

Overview

The construction industry faces significant problems which impact on its ability to sustainably and productively deliver the pipeline of work and attract and retain a healthy and well workforce. These problems include:

- Work hours in project-based construction work are notoriously long, particularly in large public infrastructure construction projects, which often work 'around the clock' to optimise the use of machinery. Australian research suggests an average of 63 hours worked per week by tradespersons and 56 hours per week by site officers and administrators. These hours exceed the maximum weekly threshold of 48 hours, established by the International Labour Organisation (ILO) over 90 years ago to protect workers' health. Australian research indicates that working over 40 hours a week starts to affect mental health¹.
- Diversity, particularly gender diversity, within the construction industry is low with only 12% female workers across all job roles in the sector. Research indicates that there are structural and cultural impediments to women's participation in the industry, including long and rigid work hours (particularly in project-based roles). This is further compounded by expectations around presenteeism and geographical mobility conflicting with family and caring commitments that are often shouldered by women.
- The health and wellbeing of the construction industry workforce is impacted negatively by long hours of work. This is reflected in the industry's high suicide rates, increased levels of stress and negative impacts on family relationships and wellbeing. Research shows that stress levels and suicide rates amongst construction workers are double the national average, providing a distressing impetus for industry reform.

The issues of working time, gender and health are highly inter-related. According to Australian research the 'tipping point' beyond which weekly work hours negatively impact mental health is 34 hrs/week for women but 47 hrs/week for men². Women's lower tipping point is entirely due to the unpaid time spent on care. Within families, long work hours create a gendered system of who has a job and who has time for care. Long work hours reproduce gender inequality and can undermine organisational effectiveness³.

Therefore, a 'triple win' on some of the construction industry's most intransigent problems may be achieved through focusing on reducing working hours in project-based roles.

The results of a global monitoring study undertaken on behalf of the World Health Organization and the International Labour Organization found that work-related diseases and injuries were responsible for 1.9 million deaths in 2016 and 89.7 million disability-adjusted life years.

Long work hours was the occupational risk factor with the largest number of attributable deaths (744 924). Importantly, deaths from heart disease associated with long working hours increased by 41% between 2000 and 2016, leading the WHO/ILO to identify long working hours to be a serious occupational risk factor.

- World Health Organization/International Labour Organization
Joint Estimates of the Work-related Burden of Disease and Injury, 2000-2016: Global Monitoring Report 2021

Background

Construction is Australia's third-largest industry, employing over 1.1 million Australians (close to 10% of the working population) and contributing 7.2% of GDP annually. Through the design, development and delivery of essential infrastructure and buildings, the construction industry is vital to the long-term economic growth of the nation.

Project-based work in the construction industry is characterised by long and inflexible hours. Working time in construction projects can, in part, be attributed to some of the industry's practices associated with the establishment of timelines, competitive tendering processes and risk allocation in construction contracts.

Long and inflexible hours of work have important implications for the health and wellbeing of workers, having been linked to heightened stress, burnout, depression and anxiety. Research has established a direct link between long work hours and chronic diseases, such as cardiovascular disease and diabetes, and the incidence of workplace injury also increases as work hours rise. Work hours in project-based construction workers have also linked to negative spill-over between work and family life (work-to-family conflict) which is consistently linked to poor health outcomes.

64%
report working
over 50 hours
per week

59%
are dissatisfied
with their work
life balance

14%
go to work
even when
they are sick

Source: <https://www.cultureconstruction.com.au>

Triple wins:

Reducing work hours to improve
gender diversity, safety, health and
wellbeing in construction projects

“I try my best to spend most of my time at home with [my children]. You know, talking about what's happened at school, with their friends, with their teacher... And I'm trying, you know, not to miss anything about their life, their education and everything. But still, most of the things they say I really miss, because I don't have much time to spend with them.”

- female construction professional with young child

“...in construction, you start work really early, so with a 10 or 12 hour day, you finish work quite late... You go home and you're exhausted and if you wanted to go and do something, like go and have some dinner or go and do an activity, there's always in the back of your mind, 'Oh, I can't possibly have dinner or do that activity because I don't have time to give myself enough physical and mental rest to do another 10 or 12 hour day the next day'”.

- male construction worker, partnered with young child



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Modified work hours in the Australian construction industry

Although very little research has been conducted in this specific area, a limited number of modified work time trials have occurred in the Australian construction industry. Between 2004 and 2006, four construction projects implemented five-day work week arrangements. These projects involved the construction of roads, dams, or water treatment facilities.

These trials yielded positive health and wellbeing benefits:

- Three of the four projects reported an improved balance between work and non-work life. This was reflected in participants describing how the modified arrangements enabled them to spend time with partners, children, and friends.
- Participants across two projects also reported experiencing an improvement to their physical health which was associated with greater time to rest and recuperate over the weekends. Both waged (manual/non-managerial) and salaried (professional/managerial) workers reported a reduction in fatigue, both at work and home.

However, workforce gender composition, costs of implementation and productivity gains were largely undescribed in the trials reported. The trials also revealed a difference between waged and salaried workers' preferences; waged workers were concerned about loss of income under some of the working time models implemented, particularly when changes were employer-imposed rather than employee-chosen. Further, the 'compression' of the work week (i.e. working longer daily hours over fewer work days each week) can contribute to fatigue, potentially limiting organisational benefits⁴.

Notably, all four construction projects at which these trials were conducted were delivered through a collaborative (alliance) contracting arrangement and involved a workforce of between 100-300 personnel. Thus, the findings cannot be generalised to projects of a smaller size, procured in different ways.

Strategies	Advantages	Disadvantages
Compressed work week	<ul style="list-style-type: none"> ■ Improved work-life balance and family life ■ Improvement in eating habits ■ Decline in workplace accidents and absenteeism ■ No loss of pay to workers ■ Minimal cost to employers and contractors 	<ul style="list-style-type: none"> ■ No change in sleep outcomes ■ Physical fatigue (aches and pains) worsened ■ Unlikely to improve gender equity ■ Potential increase in work intensification
Reduced working hours: no loss of remuneration	<ul style="list-style-type: none"> ■ Improved work-life balance ■ Improved general health and stress levels ■ Increased productivity ■ Addresses worker and unions concerns (especially male workers) 	<ul style="list-style-type: none"> ■ Work intensification ■ High financial burden to employers or government
Reduced working hours: loss of remuneration	<ul style="list-style-type: none"> ■ Increased productivity ■ Job retention 	<ul style="list-style-type: none"> ■ Increased stress ■ Work intensification ■ Significant wage loss/financial cost to workers and families ■ No change in unpaid work distribution by gender ■ Some cost to employers
Six-hour day	<ul style="list-style-type: none"> ■ Improved mental and physical health ■ Improved work-life balance ■ Greater time for relaxing and recuperating ■ Creation of new jobs 	<ul style="list-style-type: none"> ■ Work intensification ■ May introduce rostering or scheduling difficulties ■ Increased costs to employers
Free time options/ job sharing	<ul style="list-style-type: none"> ■ Greater time with friends and family ■ May increase health behaviours 	<ul style="list-style-type: none"> ■ Scheduling and administrative difficulties

Table 1: Advantages and disadvantages of reduced working time arrangements

Working time control in the UK construction industry

International trials of modified work hour strategies in construction have shown some promising results. Between June 2020 and February 2021, four projects in the UK construction industry each implemented different strategies for giving workers increased control over their working time:

- Bam Construct trialed a team-based strategy in which site workers would have weekly discussions with managers to schedule the week ahead to better suit them while ensuring that deadlines were met;
- Bam Nuttall trialed a 'flexi-day' approach, which enabled workers to swap overtime for a day off. This was particularly popular with individuals who worked away from home during the week and wanted to take a three-day weekend;
- Skanska trialed staggered starts and finishes, on the HS2 project (a new high speed railway);
- Willmott Dixon limited staff to 45-hour working weeks.

A study of these trials found that wellbeing improved from 48% to 84% and that the amount of people working more than their contracted hours decreased from 51% to 34%. Importantly, the study did not find any negative impacts on project timelines or budget as a result of these changes⁵.

A five-day week schedule is currently being implemented at the Concord Hospital construction project in New South Wales. The impacts of this working time arrangement in relation to health, gender equity and productivity are being evaluated by researchers at The University of New South Wales. When available, the results from this evaluation will provide the most recent and comprehensive evidence relating to the impacts of a five-day week program in the construction industry.

Alternative ways of scheduling work trialed outside the construction industry

Shortened Working Weeks

Many shortened working week trials are occurring, or have recently occurred, in various other industries around the world:

- Consumer goods company Unilever plan to reduce hours by 20% with no loss of pay in New Zealand.⁶
- In 2018, New Zealand trust company Perpetual Guardian made its 4-day working week permanent following a successful trial.⁷
- In 2019, Microsoft Japan reported a 40% sales boost during its 4-day working week trial.⁸
- A four-day working week strategy trialed on over 2500 workers in Iceland between 2015-2019 has been hailed as an "overwhelming success".⁹
- Drawing on the experience of New Zealand and Iceland, Scotland is currently planning a national four-day working week trial.¹⁰

The 6+6 working time model

Another approach to working time reduction is to introduce a six-hour working day in two shifts, sometimes referred to as a "6+6 working time model".¹¹

- In 1995, a series of experiments was implemented by the Ministry of Labour in Finland to encourage 6+6 working time schemes in private enterprises and public services.

Several benefits were identified in these trials, including increased employment, increased time for leisure, flexible start and finish times, the potential to lengthen service hours to remain competitive, and the ability to apply the strategy selectively across an enterprise.¹²

- A 6+6 work reduction strategy was also trialed at Toyota service centres in Gothenburg, Sweden. Thirty-six mechanics took part in this work hour configuration, switching from working a 7am to 4pm day to two six-hour shifts with full pay.

Staff at Toyota felt better in general and the additional time was spent with family on leisure activities. Productivity increased dramatically, with 144% of work previously completed in the original 40 hours now being completed in 30 hours through the 6+6 strategy.¹³

⁴Dinh, H., Strazdins, L., & Welsh, J. (2017). Hour-glass ceilings: Work-hour thresholds, eroded health inequities. *Social Science and Medicine*, 176, 42-51

⁵As above

⁶Rapport, R., Ballyn, L., Fletcher, J. K. and Pruitt, B. H. (2002). Beyond work-family balance: Advancing gender equity and workplace performance. *Jossey-Bass San Francisco, CA*

⁷Hyatt, E., & Coslor, E. (2018) Compressed lives: how "flexible" are employer-imposed compressed work schedules. *Personnel Review*, 47 (2), 278-293

⁸Price, D. (2021). Bam and Skanska's flexi-working trials for tradespeople a "success". *Construction News*, 23 June 2021 <https://www.constructionnews.co.uk/stories/bam-and-skansas-flexi-working-trials-for-tradespeople-a-success-23-06-2021>

⁹BBC. (2020). Unilever explored four-day working week. *BBC News*, 30 November 2020 <https://www.bbc.com/news/business-55139079>

¹⁰Nadkarni, A. (2018). Company makes four-day working week permanent after trial. *Sydney Morning Herald*, 3 October, 2018, <https://www.smh.com.au/business/workplace/company-makes-four-day-working-week-permanent-after-trial-20181003-5057076.html>

¹¹Kleinman, Z. (2019). Microsoft four-day work week 'boosts productivity'. *BBC News*, 4 November, 2019, <https://www.bbc.com/news/technology-50287391>

¹²BBC. (2021). Four-day week an "overwhelming success" in Iceland. *BBC News*, 6 July, 2021, <https://www.bbc.com/news/business-57724779>

¹³Fraser, D. (2021). Scotland to trial a four-day week. *BBC News*, 1 September, 2021, <https://www.bbc.com/news/scotland-scotland-business-58403087>

¹⁴Raitola, P. (1998). Working time reduction in Finland. *Transfer: European Review of Labour and Research*, 4 (4), pp. 729-746.

¹⁵As above

¹⁶Stronge, W., Harper A & Guizzo, D. (2019). The shorter working week: a radical and pragmatic proposal. *Autonomy*, London.

¹⁷Schneider, R. (2018) 'Innovative working time policy in the service sector: Responses to working time policy challenges by service sector unions'. (Working Paper) *Forschungsforum*

¹⁸De Staegelaere, S & Pisana, A. (2017). The why and how of working time reduction. *European Trade Union Institute*.

¹⁹Alderman, L. (2016). In Sweden, an experiment turns shorter workdays into bigger gains. *The New York Times*, 20 May, 2016. <https://www.nytimes.com/2016/05/21/business/international/in-sweden-an-experiment-turns-shorter-workdays-into-bigger-gains.html>

"...that Sunday that you get off, you want to do so many things you get frustrated. She said, 'let's go here', I say, 'let's go there', she says, 'I wanna go to the city', I said, 'I don't want to go to the city, I want to go there', and then we end up in arguments... not managing to agree how to spend the day, because it's just you want to squeeze so much in one day."

- male construction worker, partnered with non-dependent children

"Is it reasonable to have a person working from 6:30 'til five o'clock every day when you know that they've got an hour and a half drive in in the morning, and a two hour or an hour and three quarter drive home at night, and if they did that five days a week and then they knocked off at one o'clock on Saturday and did all of those things, is that sustainable for a person to be doing that when they've got a young family or whatever?"

- construction business owner

Free time option schemes

Free time options generally reduce work hours by converting employees' annual bonuses into leave or free time as agreed in a collective agreement.

- An example of a free time option scheme is the Freizeitoption scheme which was introduced in Austria in 2013 under a collective agreement. This scheme enabled individual workers to select either an agreed annual pay increase or a corresponding number of paid hours off.

While no health evaluations of the scheme could be found, some gender differences in uptake and use were observed. While men chose to accumulate their time and take leave in blocks of consecutive days, women used their time off on a regular, even daily, basis as a means of alleviating time pressures associated with their unpaid workloads.¹⁴

- A similar free time option scheme was implemented at the national broadcast agency, VRT, in Belgium in 2016 in a bid to avoid mass redundancies. VRT workers were able to gain an additional 22 days of leave if they voluntarily sacrificed their annual bonus. Work intensification was experienced by some workers who opted into this scheme.¹⁵

- A six-hour working day with no pay cut was trialed for two years in a municipal nursing home also in Gothenburg, Sweden. In this case, seventeen new nursing positions were created to make up for the reduced hours. The trial led to improvements in workers' efficiency, energy and their perception of health, and a 15 per cent reduction in absenteeism.¹⁶



So what's next for the Australian construction industry?

There is increasing interest in the impacts of working hours in the Australian construction industry, as demonstrated by a number of sites that are trialling and adopting alternative working hour strategies.

Examples are emerging of client-led interventions (often driven by fatigue management programs) placing upper limits on hours worked during project delivery. Concerns about mental wellbeing and gender equality have also led a number of construction companies to implement a five-day work week in some of their projects.

However, on the basis of available evidence, no single strategy can be identified as the best or most effective. Some of the advantages and disadvantages identified are shown in Table 1. A variety of working time models (including those trialed in other industries) could be considered.

Understanding how the costs and benefits of working time modifications are experienced by different parties within construction project supply networks is critical to designing working time arrangements that are widely accepted and produce the best results for the industry.

Large-scale, lasting change can only occur with the consideration, cooperation and commitment of all parties and stakeholders, including governments, clients, construction organisations, employer groups and trade unions.

For more information a comprehensive literature review of reduced work hour strategies can be accessed [here](#).

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About the CICT

The [Construction Industry Culture Taskforce \(CICT\)](#) is an initiative of the Australian Constructors Association, representing the nation's largest construction firms, the Governments of New South Wales and Victoria and Australia's leading workplace researchers.

Since 2018, the CICT has been working to develop a Culture Standard which aims to lift the productivity and performance of construction and address the major issues holding back the industry – excessive work hours and fatigue, poor mental health, and failure to attract a diverse workforce.

As part of the CICT initiative, research is being conducted to examine the impact of working time reduction initiatives in case study construction projects in New South Wales and Victoria.