



**Professionals
Australia**

~ Submission ~

Productivity Commission

November 2013





Submission – Productivity Commission
Reducing infrastructure construction costs of nationally significant
economic infrastructure

Professionals Australia welcomes the opportunity to make a submission to the Productivity Commission's Public Infrastructure Inquiry.

This submission provides the Federal Government with real options to 'reduce infrastructure construction costs' of 'nationally significant economic infrastructure'. They have the support of the relevant associations and industry involved in procurement in Australia. They have been repeatedly raised with governments around Australia, including the previous Government.

The report of a Senate Inquiry, chaired by Senator Chris Back made a range of recommendations which would ameliorate the problems outlined herein have sat on the desks of government for months.

Our Prime Minister has the stated aim of being 'The Infrastructure Prime Minister'. We commend him in this goal. In Opposition, he was fond of criticising the then Government's record of service delivery as one which epitomised wastefulness.

The Federal Government must ensure that when they invest taxpayers money in infrastructure, that it is not wasted. Unless they take urgent action to improve their management of infrastructure delivery, they will watch State, Territory and Federal Governments waste billions of taxpayers' money over coming years. They have become uninformed purchasers of infrastructure and lack the necessary internal procurement management expertise.

We would welcome the opportunity to discuss the matters raised in this submission with you. Please do not hesitate to contact me should you want further elaboration on the proposals contained herein.

Yours sincerely

Chris Walton, CEO



About this submission

We represent technical professionals in Australia, with coverage of engineers nationally, performing design, scoping and project management roles across essential industries and services including IT, mining, construction, water, local government, power, road and rail. We have a strong and vocal membership in government agencies throughout Australia which are charged with the delivery of major infrastructure: much of which the Federal Government has a stake in.

The professionals we represent are the key to Australia's future beyond the mining boom. They enable productivity growth, a diverse economy and the maintenance of high-wage, high-skill industry in Australia. They are the key professions in the delivery of infrastructure and deserve respect, recognition and reward for the critical role they play in our nation's prosperity.

Not only are our members an integral part of the chain in infrastructure delivery, they have an acute sense of responsibility to the public in the discharge of their duties. Increasingly, they have been concerned about the lack of capacity in State, Territory and the Federal Government's agencies and that this is causing waste and inefficiency in infrastructure delivery, as well as having the potential to endanger the public.

In this submission you will find:

- **Waste in infrastructure delivery.** An analysis of the way government deliver infrastructure and why we're failing the public.
- **A better way forward.** Practical, no-cost solutions to save billions of dollars.

This documents draws heavily from work we have previously performed for the Federal Government and in submissions for previous inquires. Copies of all previously supplied documentation can be provided.



Waste in infrastructure delivery

If a government allows for a situation to arise where there is a shortage of infrastructure delivery expertise in its ranks, it becomes an uninformed purchaser. In every jurisdiction, this is now the sad reality. This leads to waste, project over-runs and increased costs while driving adversarial behaviours between government and the private sector, leading to disputation and costs for industry and government amounting to up to \$7 billion per annum in Australia¹.

**Waste in construction due to
disputation =
\$7billion per annum**

Government just doesn't have the skills

The Federal Government funds States and Territories and local government through grants for infrastructure – billions of which is now being wasted. The facts are that governments around Australia lack the requisite expertise to deliver projects on-budget and on-time. The key profession for that expertise are engineers – and there just aren't enough engineers in government to scope, design and manage projects. That's leading to waste right across the Commonwealth and as State Governments cut staff to trim costs, they're cutting their engineering expertise further and further. It's penny wise, pound stupid.

We can all think of an example of a project which hasn't run on time or been delivered on budget, be they ticketing systems, roads, rail or buildings. What's become apparent through a vast array of research is that government has allowed this situation to arise because they lack in-house expertise to deliver projects. "It is a matter of historical record that, during the 1980s and 1990s, the public sector began to outsource infrastructure and other engineering work to private industry"². That means "that public sector capability to act as an informed purchaser and adequately scope and oversee large infrastructure and construction projects has been severely eroded over the past decades".

Government knows they don't have the skills

Around Australia, government have heard evidence that their lack of skills is driving waste in infrastructure. They hear the evidence, agree with the statements and then shelve the advice.

¹ Cooperative Research Centre for Construction Innovation (2009). *Guide to Leading Practice for Dispute Resolution*. Cooperative Research Centre for Construction, Brisbane Qld.

² The Senate Education, Employment and Workplace Relations References Committee (2008), p7. *The shortage of engineering and related employment skills*.



They just can't – or won't bring wasteful State and Territory bureaucracies to heel or can't face up to their own lack of capacity to manage the States and Territories.

The Victorian Public Accounts and Estimates Committee took advice from experts Evans and Peck that "Skills and competencies are below a level that is desirable to achieve good outcomes on major public infrastructure projects in Victoria. This is caused by a **deterioration of commercial and technical expertise in the public and private sectors**, evidenced by a shortage of skilled and experienced people in project development and delivery in both the public and private sectors"³.

The *Building the Education Revolution Implementation Taskforce Final Report* (BER Taskforce) stated that **"there is a correlation between states capacity to leverage existing public works capacity and their overall value for money outcomes"**, specifically outline a decline in engineering capacity in the public sector and identify that the "rebuilding of capacity in several roads agencies may represent a cautionary tale... and may therefore be an indication that a significant level of in-house expertise is beneficial in ensuring that governments get value for money over the life of an asset"⁴ 45 .

The Australian National Engineering Taskforce (ANET) explains: "A lack of engineering capacity within agencies necessarily results in the outsourcing of scope and design work to the private sector. It means that the agency becomes an uninformed purchaser and drives inadequate scope and design, which can have severe consequences"⁶. "52 per cent of respondents (drawn from across sectors, public and private) to Blake Dawson in 2008, "felt their project was not sufficiently and accurately scoped prior to going to market"⁷,

26% of the \$1 billion+ projects were more than \$200 million over budget

³ Public Accounts and Estimates Committee. *Inquiry into effective decision making for the successful delivery of significant infrastructure projects*.

http://www.parliament.vic.gov.au/images/stories/committees/paec/reports/57th/112_-_Infrastructure_Inquiry_FINAL.pdf

⁴ Building the Education Revolution Implementation Taskforce in ANET (2012), p22. *Realising an Innovation Economy*. ANET, Sydney.

⁵ ANET (2012), p22. *Realising an Innovation Economy*.

⁶ ANET (2012), p51. *Realising an Innovation Economy*. ANET, Sydney.

⁷ Blake Dawson in ANET (2012), p21-22. *Realising an Innovation Economy*.



an increase of ten per cent from the same survey in 2006⁸. This caused “cost overruns (61%), delayed completion (58%) and disputes (30%)”, with “26% of the \$1 billion+ projects surveyed being more than \$200 million over budget”⁹.

The Senate Inquiry “The shortage of engineering and related employment skills” also found that “government departments, having shed their engineering staff, now lack any real in-house engineering expertise”¹⁰. “The committee received evidence suggesting that a number of infrastructure projects across Australia experience delays and cost blow outs... ‘for many years the Australian Defence Organisation’s program for procurement of major capital assets has been dogged by delays and cost overruns’”¹¹. The Committee heard from Consult Australia “that \$6billion a year is ‘wasted on disputation in projects across Australia’” and noted “that much of this expense is borne by taxpayers, as many, if not all, large projects are commissioned by governments”¹².

Defence know that engineers are critical to their success. As Chief of Navy, Vice Admiral Ray Griggs said in response to the Rizzo Review in December 2011:

“We have for far too long viewed engineering as an overhead and not as a mission enabler. Overheads end up being cut and not invested in. In correcting this we face significant competition with other organisations around the country seeking engineering talent. We are all fighting to attract and retain the same technical talent pool.”

The BER Taskforce, a Senate Inquiry, senior Defence personnel, industry and advocates are all in agreement that government is not an informed purchaser and that this situation is causing waste in infrastructure delivery.

⁸ Ibid.

⁹ Ibid.

¹⁰ The Senate Education, Employment and Workplace Relations References Committee (2008), p7. *The shortage of engineering and related employment skills*.

¹¹ Ibid., p51.

¹² Ibid.



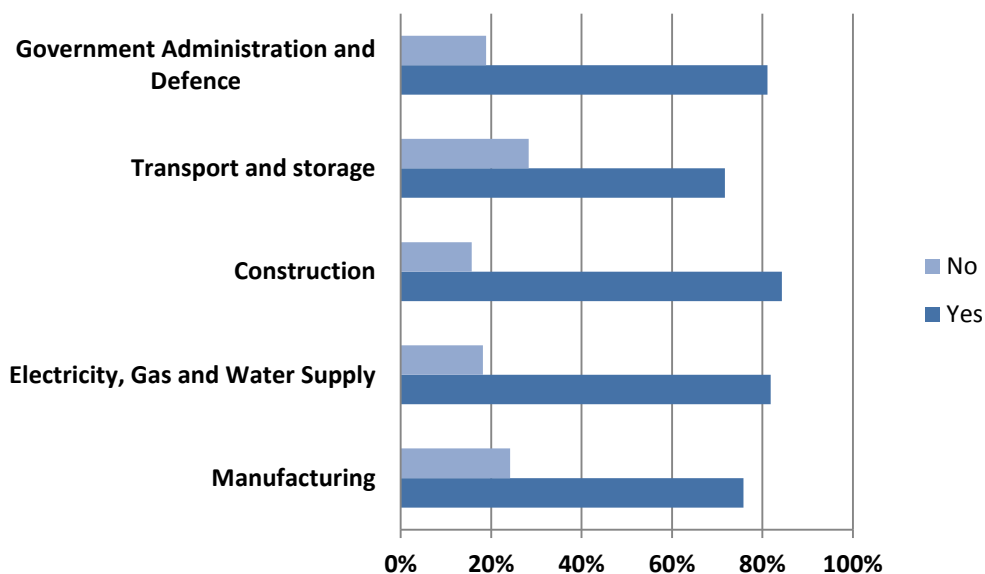
Engineers know there's a lack of skills

What is of greatest concern is that engineers – those at the heart of scope and design – agree. A recent Professionals Australia survey found 80% of engineers agree with a recent Senate Inquiry finding that governments no longer have sufficient in-house expertise to avoid wasting huge amounts of public money.

While the private sector is picking up work because of this lack of internal capacity, more than 80% engineers believe the private sector is suffering from the lack of capacity in the public sector.

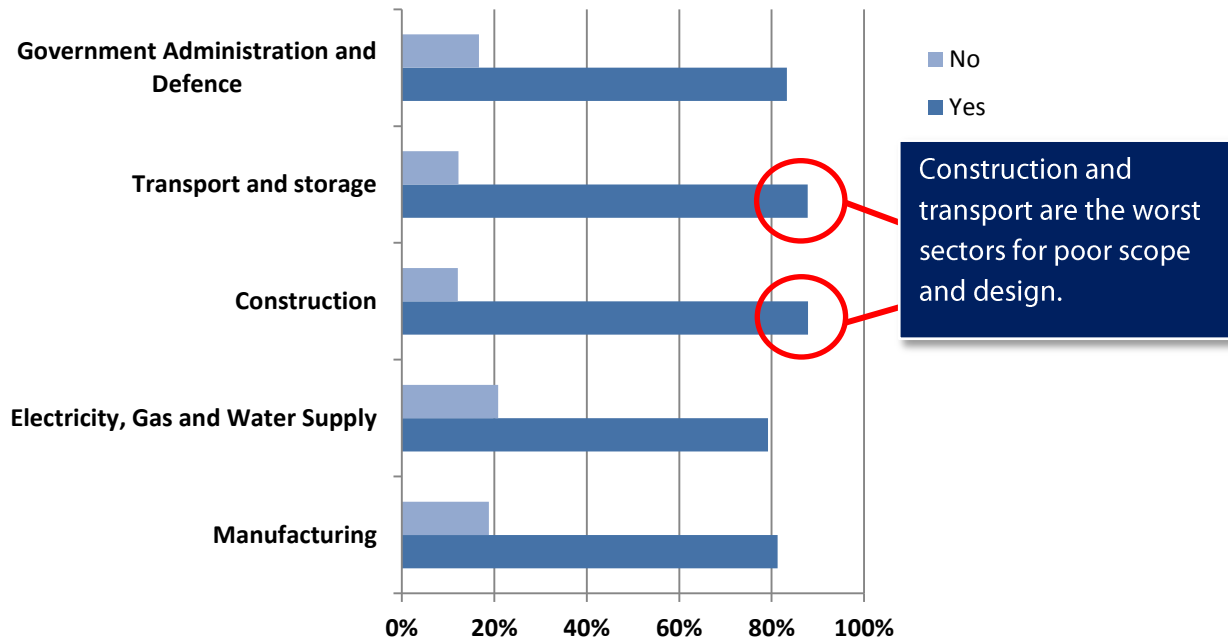
Perhaps of greatest concern, engineers believe that the lack of in-house capacity is causing waste (93%), project delays (94%) and more than 70% believe it has the capacity to endanger the public.

Question: Do you agree there is virtually no in-house (government) engineering capacity...?

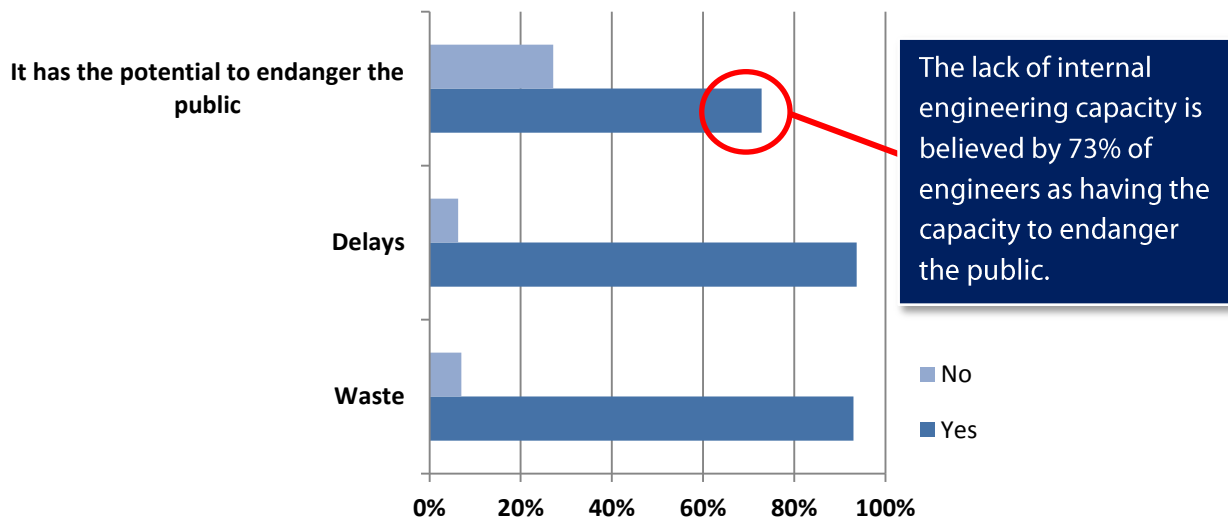




Question: Does the private sector suffer from poorly scoped or designed projects?



Question: What do you think this lack of in-house engineering capacity is causing?





How did this happen?

As ANET puts it:

"In contrast to past practices where government undertook much of the delivery of infrastructure itself, the last several decades has seen an evolution to a model which is largely contracted work arrangements that seek to shift risk and responsibility to the private sector. As such, current procurement practice is not delivering optimal results for the taxpayer, government or industry. It is also not driving investment in the workforce which is needed to ensure the government can become an informed purchaser and to provide for adequate investment by the private sector in workforce development"¹³.

The way that the government has engaged the private sector is at the heart of the problem. Not only have governments around Australia lost their informed purchaser capacity, they're helping to make it worse by continuing to use procurement models that perpetuate a loss of capacity.

Procurement models in Australia can be broadly categorised as:

- **Design and construct (D&C).** As opposed to a simple 'construct' process, the private sector designs and constructs a project wholly. Many people see a reliance on this model as driving the lack of capacity in the public sector, leaving us in a situation where the public sector lacks the skills as a project manager
- **Public private partnerships (PPPs).** Is usually a contract for the delivery of infrastructure with the private sector, allied with services such as maintenance. The private sector then operate and maintain the infrastructure on a fixed term. There are myriad of examples of failure – and success with this model¹⁴. An over-reliance on them has meant that the private sector can 'dazzle government with science' – from scope and design to finance models – because they've already poached many of the key personnel who used to do those jobs.
- **Alliance model.** Involves early involvement of the contractor with the client, who share risk, agree outcomes and work together to achieve them. This has the capacity to provide some cross-fertilisation of skills between the public and private sector as they work side-by-side¹⁵.

¹³ ANET (2012), p51. *Realising an Innovation Economy*.

¹⁴ ANET (2012), p53. *Realising an Innovation Economy*.

¹⁵ Ibid.



The first two of these models have a particular attraction to government. They give the appearance of being able to outsource financial risk and ameliorate public concern over late delivery of projects or failure to meet budget. Governments around Australia have discovered that you might be able to outsource risk, but you cannot outsource responsibility. The public expect their money to be spent effectively whether it's with a contractor or on staff. What we do know is that two models for procurement in particular – PPPs and D&C are driving waste in procurement and costing taxpayers billions.

By allowing internal capacity to erode, we're seeing waste and delays which amount to billions of dollars. If we're going to build the infrastructure we need cost effectively and on schedule, we need practical solutions to ensure that those delivering the projects are capable of discharging their duties.

Professionals Australia does not support nor propose a return to large public sector delivery agencies. That is neither practical nor desirable. What is required is a way of making sure that the public sector in States and Territories is working properly and that the Commonwealth – and the private sector – can rely on delivery agencies. The Commonwealth must ensure its own agencies are up to the task of scope and design for its own procurement, such as in defence and to be able to enforce capacity with States and Territories.

What does it cost?

Columnist Judith Sloane wrote for The Australian that “the cost of building infrastructure is far too high - 20 per cent to 30 per cent above what would be regarded as reasonable”¹⁶, which accords with Blake Dawson's research cited earlier that large projects ran at least 20 per cent over-budget.

A lack of engineers is costing more than \$6b annually of our infrastructure spend.

According to the latest ABS data, \$32.9 billion was spent in the last year¹⁷ on infrastructure by governments. If twenty per cent is being wasted because of poor scope, design and disputation – we're wasting more than \$6 billion per year.

¹⁶ Judith Sloane. *In infrastructure they don hardhats for a reason*. The Australian newspaper, October 5, 2013.

¹⁷ Australian Bureau of Statistics (2013). *ABS 8762.0 - Engineering Construction Activity, Australia*.



A better way forward

Professionals Australia believes that private sector involvement in the delivery of infrastructure brings massive benefit. It has the potential to maximise the use of taxpayer's dollars, deliver innovation and to improve our capacity. That potential remains unfulfilled, because governments don't have the expertise to work with them and doesn't know what they're buying.

A huge backlog to meet – we need the skills

Infrastructure Partnerships Australia estimates a backlog of \$770 billion in infrastructure investment, while the Commonwealth Government is bearing a bill of \$5.6 billion to repair damage incurred due to recent natural disasters. We have to make sure we get the way we deliver infrastructure right.

There is an estimated \$770 billion infrastructure backlog in Australia

The government has outsourced its engineering capacity to the private sector, who in-turn, suffer from a lack of 'informed purchaser' capacity. Money for projects is bid for competitively, while scope and design capacity sits static in the agency – they're not considered as intrinsically linked. This is a problem for both the public and the ultimate decision makers: government. What we need is a series of practical, no-cost measures to see us get value for money from our infrastructure spend.

Our proposals to stop the waste

Government does not need to look far for a series of solutions which have the support of industry, employee and employer groups. The previous government commissioned work by ANET, a partnership of "the organisations represent the major professional, industrial, commercial and academic interests in the engineering sector"¹⁸. They made a raft of recommendations to government which await implementation: Key amongst them (as they relate to procurement) were¹⁹:

2. The Commonwealth Government increase its engineering capacity to ensure that it is an informed purchaser of engineering infrastructure, in line with the recommendations of the Building the Education Revolution Implementation Taskforce and establish a small Procurement Unit, residing within the Department of Finance and Deregulation.

¹⁸ ANET (2012), p3. *Realising an Innovation Economy*.

¹⁹ Ibid., pp7-11.



3. The Commonwealth Government, through its Procurement Unit conducts an audit of its procurement capability across all agencies.
4. The Commonwealth Government take to the relevant Standing Council of COAG a proposal that all States and Territories conduct their own audit, to ensure that the community is receiving value-for-money in infrastructure delivery.
5. Following this audit the Commonwealth Government put in place a series of requirements for baseline engineering competence and capacity in jurisdictions, including local government, for the management of projects funded by the Commonwealth Government.

...

10. That the Commonwealth's Procurement Unit conduct a detailed examination of current procurement models in Australia and assess the merits, suitability, longer term consequences of and relative risks associated with each method across all ranges and scope of projects. This research should inform the development of baseline requirements in procurement for Commonwealth funded projects by providing a portal through which procurement methods are assessed on a project-by-project basis.
11. That for all Commonwealth-funded projects, procurement criteria and incentives should be utilised to support and encourage additional training in successful bidders, including the revival of graduate programs and cadetships.

The Senate Inquiry received evidence from all ANET partners, and a consolidated submission. Key amongst their recommendations was:

"that the Department of Finance and Deregulation reviews the Commonwealth Procurement Guidelines to ensure that the government is an informed purchaser of engineering infrastructure and that appropriate advice is provided in relation to procurement decisions that require specialist technical knowledge" (Recommendation 7).

"that the government consider how it can encourage commonwealth contractors to provide graduate and cadetship programs through its procurement processes" (Recommendation 9).



In conclusion

Stakeholders and government representatives have agreed on a set of solutions which would save the Commonwealth billions and ensure we never see a repeat of poorly delivered infrastructure programs.

These proposals would:

- Ensure the government – and taxpayer – is getting value for money in its infrastructure spend.
- Mean the private sector could deal with a better client – cutting disputation and waste.
- Minimise project delays.
- Enhance public safety.
- Develop the capacity of government and the private sector to deliver projects.

Australia can't afford to waste one dollar in its infrastructure spend. We already have a huge backlog. Government must protect taxpayers' interests by properly managing what is a large proportion of the budget. That means the Federal Government needs capacity for its own procurement. Given so much Federal infrastructure money is managed by States, Territories and local government, it also needs to act as a steward for management of infrastructure delivery by those jurisdictions– and be equipped to fill that role.

It might be penny wise to save dollars on those that scope and manage a project, but there is a mounting body of evidence that those savings will be later lost in capital costs and disputation. It's penny-wise, pound-stupid.

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