Comment – Institution of Civil Engineers

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The ICE network of experts offers trusted, impartial advice to politicians and decision makers on how to build and adapt infrastructure to create a more sustainable world. Civil engineers play a crucial role in shaping the built environment and improving the quality of life for communities around the world. Every day, civil engineers are responsible for designing, constructing, maintaining, and managing the infrastructure that we rely on.

The ICE has a large membership base in Australia who are involved in designing and delivering infrastructure across the country. Queensland has significant infrastructure needs and the state is building a powerful legacy from the Brisbane 2032 Olympic and Paralympic Games. With growing demand for housing and a focus on driving the energy transition, boosting productivity will be essential to meet demand and deliver on growth objectives affordably

We welcome the Queensland Productivity Commission's interim report on 'Opportunities to Improve Productivity of the Construction Industry' and we appreciate the opportunity to provide input. The ICE is committed to working with all levels of government in Australia to lift productivity.

ICE submission to Queensland Productivity Commission: Opportunities to Improve Productivity of the Construction Industry

August 2025

Introduction

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We welcome the Queensland Productivity Commission's interim report on *Opportunities to Improve Productivity of the Construction Industry* and we appreciate the opportunity to provide input. The ICE is committed to working with all levels of government in Australia to lift productivity.

- In mid-2024, we launched a consultation with members and partners examining the productivity challenges and solutions for infrastructure delivery across Australia. In December 2024, we published the subsequent policy position statement titled 'How can infrastructure delivery productivity in Australia be improved?' which provides specific recommendations to help tackle longstanding productivity issues, modernise measurement, and consider broader factors of success encompassing economic, social and environmental outcomes.

- Cost overruns and delays continue to be a challenge for major infrastructure projects worldwide. A McKinsey study of 500 global mega projects showed that only 5% completed within their original budget and schedule.[1] That's why we recently launched a new consultation examining how governments can deliver major projects on time and on budget. This explores how governance and assurance structures support forecasting and delivery. The final paper with recommendations will be published in late September 2025.

[1] McKinsey & Company (2017) The art of project leadership: Delivering the world's largest projects

Improving construction productivity in Queensland will require cultural and systemic change across the full project lifecycle. We would welcome an opportunity to discuss the recommendations discussed in this submission. Please contact us should you wish to continue the discussion.

Sincerely,

David Hawkes
Head of Policy
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www.ice.org.uk

Response to interim report on potential directions for reform

4.0 Project selection and sequencing

Infrastructure projects should be pursued according to their ability to deliver on Queensland's long-term infrastructure strategy and Australia's national vision, rather than focusing on short-term objectives. Infrastructure spans transport, energy, water, digital and telecommunications, waste and recycling, and social infrastructure such as health and aged care, housing, recreation and arts facilities – which are all directly linked to quality of life and economic prosperity for Queenslanders. Infrastructure assets are not built for their own sake, but rather to serve the needs of the community. Therefore, infrastructure investment should be driven by delivering better social, economic and environmental outcomes.

A strategic approach to infrastructure project planning and implementation in Queensland should:

- Embed themes of productivity, liveability, resilience, sustainability and decarbonisation in investment decisions. In the policy position focused at the federal level, the ICE called for a shift to move beyond traditional 'input versus output' productivity metrics to consider how projects are delivering better social, economic and environmental outcomes – to ensure Australia, and here, Queensland, is productive in pursuing its goals and vision.
- Treat infrastructure as an interconnected system, rather than a series of standalone assets, to maximise efficiencies in workforce, procurement, and supply chain.
- Factor in whole-of-life asset costs, including operation, maintenance, upgrades, and decommissioning, rather than focusing solely on upfront capital expenditure.

Provide transparent visibility of both committed and potential future projects to allow the industry to plan and invest in skills, capability, and technology.

Decision-makers need to understand how infrastructure investments will be most effective in meeting objectives and must also consider when no-build or low-build solutions are better options. These projects are often less resource-intensive than traditional projects, such as traffic management and optimisation programs. Comprehensive needs assessments should be undertaken, including an assessment of the performance of existing infrastructure and a cross-sector analysis of future needs, in addition to highlighting uncertainties, options and trade-offs.

The ICE also agrees it is important to consider the market's capacity to deliver on projects to optimise sequencing. This is particularly important for effective workforce management. Stakeholders consulted through our Enabling Better Infrastructure program emphasised that repeated assembly and disassembly of project teams is costly, especially given shortages in system engineers, civil engineers, and electrical engineers.

To improve overall sector productivity, transparency at each stage, from project objectives through to completion is critical. Government should publish clear value propositions beyond financial metrics, conduct 'lessons learnt' reviews, and track long-

term performance trends to inform future procurement and delivery models. These lessons and data from assurance and approval processes where relevant should be collated and remain easily accessible for project teams to draw on.

5.0 Government procurement

The ICE encourages procurement objectives to look beyond the initial monetary value. Competitive tendering environments often create a persistent focus on the lowest upfront price rather than fostering collaboration, innovation, and enhanced project outcomes.

Tender documentation is often overly prescriptive and leaves little scope for optimisation or modern construction methods. For example, projects are often required to have off-site construction due to the perception that it is more efficient. Generally, this is the case; however, in some instances, it is more efficient to turn the construction site into a production line, rather than producing components off-site. Procurement processes should be reoriented to:

- Reward performance, quality, and innovation rather than just the lowest bid.
- Consider breaking down large infrastructure packages into smaller sub-projects to lower barriers for local contractors and increase market competition. Where these sub-projects are able to be effectively bundled, contractors should be rewarded for improved delivery outturns over successive builds.
- Complete design documentation prior to tendering to reduce contractor risk, lower costs, and clarify requirements early in the process.

In our consultation, the ICE found that there are often multiple asset owners on site supervising the same work, and there is no incentive for contractors to help create efficiencies and reduce costs for other parties on site.

7.0 Contracting for efficiency

The ICE agrees that current risk allocation through contractual arrangements in Queensland is suboptimal, and we support simplifying contractual processes through greater use of standardised contracts.

In practice, infrastructure contracts in Australia are often labelled as "standard" but are in fact heavily customised. The influence of legal advisors in government procurement processes has entrenched a preference for bespoke agreements. This uniqueness increases the administrative burden and can deter capable contractors from bidding. Moreover, these contracts are often set aside after execution, only to be revisited when disputes arise. Adjustments to manage cost pressures, delays, or changes in scope are frequently handled on an ad hoc basis, which undermines efficiency.

Poor risk allocation contributes to runaway project costs, time over-runs, strained relationships and project failure. Placing a disproportionate share of risk on contractors is particularly problematic in the current environment, where businesses face declining profitability, escalating material and labour costs, supply chain disruptions, workforce shortages, and increasing climate and cyber-security risks. These pressures have contributed to building firms entering administration at more than twice the rate of other industries.[2]

The Queensland Productivity Commission has indicated it is seeking to better understand whether greater use of standard contracts could provide more consistency across Queensland Government agencies. We believe this is an important reform opportunity.

Genuinely standardised collaborative contracts remain active throughout the life of the project. They require all parties to take an active role in contract administration to ensure responsibilities are clearly shared. It promotes regular communication to quickly identify and resolve issues. This collaborative model fosters collective accountability, reduces disputes, and supports the timely, cost-effective delivery of projects.

[2] Australian Constructors Association (2023) All Risk No Reward

Supported by the ICE, NEC Contracts are a proven solution that have been in use since the first version called the 'New Engineering Contract' was published in 1993. It is a series of contracts designed to manage any project from start to finish, written in plain English with a straightforward structure that is easy to understand. The current edition, NEC4, was launched in 2017 with updated contracts and improvements in flexibility, clarity and ease of use. NEC is being used around the world.

In Australia, NEC4 contracts have been adopted as part of Sydney Water's procurement strategy, and on Main Roads Western Australia's 16km stretch of the Great Northern Highway. Queensland Hydro has used the NEC model, and over 70 tier 1 NEC4 contracts have been let to design, build and operate the €2 billion Square Kilometre Array Observatory (SKAO) at sites in Australia and South Africa.

Benefits of the standardised collaborative contracts include:

- Clients and contractors can agree to pool risk, allowing them to share savings or overspends through a pain/gain mechanism.
- The contracts include clearly defined processes if there are any changes to the amount of work required.
- An 'early warning' process requires immediate notification of any matter which could affect time, cost or quality, prompting early joint discussions to agree on how to mitigate the risk together.

It facilitates continual communication about the programme and budget so there are no surprises or disputes at the end of the project.