increasing due primarily to labour costs. According to Altus Group's latest report (*Australian Construction Materials Price Outlook*), they argue that Australia's residential construction is failing to keep up with population growth, producing overheated markets, such as southeast Queensland, and poor participation by delivery partners in the residential sector in New South Wales are causing extremely high levels of price increases.

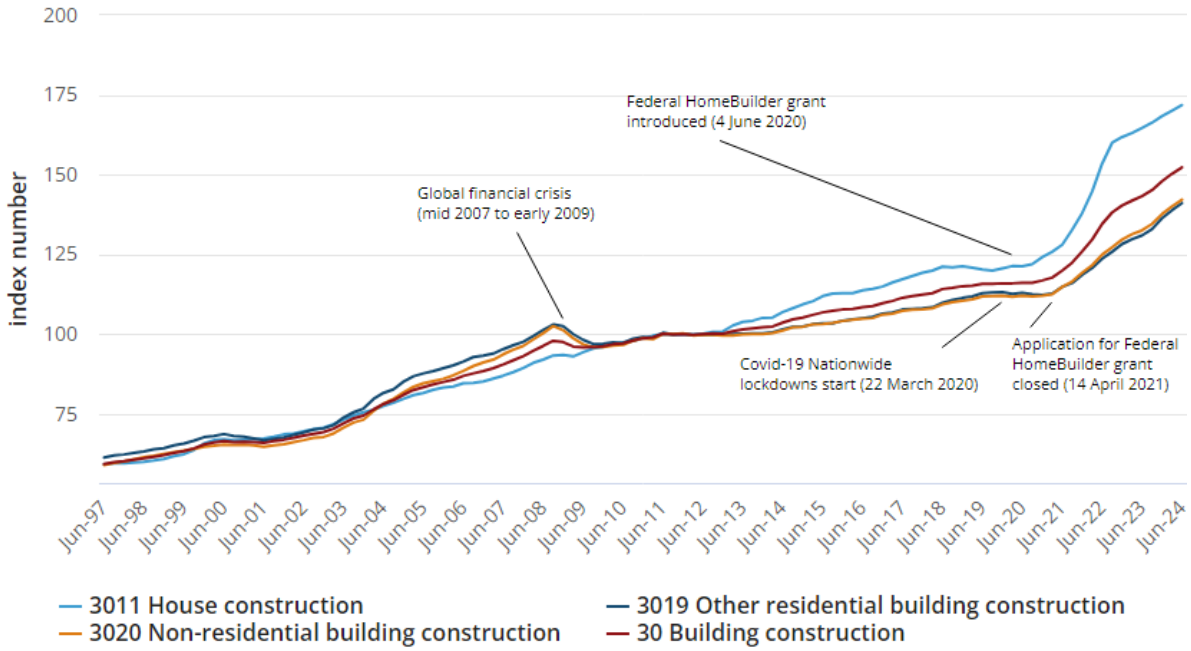
In addition, they point out that natural disasters, including flooding from cyclones, is having an impact on markets in the far north of Australia. Flooding will spur more rebuilding activity in areas such as New South Wales, which will further impact availability of materials and labour. They predict that construction costs are likely to rise between 4 and 8%, into

[48] https://www.turnerandtownsend.com/insights/international-construction-market-survey-2024/.
[49] https://en.savills.cz/blog/article/289106-0/english/why-construction-costs-are-surging-in-czech-republic.aspx.
[50] Switzerland Construction Cost Index: Lake Geneva: Buildings: New Construction | Economic Indicators | CEI.
[51] https://guardian.ng/news/building-materials-labour-spike-construction-costs-by-200/.
[52]https://www.statista.com/statistics/256598/global-inflation-rate-compared-to-previous-year/text=Recent%20years,increase%20in%20inflation%20since%201996.

2025 with some areas and sectors that rise predicted to be far beyond that 8%[53].

For several reasons, including the initial shock of the COVID-19 pandemic, prices received by Building construction businesses increased 31.1% from September quarter 2020 to June quarter 2024. This was driven by growth in House construction prices which rose 40.8% over the period 2020-2024. The prices received for Other residential Building construction rose 25.3%, Non-residential building construction rose by 27.1% which also contributed to the rise. This pattern is shown in Figure 4.

Figure 4 Outputs of Building Construction, Index Numbers Australia



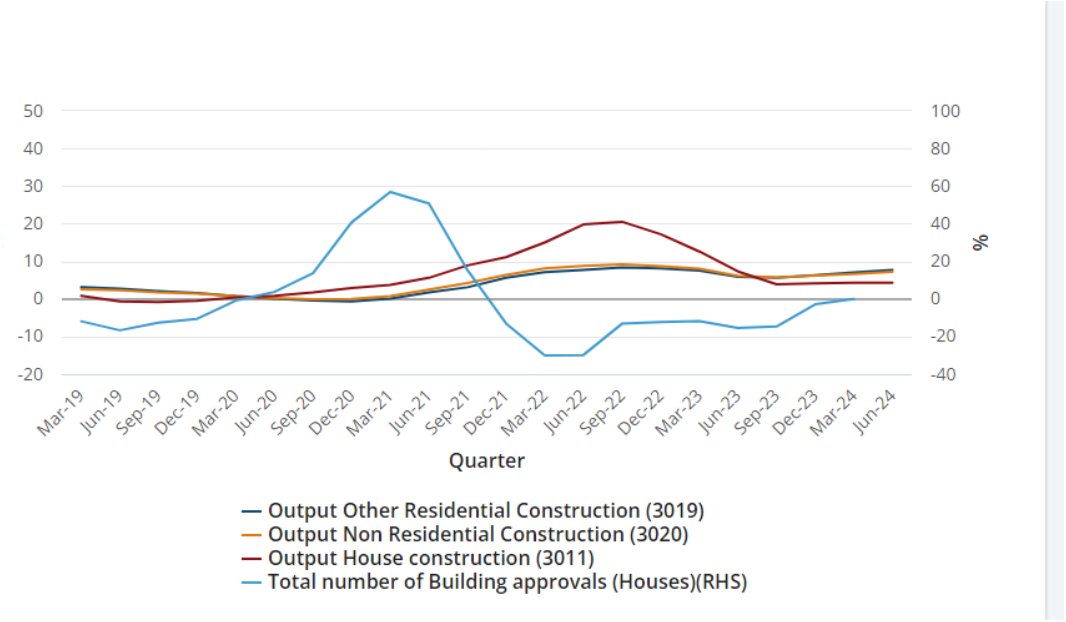
Source: Producer Price Index ABS June 2024

Starting from March 2021, there were major shortages, both globally and nationally on the supply of timber and metal. The strong demand for these materials resulted in a sharp rise in the Input to the House construction index as shown below in Figure 5 which measures price changes of materials used in house construction.

In terms of relative importance, timber, board and joinery, other metal products and Steel products account for half the contribution to the Inputs to the House construction index. These cost increases were passed on by Builders and the impact may be seen by reference to Figure 5.

[53] Outlook For Global Construction Costs | Altus Group Insights.

Figure 5 House Construction and Outputs of House Construction, Annual average change



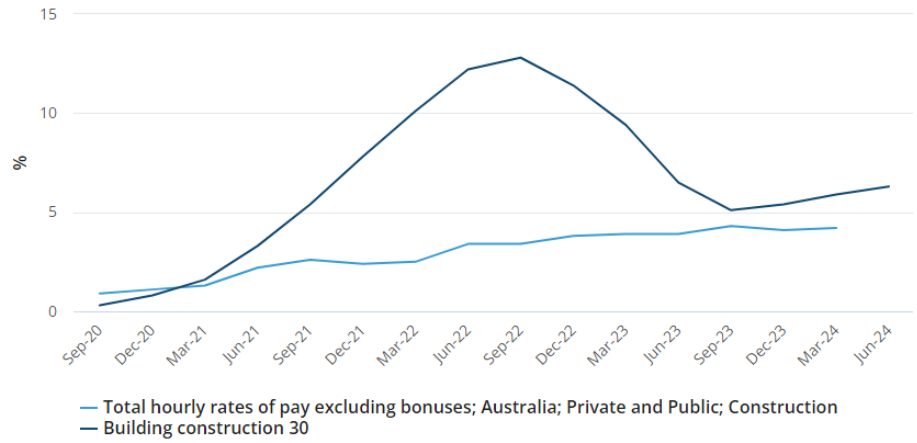
Source: Insights into Output of Construction Prices ABS August 2024

4.8 The drivers in wage cost growth

It has already been noted (section 3.2) that construction wages in Queensland were not out of step with other states or among large scale contractors over this period, but this is not to suggest that labour costs were not a substantial component of total building costs. Strong building activity resulted in high demand for contractors and tradespersons. The supply of these skilled labour was, particularly during the Covid shutdown, aggravated by unusually low migration from late 2021.

This created competition for skilled workers integral to project completion across all the Construction industry and resulted in higher wages growth through competition for scarce labour. Labour accounts for a significant proportion of construction project costs, with these increased costs influencing higher output prices in all three classes of Building construction.

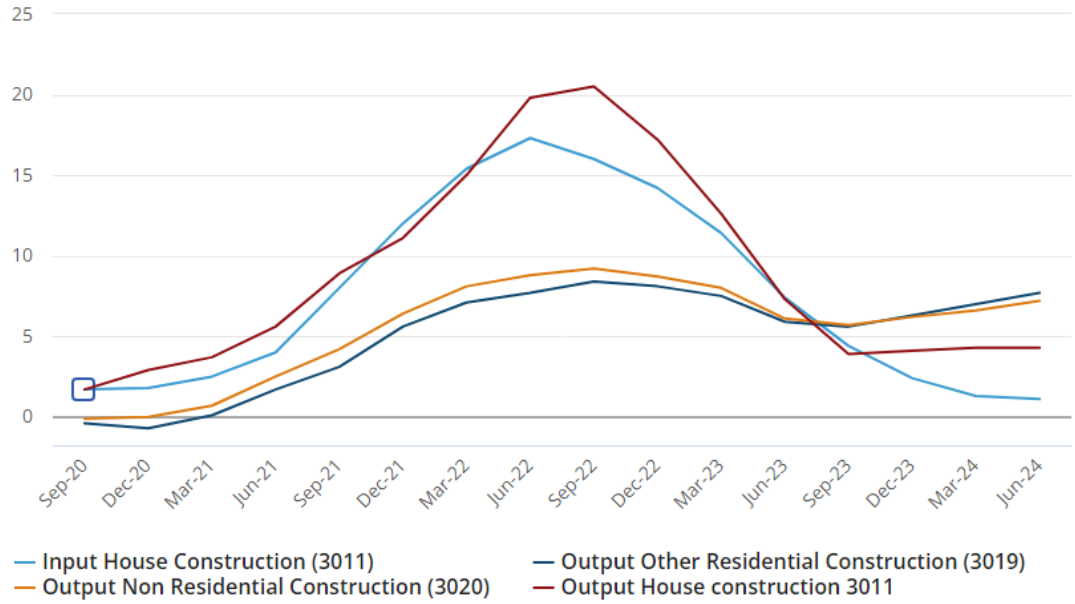
Figure 6 Wage Price Index (Construction) and PPI Building Costs. Annual Percentage change



Source: Insights into Output of Construction Prices ABS August 2024

The combined impacts of higher labour costs and high product demand resulted in continued input material price rises, with annual growth across Building construction, which peaked in September 2022 at 20.5% for House construction, 9.2% for Non-residential construction and 8.4% for Other residential construction, as shown in Figure 7 throughout 2023, consistent with Other residential and Non-residential building project commencements across the country which led to constant demand for concrete products and other materials used across all construction projects.

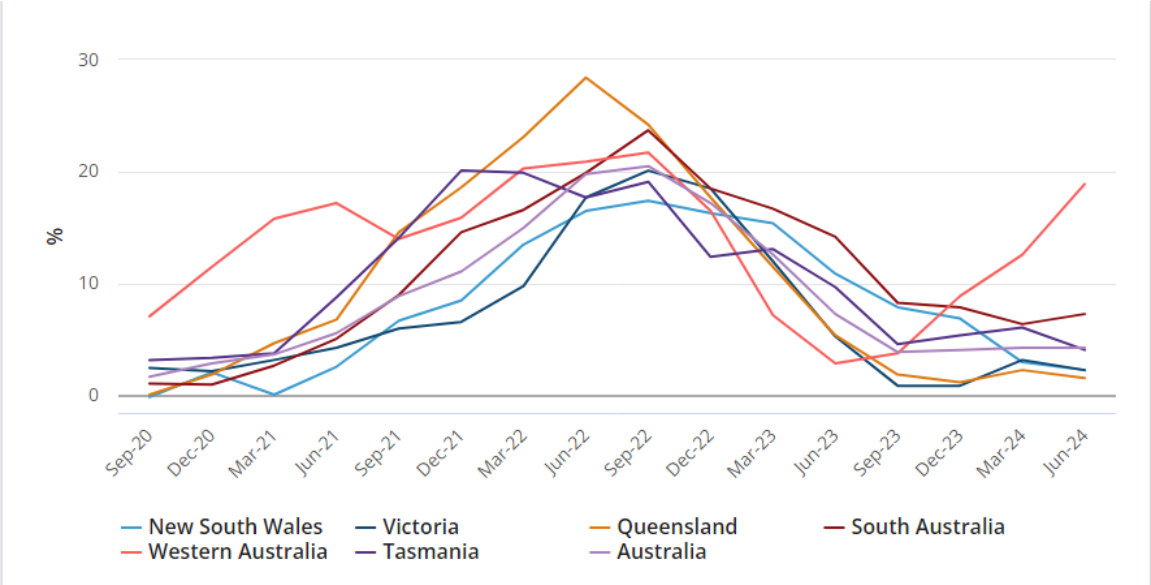
Figure 7 Producer Price (PPI) Construction indexes



Source: Insights into Output of Construction Prices ABS August 2024

Prices for these products were increasing due to increased energy input costs. A solid pipeline of building commencements enabled these higher costs to be passed through, leading to increases in the final prices in Other residential and Non-residential building projects. In addition, skilled labour shortages increased with wages continuing to grow across the industry. Annual growth in output prices for Other residential building construction and Non-residential building construction have continued to trend above 5% in 2024, as rising labour and project costs were passed on and increased risk due to persistent labour supply issues and industry insolvencies was factored into pricing.

Figure 8 PPI Outputs of House construction index, by selected states, Annual percentage change



Source: Insights into Output of Construction Prices ABS August 2024

4.9 Were these cost increases National or State based?

The cost increase described above were present in all aspects of Building and construction but were they more prevalent in specific States. For example, it has been claimed that the role of BPICs in Queensland was to place that State at a cost disadvantage in all aspects of

Building and construction both in Tier 1 and 2 construction projects and in new house construction. These claims do not appear to be supported by the data.
The latest available data from the ABS for 2023 show that in fact Queensland was not the most expensive jurisdiction to build a house with the cost to build a new house in Queensland below the national average (see Table 6).

Table 6- Building Activity Australia, Average cost of new houses (2022-23)

NSW	VIC	QLD	SA	WA	TAS	NT	ACT	AUS
$433,154	$412,762	$389,911	$310,737	$335,550	$374,822	$434,325	$452,472	$394,981

Source: ABS Building Activity Australia, Average cost of new houses (2022-23)

The same applies to the cost of building new townhouses, with Queensland again below the national average. The ABS data set is more limited for average cost of new apartments with only data for New South Wales, Victoria and Queensland collected. Queensland still isn't the highest cost jurisdiction with the average cost of a new apartment in Victoria at $452,273 compared with $424,837 in Queensland.

For 2025 quantity surveyors are advising clients that prices in Brisbane are comparable with other capital cities[54]. While there are pressures on costs from labour shortages there is no

[54] https://www.bmtqs.com.au/construction-cost-table and https://propertyupdate.com.au/how-much-on-average-does-it-cost-to-build-a-house/.

indication of any constraint from Queensland in building costs related to Best Practice Industry Conditions.

Table 7- Building Activity Australia, Average cost of new town houses (2022-23)

NSW	VIC	QLD	SA	WA	TAS	NT	ACT	AUS
$355,072	$393,605	$288,535	$278,909	$295,803	$450,051	$326,700	$316,525	$359,246

Source: ABS Building Activity Australia, Average cost of new town houses (2022-23)

4.10 Benchmarks of infrastructure delivery costs in Queensland with and without BPICs

The following projects were delivered with Best Practice Industry Conditions[55] -

Cairns Convention Centre Expansion:

The $176 million Cairns Convention Centre expansion was estimated to support 570 full time jobs during construction and involved 1,000 local workers throughout delivery of the project[56].

During construction 87 apprentices and seven trainees were trained. Lendlease Building Pty Limited were required to evaluate trade package tenders on workplace health and safety and the employment of apprentices and trainees.[57]

The project commenced construction in 2020 and was completed for opening in 2023 with project delays of a year attributed to the COVID-19 pandemic, cyclones and subsequent supply chain pressures.[58] The project was delivered within the budget of $176 million and included a 410 seat plenary lecture space, three 120-seat meeting rooms, exhibition space for 30 booths, a 500 seat banquet room and outdoor terrace. There were no major injuries or fatalities on site during construction.

North Queensland Stadium:

The North Queensland Stadium now named Country Bank Stadium was completed in Townsville at a total cost of $290 million – an increase of 16 per cent from the original project budget of $250 million. The cost increases were attributed to Buy Queensland local procurement requirements and Best Practice Industry Conditions not being included in the original project costing as well as other additions including installation of stadium Wi-Fi.

[55] Work in this section derived largely from the research of Tim Linley.
[56] https://statements.qld.gov.au/statements/89002 and https://statements.qld.gov.au/statements/98776.
[57] https://statements.qld.gov.au/statements/89002.
[58] https://www.cairnspost.com.au/news/cairns/cairns-convention-centre-expansion-project-led-by-lendlease-pushes-december-2022-finish-date-to-may-2023/news-story/7b33a5bd9590cb45ee21914e49445094.

The project commenced construction in July 2017 and was handed over to Stadiums Queensland on schedule in December 2019.[59]

The project was reported to involve 480 local businesses across the supply chain and $163 million of economic activity into the local economy with 93.7 per cent of construction hours by local contractors at 16 July 2019.

It was reported that 77 apprentices and 10 trainees were working on the stadium at 16 July 2019 with 95 per cent of training hours by local workers.[60]

The North Queensland Stadium project demonstrates that there are higher upfront costs for prioritising local procurement over imported components and from higher wages for workers, however that investment delivers significantly larger regional economic benefits from the project. The project was delivered with no major injuries or fatalities on the site.

Projects delivered without BPICs in Queensland:

Cross River Rail:

The Cross River Rail project has not had the full industrial relations provisions under Best Practice Industry Conditions applied.

The project has experienced ongoing industrial action and disputes between the main contractor CPB and the CFMEU.

Issues have included:

- Safety concerns over the management of asbestos at the start of the project[61]
- A serious safety incident with a worker falling from scaffolding[62]
- The lack of a consistent heat policy with a worker fatality and other worker hospitalisations[63]
- Disputes over access for delegates and health safety representative leading to picket lines and ongoing site disruptions and issues concerning protected picket lines[64].

In 2023 it was reported that the cost of Cross River Rail has increased by $960 million or 17.5 per cent to $6.3 billion[65].

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59 https://statements.qld.gov.au/statements/89106.

60 https://documents.parliament.qld.gov.au/com/TPWC-2297/RN2456P201-79D2/qon-29Jul2019-HPW.pdf NGO3.

61 https://www.couriermail.com.au/news/queensland/cross-river-rail-asbestos-safety-guidelines-ignored-at-albert-street-site/news-story/74bf78e51d8f6a0e5f8f117fd135c74b.

62 https://www.abc.net.au/news/2023-07-25/cross-river-rail-scaffolding-fall/102646370.

63 https://www.couriermail.com.au/news/queensland/qld-politics/cfmeu-workers-offered-15k-back-pay-in-cross-river-rail-wage-dispute/news-story/b52c0e8c2b58dfc7cd783cc1747abc29#:~:text=The%20CFMEU%20has%20demanded%20CPB,and%2075%20per%20cent%20humidity.

64 https://www.couriermail.com.au/news/queensland/cross-river-rail-contractor-could-be-forced-to-pay-24-million-for-each-day-workers-failed-to-turn-up/news-story/3e1634b2fb46cfa2eb673412bd7a83a0.

65 https://www.abc.net.au/news/2023-03-31/qld-cross-river-rail-cost-blowout-brisbane/102173588.

In December 2024 it was reported that there could be another $1.5 billion in costs related to the project running late and contractor claims with negotiations ongoing[66]. Many of these costs are related to global supply chain issues as well as industrial issues on the site.

5.0 Scorecard for BPICS

A comprehensive analysis of a program such as BPICs that was spread over a short period 2018-2024, is a difficult task. First because of the relatively short period which prevents any long-term trends being observed, particularly as BPICs differed in their introduction across different aspects of the Building and construction industry. Second the BPICs were limited in scope and application, being concerned only with Publicly funded projects over 100 million and then not all. Third, and most importantly, the BPICs were introduced in a period of significant upheaval in the Building and construction industry both in Australia and overseas. This was because of the effects of Covid and the building boom that followed its cessation. The industry was characterised by excess demand, labour shortage and serious supply disruption and price inflation in building materials.

In decomposing the impact of any major policy implementation, the researcher hopes that the old economics dictum “ceteris paribus” (all things being equal) holds. To study a particular event or change they want most other factors that could influence the event or blur its effects to remain as stable as possible. To get an uninterrupted view of how BPICs impacted on the Queensland Building and construction industry it would be hoped that the rest of the factors that influence outcomes in the industry would remain stable. But this was not the case.

In the case of BPICs the decomposition is constrained by:

- The partial nature of the BPIC policy, being restricted to Government funded programs over $100 million and applied selectively to projects
- The nature of major Government projects is such that completion in projected time is often given more priority than cost and often require accelerated completion activities such as overtime and weekend work
- Short time period for evaluation, which impacts on evaluation techniques, especially where reliable data are not available
- The unique conditions impacting on Building and construction both in Australia (Queensland) and overseas including rising costs, falling productivity, supply constraints, excess demand, and lack of technical progress
- Significant data constraints including unavailability of Queensland Treasury modelling against which other data may be tested.

In such circumstances definitive decomposition of the impact of BPICs is unlikely. An alternative approach is to compile a list of partial indicators that reflect impacts, positive and negative, that BPICs may have had on selected indicators. The scorecard assembled below includes:

[66] https://statements.qld.gov.au/statements/101708.

- Productivity
- The behaviour of building
- Behaviour of wages in Building and construction
- Indicators of industrial conflict
- Impacts on apprenticeship and training
- Diversity impacts such as level of female participation and the incidence of indigenous workers
- Use of local employees and firms

Where possible these indicators are compared to the Construction industry in other States, this also serves as a counterfactual. These states did not have Queensland style BPICs, yet they faced similar issues in the Construction industry.

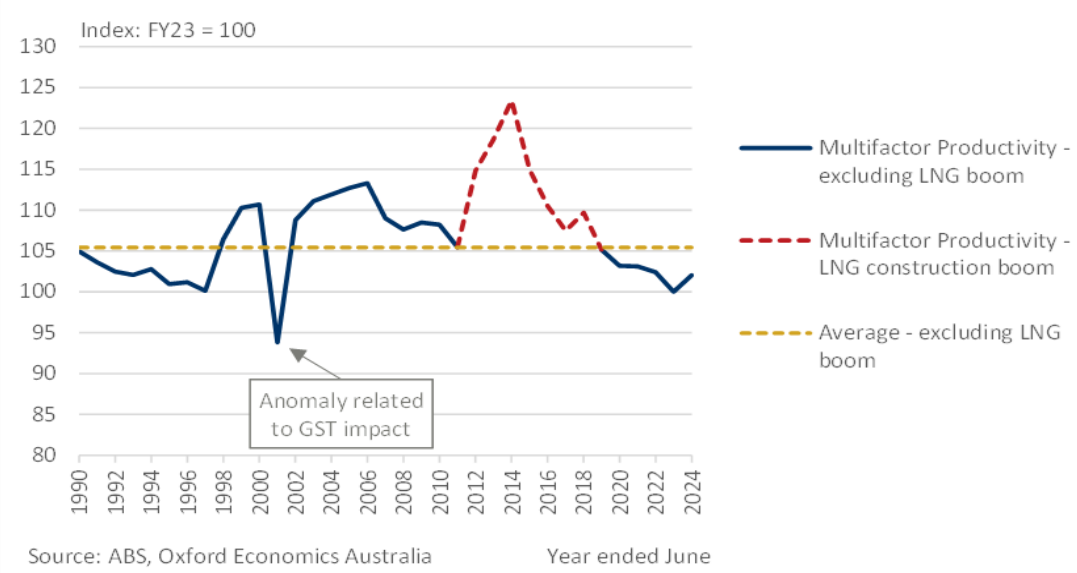
5.1 Proposition 1- BPICs either reduced or failed to increase productivity on Building and construction activity in Queensland

The Australian Bureau of Statistics (ABS) define productivity measures as indicators of the efficiency or effectiveness of production or how much production (or output) is achieved given a certain number of resources (or input)[67]. Whereas the International Labour Office have a simplified definition "the ratio between output and the total input of factors required to achieve it". Both the ABS and the ILO attest to the complexity in measuring productivity, "the end result of a complex social process including science, research and development, education, technology, management, production facilities, workers and labour organisation"[68].

That being the case, those attempting to measure productivity tend to adopt partial (or single factor) measures. A common measure is the ratio of output to hours worked, which is a simple measure that reflects the growth in output attributable to all factors of production other than hours worked but does not successfully decompose capital effects from efficiency of labour effects. A more comprehensive measure is to use a multi-factor productivity measure. Oxford Economics have charted productivity in the Australian Construction industry since using MFP[69].

[67] https://www.abs.gov.au/statistics/detailed-methodology-information/concepts-sources-methods/labour-statistics-concepts-sources-and-methods/2 .
[68] https://ilostat.ilo.org/topics/labour-productivity/.
[69] https://www.oxfordeconomics.com.au/resource/construction-productivity-in-foc.

Figure 9 Multi-factor productivity in the Australian Construction Industry 1990-2024



The data in Figure 9 reflects a long-term decline in productivity in the Australian Construction industry from a peak in 2014 to a low in 2023. This has been partially offset in 2024 with a 2% rise in MFP. The reasons for the long period of productivity decline in productivity in the Construction industry are complex but similar patterns have been found internationally.

Gerard expands on these causes, listing 7 factors that are constraining productivity growth in construction based on data for across the same 42 countries most of which are pertinent to Australia[70]. He cites:

- Slow technological take up in the global construction industry which has focused on control not productivity
- Inability to implement or achieve scale economy gains
- Those scale and cost gains that did occur were often passed on downwards to customers and upwards to suppliers to maintain market share
- Projects have become more complex, but this complexity has not been matched by design capability
- Insufficient skilled labour training or replenishment

The focus on meeting deadlines rather than improving productivity as a key metric.
To this list the *Australian Financial Review* (AFR) added an additional factor that has occurred in Australia claiming "Construction output is falling – and tradies aren't to blame.[71]
The AFR cites work by RLB consultants who found:

- "Productivity dropped in Australian construction over the past 20 years as the number of professionals employed in the industry surged, outstripping growth in

[70] 7 things that are blocking productivity gains in construction - Construction Briefing.
[71] Productivity in Australian construction has dropped in 20 years as the number of professionals employed in the industry surged.

tradespeople and labourers. The performance of construction is pulled down by a top-heavy layer of professional employees".

- Though official figures show that multifactor productivity – new analysis by consultancy RLB reveals that:
  "Digging productivity: Output per worker on construction sites has jumped over the past 20 years but has gone backwards among professional employees in construction. The rapid rise in the number of professional workers that are now required to deliver projects across the country is at odds with the number of workers 'on the tools'".

RLB are relying on data which show that, in 2003, professional workers accounted for 28 per cent of the construction workforce. By 2023, this had risen to 38 per cent."
Indicating that:

> "*the industry as a whole is suffering from an imbalance of too few workers on the ground and too many in the office*." (RLB, 2024)

Specific MFP data for productivity in the industry in Queensland are not available. However, some indirect data can be gleaned from the AIBE model using data for value of output and total employees across the Construction industry in selected States. These data are shown in Table 8.

The data in Table 8 are single indicator measures of productivity and should be seen more as indicative rather than prescriptive, yet they do provide a comparative measure on a State- wide basis. The data shows that the industry in Western Australia had the highest value at $606,773 per employee and Tasmania the lowest at $397,698.

Queensland was close to the Australia average at $453,450, slightly below New South Wales, but above Victoria.

Table 8- Value of Output per Employee- Construction in Australian States

Location	**Value of output per employee in construction 2023/24 $A**
Australia	477318
Queensland	453450
New South Wales	502969
Western Australia	606773
Tasmania	397698
Victoria	423890
South Australia	445786

Source: derived from ABS State accounts within AIBE model

While none of these data specifically allow the decomposition of the role of BPICs on productivity, they do point to the fact BPICs in Queensland were introduced in a period where Nationally, productivity was falling throughout the Construction industry.

Conclusion

The industry in Queensland was not exempt from the problems that beset the industry Nationally and Internationally, but the available data also suggest that productivity in Queensland was equal or better than the national average. The limited data cited in Table 7 indicate that while value of output per worker in Queensland was on a par with the other Eastern States and very close to the Australian average (which was driven upwards increased by a strong performance in Western Australia), this would suggest that the BPICs in Queensland did not impact on the relative position of the Queensland Construction industry in any significant way, either up or down, or at least in a way that produced differences in productivity values.

5.2 Proposition 2- BPICs raised costs across the board in the construction industry and impacted on housing construction costs and consequently house prices and rents

Critics argued that BPICs created extra red tape and distorted procurement outcomes, contributing to higher costs and reduced productivity. Independent economic modelling by Queensland Treasury estimated that BPIC could increase project costs by up to 25% and create a net economic cost of up to $17.1 billion over six years.

It was further argued that flow on effects added to costs across all sectors of the Building and construction industry**.** The logical conclusion from this, if true, is that BPICs had a contagion effect on other parts of the industry, then Queensland would have among the highest costs to build a new house in the country. However, ABS data comparisons of housing construction costs and critiques of claims about BPIC impacts on housing construction and rent show it was cheaper to construct a house in Queensland in 2023 than in Victoria, New South Wales, the Northern Territory, or the ACT)[72].

The Housing Industry Association's Housing Scorecard released in November 2024 for home building and renovations activity ranks Queensland as leading the nation, a conclusion that BPICs were not significantly impacting on the relative position of the residential housing construction activity at the time of the pause in BPICs[73].

Also in tandem with Queensland's relative building cost advantage, at the time of the BPIC pause in November 2024 total dwelling approvals in Queensland were 15.6% higher than the November 2023 estimate and appreciably stronger than the national increase of 11.2%[74].

This type of data does not allow direct decomposition of the role of BPICs in across the board industry cost increases but it does confirm that Queensland was recording lower building costs than non-BPICs states, for a number of unobserved factors.

While these cost and build advantages applied to Queensland they were partially counteracted by those factors in Brisbane. TRLB data state that the current estimated build

[72] Queensland tops Housing Scorecard.
[73] https://www.qgso.qld.gov.au/issues/3461/building-approvals-202411.pdf.
[74] https://www.propertycouncil.com.au/media-releases/home-approvals-up-in-2024-but-still-plenty-of-work-to-do.

cost in Brisbane is $2,500 per square metre for a lower end build, and $4,500 per square metre for a higher end, according to TRLB data. This makes Brisbane the most expensive capital city in Australia in which to build a home.

RLB accounts for this, not because of BPICs but because of excess demand for construction fuelled by projects related to the 2032 Olympic Games.

Conclusion

Analysis from the AIBE model show that wages in the building and construction industry (except for Other Construction) are not the major contributor to costs in the industry nor above the Queensland all-industry average. The data presented also indicates that BPIC wages, especially after 2020 were not above market determined wages, while wage costs are always significant; other cost increases in the industry, which were widespread across the country and internationally, were driven by supply constraints in materials and added regulatory costs rather than wages.

5.3 Proposition 3- BPICs were wage disruptors in the building and construction industry and exceeded rest of industry market wages

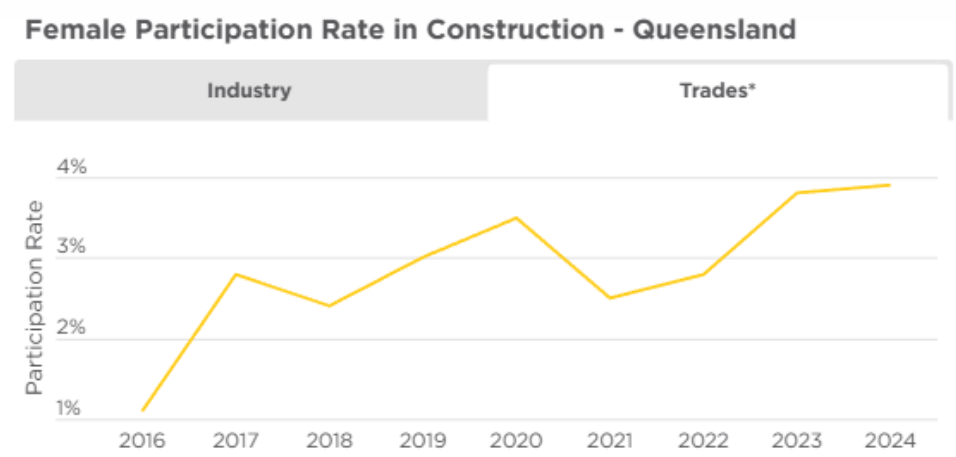
Put simply, there is no evidence to suggest that wages on BPIC projects either exceeded industry determined wages or were market leaders in wage determination over the period 2018-2024. While, initially BPIC wages (using CW5 workers as an example) were at the higher end of industry wages it is also clear that by 2023/2024 wages on BPIC projects were at or below industry rates. This is because wages in Building and construction in Queensland after 2020 were driven, not by enterprise agreements covering a relatively few large-scale Government funded projects, but by the excess demand for building and construction and the resultant national competition for the required workers.

5.4 Proposition 4- BPICs helped increase diversity in the workforce including greater female and indigenous participation and an increase in apprentices

Female participation in trades in construction has increased from 1.1% in 2016 to 3.9% in 2024 or from 1,459 to 6,210. Figure 10 also show that female participation in the Queensland Construction industry rose consistently from 2021, rising approximately 2.5 percentage points from 2021 to 2024, the period where BPICs were most prominent.[75]

[75] ABS Building Activity data - https://www.abs.gov.au/statistics/industry/building-and-construction/building-activity-australia/dec-2023.

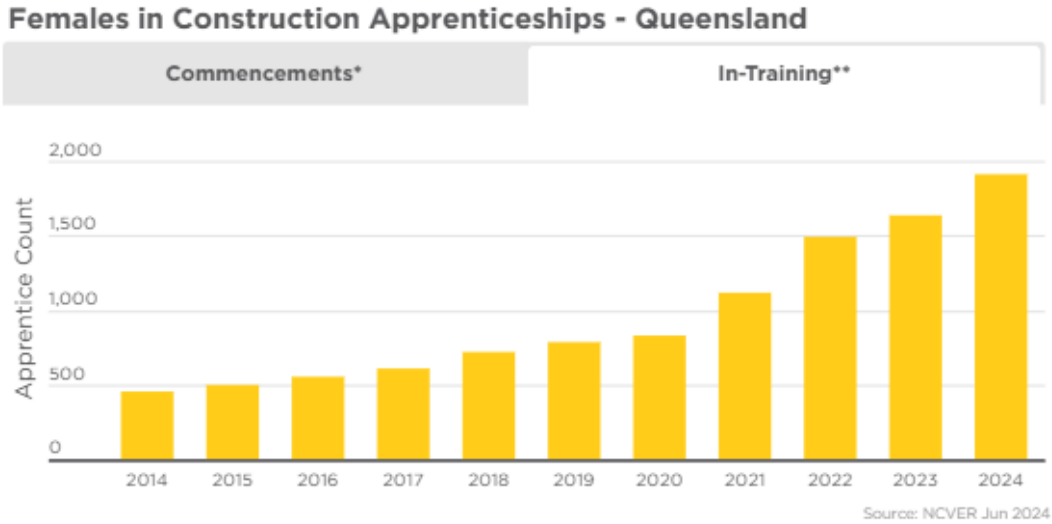
Figure 10 Female Participation Rate in Construction - Queensland



Source: https://www.csq.org.au/knowledge-centre/interactive-data/women-in-construction-workforce/ - This rise in female participation coincided with an increase in the number of female Construction apprenticeships in Queensland.

There was significant increase in apprentices in Construction total since 2015. Analysis of NCVER data (shown in Figure 10) up to June 2024 by Construction Skills Queensland also show growth in females in construction apprenticeships in Queensland up from 553 in 2016 to 1,912 in 2024 with the strongest growth over the period since 2021.

Figure 11 Females in Construction Apprenticeships - Queensland



Source: https://www.csq.org.au/knowledge-centre/interactive-data/women-in-construction-workforce/ - see tab 4 Construction Skills Queensland table data sourced from NCVER June Quarter

Conclusion

The growth in Construction apprenticeships was across both male and females
The Building and Construction Training Policy contained within BPICs requires that at least 15% of total labour hours on eligible projects are performed by apprentices, trainees, or through other workforce training unit.

Figure (11) demonstrates the upsurge in apprenticeships in total since 2018 and especially in the period 2020-2024. It should be noted that BPICs included apprentice ratios, support for costs of apprentice training and tools and greater support for adult apprentices.

There was clearly an acceleration in female participation in the Construction industry. While this growth has been evident since 2016 it accelerated after 2021. Participation rates are determined by several factors and complete decomposition of the reasons behind this increase is difficult. However, it should be noted that the peak in participation and apprenticeship growth occurred during the BPICs period.

5.5 Proposition 5- BPICs emboldened Unions, shifted the balance of power in the construction industry and lead to a rise in Industrial conflict

Industrial relations

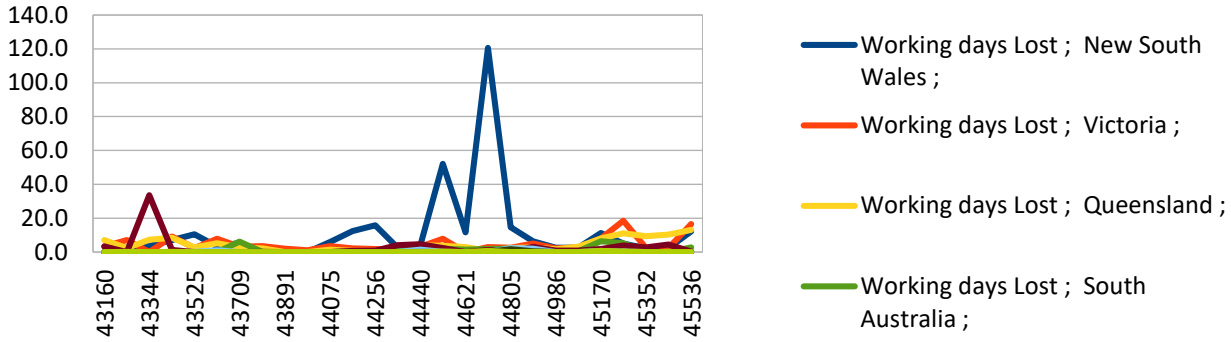
According to recent data, the construction industry in Australia consistently reports the highest rates of industrial conflict, with a significant portion of workdays lost due to disputes often concentrated within this sector. This is, perhaps because of the nature of the work and the high stakes risks involved the industry. The dominance of Construction is shown in the September quarter of 2024 where the Construction industry (27,500 working days lost) contributed more than half the 46,000 working days lost in Australia[76]. Queensland Construction contributed disproportionately to days lost in the June quarter of 2024 but moved back to similar levels to NSW and less than Victoria in September quarter of 2024.

Taken over the period 2018-2024, working days lost in Queensland in the Construction industry (see Figure 12) was below that for Victoria and New South Wales and for the most part on a par with the whole of Australia.

The industrial conflict data for Queensland Construction was inflated by disputes over the cross-river tunnel project. There was an increase in working days lost in 2023 and 2024 related to safety and industrial issues at the Cross River Rail project which was not covered by BPICs.

[76] https://www.abs.gov.au/statistics/labour/earnings-and-working-conditions/industrial-disputes-australia/latest-release.

Figure 12 Working Days Lost in Construction various States



Source: Insights into Output of Construction Prices ABS August 2024

Conclusion

The Construction industry, perhaps due to the nature of the work and the risks involved has traditionally had a high rate of industrial conflict as measured in working days lost. In some quarters in 2024, construction accounted for more than half the days lost. The industry in Queensland contributed to this, particularly in the June quarter 2024. However, if, *taken over the period 2018-2024, working days lost in Queensland in the construction industry (see Figure 12), was below that for Victoria and New South Wales and for the most part on a par with the whole of Australia. This improvement in industrial relation has been attributed to stake holder cooperation[77]. The most significant project for industrial conflict in Queensland related to the cross-river rail project in 2023/24.*

5.6 Proposition 6 – BPICs contributed to an Indigenous Construction Workforce

Indigenous persons, particularly males, record unemployment rates 2.5% above the national average – at 12% compared to the national average of 5.5 % at the 2021 Census of Population and Housing[78].

At the Census, construction remains the second highest employer of indigenous people at 7,519 behind health care and social assistance at 12,392[79]. One in ten indigenous workers were employed in the construction industry in 2021.

Between the 2016 and 2021 Census, indigenous employment and participation have both grown steadily with strong growth in trades. (see Figure 13)

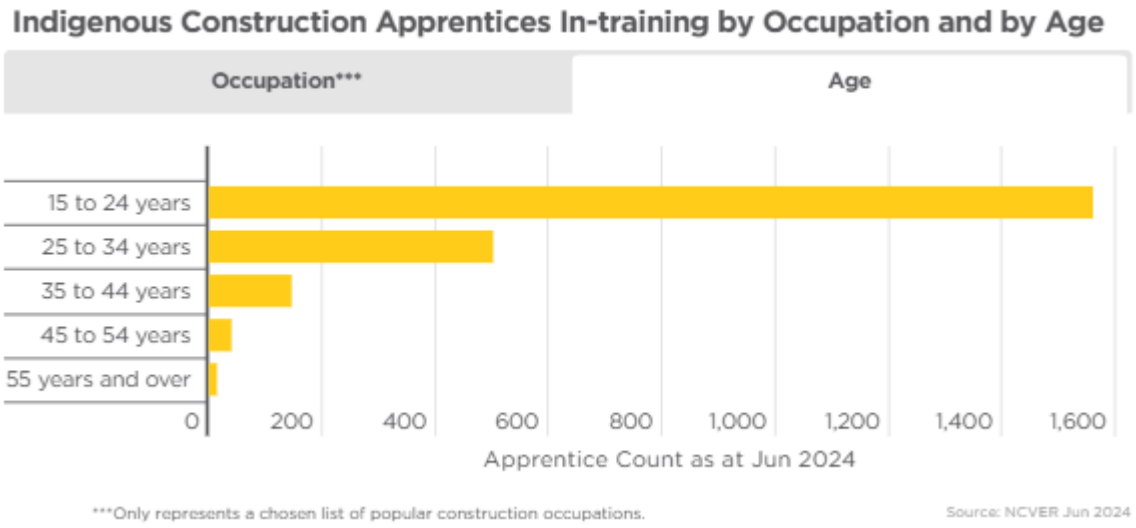
[77] Conversations with Union representatives.
[78] https://www.abs.gov.au/statistics/people/housing/housing-census/latest-release.
[79] https://www.csq.org.au/knowledge-centre/interactive-data/indigenous-construction-workforce/.

Figure 13 Indigenous Employment in Construction Trades* - Queensland

Source

https://www.csq.org.au/wp-content/uploads/2023/07/Indigenous-Construction-Workforce-2023.pdf
https://www.csq.org.au/knowledge-centre/interactive-data/apprentice-chartpack/

Figure 14 Indigenous Construction Apprentices In-training by Occupation and by Age



Source: https://www.csq.org.au/knowledge-centre/interactive-data/apprentice-chartpack/

Finally, as can be seen in Figure (14), the growth in indigenous apprenticeships was heavily concentrated among young persons aged 15-24.

Conclusion

The period, 2021 to 2024, has seen significant increases in Indigenous employment in the Construction industry both in total employment and in the take up of apprenticeships. Lack of observations make formal testing for a structural break such as through a Chow or dummy variable regression test unadvisable but there is clearly an above average increase after the start of the BPIC period.

5.7 Proposition 7- BPICs made significant contributions to local economies through the use of local suppliers and contractors

The use of local resources was a requirement of BPICs, where up to 30% of materials were reserved for local use. It is noted that the use of local suppliers, while a social and political objective does not necessarily translate into an efficient economic objective if local supplies are not cost effective[80] This is because of several potential factors

- Supplier Over-Dependence: Relying heavily on a single local supplier can create a risk if that supplier faces issues or cannot meet your demands. This over-dependence can make it challenging to secure new contracts or innovate.
- Limited Product Range: Local suppliers may have a more limited product range compared to international suppliers. This can restrict your options, especially if your project requires diverse or specialised materials.
- Efficiency Challenges: Smaller local suppliers might struggle to match the efficiency and production capacity of larger international counterparts. This can limit scalability and affect the overall efficiency of your project[81].
- Higher Costs: Local suppliers may have higher costs due to smaller economies of scale. This can reduce cost competitiveness and impact your project's budget.
- Regional Vulnerabilities: Local suppliers are subject to regional risks such as natural disasters, economic downturns, or political instability. These factors can disrupt the supply chain and affect project timelines.
- Quality Limitations: Local suppliers might not always offer the highest-quality or most innovative products available globally. This can force you to choose between reliability and product excellence.

These considerations indicate the complexity and potential ambiguity of evaluating BPICs. It goes to the potential conflict between short-term economic cost minimisation with longer term economic and political goals. In this proposition, BPICs are evaluated solely on meeting the local content requirement.

Country Bank Stadium Townsville

The project was reported to involve 480 local businesses across the supply chain and $163 million of economic activity into the local economy with 93.7 per cent of construction hours by local contractors on 16 July 2019.

[80] See, “The Pros and Cons of local sourcing” The Pros and Cons of Local Sourcing - Global Trade Magazine.
[81] https://supplychainreport.org/analyzing-the-advantages-and-disadvantages-of-local-sourcing-in-supply-chain.

Cairns Court House

During construction 87 apprentices and seven trainees were trained. Lend Lease Building Pty Limited were required to evaluate trade package tenders on workplace health and safety and the employment of apprentices and trainees. Approximately 77 apprentices and 10 trainees were working on the stadium on 16 July 2019 with 95 per percent of training hours by local workers[82].

6.0 Appendix 1- **Projects in other jurisdictions**

***Victoria**:[83]*

Melbourne Suburban Rail Loop - increased in cost from $50 billion to $96.4 billion – an increase of $46.4 billion or 92.8%.

Northeast Link - increased in cost from $15.8 billion to $26.1 billion an increase of $10.3 billion or 65.2%.

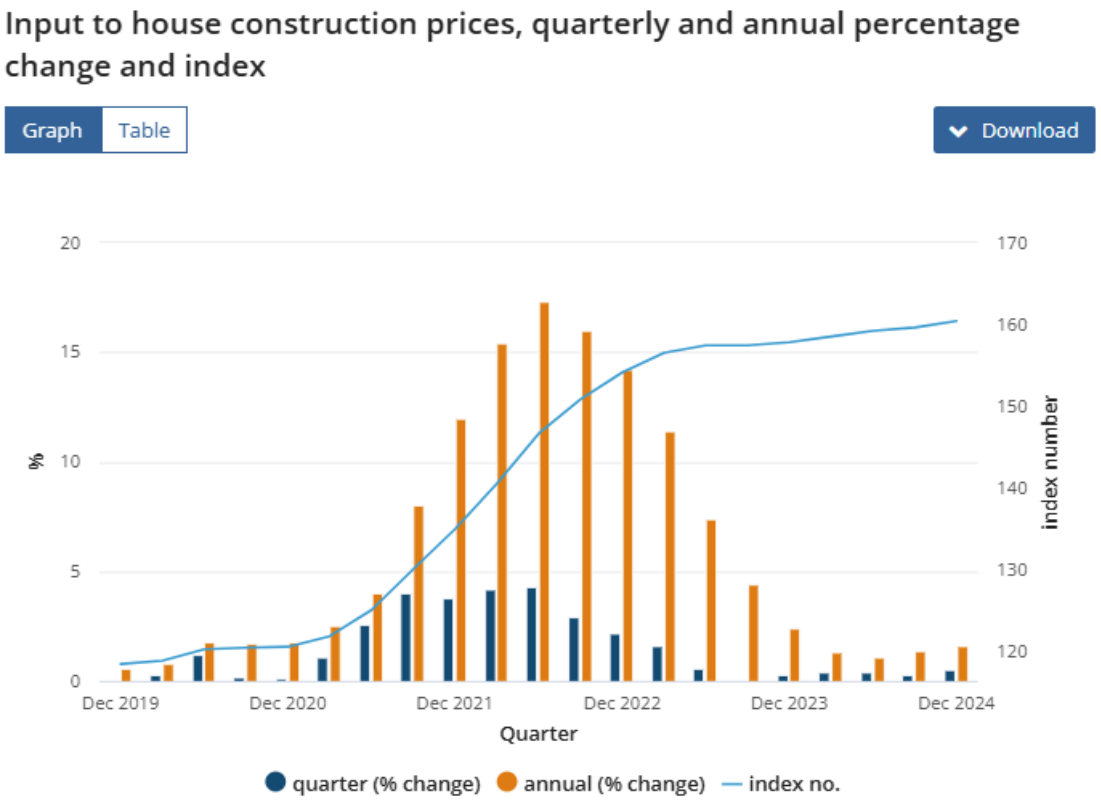
West Gate Tunnel - increased in cost from $5.5 billion to $10.2 billion an increase of $4.7 billion or 85.5%.

Melbourne Metro Tunnel - increased in cost from $9 billion to $13.48 billion – an increase of $4.48 billion or 49.8%.

***New South Wales**:*

Sydney Metro – increased in cost from $13.32 billion to $25.32 billion or 90%[84]
The cost increases on construction projects in Queensland are less than or align with other jurisdictions. The increase in costs has occurred from both global inflation post COVID-19 and from the invasion of Ukraine on the cost of materials and the skills shortage exacerbated by COVID stimulus programs and demand for infrastructure with record population growth after borders reopened. Increases in the cost of materials has now returned to historical levels however there has been no decrease to offset previous rises. The chart below from the ABS on inputs to house construction prices illustrates this clearly[85].

[82] https://documents.parliament.qld.gov.au/com/TPWC-2297/RN2456P201-79D2/qon-29Jul2019-HPW.pdf NGO3.
[83] https://www.afr.com/politics/federal/victoria-s-four-biggest-big-build-blowouts-20241127-p5ktun.
[84] https://www.theguardian.com/australia-news/2023/apr/13/nsw-government-launches-sydney-metro-review-amid-21bn-cost-blowout.
[85] https://www.abs.gov.au/statistics/economy/price-indexes-and-inflation/producer-price-indexes-australia/latest-release.



While a revision down of public infrastructure investment by $39 billion in southern States contributed to a reduction in the national construction workforce shortage of 32,000 on the previous year, the shortfall of construction sector workers remains at 197,000 against an existing workforce of 198,000 full-time equivalent workers (see page 5).

The Infrastructure Market Capacity 2024 report prepared by Infrastructure Australia states that compared to the previous outlook period from 12 months earlier:

"There is a significant geographical shift in investment to the north, with Queensland and Northern Territory major infrastructure pipelines growing by $16 billion… The projected increase in demand for these northern areas would intensify local supply constraints, especially in regional areas where attracting skilled workers is challenging. It is also difficult to source construction materials, plant, and equipment due to their geographical distance, adding risk to on-time, on-budget project delivery." (page 5)

The Best Practice Industry Conditions included travel allowances directly targeted at attracting skilled workers to regional areas. As detailed by Infrastructure Australia the Construction Industry Culture Taskforce has found that working conditions are directly impacting on the availability of workers with:

- 64% of current construction industry workers having to work more than 50 hours per week
- 59% say they are unhappy with their work-life balance; and
- Only 26% thought they could combine construction with parenthood.

The COVID-19 transport stimulus program remains the main driver in growth of the public infrastructure program nationally making up 59% of the Major Public Infrastructure Pipeline at $126 billion (page 6). The timing of this stimulus at the same time as the generational Cross River Rail project in Queensland resulted in transport making up the largest share of the Queensland infrastructure program this financial year at 36%.[86] The program came at a time of significant volatility in global supply chains contributing to increased costs of materials. The cost of land transport infrastructure increased by 51-53% since 2010-11 with as much growth in the past 3 years as there was in the preceding 10 years.

- Flexibility: Employers have more flexibility in hiring and setting terms for non-union workers, which can be advantageous for short-term or smaller projects.
- Job Security: Non-union workers generally have less job security and fewer protections, which can lead to higher turnover rates.
- Cost Implications: Lower wages and benefits can reduce initial labour costs, but potential issues with quality and productivity might increase the risk of reworks and project delays.

Overall, the choice between unionised and non-unionised workforces depends on the specific needs and priorities of a project, including budget constraints and quality requirements.

[86] https://budget.qld.gov.au/files/Budget_2024-25_BP3_Capital_Statement.pdf page 20.

[i] Construction Cost Inflation on Verge of Reacceleration Upward, Warns Oxford Economics Australia Global Supply Chains Add Pressure to Construction Costs | The Urban Developer.
[ii] See, Work-safe Australia. Similar data revealed internationally 13 Construction Injury Statistics in the UK (Updated In 2024) | House Grail and injuryfacts.nsc.org/work/industry-incidence-rates/most-dangerous-industries.
[iii] See, Hirsch, B. (2012) Unions, Dynamism and Economic Performance. Research Handbook on Economics and Performance, Cornell.
[iv] Construction Costs Expected to Post Largest Increase in Years Due to Pressures from Both Supply and Demand Sides | CBRE.

6. 0 Appendix 2- Non-Linear IO modelling

The Non-Linear Input-Output Model (NLIO) seeks to remove one of the major limitations of standard input-output analysis by removing the assumption of linear coefficients for the household sector and allowing marginal income coefficients adjustment. This is because, as is widely known, the household sector is the dominant component of multiplier effects in an input-output table. As a result, using marginal income coefficients for the household sector will provide a more accurate, and empirically more valid, estimate of the multiplier effects, which in turn, provides results closer to those of a computable general equilibrium (CGE) model.

The transactions flows in the input-output table can be expressed in matrix equation form as:

$$\mathbf{T}(\hat{\mathbf{X}}^{-1})\mathbf{X} + \mathbf{Y} = \mathbf{X}$$

That is, for each industry, total industry sales equal intermediate sales to other industries for further processing plus sales to final users, where T is the matrix of intermediate transactions, X is the column vector of sector total outputs and Y is the column vector of aggregate final demands. This can be rewritten as:

$$AX + Y = X$$

Where A is the matrix of direct coefficients, which represents the amounts of inputs, requires from sector *I* per unit of output of sector *j*. Thus, for a given direct coefficient matrix, it is possible to solve the set of simultaneous equations to find the new sector production levels X which will be required to satisfy a potential or actual change in the levels of sector final demands Y. By rearranging and converting to differences, this equation can be rewritten as:

$$\Delta\mathbf{X} = (\mathbf{I} - \mathbf{A})^{-1}\Delta\mathbf{Y}$$

Where $(\mathbf{I} - \mathbf{A})^{-1}$ is termed the total requirements table, Leontief inverse matrix or general solution, and represent the direct and indirect change in the output of each sector in response to a change in the final demand of each sector. ΔY can incorporate any element of final demand expenditure, including household expenditure, government expenditure and capital expenditure.

This model is a linear model in which the A matrix represents a (constant) matrix of average input propensities. Normally, the A matrix endogenizes[iv] the household sector so that household consumption induced effects can be measured. This is referred to as the Type II model; the alternative Type I model is where households are treated as exogenous to local economic activity. The consumption-induced effects are the largest component of the total

multipliers. This is because consumer driven consumption (and income) to a large extent dominates local economic activity.

Total inputs are equal to intermediate inputs plus primary inputs (labour and capital). In the conventional input-output model, the inputs purchased by each sector are a function only of the level of output of that sector. The input function is assumed linear and homogeneous of degree one, which implies constant, returns to scale and no substitution between inputs. A more reasonable assumption is to allow substitution between primary factors. If there is an expansion in economic activity, say due to a development project, employers will attempt to increase output without corresponding proportional increases in employment numbers, particularly in the short term, e.g., construction projects, where there are economies of scale in getting the existing workforce to work longer hours rather than employ additional persons.

This occurs for two reasons.

First, there is evidence in Australia that labour productivity (output per employee) is increasing over time. Secondly, as companies strive to reduce costs and satisfy the micro-economic reform processes imposed on all states by the National Competition Policy, there is evidence of a shift in primary factor use from labour to capital. This implies that the conventional input-output model tends to overestimate impacts, the income and employment impacts.

Therefore, a more realistic approach to modelling impacts is to replace the average expenditure propensities for labour income by employers with marginal input propensities. In other words, the household income row in the A matrix, which are average input coefficients, should be replaced by income elasticities of demand. Note that, as in the CGE model, the linear coefficients assumption between intermediate inputs, and total primary inputs, and total inputs is retained.

One problem associated with this approach is that the solution procedure is now more complex. Now the income impacts will be a function of ΔX but the income coefficients are included in the A matrix which determines ΔX. Therefore, the equation set becomes recursive; ΔX depends on A and A depends on ΔX. Solving the input-output equation therefore requires an iterative procedure, a common method being the Gauss-Seidel method.

The income and employment flow-ones from the initial impact also need to be modified. In the conventional input-output model, income and employment flow-ones are calculated as linear functions of the output flow-ones, but in the revised model, the parameters relating income to output are no longer constant. The impact on household income needs to be calculated as the difference between the base (i.e., before impact) income levels and the post impact income levels. It can be shown that this is equivalent to using the matrix equation:

$$\Delta \mathbf{Inc} = \hat{\mathbf{X}}_0^{-1}(\Delta\hat{\mathbf{X}})\hat{\mathbf{L}}\mathbf{U}_0$$

Where U is a vector of household income flows and L is a vector of sectoral household income elasticities of demand. The zero subscript denotes the base level values, and the hat denotes a diagonal matrix formed from the elements of the corresponding vector. This equation simply states that, for each sector, the change in household income payments equals the proportional change in output times the base level income payments multiplied by the

income elasticity of demand. These income elasticities of demand can be shown to be equal to:

$$I_j = \eta_{WX} + \eta_{EX}$$

Where ηWX is the elasticity of wage rate with respect to output, and ηEX is the elasticity of labour demand with respect to output; that is, they are made up of two components, the wage price component, and the labour productivity component.

Similarly, the change in sectoral employment can be calculated as the change in the sectoral wage bill times the wage rate:

$$\Delta Emp = \hat{H}_0^{-1}\hat{P}_0^{-1}\Delta Inc$$

Where H is a vector of average household income coefficients and P is a vector of coefficients representing average output per employee.

There are several implications arising from the use of this model, compared to the conventional input-output model. Firstly, while the output multipliers and impacts should not be significantly different between the two models, we would expect the income and employment impacts to be smaller in the marginal coefficient model. This is because many industries, especially those which are more capital intensive and can implement further productivity gains, can increase output, particularly in the short run[iv], without corresponding proportional increases in employment and hence income payments.

Secondly, unlike the conventional input-output model in which the multiplier value is the same for all multiples of the initial shock, the multiplier values from the marginal coefficient model vary with the size of the initial impact. Thus, larger changes in final demand will tend to be associated with smaller multipliers than small changes in final demand. Therefore, the differential impacts of the marginal coefficient model are not additive, unlike the conventional (linear) Leontief model and CGE model. Overall, within the confines of a static model, the major improvements brought by the non-linear model are to improve the overall accuracy of the factor income and employment impact projections.