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BUILT DIFFERENT:
MODERN METHODS OF CONSTRUCTION

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BUILT DIFFERENT: MODERN METHODS OF CONSTRUCTION

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This is the second in a series of CEDA papers focused on the housing crisis in Australia. The crisis has been decades in the making, with multiple policy and planning failures across the country contributing to a shortage of affordable homes for Australians.

Each paper in this series will tackle one key housing challenge. Combined, the solutions we propose will help to solve the housing puzzle.

Without more urgent action, we risk making the "great Australian dream" of home ownership unattainable, reserved only for the lucky few with access to generational wealth.

We can and should ensure that all Australians have access to the housing they need to participate fully in life. This aspiration is a key goal of CEDA's Progress 2050 vision.

ABOUT THIS PUBLICATION

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ABOUT URBIS

Urbis is a multidisciplinary urban consultancy bringing transformation to cities and communities around the world. From inspiration to implementation, our team of more than 900 consultants and specialists create communities and places that address the complex needs of society.

Our approach to liveability extends beyond the built environment and involves sustainable, ethical, commercial, social and natural elements to deliver future-focused housing and precincts solutions.

BUILT DIFFERENT: MODERN METHODS OF CONSTRUCTION

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Different types of modern methods of construction

Built off-site and delivered

Pre-built components delivered to site

Robots building elements on-site

3D printed buildings

Modern methods of construction

can reduce construction times by **20** to **50%**

At scale, modern methods of construction can cut costs by around 20 per cent

which is more than

$116,000
for a typical Sydney apartment

$13.6 million
for a typical Sydney apartment building

CEDA's recommendations:

Set a national modern methods of construction target

Align finance with how modern methods of construction are built

Examine and update the regulatory framework

Deliver a revised transport framework nationally

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EXECUTIVE SUMMARY

Australia is not building enough homes, and the homes we do build are taking too long to complete. Projections point to a national shortfall of between 200,000 and 300,000 dwellings against the National Housing Accord target of 1.2 million new homes by 2029. Average construction times have risen 40 per cent since the pandemic. A new standalone home now takes 9.2 months to build. A new apartment building takes 2.4 years.

Meeting Australia's housing needs will require building more and building differently. Modern methods of construction (MMC) encompass a range of construction approaches that move building activity, wholly or partially, away from the traditional on-site model. They can reduce construction times by 20 to 50 per cent, cutting two to five months from the average house build. At scale, they can cut construction costs by around 20 per cent. A 20 per cent saving would reduce the construction cost of an average apartment by more than $116,000. For a typical Sydney apartment building, it could lower construction costs by over $13.6 million.

Despite these potential gains, modern methods of construction remain a niche part of Australia's construction sector. The barriers to uptake are mostly regulatory, though they also reflect the lack of industry scale, which in turn hinders uptake further. Australia's regulatory frameworks were designed for traditional on-site construction and create compliance complexity, cost and uncertainty for MMC projects. Financing structures tied to on-site progress milestones do not align with off-site manufacturing processes, limiting access to capital for buyers and producers alike. Fragmented development pipelines constrain the scale needed to make MMC commercially viable. State-based transport regulations add further cost and complexity.

International experience shows that when modern methods of construction are embedded in national housing policy and supported by consistent regulation, stable demand and targeted investment, adoption can accelerate quickly.

Without coordinated policy action, uptake will remain constrained. Realising MMC's potential in Australia requires reform across planning, building standards, financing and transport, alongside investment in workforce capability and pipeline certainty.

RECOMMENDATIONS

Set a national modern methods of construction target

1. The Federal Government should set a target for the delivery of MMC homes. Greater adoption in social and affordable housing should lead this target, building the demand certainty manufacturers need to invest at scale.

Examine and update the regulatory framework

2. The 'Modernising the National Construction Code' review should deliver concrete reforms to remove barriers to MMC. In parallel, the Australian Building Codes Board should publish nationally consistent MMC definitions as formal guidance ahead of their incorporation into the National Construction Code.
3. State and territory governments should establish dedicated modern methods of construction approval pathways.

Align finance with how modern methods of construction are built

4. The Federal Government should encourage standardised MMC finance products across the banking sector.
5. State and Territory governments should consider low-interest finance for MMC manufacturing facilities.

Deliver a revised transport framework nationally

6. Transport Ministers, working through the National Transport Commission, should deliver harmonised permit and escort requirements for prefabricated module transport, through the next phase of Heavy Vehicle National Law reforms.

HOMES ARE TAKING TOO LONG TO BUILD

Australia is experiencing a severe housing supply shortfall. Rising demand, constrained land release, planning delays and long-run productivity decline in construction have combined to widen the gap between the homes Australia needs and the homes being built. The National Housing Accord target of 1.2 million new dwellings by 2029 is ambitious, and current progress is falling short.

Homes in Australia are slow to build and have been getting slower. It takes 9.2 months on average to build a new standalone home, and over 13 months in Western Australia.[1] New apartment buildings take an average of 2.4 years to complete.[2] Trades shortages, material supply constraints and planning delays have all contributed to construction timelines lengthening significantly in recent years.

Meeting Australia's housing needs will require building more and building differently. Modern methods of construction offer credible pathways to accelerate delivery, reduce costs and improve productivity. Yet these approaches remain a niche part of Australian construction. Regulatory and planning systems have not kept pace, and uptake will stay constrained without clearer policy alignment and stronger institutional support. Unlocking this potential requires coordinated action across planning, building and transport frameworks.

WHAT ARE MODERN METHODS OF CONSTRUCTION?

Modern methods of construction encompass a range of construction approaches that move building activity, wholly or partially, away from the traditional on-site model. There is no single accepted definition, reflecting ongoing innovation in manufacturing practices.

Modern methods of construction include:

- full or partial prefabrication
- off-site manufacturing
- modular or volumetric construction
- 3D printing
- robotics
- AI integration[3]

MMC are not yet widely adopted in Australia, though some applications have been in use for years, particularly in social housing and remote delivery.

CONSTRUCTION PRODUCTIVITY IN AUSTRALIA IS IN LONG-RUN DECLINE

Dwellings built per construction worker have fallen by 50 per cent since the 1970s.[4] Construction productivity per hour worked has declined by over 7 per cent since 1989-90. That stands in stark contrast to manufacturing, which has achieved nearly 21 per cent growth in multifactor productivity over the same period.[5]

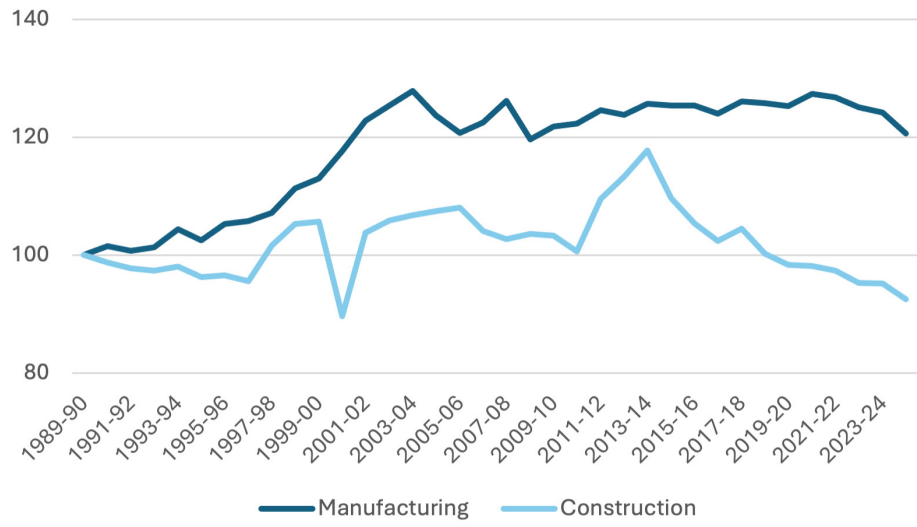
The gap reflects a structural difference. Manufacturing benefits from economies of scale, repeatability and capital investment. Construction remains largely site-specific, fragmented and labour-intensive, limiting its ability to capture equivalent gains.

The Productivity Commission has identified removing barriers to modern methods of construction as a top-five competition reform priority, estimating it could lift residential building output by $4.1 billion and non-residential output by $1.7 billion.[6]

Modern methods of construction offer a direct pathway to close the construction sector's productivity gap. Shifting construction into a factory setting reduces exposure to weather delays and supply chain disruption, considerations that will become more material as extreme weather events grow in frequency. Factory settings allow manufacturing efficiencies to raise output, and greater use of capital, machinery and technology can lift output per worker, delivering more homes with less labour-intensive activity.

Figure 1: Multifactor productivity, hours worked basis

Productivity in the construction sector is declining



Source: ABS, 5260.0.55.002 Estimates of Industry Multifactor Productivity, Australia, Table 1

TIME SAVINGS ARE AMONGST THE MOST SIGNIFICANT ADVANTAGES OF MODERN METHODS OF CONSTRUCTION

In the context of Australia's housing shortage, the speed at which new dwellings can be delivered is a critical constraint on supply. Average construction times have increased by 40 per cent since Covid (2019-20) (Figure 2).

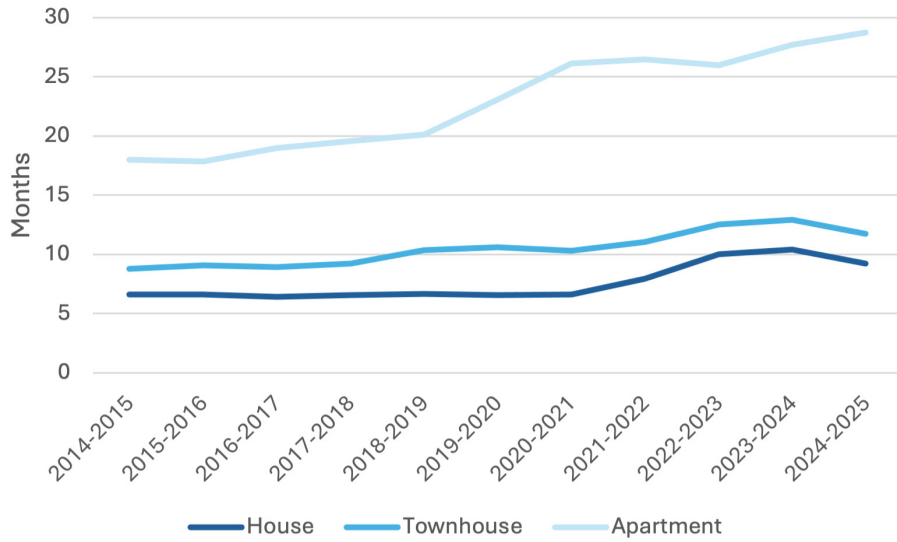
Widespread adoption of modern methods of construction could help reverse this trend. They reduce construction times by shifting a significant portion of building activity off-site into controlled factory environments. This allows site preparation and component manufacturing to occur simultaneously, shortening overall project timelines.

Modern methods of construction can reduce construction times by 20 to 50 per cent.[7,8] Applied to current Australian construction times, this would reduce house build times by 1.8 to 4.6 months. For apartments, the benefits could be more substantial, potentially allowing completion 5.7 to 14.4 months faster than under traditional methods. At scale, these time savings could materially accelerate housing delivery.

Modular construction currently only accounts for about 5 per cent of new home builds in Australia.[9]

Figure 2: Dwelling construction times

It is taking longer for us to build new homes



Source: ABS, Building Activity, Australia, Average Dwelling Completion Times

CASE STUDY 1: CITY OF CALGARY MODULAR HOUSING

ATCO Structures, in partnership with Attainable Housing Calgary (AHC), delivered an 84-unit modular apartment complex in Calgary in 275 days. Off-site construction took 69 days. On-site work was completed in 10 days.[10]

During construction, a traditionally built apartment development was underway across the street. That project delivered 70 units in 660 days, more than double the time taken for the modular complex. The modular build began on site after the traditional project and reached completion before it.

On average, the modular complex completed a dwelling every 3.27 days, compared to 9.43 days per dwelling for the traditional build, a 188 per cent difference in the per-dwelling construction rate.[11,12,13,14]

AHC acquires land in advance to maintain a forward development pipeline, and benefits from streamlined approvals of around 60 days under the City of Calgary's as-of-right zoning, which pre-approves land for high-density housing. AHC and ATCO Structures have committed to delivering 1,164 modular homes by 2028, with a longer-term pipeline targeting 1,500 homes over three years.[15,16]

The Calgary example also highlights the role of planning settings. Where approval timelines and fragmented zoning frameworks remain persistent constraints on housing supply, as in Australia, zoning reform can accelerate delivery independently of the construction method used.

Source: Rhonda McSweeney, ATCO

CONSTRUCTION COSTS IN AUSTRALIA HAVE RISEN SHARPLY

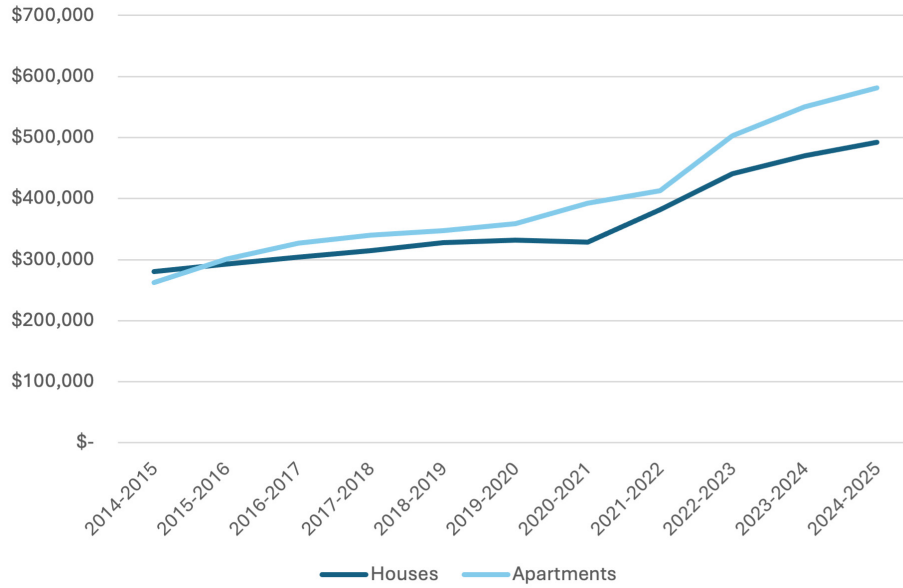
Since 2014–15, the average construction cost per dwelling has increased by 88 per cent. For apartments, cost increases have been particularly pronounced, rising 122 per cent over that period[17] approximately 2.8 to 4 times the rate of CPI.[18]

McKinsey estimates that, with appropriate scale, modular construction techniques could reduce construction costs by 20 per cent.[19] Scale will be required to fully realise these gains.[20,21]

If they can be effectively scaled in Australia, there is potential for substantial cost savings, particularly for higher-density housing. A 20 per cent construction cost reduction could save $98,000 for houses and $116,000 for apartments. For an average Sydney apartment building of 117 apartments, this could reduce construction costs by over $13.6 million.[22] Reducing construction costs supports the viability of housing projects and, over time, flows through to the price paid by buyers.

Figure 3: Dwelling construction costs

Building homes is becoming more expensive



Source: CEDA analysis of ABS 8731.0 Building Approvals, Australia, Tables 20 and 21

BARRIERS TO MODERN METHODS OF CONSTRUCTION

Modern methods of construction technology and production are well established, particularly overseas. Examples of modular construction techniques are operating in Australia, but the industry has not scaled to capture the cost and time benefits. The primary barriers to scale are regulatory and financial.

REGULATORY BARRIERS

One of the greatest barriers to MMC uptake is regulatory. The National Construction Code (NCC) is written to regulate traditional on-site building, not off-site manufacturing.[23] The typical on-site process involves sign-offs at multiple stages of construction. The NCC does not explicitly contemplate MMC, which creates uncertainty around approvals.[24]

The National Construction Code

The NCC provides the technical standards used to regulate all buildings in Australia, with each state and territory retaining variations.

Modern methods of construction can satisfy the Code's 'fit for purpose' standards through three compliance pathways:

- Deemed-to-Satisfy solutions
- Performance Solutions
- A combination of both

MMC projects often do not neatly satisfy the Deemed-to-Satisfy provisions and instead rely on Performance Solutions, which require substantial technical justification and specialised reports. This slows approvals and increases uncertainty and risk for builders. Building certification processes were developed for traditional on-site construction, not for off-site manufactured systems. The NCC also lacks clear definitions for modern construction methods, making compliance pathways inconsistent between jurisdictions and certifiers.

While MMC can comply with the Code, the current compliance environment increases cost and risk, slows delivery, limits innovation and reduces scalability. In response, the Australian Building Codes Board is developing a National Voluntary Certification Scheme for modern methods of construction.

The Commonwealth Treasury is undertaking a formal review of the NCC, 'Streamlining and Modernising the National Construction Code', which specifically references modern methods of construction.[25] The review is broadly on the right track. Any simplification or streamlining that lifts the potential for housing construction is welcome, though the review risks leaving out some key enablers for modular construction techniques given the structural constraints of the National Construction Code reform process.

Regulatory barriers beyond the Code must also be addressed. State planning frameworks regulate development primarily by land use rather than construction methodology. Modern construction methods are therefore assessed through conventional approval pathways, with limited regulatory recognition of off-site manufacturing.[26]

The 2026 Federal Budget announced the intention for new agreements with states and territories will support the uptake of and remove barriers to modern methods of construction in housing. Western Australia signed up to the agreement and NSW have introduced new laws to encourage MMC uptake.

DEVELOPMENT PIPELINES

Modern methods of construction require significant upfront investment in infrastructure and workforce. A predictable pipeline of housing projects allows these fixed costs to be spread across multiple developments, supports standardisation and repeatability, and improves the commercial viability of transitioning away from bespoke on-site construction.

Development pipeline certainty also reduces risk and enables firms to plan and invest over longer time horizons. When builders and developers have confidence in future work, they are more willing to invest in new technologies such as off-site manufacturing facilities. This is particularly important in construction, where innovation tends to be driven by larger firms, which remain relatively scarce in the sector. Smaller firms typically operate project-to-project and lack the demand certainty and economies of scale required to justify such investments.

Strengthening development pipelines supports firm growth and scale. Victoria's Level Crossing Removal Program provides a relevant precedent: sustained demand certainty enabled firms to invest in new construction methods and deliver projects faster and at a lower average cost per crossing than initially anticipated.[29] Similar pipeline certainty in housing could play a meaningful role in lifting productivity and enabling the expansion of modern methods of construction.

State and federal governments have a direct role to play in building a pipeline of MMC work. Greater use of these methods in social and affordable housing delivers multiple benefits: faster supply of housing stock, lower construction costs, and the development of an industry with long-term capacity.

TRANSPORT BARRIERS

Transporting large components built off-site involves navigating a regulatory landscape that varies by state. Where modules cannot be divided, they may trigger oversize or overmass permit requirements coordinated through the National Heavy Vehicle Regulator. Each state then adds its own layer of obligations. Queensland mandates pilot and escort vehicles. Western Australia requires permits, approved routes and Traffic Escort Wardens. Additional approvals may be required depending on the transport route.

Physical and geographic barriers can add further complexity. Steep access roads, tight corners, low-clearance bridges and weight-restricted structures, particularly in regional areas, can limit viable routes and increase project costs.

FINANCE BARRIERS

Loan structures in Australia are designed for traditional on-site construction, where on-site progress milestones trigger finance payment stages.

Modern methods of construction do not follow the same construction milestones. This creates a mismatch between funding release stages and manufacturing payment schedules. The funding burden falls on either the customer, until finance is secured, or on the manufacturer. Carrying that burden is only viable for larger, established manufacturers with sufficient balance sheet capacity.[27,28] The primary reason finance structures have not kept pace with MMC is the limited scale of the industry, which reduces the incentive for lenders to develop MMC-specific products.

CASE STUDY 2: MODULAR FINANCE INITIATIVES

Keystart, the Western Australian Government lending agency, offers one of the only dedicated modular home finance products available in Australia. The Commonwealth Bank of Australia (CBA) has also introduced a comparable product, though the market for modular-specific finance remains limited.

CBA's current product allows customers to access up to 60 per cent of the contract price, or 80 per cent for CBA accredited manufacturers, before a home is installed. CBA maintains an assessed manufacturers list and has created an open-source standard-form contract for the MMC sector.

Keystart requires a 2 per cent deposit, with the remaining 98 per cent of total home and land costs financed. This structure differs from conventional construction loans, which typically base lending on land value, an approach that can limit borrowing capacity in regional areas where land values are lower. There are four progress payments to manufacturers across the manufacturing process. Keystart currently works with seven vetted modular builders.[30]

As a Government Trading Enterprise, Keystart is not subject to the same commercial constraints as private lenders. That allows it to structure products around housing supply objectives alongside borrower affordability. The staged payment model also supports manufacturer cashflow during production, directly addressing one of the most commonly cited financing barriers for off-site construction businesses.

INTERNATIONAL EXAMPLES

Several international jurisdictions show that high rates of MMC adoption are achievable when supported by consistent policy settings and sustained demand.

Japan has developed modular construction using timber and precast concrete, producing a range of building types quickly and to exceptionally high standards. A necessity, given the prevalence of earthquakes. Around 40 per cent of apartments and between 12 and 16 per cent of new houses in Japan are 'manufactured'. Sweden has achieved very high prefabrication rates in timber-based detached housing, with estimates suggesting up to 80 per cent of new single-family homes are prefabricated. Sweden's success is closely linked to its broader industrial strategy and strong domestic timber manufacturing capability.[31]

Singapore and Japan demonstrate the value of embedding modern methods of construction within national development strategies, creating stable demand and sustained institutional support. Germany and Sweden show that decades of incremental improvement can build mature supply chains, regulatory confidence and workforce capability.[32]

Many governments have also invested in skills development. Singapore runs government-led upskilling, Japan pursues industry-academia cooperation, and Germany integrates MMC into vocational education. Singapore reduced entry barriers through subsidies and grants. Sweden used low-interest finance to support factory investment. Japan sustained viability by amortising costs across long-term demand pipelines.[33]

STATE-SPECIFIC REGULATION

A particular challenge for modern methods of construction in Australia is the proliferation of state-specific regulation that makes it difficult for manufacturers to operate at scale across state boundaries, and in some cases across different local government areas. CEDA has previously highlighted the need to reinvigorate the Seamless National Economy agenda to harmonise regulation across states and territories.

QUEENSLAND

The Queensland State Government has supported modern methods of construction as a tool for accelerating the supply of social housing and government worker accommodation in regional areas, through the MMC Program at QBuild. Recent reforms have also made off-site constructed homes as secondary dwellings more feasible.

QBuild MMC Program

QBuild's MMC program provides prefabricated modular homes for social housing and accommodation for government workers in regional and remote Queensland. QBuild partners with 18 MMC suppliers. The program coordinates construction, transport and pre-delivery site preparation simultaneously with manufacturing and assembly. The 2024–25 State Budget provided funding to support 600 homes under the QBuild MMC program.

The Queensland Development Code (QDC)

The Queensland Development Code consolidates Queensland-specific building standards into one document. Where there is inconsistency between it and the NCC, the QDC prevails. The QDC applies in the same way to modern methods of construction dwellings as to conventionally constructed dwellings, with no separate MMC-specific standards.

Barrier	Description
Distinct design and land use requirements by council	Delivering MMC housing through the standard planning pathway requires these products to meet different requirements depending on which council has jurisdiction over the site.
Narrow focus of existing modern methods of construction program	The QBuild MMC program is designed specifically for government worker accommodation and social housing, limiting its broader market influence.
Absence of MMC-specific guidance	There are no official planning guidance documents, policies or codes designed specifically for MMC in the Queensland planning system.
Politicisation of MMC-related initiatives	Queensland recently underwent a change of government, and earlier approaches to policy and initiatives relating to MMC, housing supply and planning regulation have been reconsidered.
Regionalised population distribution	Queensland has a larger proportion of its population living in regional towns and cities distant from the state capital. Depending on the location of MMC factories, transport routes may be challenging and costly.

NEW SOUTH WALES

Modern methods of construction in NSW are constrained by building codes, standards and regulatory frameworks largely based on conventional construction methods. MMC projects account for less than 5 per cent of new building activity as of mid-2025.[34]

Modern methods of construction reforms

The NSW Government is introducing Building Productivity Reforms to support Housing Accord targets. These changes aim to integrate MMC into the same approval system used for traditional buildings, to accelerate new home construction.

Social housing delivery

The NSW Government is using MMC as a tool to accelerate social housing construction. A state-backed modern methods of construction taskforce has been established to explore the potential of off-site manufacturing in state housing projects. More than 90 MMC social homes are expected to be completed in 2026, as part of a $6.6 billion investment in social housing. Three social housing homes in Shellharbour have recently been delivered using modular construction techniques, at an average of 14 to 16 weeks from development approval to completion.

Barrier	Description
Lack of statutory definition for modern methods of construction	MMC is not specifically defined in the NSW planning system and is treated as a construction method rather than a land use category. Definitions are fragmented across the Environmental Planning and Assessment Act 1979 (NSW), Local Government Act 1993 (NSW) and the NCC.
Reliance on Local Environmental Plans and Development Control Plans	In the absence of clear state-level controls, MMC proposals rely on Local Environmental Plans and Development Control Plans, most of which do not define modular or prefabricated buildings.
Inconsistent council interpretation	Councils assess MMC differently due to the lack of consistent statutory guidance, with varying views on permissibility, characterisation and compliance.
Planning controls designed for traditional construction	Building codes and planning controls are largely written around conventional on-site construction methods.
Absence of a dedicated State Environmental Planning Policy for MMC	There is no specific State Environmental Planning Policy recognising modern methods of construction.
Perception and institutional resistance	MMC has been publicly criticised as unrealistic in some media coverage, reinforcing scepticism within parts of the planning and construction system.
Complexity of transporting large components	Moving modular components requires cooperation with multiple local and state agencies, each requiring their own permits depending on the route.

VICTORIA

Victoria delivers over 25 per cent of the nation's total construction activity. The $150 million Victorian Investment Fund supports priority industries, including modern methods of construction, across Victoria.

Modern Methods of Construction Public Statement

The Victorian Government has committed to increasing Victoria's MMC capacity. The state has approximately 200 companies spanning the MMC supply chain and is well-placed to drive the Australian modern methods of construction sector.

Regulation and reform

The Victorian Government has committed to advancing MMC through several initiatives and reforms across building and planning. The amendment of the Domestic Building Contracts Act 1995 bolsters consumer protections and supports contemporary construction practices. The definition of modern methods of construction will be established in regulations, with adjustments to progress payments based on the proportion of MMC included. The Development Facilitation Program has also been reformed to allow major MMC projects to obtain approvals through an accelerated process.

Building standards

The National Construction Code is given legal effect in Victoria via the Building Act 1993, Building Regulations 2018 and Plumbing Regulations 2018, all of which apply to MMC in the same way as conventional construction.

Barrier	Description
Lack of statutory definition for modern methods of construction	Modern methods of construction are not specifically defined in the planning system and is treated as a construction method rather than a land use category. Definitions are fragmented across the Planning and Environment Act 1987 (Vic), Building Act 1993 (Vic), Local Government Act 2020 (Vic) and the NCC.
Lack of modern methods of construction consideration in the building regulatory framework	The Victorian building regulatory framework does not include specific provisions for the implementation of MMC.
Overlapping regulatory schemes	Overlapping regulatory schemes have created a complex and ambiguous regulatory environment.
Outdated definition of domestic building work	Under the Domestic Building Contracts Act 1995, off-site prefabricated construction work does not meet the definition of domestic building work.
Inconsistent council interpretation	Councils assess MMC differently due to the lack of consistent statutory guidance, with varying views on permissibility, characterisation and compliance.

WESTERN AUSTRALIA

The Western Australian Government has actively supported uptake of modern methods of construction through the Housing Innovation Fund. The Grant Program component closed in December 2025 and offered up to $5 million per project, based on up to 50 per cent co-funding, with a focus on prefabrication, modular housing and automation. Low-interest loans under the Housing Innovation Fund are expected to open in early 2026, with an estimated funding pool of around $20 million focused on scaling MMC, prefabrication and advanced manufacturing.

The WA planning system is largely focused on land use permissibility and the external impacts of development, rather than the method of construction. MMC homes are therefore classified using the same dwelling definitions as conventionally built homes and are subject to the same planning requirements.

Development standards for MMC dwellings in WA are assessed against the Residential Design Codes (R-Codes), which were written primarily with traditional construction methods in mind. That creates additional compliance complexity for some MMC designs.

Barrier	Description
Absence of detailed modern methods of construction guidance	There are no planning guidance documents, such as position statements or fact sheets, that apply specifically to MMC in the WA planning system.
R-Codes designed for traditional construction	Development standards for MMC dwellings are assessed against the R-Codes, which were largely written with traditional construction methods in mind. Some MMC designs may find it more difficult to meet the deemed-to-comply provisions, leading to a greater reliance on performance-based assessments and a higher likelihood that a Development Application will be required.

CASE STUDY 3: 3D PRINTED HOMES IN AUSTRALIA

A newer approach to modern methods of construction is 3D printing of homes, using large-scale concrete printing technology controlled by computer. Two common configurations exist: a robotic arm setup and a gantry system.

Perth-based company Contec constructs houses using a transportable robotic mobile 3D printing arm. Its first project, the first multi-storey 3D printed home in Australia, had a total completion time of five months, with 18 hours of in-situ printing for the structural walls. Its second project included internal and external walls, a pool and garden beds, with the walls printed in one week, including during rain.[35]

Both projects use a proprietary concrete that sets in approximately three minutes and reaches structural strength within an hour. The 3D printed structures have received NCC approval[36]. Conduits for plumbing and electrical services can be incorporated into the design and printed simultaneously.

According to Contec, compared to traditional brick construction, 3D concrete printing is approximately 20 per cent cheaper[37], produces 46 per cent less waste[38] and 32 per cent less carbon output[39]. The cured mortar achieves compressive strength approximately three times that of traditional brick.

While the technology remains at an early stage in Australia, it shows potential as a complement to conventional construction, particularly for regional delivery. 3D concrete printing has already demonstrated value in challenging international contexts, including contributing to the world's first 3D printed town in Mexico, constructed in an earthquake-prone zone with difficult terrain and weather conditions[40].

Source: Contec

CONCLUSION

Modern methods of construction offer real opportunities to improve housing outcomes in Australia. The potential benefits are well established through faster construction, lower costs at scale, and a pathway to addressing the productivity decline that has affected the construction sector for decades.

The barriers to realising these benefits are commonly regulatory and financial. Regulatory frameworks built around traditional on-site construction create compliance complexity for projects that are constructed off-site. Financing structures tied to on-site milestones do not align with off-site manufacturing. Fragmented development pipelines make it difficult for manufacturers to invest at the scale needed to make the economics work. Overseas examples show that these barriers can be overcome, and that the benefits of doing so are substantial.

Modern methods of construction are not a silver bullet. But they are a tangible, evidence-based pathway to increase housing supply faster than traditional construction methods can deliver. The productivity time savings are measurable, and at scale, there could be real cost savings.

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About CEDA

CEDA – the Committee for Economic Development of Australia – is an independent, member-based public policy think tank. Our membership base spans all sectors and every state and territory.

Our purpose is to achieve sustainable, long-term prosperity for all Australians.

For more than 60 years, CEDA has influenced Australia's public policy debate and been a catalyst for change on economic and social issues.

Led by Chair Christine Bartlett and Chief Executive Melinda Cilento, CEDA carries on the legacy of renowned economist Sir Douglas Copland, who founded CEDA in 1960.

Our work is guided by our Progress 2050 vision, which supports our purpose.

What we do

- We welcome members who want to engage in informed debate and explore innovative policy solutions.
- We host events that bring together thought leaders, experts and stakeholders to foster dialogue and develop solutions.
- We produce rigorous research by engaging with government, business, academia and the broader community to address long-term challenges and deliver better outcomes for Australia.

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