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AUSTRALIAN CONSTRUCTORS ASSOCIATION

INFRASTRUCTURE PARTNERSHIPS AUSTRALIA

Scope for Improvement 2014

Project pressure points – where industry stands

Our previous reports

The reports in the Scope for Improvement series have since 2006 provided insights on the obstacles and pressure points which project participants face and work to overcome to deliver successful projects.

Previous reports are available on our website (see links below).

Scope for Improvement 2006

A survey of pressure points in Australian construction and infrastructure projects

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Scope for Improvement 2008

A report on scoping practices in Australian construction and infrastructure projects

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Scope for Improvement 2011

Project risk – Getting the right balance and outcomes

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Foreword

In the Australian construction and infrastructure sectors there are many existing and potential projects. The resources available for these projects, particularly those of significant scale, are limited and their allocation is the subject of intense competition.

It is imperative that both public and private sector participants in these projects continue to strive for efficient and effective project development, execution and completion. Less than optimal delivery outcomes generate waste, compromise stakeholder benefits and put at risk not only the future prospects of industry participants but also the productivity of the Australian economy.

The reports in the Scope for Improvement series have since 2006 provided insight on the obstacles and pressure points which project participants face and work to overcome to deliver successful projects. This report – *Scope for Improvement 2014: Project pressure points – where industry stands* – reflects industry views on how well the Australian construction and infrastructure industry is responding to these challenges and which issues persist, and provides guidance on approaches to resolving them.

Ashurst, the Australian Constructors Association and Infrastructure Partnerships Australia believe this report will support continuing debate and generate greater awareness of critical issues, and assist industry to examine current practices. Importantly, this will facilitate improved approaches to achieve better project outcomes for all stakeholders.

John Carrington
Managing Partner
Ashurst Australia

Glenn Palin
President
Australian Constructors Association

Brendan Lyon
Chief Executive Officer
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Background

Since 2006, Ashurst has undertaken industry wide research into construction and infrastructure projects worth more than $135 billion. Only around half of these projects were delivered on time, on budget and to the required quality, and disputes were prevalent.

The research formed the basis of *Scope for Improvement* reports in 2006, 2008 and 2011.

The 2006 *Scope for Improvement* report focussed on pressure points which arise during projects. The 2006 report indicated that scoping practices and risk allocation were two major pressure points for projects.

The 2008 report was devoted to scoping practices, and the 2011 report focussed on the specific issue of risk in projects.

In 2013 and 2014 Ashurst has undertaken further research with industry to gauge the extent to which improvement is evident in the delivery of major projects.

The research for this report was sourced from a series of boardroom lunches and interviews with industry participants representing a cross section of public and private sector principals, contractors, consultants, financiers and industry bodies. More than 120 industry representatives, representing the spectrum of participants in Australian construction and infrastructure projects, attended the boardroom lunches around the country. Ashurst prepared detailed notes at those meetings, and analysed the discussions to identify significant issues or themes which emerged as common across the country. In addition, interviews have been conducted to discuss those significant themes and issues with industry figures from both public and private sectors.

Why this research is necessary

In a country that must import most of its capital, high cost infrastructure carries a very significant opportunity cost to the rest of the economy. Adverse project outcomes in respect of time, cost or quality lead to:

- Inefficient use and waste of resources
- Time delays, which add cost
- Disputes, often leading to delayed completion, both of which affect the balance sheets of principals and contractors
- Compromised stakeholder outcomes, adverse community reputational and political impacts.

In the interests of promoting approaches which improve project delivery, developing a more efficient and effective infrastructure network and avoiding waste of scarce capital, the objectives of Ashurst's research are to:

- Promote a deeper understanding of challenges and constraints in construction and infrastructure projects
- Assess their impact from a variety of stakeholder perspectives
- Encourage broader participation in the debate about how industry participants can improve project approaches
- Identify solutions to issues which have been encountered.

"A 10% reduction in the cost of delivering infrastructure – a conservative estimate of the potential savings from implementing sensible reforms – would amount to a current annual saving of around $3.5 billion."

Productivity Commission 2014, Public Infrastructure, Draft Inquiry Report, Canberra

Financial commitment to infrastructure development

- In the 2014-15 Federal Budget, the Australian Government committed $11.6 billion to establish the Infrastructure Growth Package, which will deliver $40.8 billion between 2013–14 and 2018–19.
- It has been estimated that, when combined with State and private sector funding, the Infrastructure Growth Package will stimulate additional infrastructure investment of over $125 billion nationwide by 2019-20.
- The 2014-15 Federal Budget includes record investment in infrastructure for all States and Territories, including $14.9 billion for New South Wales, $7.6 billion for Victoria, $13.4 billion for Queensland and $4.7 billion for Western Australia.
- Separately, the 2014-15 State Budgets include significant investment in infrastructure, with commitments of $23.7 billion by the Western Australian Government, $27 billion by the Victorian Government and $59.7 billion by the New South Wales Government.
- The value of private sector commercial construction work is expected to rise at a rate of 4.3% p/a in 2014-15 (*Source: Construction Outlook Survey – October 2013*).
- The Business Council of Australia has projected total real spending on infrastructure to be over $760 billion over the next 10 years, with around 60% of the infrastructure spend by the private sector (*Source: Securing Investment in Australia's Future: Infrastructure Funding and Financing*).

Key findings

“The widely held industry view is that there is still significant scope for improvement in many aspects of project delivery in both the public and private sectors.”

The significant themes which emerged from the most recent consultation with industry are:

Productivity	Productivity is a headline issue. Among the observations are: • Productivity in Australia is significantly worse than many other developed economies. • Major inhibitors are the heavily regulated labour market and restrictive work practices, and the complex and often unclear Commonwealth and State regulatory regimes. • Practices of fast tracking large projects, poor scoping and a lack of suitably trained staff have also contributed. • More recently, with an industry focus on productivity, there have been improvements with the use of new and more efficient technology and innovation.
Skills shortages	Skills shortages are less of an issue now that the surge in the resources sector has returned to more normal levels, but many participants expect it will again become a major issue in the near future. More significant observations are: • There is a generational shift in talent and experience at project director level. • Inadequate or insufficient training, and lack of experience, particularly in project and risk management of large projects, have been evident. • There is not enough talent in the market to adequately cover the step shift in project scale (typically up from $800 million to $2billion) that occurred in the mid-2000s.
Scoping	Features of this seemingly intractable issue are: • Most projects are not derived from any kind of master plan, which itself should be derived from longer term strategy. • The lack of a properly prepared specification (which many participants consider should in most cases be performance or output based, rather than prescriptive). • An inadequate or incomplete expression of interest (EOI) or request for tender (RFT), the responses to which inevitably deal inadequately with innovation, risk allocation and cost.
Costs of tendering	These costs continue to rise, and have become a much more significant issue over the last 18 months. Participants refer to: • The comparatively complex and lengthy tender processes adopted in Australia. • High costs associated with the requirement to lodge fully compliant bids. • The impact of increased competition and lower margins.
Risk allocation	Risk allocation has not improved, and many participants consider it is getting worse - the trend is towards allocating more risk to contractors. Reasons given for this include that: • Risk allocation is finance driven, and financiers are risk averse. • Principals are more cautious post GFC. • In a very competitive market, contractors are more willing to accept more risk.

Developments in the industry

“Much has been achieved during the resources boom, and the industry has experienced a sharp rise in expertise in delivery of major construction and infrastructure projects.”

The resources boom

The resources boom in the period from the mid-2000s to early 2013 has had a significant impact on the construction and infrastructure industry. Rising commodity prices drove expansion of existing mines, development of new resource projects, and development of infrastructure necessary to support remote resource projects such as rail, port, pipeline and energy projects.

These projects are large in scale and capital cost. They are also complex. Challenges include construction in sensitive environmental areas, difficulties in obtaining tenure to new linear infrastructure corridors, and interfaces between large construction packages.

In the same period, governments were also building substantial public infrastructure projects. There was an increase in PPP projects, where ambitious public infrastructure projects were packaged as part of concession arrangements.

Substantial increase in the capital value of infrastructure projects

As a consequence, the value of projects substantially increased. From 2006, infrastructure projects with a capital expenditure above $1 billion became common.

The average value of an infrastructure project in Deloitte Access Economics' Investment Monitor database rose from $267 million in 2001 to $834 million in 2013[1]. Deloitte Access Economics reported in March 2014 that the top 20 projects accounted for 52% of the value of the resource and infrastructure investment pipeline, compared to 40% five years ago and 36% 10 years ago[2].

A study by the Bureau of Resources and Energy Economics (BREE) in October 2013 stated that "mega projects" (valued at more than $5billion each) accounted for 82% of the value of projects under construction[3].

One sector alone, LNG, gas and oil projects under construction in Australia, involved total capital expenditure of $195billion[4]. Those projects provide highly complex challenges for both industry and government: they are placed in ecologically and economically sensitive areas, involve relatively new technology and have attracted large international contractors.

Salaries

Salaries and wages increased substantially, both blue collar[5] and professional remuneration.[6] Over the last decade, one of the fastest rising costs components for construction was labour.[7] The average annual growth rates for labour costs were 5.2% from 2001 to 2006 and 7.0% from 2006 to 2011.[8] The forecast average annual growth rate for 2011-2021 is 5.8%.[9]

1 Deloitte Access Economics, *Major infrastructure projects: costs and productivity issue*, Australian Constructors Association, 7 March 2014 page 41. See also Business Council of Australia, *Securing Investment in Australia's future: Report of the Project Costs Taskforce*, August 2013, Page 12, www.bca.com.au
2 Deloitte Access Economics, *Major infrastructure projects: costs and productivity issues*, Australian Constructors Association, 7 March 2014 page 41.
3 Bureau of Resources and Energy Economics, *Resources and Energy Major Projects*, October 2013, page 15, www.bree.gov.au
4 Bureau of Resources and Energy Economics, *Resources and Energy Major Projects*, October 2013, page 15, www.bree.gov.au
5 Deloitte Access Economics, *Major infrastructure projects: costs and productivity issues*, Australian Constructors Association, 7 March 2014, page 21.
6 Business Council of Australia, *Securing Investment in Australia's future: Report of the Project Costs Taskforce*, August 2013, page 16, www.bca.com.au
7 Business Council of Australia, *Pipeline or Pipe Dream?*, 7 June 2012, page 27, www.bca.com.au. See also Macromonitor, Australian Construction Cost Trends 2011.
8 Business Council of Australia, *Pipeline or Pipe Dream?*, 7 June 2012, page 27, www.bca.com.au. See also Macromonitor, Australian Construction Cost Trends 2011.
9 Business Council of Australia, *Pipeline or Pipe Dream?*, 7 June 2012, page 27, www.bca.com.au. See also Macromonitor, Australian Construction Cost Trends 2011.

The end of the boom?

In the period since our last report in 2011 the construction and infrastructure industry has undergone some significant and dramatic shifts.

Investment by the resources sector in new projects dropped off sharply from September 2012. Coal projects which were in development in Queensland halted in the last quarter of 2012. Iron ore projects in Western Australia were impacted from 2013.

While the value of projects currently under construction is still high, the value of projects in development has declined. Since late 2012 the pipeline for projects has declined significantly.[10]

The uncertainty for project investment was exacerbated by changes in government at state and national level.

In early 2014, the perception of industry participants is that resources companies are returning to routine spending on smaller projects. However, at the same time, spending by State governments on infrastructure is increasing, with a number of major projects in early stages of development, and many others being planned.

10 Business Council of Australia, *Securing Investment in Australia's future: Report of the Project Costs Taskforce*, August 2013, page 4, www.bca.com.au.

Lessons learnt

Much has been achieved during the resources boom, and the industry has experienced a sharp rise in expertise in delivery of major construction projects.

However this period of huge investment and intense activity did pose challenges to the construction and infrastructure industry and exposed a variety of pressure points, both continuing and new.

The challenges have been exacerbated by structural weaknesses, many of which were reported in the first Scope for Improvement report published in 2006.

As detailed in this fourth report, industry's view is that in relation to many of the issues then identified as pressure points there has been little (if any) improvement, and in some areas performance has slipped.

As part of our Scope for Improvement series, **Grant Rowlands** – Partner, Ashurst – explains why it is important for industry participants to continue to look at the issues surrounding the delivery of major construction and infrastructure projects

Click on the image to view the video

Productivity

“We expect to see significant cost savings but not any decrease in wages. It is more about efficiencies and having people who do the job they are expected to do.”

Productivity in the construction, infrastructure and mining sectors has decreased significantly. The Business Council of Australia reports that productivity in the mining sector has decreased by 7.3% since the beginning of the resources boom.[11]

The costs of construction are increasing, with the costs of delivering projects in Australia rising in comparison with project costs in other jurisdictions.[12] For example, research indicates resources projects to be 40% more expensive in Australia compared to those in the United States Gulf Coast.[13]

A number of factors are reported to have contributed to the drop in productivity.

Skills shortages, poor scoping practices and inefficient tendering processes are all seen as contributing to lower productivity. These are examined in more detail later in this report.

Other contributing factors include the impact of fast tracking projects, complex approvals conditions and regulatory environments, the industrial relations system and restrictive work practices.

Key conclusions

Regulatory environment

There are a number of respects in which the regulatory environment adversely impacts on productivity – the complexity and ever changing requirements of the regulatory environment; the nature and extent of approvals required; duplication of the Commonwealth and State regimes; capacity of the government departments to administer the regulatory regimes; and delays in obtaining approvals. Simplification and improvements in all of those areas has the potential to greatly improve productivity.

The labour market

Australia is seen as having a heavily regulated labour market. Restrictive work practices are a major issue, more so in Australia than many other countries. Contractors are seeking more flexibility in their labour force, and less restrictive work practices.

Skills shortage

The lack of training and experience, particularly in project management, risk management and contract administration, has contributed to cost overruns, delays and disputes.

Fast tracking

Fast tracking projects can lead to apparent short term gains in time, which later prove to be illusory. Fast tracking at the expense of developing the design, and confirming approvals and tenure prior to commencing construction, is likely to result in delays and cost overruns from rework, variations and interface issues between trades.

Post boom drive for efficiency

The high cost of labour has driven advances in construction technology and innovation as industry strives to improve productivity.

This is likely to become more pronounced as the resources boom continues to ease, and increasing productivity and efficiency become even higher priorities for principals and contractors.

11 Business Council of Australia, *Securing Investment in Australia's future: Report of the Project Costs Taskforce*, August 2013, pages 12-13, www.bca.com.au
12 Business Council of Australia, *Securing Investment in Australia's future: Report of the Project Costs Taskforce*, August 2013, www.bca.com.au
13 Business Council of Australia, *Securing Investment in Australia's future: Report of the Project Costs Taskforce*, August 2013, page 14, www.bca.com.au

"Australia is losing out to other countries in terms of international infrastructure investment. Canada and the Middle East are attracting international investment due to relatively well structured processes for approval and planning, and lower costs."

Glenn Palin – President, ACA and Managing Director, John Holland Group; **Joanna Jenkins** – Partner, Ashurst; and **Grant Rowlands** – Partner, Ashurst – share their thoughts on the factors contributing to a decrease in productivity in the construction and infrastructure industry and what can be done to lift productivity moving forward.

Click on the image to view the video

Major factors

The impact of fast tracking projects

During the resources boom there was a focus on volume of output regardless of cost. Large projects were fast tracked.

This affected projects from the outset, but the consequences would often not be felt until construction had commenced or even later when the operations staff took over the completed infrastructure and realised that their requirements had not been adequately addressed.

Contracts were let before environmental and development approvals had been obtained, and sometimes even before tenure to the site had been finalised. The consequence is that contractors have been entitled to extensions of time and additional costs for complying with conditions not provided for in the contract documents.

Contracts were entered into on the basis of incomplete design, and construction was commenced before fully co-ordinated "issued for construction" drawings had been prepared.

The consequence of this is invariably variations to the scope, rework to rectify construction work which does not comply with the design, and interface issues between trades, all of which result in delays and disruption costs.

"Designers have a huge influence on productivity and the end product but are very low paid compared with project managers and construction managers. 10% extra on the design phase saves so much at the other end, but people are taking money out of design."

"The right people internally are not involved in scoping projects. The final stage of feasibility is often performed by consultants, without appropriate input from the mining company's staff. Once final investment decision is made on the basis of an inappropriate or incomplete feasibility study, it is very difficult to change course."

The regulatory environment

Many involved in the construction and infrastructure industry have strong views about the regulatory environment and the impact it has on project development and administration.

There are a number of aspects to this.

The first is the changing regulatory requirements for construction development. This includes environmental approvals and, for linear (rail and pipeline) infrastructure and port infrastructure constructed on public land, getting access and appropriate tenure to the site.

"The ever changing political and regulatory environment creates an uncertain landscape."

There is a perception that government efforts to reduce "green tape" achieved nothing except confusion. The ongoing debate about and seemingly continually changing policies on carbon are also an issue for the industry.

Participants noted that governments seem to struggle with policy development and industry consultation. One participant said "where there is a lack of political consultation, it leads to poor outcomes when there is major change".

The duplication of Federal and State regulatory regimes in industrial relations, environment and safety is causing considerable concern. Principals and contractors find this confusing, frustrating, time consuming and expensive to deal with. One public sector principal estimated that delays due to the duplicated regime adds between four to six months to a major ($1 billion) project. This delay adds extra costs – not only the direct cost of obtaining necessary approvals, but also the opportunity cost of having qualified people involved in trying to work their way through the regimes.

The complexity and volume of the conditions to the approvals is having a considerable impact on productivity. This is particularly the case for projects proposed for highly sensitive environmental areas.

The regulatory environment also impacts on productivity through the capacity within government departments to deal with the approvals, which itself can result in delays in the approvals process. The capacity issue relates both to the number of people available to deal with the volume of applications for approvals, and the skills required to deal with new and complex issues.

Finally, change in the regulatory environment, or in the conditions to approvals, after contracts have been signed and construction commenced poses considerable exposure to cost overruns, delays and disputes. The approvals underpin the scope of work, both in relation to method of work and the output, so changes after a construction contract has been signed is a change of scope.

"We take our social licence to operate very seriously and compliance is a headline issue for us. However, the level of complexity of the approvals and the number of conditions has definitely led to cost overruns and uncertainty both in obtaining the approvals and in confusion in implementation. We have to get lawyers to interpret them for us."

The skills shortage and poor supervision

The impact of the skills shortage on supervision and project management skills has been significant.

Poorly supervised work leads to delays and defects, which leads to rework and sometimes variations.

Poor contract administration and badly drafted claims leads to disputes, and delays in dispute resolution which leads to uncertainty in completion dates, and cash flow issues.

"The 38 hour week means guaranteed overtime for labour – nobody works a 38 hour week."

"There needs to be a greater push for flexibility in hours."

Rostered days off are a big issue. Why should it be that entire sites shut down? It is one thing to have rostered days off, but not every trade should take them on the same day. The builder should be able to stagger them, so the builder can arrange for a necessary trade to be on site and keep the project moving every working day."

Labour market

Many participants, both principals and contractors, say that Australia's labour market is a major contributor to Australia's comparatively low productivity. The regulated labour market and restrictive work practices are seen as major issues.

One contractor commented that it is difficult to quantify the extent of the issue because the impact of each of the factors which contribute to a decrease in productivity are not separately measured. However, even if it is difficult to quantify, the universal theme is that productivity of Australia's labour force is lower than many other countries.

Participants noted that some of the working conditions which are common in Australia are very different to other jurisdictions. One international contractor commented that the regulated labour market and restrictive work practices are more of an issue in Australia than in the other countries in which they operate. The conditions which attracted the most comment are the 38 hour week, and restrictions on operating sites 24/7.

Those factors, in addition to rising wages and the cost of complying with conditions, impact on project costs.

Those workplace practices are particularly challenging for the foreign contractors unused to the Australian industrial environment. Practices on site with weather, and the processes of negotiation of project labour agreements, require management and awareness which may not have been contemplated when lump sum prices were tendered.

Deloitte Access Economics recently expressed the issue in this way: "in Australia, we need to be aware that on many infrastructure projects our work practices, hours of work and hourly rates of pay for blue collar workers are out of step with other countries in which we operate."[14]

14 Deloitte Access Economics, *Major infrastructure projects: costs and productivity issues*, Australian Constructors Association, 7 March 2014, page 60. See also Business Council of Australia, *Securing Investment in Australia's future: Report of the Project Costs Taskforce*, August 2013, www.bca.com.au

Perhaps ironically, a number of participants commented that the high cost of labour and restrictive work practices have indirectly resulted in a boost to productivity in some respects.

"There have been advances in construction technology and innovation, and what has driven that principally is the cost of labour."

"In some ways productivity has increased with the use of new and streamlined technology, but in others productivity has reduced, as evidenced by the number of contractors on site doing less than the average contractor was doing 5 years ago."

In addition not all participants agreed that Australia's industrial relations system created a competitive disadvantage for Australia. One principal with operations around the world commented that:

"For all the publicity about the industrial relations system, by comparison Australia is not any worse than most places and much better than many places."

Disputes

Participants noted that there is a direct relationship between productivity and disputes, and that disputes are increasing both in number and value. Disputes are often a symptom of productivity issues. Also, the management time required to engage in dispute resolution diverts resources from project execution.

Observations were that disputes were driven by a number of factors, suggesting that the potential for disputes is endemic:

- Poorly scoped projects, resulting in variations, rework and interface issues between trades
- Unclear contract drafting, often arising from heavily negotiated contracts
- Variations resulting from commencing construction on incomplete design drawings
- Poor contract administration, leading to inadequately documented and substantiated claims
- Overly optimistic scheduling and cost estimates, particularly in fast tracked projects which are delivered on an EPCM basis
- Lack of adequate insurance coverage, and unclear contract drafting of the contractual provision requiring that insurance be effected
- Signing contracts prior to key approvals being obtained
- Defects resulting from the skills base and poor supervision

- Delays and costs arising out of the complex environmental approvals and regulatory environment and contracts dealing inadequately with responsibility for obtaining approvals and complying with the conditions to approvals
- Changes to the regulatory requirements through Change in Law provisions
- Problems and delays with obtaining tenure for linear infrastructure
- Cultural differences in contract administration and negotiation practices of international contractors
- Claims which, on a contract of smaller value would have been trivial (for example for a minor change in law), having a significant value because of the delay costs on large projects.

The increase in the size of the projects leads to an increase in the amounts in dispute. This makes them more difficult to resolve and, on a cost benefit analysis, worth investing in legal costs to pursue rather than compromise. In projects where delay costs are millions of dollars a day, even a small delay becomes a claim of considerable magnitude.

The disputes will take some years to resolve.

Stifling Innovation

Participants noted that innovative outcomes are stifled by a conservative approach, particularly in the public sector. Detailed specifications are prescribed simply because the department is familiar with them.

Innovation could be encouraged by focusing on project outcomes rather than the method to achieve it; the "what" rather than the "how".

"Specifications which have been used on every project for the last twenty years are churned out even on design and construct jobs. It is really hard to convince them to use innovative solutions, even solutions which have been used overseas for years."

Post boom

While the value of projects currently in construction is still high, the projects in development has declined, and the pipeline for projects has declined significantly.[15]

The focus has changed profoundly as the resources boom has eased. During the resources boom participants report that the focus was on delivering volume of output at any cost. Since the resources boom as eased, the focus has changed to improving business efficiency to lower costs. Participants commented that much more discipline and time is being applied to forward planning.

The language has changed.

"Conversations are more about productivity and efficiency."

"Productivity and efficiency are the new mantra in tendering."

"Value optimisation is the key."

15 Business Council of Australia, Securing Investment in Australia's future: Report of the Project Costs Taskforce, August 2013, page 4, www.bca.com.au

What is the scope for improvement?

Innovation and efficiency

There is a need to focus on planning to achieve efficient outcomes, where time is taken to plan methodically and to provide incentives for efficiency and innovation. This is the new paradigm becoming evident post resources boom.

This includes focussing on project objectives, instead of prescribing specifications. Contractors are asked to identify how those objectives can be delivered most efficiently, and are actively encouraged to offer innovative solutions to achieve those objectives.

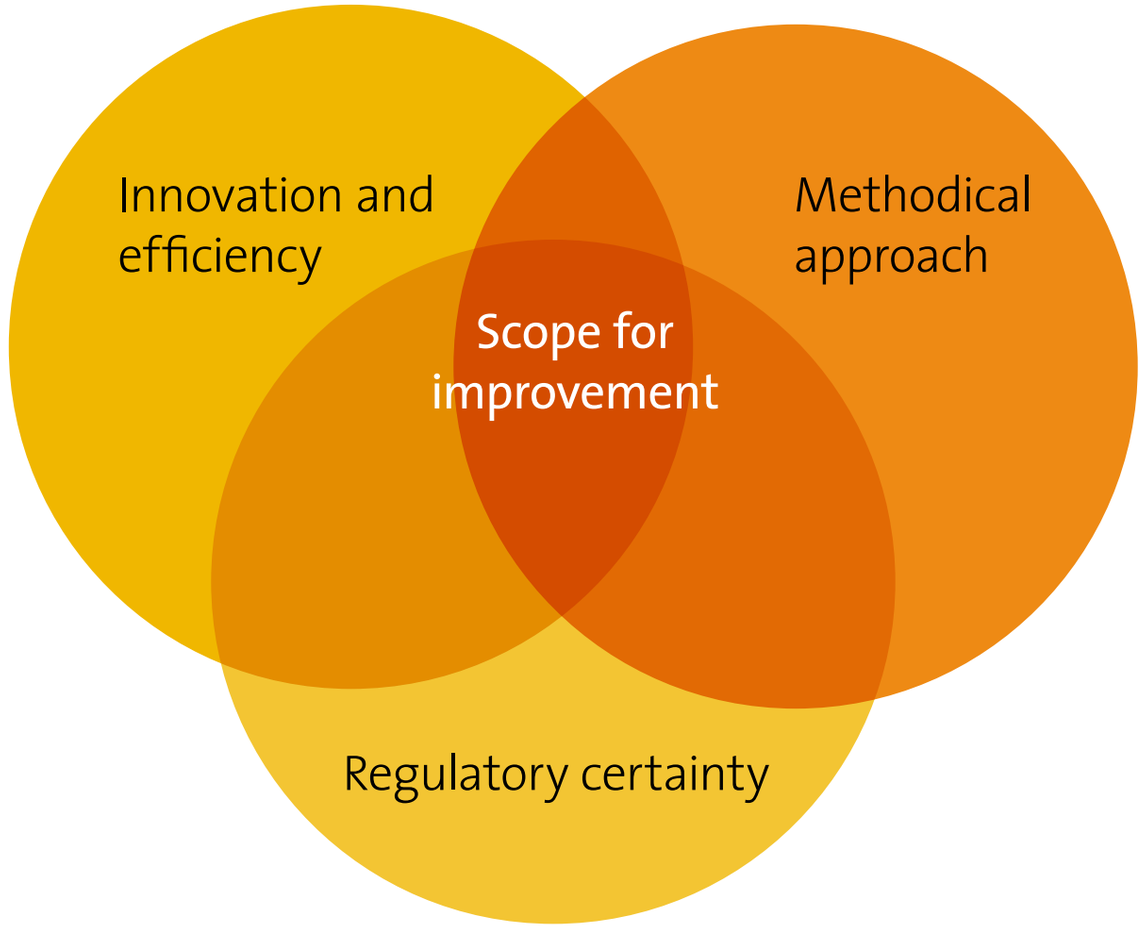
A methodical approach

Before construction commences, as much as possible should be certain. This includes approvals, tenure and design.

Where the contractor is performing design, approvals and tenure should be resolved before the construction contract is executed.

Regulatory certainty

It is imperative that approvals processes be more certain, and the conditions be streamlined. Governments need to create a certain environment for project development.



Skills shortage

“The increased expenditure on projects has resulted in a shortage of people to perform the work required.”

The skills shortage during the resources boom has been well documented.[16] It was and continues to be a key issue for the construction and infrastructure industry. It was identified as a key issue in the 2006 Scope for Improvement report:

"Over half of all respondents, regardless of sector, seniority or job type, identified the skills shortage as the critical industry challenge.

Lack of expertise is commonly cited as a key factor leading to insufficiently scoped projects, problems during project negotiation and hiccups during project execution."

The position did not change until the resources boom eased in late 2013.

The increased demand for labour and professionals during the resources boom led to a shortage of suitably skilled personnel, which impacted on the capacity for efficient delivery of projects both within and beyond the resources sector. It also impacted on the quality of work performed, resulting in additional cost and time expended in completing work and performing rework correcting errors in design and construction.

It impacted projects across the industry, and revealed endemic problems in education and training of professionals in the construction industry.

16 Business Council of Australia, *Securing Investment in Australia's future: Report of the Project Costs Taskforce*, August 2013, page 16, www.bca.com.au; Australian Government Department of Employment, *Historical Skills Shortage List (from 1986)* http://docs.employment.gov.au/documents/historical-list-skill-shortages-1986; Business Council of Australia, *Pipeline or Pipe Dream?*, 7 June 2012, pages 47-48, www.bca.com.au

Key conclusions

Impact of quantum change in project value

The Australian construction and infrastructure industry has been ill equipped for the quantum change in project value and complexity. The skills required to successfully deliver $1 billion+ projects have been lacking.

Training is lacking

Training in project delivery, particularly in risk management, project management and contract administration, is lacking in Australia. Organisations should improve or, in some cases, develop internal training programmes. External training courses (including those leading to tertiary qualifications) should be introduced and relevant existing courses expanded.

Reduction in overall quality of the workforce

There is a widely held view that the overall quality of the workforce in the construction and infrastructure industry has reduced. The need to recruit people to deliver projects resulted in what some participants described as a "lowering of the gene pool" in companies, where people were employed despite not being appropriately qualified and experienced.

However there has been a recent rationalisation of staff, with steps taken in some organisations to reduce the workforce and focus on improving the core skills.

Glenn Palin – President, ACA and Managing Director, John Holland Group; **Joanna Jenkins** – Partner, Ashurst; and **Grant Rowlands** – Partner, Ashurst – identify key issues associated with the skills shortage, the impact the end of the resources infrastructure boom has had and how the situation can be improved in the future.

Click on the image to view the video

Major factors contributing to the skills shortage

Shortage of people for the volume of work

The increased expenditure on projects has resulted in a shortage of people to perform the work required.

The 2013 Hays Salary Guide reported that 63% of employers surveyed believe that skills shortages would impact their business and 61% would consider sponsoring candidates from overseas.[17]

"Big projects place too much pressure on a small pool of top level people."

Lack of appropriate skills

However, the skills shortage is more complex than simply a lack of people to perform the work. The step up in project complexity and value was challenging for a workforce used to smaller projects.

Many participants question whether Australia has the skills to deliver $1 billion + projects successfully, particularly in project management and engineering skills.[18]

"Finding people who have done $5billion projects is difficult."

In the resources sector in particular, the remote sites require huge supporting infrastructure to deliver product to market. The projects themselves must be big to deliver a return on the capital expenditure required for the infrastructure.

The "mega project' is not unique to the resources sector. A number of participants commented on a trend among principals to combine a number of potentially separate packages of work or pieces of infrastructure into one project. This has meant that personnel, who might otherwise have been suitably skilled and experienced for one of the discrete packages, are under qualified and insufficiently experienced for the additional complexities caused by combined contract scope.

The increased complexity of projects requires a deeper understanding of risk, risk management, and the impact of poor design and scoping practices on efficiency of output.

Experienced engineers who can deal with the risk and project management issues are in high demand. Many participants are of the view that there is little formal training in those skills in Australia; engineers learn by on the job experience.

"It takes 10 years for an engineer to think in terms of risk management. Therefore the bigger the project the more reliant we are on engineers in the 50+ bracket."

17 2013 *Hays Salary Guide* pages 5 and 14 www.hays.com.au

18 This is consistent with research recently conducted by the Business Council of Australia: Business Council of Australia, *Securing Investment in Australia's future: Report of the Project Costs Taskforce*, August 2013, pages 16 to 18, www.bca.com.au

A common theme is that, because of a lack of experienced personnel, inexperienced people were elevated to higher positions in the hope that they would achieve their potential "in the job". One participant said that in Australia it was not uncommon for candidates with 2-5 years' experience to be given roles which, in the UK, would only be given to candidates with 15+ years' experience.

Young engineers were placed in jobs in which they had insufficient experience, at the expense of them obtaining valuable experience in traditional graduate engineering jobs such as design.

A number of participants noted very poor contract administration practices. Contractor claims were said to be "terrible" and "of very poor quality", and that "inexperienced contract administrators find it difficult to get documents together to support a claim".

Another participant observed that there has been a reduction in supervision levels on site, and work which would previously have been performed by contractors is subcontracted and sometimes sub-subcontracted. This leads to an increasing lack of supervision and results in poor workmanship. This had, and will continue to have, long term consequences, such as rectification of defects and disputes.

Staff turnover

Turnover during the resources boom was high, as poaching of experienced staff became prevalent.

"The resources boom turned the construction industry into a bunch of nomads."

There was considerable discussion of "lowering the gene pool" in companies. Companies took on people they ordinarily would not have employed, with a focus on throwing bodies at a problem regardless of skill level. This had an impact on quality, and productivity.

Staff turnover also has less tangible consequences: the loss of corporate knowledge affects project success and, if there is a dispute, the loss of key personnel will contribute to an adverse outcome.

Public sector

The public sector has also been affected by the skills shortage.

Participants from the public sector said that skills were "lost to the private sector because of poaching". This was of particular concern because often the personnel recruited by the private sector were the most talented, and those with the most drive and ambition.

This has led to a long term structural issue of a missing band or generation of well-trained people who have worked their way up through public sector organisations.

Interestingly, there is some evidence that the worst of that problem for the public sector may be in the past. One public sector principal reported that, as the resources boom eased, the public sector is able to compete much better for quality staff. It is becoming more common for people who had left the public sector for higher salaries to apply to return. In addition, the public sector is seeing many high calibre applicants for positions where in the past the public sector salary on offer would not have attracted applicants of that quality.

Training

Many participants identified a lack of appropriate training as a key issue contributing to the skills shortage. The levels of investment in both graduate and long term in-house training is considered to be inadequate, particularly in the private sector.

One participant noted that long term training had dropped off, and questioned how many companies now take on large numbers of trainees. A report prepared for the Construction and Property Services Industry Skills Council has also emphasised the need for more workplace development.[19]

"People were hired during the boom to do jobs they weren't qualified to do and were not trained to do. They did not get good training, and did not learn basic skills."

19 The Centre for International Economics, *Future forecasts: Construction and Property Services Skills 2016-26*, May 2013.

Public sector participants say that they train graduates, only to lose them to the private sector.

There was also some complaint about the quality of university education. Comments included that graduates are inexperienced with concepts of risk management, and that universities should introduce or expand courses dealing with project and risk management and contract administration.

The particular shortage of engineers with the experience and training necessary to deliver large projects was in part attributed to a lack of training.

Post boom

It is widely reported that from early 2013 there have been significant redundancies in the construction and infrastructure industry. Some participants saw it as an opportunity to rectify some of the issues which had affected companies during the resources boom.

Now that there is "an overabundance of skilled people" companies are taking the opportunity to rationalise the skills base.

Companies are experiencing much lower staff turnover, and improved safety records.

What is the scope for improvement?

Training

Training is a key area for improvement by industry participants, and is matter within their control. This includes taking on more graduate positions, and conducting formal in-house training.

Many in the industry consider that a key area which universities could focus on more is project management, risk identification and contract administration. This would assist to alleviate the pressure on what is considered to be the small pool of engineers who have sufficient experience in project management and contract administration roles.

Planning

Appropriate training requires planning to understand the skills the workforce will require.

The quantum leap in project value in the last 10 years has resulted in an unanticipated gap – a lack of people capable of managing the additional complexities of those larger projects. There is a sense that companies were slow to understand the skills that would be required to deliver those projects.

Understanding the skills required of the workforce and the training required to achieve it, requires a planned approach to recruitment and training, from graduate intake and throughout people's careers.

Staff retention

The capacity to attract and retain staff is an important factor in maintaining a stable workforce and getting a return on investment in training and mentoring. One disincentive to training was that the employer providing the training would not see the benefit of it, because the employee would move on.

The nomad culture among employees had an impact on both public and private sectors.

> "The structure of the industry does little to encourage individuals to build a career with a particular firm."

Industry might look at building a culture of staff retention. Improving retention of staff is likely to result in an improvement in the depth of experience within organisations and better outcomes for major projects.

Scoping

“The calibre of tender documentation is critically important .... It is the single most important aspect of successful project delivery.”

Scoping

Factors which compromise project outcomes

- Lack of long term planning
- Quality of personnel preparing the scope
- Shortage of personnel to prepare the scope
- Insufficient time allowed to prepare the scope
- Choose the right method of describing the scope
- Insufficient resources allocated to prepare the scope

Compromised project outcomes

Improved project outcomes

- Choose the right delivery model
- Choose the right method of describing the scope
- Get the right people involved, with a process to obtain input from key stakeholders (including the end users)
- Clearly identify the project objectives
- Training for personnel involved in preparing the scope
- Education on the importance of scoping

Factors which improve project outcomes

One of the key findings of the Scope for Improvement 2006 report was that industry practice in relation to the scoping of projects was often seriously inadequate. The 2006 Report highlighted that poor scoping at the outset of a project almost inevitably leads to major pressure points occurring throughout the entire project cycle, resulting in cost overruns, delayed completion and disputes.

The Scope for Improvement 2008 report focussed entirely on scoping practices in Australian construction and infrastructure projects. The key findings of the 2008 Report were that scoping problems existed to almost the same degree in all projects, industry-wide, and whatever their value. Most participants who contributed to that research thought that the situation was getting worse.

To put this in context, the 2008 Report identified that the consequences from scoping inadequacies had been substantial. Participants attributed cost overruns (61%), delayed completion (58%) and disputes (30%) to scoping inadequacies.

Further, scoping inadequacies had resulted in 26% of the $1 billion+ projects surveyed being more than $200 million over budget.

In 2014, many in the industry consider that scoping remains a significant problem. This is a common theme among public and private sector principals as well as contractors and consultants.

Participants recognise that inadequate scoping can have significant adverse consequences for the cost, quality and timing of delivery of a project, and conversely that best practice scoping contributes significantly to improved project outcomes. Time and resources spent on scoping is invariably time and resources well spent.

Promisingly, unlike the trend between the 2006 Report and the 2008 Report, at least some participants (both principals and contractors) thought scoping practices had improved.

Scoping

The scope of a project is the contractual expression of a principal's requirements.

Scoping a project is a critical task requiring experience, discipline and clarity of purpose. While the scoping process will vary for each individual project, at its core, project scoping involves:

- the identification of the fundamental objectives of the project
- the development of the principal's project requirements (such as the desired functional and performance outcomes and/or specific technical requirements) to achieve those objectives, with due regard to stakeholder and end user requirements, any project interface requirements and any other specific project risks and circumstances
- the selection of the most appropriate contractual model and risk profile to deliver the principal's project requirements
- the translation of those requirements into appropriate contractual scope documents for the project.

Key conclusions

Scoping remains a significant problem

Most participants consider that scoping remains a significant issue within the construction and infrastructure sectors. Inadequate scoping is recognised as a factor directly leading to delays and cost increases. However, some consider that scoping practices have improved, and that the other issues referred to in this report have a more significant impact on construction and infrastructure projects today.

Education about the importance of scoping remains a key issue

It can be difficult to persuade decision makers within principals about the importance of timely and proper scoping, and the need to devote time and resources to scope preparation. Education about the benefits to be derived from good scoping practices, and the cost and time implications of an inadequate scope, is an important step leading towards the adoption of improved scoping practices.

Longer term planning would help overcome many scoping issues

Projects in both the public and private sectors suffer from a lack of longer term planning. In the public sector, too often projects appear to be driven by the political cycle without a proper independent assessment of the merits of the project or consideration of longer term infrastructure needs and priorities. In the private sector, principals have fast tracked projects, focussing on short term revenue to the expense of appropriate planning.

Training quality staff

There is a widely held view that there is a continuing shortage of adequately skilled and experienced people involved in preparing scopes, and many participants consider that the position is getting worse. It is critical to train people to equip them to prepare adequate scopes.

Different delivery models can help improve scoping

Many consider that some contract delivery models are better than others in assisting the parties to prepare a better scope. The wider range of contract delivery models being used and considered by principals and contractors is seen as having the potential to contribute to improved scoping practices.

Choosing the right approach to describe the scope

There are different approaches to describing the scope of work, ranging from a prescriptive scope to a performance or output scope. Participants recognise that the appropriate approach will depend on the principal's objectives for the project in question. However, many participants consider that in most cases a performance based scope is preferred.

"The calibre of tender documentation is critically important ....
It is the single most important aspect of successful project delivery."

"Experienced principals recognise the significant advantages
a multi-billion dollar project can gain if the scope has been adequately
addressed from the outset."

Glenn Palin – President, ACA and Managing Director, John Holland Group; **Joanna Jenkins** – Partner, Ashurst; and **Grant Rowlands** – Partner, Ashurst – discuss why poor scoping continues to plague the industry and what needs to be done to drive change and improvement in the future.

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Major factors leading to poor scoping

Insufficient time to prepare the scope document

Many participants commented that principals regularly do not allow enough time to properly undertake the scoping process. This is an issue with both public sector and private sector projects. The widespread view is that principals often rush to get their project to the market, and embark on the tender process before the scope has been properly prepared.

There are different reasons for this between the public sector and private sector.

There are strongly held views that political imperatives drive public sector principals to release projects to the market before they are ready.

> "Projects have become aligned to the political cycles."

> "Politicians make announcements, many without a lot of background work."

In the private sector, principals are driven by the market. Their goal is to earn revenue from the completed asset or infrastructure at the earliest possible time. Another goal is to go to tender before potentially competing projects do so, and in that way achieve better tender pricing and get access to contractors' "A" teams.

One consequence of this, both in the public and private sectors, is that projects are "fast tracked". One private sector principal commented that "fast track" used to be an exception to the rule, something you only did to bring a particular project or initiative through quickly. During the boom times however, "fast track" became the norm.

Another private sector principal commented that inadequate scoping is common when the construction schedule is short and the design period is accelerated. One consequence of this is that many principals issue incomplete construction drawings to their contractors (and contractors to their sub-contractors) in the often mistaken belief that incomplete design can be addressed collaboratively during the construction phase.

A number of contractors acknowledge that this is not good practice, but in a competitive market contractors are willing to do that. Contractors are willing to accept a lot of uncertainty in a tender, and would even be willing to complete the scoping exercise and submit a tender price, because it is such a competitive market.

> "One downfall in the industry is that we go straight into "project" mode."

> "Contractors are as guilty as principals because they don't say 'this is not sensible'. Contractors are too hungry."

Lack of long term planning

Many participants recognise that better long term planning is desirable and would help overcome many scoping issues.

In the public sector, planning for projects independent of political cycles is seen as critical. There are two components to this:

- Long term planning is the key – governments should be identifying infrastructure needs for the longer term, and planning ahead 15 years or more.
- There should be independent assessment of individual projects – many consider that public sector principals should be performing cost/benefit analysis to seek to identify where they can achieve the best value for money, and undertake planning and design without political influence.

> "Long term planning is critical for government strategy, and goals must be transparent."

Both of these actions would not only allow for better planning of projects and help avoid bad outcomes from projects being brought hastily to market, but would also help avoid the 'boom and bust' cycle.

While long term project plans, including a pipeline of projects to be delivered over a period of time, are seen as a very important step towards resolving inadequate scoping practices, participants doubted that this could be achieved. "Politicians hate that", commented one participant.

Long term planning is equally worthwhile in the private sector. However even private sector principals who regularly deliver infrastructure projects concede that planning and long term assessment of priorities often does not happen. They recognise that there should be more front-end work and early scoping, with more money spent on planning and study work before execution. They also recognise that, especially during the boom times with projects being "fast tracked", it was a common for projects to go to the market with "half a scope" and to have a period where design and delivery occurred at the same time. The infrastructure was built, put into operation and delivered revenue, but organisations often looked back and reflected on "how much value did we leak?".

"Infrastructure project development in Australia is too piecemeal. Political whim and planning is too short sighted and ad hoc."

Both public and private sector principals recognise that money spent on planning and development is very important. However, public sector principals report that invariably within government there is little or no budget or funding for project development. Funding is tight, even when projects are budgeted. Many participants involved in delivering projects for public sector principals are of the view that projects would be delivered better if more money was spent upfront on scoping and project development, but Commonwealth and State budgets did not allow for that.

This is an issue in the private sector too. In the boom times, private sector principals tended to "fast track" projects in the interest of getting the infrastructure into operation and generating revenue, and this outweighed any inclination to spend more time and resources on planning and project development. After the boom, more principals are mindful of the benefits of better scoping and the cost and inefficiencies attributable to "fast tracking" projects, but money is tight. There is competition within organisations for the limited pool of money available for capital expenditure, and there is unlikely to be funding or budget available for early project development.

Lack of experience and sufficiently competent personnel

The 2008 Report noted that the inexperience and insufficient level of competence of those preparing the scope documents had been clearly identified by respondents (45%) as the most significant contributors to inadequate scoping. There is a widespread view of participants across the country in all sectors that this continues to be the case.

Worryingly, in 2014 many participants are of the view that the calibre of experience and skill sets of those involved in scoping has declined over the past decade. It is widely accepted that there is a lack of talent in the market, and that people dealing with scoping are not appropriately skilled.

"There is no continuity in experience and knowledge. All of the new staff are junior and don't understand the importance and impact that scoping has."

Quality of personnel is one issue. A related but separate issue is the shortage of personnel. Regardless of the size of the project, principals and contractors report that a shortage of suitably skilled and appropriately experienced staff within the principal's organisation often contributed to an inadequate scope.

Principals have had no option but to outsource more of the project development, including preparation of the scope. Contractors consider that principals have increased their use of consultants or "hired guns" to run the project, including scoping. Often the external consultant does not have the detailed knowledge or understanding of what the principal wants or needs from the project. This necessarily impacts on the quality of the scope documents, and can lead to implementation problems.

Outsourcing, and problems associated with outsourcing, are not limited to principals. One contractor reported that it was becoming more common for due diligence work related to scoping and assessing tender documentation to be done offshore where labour is significantly cheaper. This was justified on a cost basis and the quicker turnaround of document assessment, however there is a noticeable compromise in the quality of the outsourced work once returned.

What is the scope for improvement?

Education on the importance of scoping

Representatives from a number of public sector principals across the country commented on the importance of making sure people within their organisation understood the importance of investing in the preparation of a scope. Part of this involves educating decision makers about the time and cost involved in proper scoping of a project. Just as important (if not more so) is to educate decision makers and stakeholders about the time and cost implications arising from failing to properly define the scope and required outcomes at the outset of a project, then having to make changes through the delivery phase to meet changing outcomes or requirements as they get further developed.

Some private sector principals say this is not an issue unique to the public sector. They too see that an important step in improving scoping practices is to convince decision makers and other key stakeholders within the organisation about the need to invest time and resources in scoping, and the consequences of poor scoping.

"Scoping practice is a double edged sword. Minimal scoping can lead to productivity flaws and cost underestimates, yet excessive scoping can be inefficient and create other problems including lack of innovation in tenders."

Training for personnel involved in the preparation of the scope

Given how important the scope is for the outcomes of the project, taking steps to increase the skills and competence of people involved in preparing the scope is an important way of improving scoping practices.

A number of principals report that they have introduced internal training programmes for staff involved in preparing scopes, with positive results.

Clearly identify the project objectives

The key is for the principal to identify what it wants from the project.

The principal must spend time and devote sufficient resources to make sure it is clear about its objectives and what it wants to achieve.

"The first question is not 'what are we wanting to build' but rather 'what outcome are we trying to achieve'."

The key to doing this is having the right people involved. The most important thing, but often the hardest thing to do, is to get the people who will use the piece of infrastructure or asset to engage and have proper input

into the scoping of a project. It is crucial to obtain input from end users and then reflect that in the overall scope document, to seek to minimise the necessity to implement changes through the delivery phase of the project.

One way of doing this is to bring all relevant stakeholders and end users together to identify key scoping objectives and requirements that need to be addressed. Different stakeholders will bring different perspectives to, and have different objectives for, the project. Interactive workshops is one way of making sure different views, different objectives and different knowledge are all taken into account.

Choose the right method of describing the scope

Participants recognise the importance of choosing the right approach to describing the scope, particularly in any project where the contractor will be called on to design some or all of the works.

A common problem identified by participants representing principals and contractors alike is that the principal does not choose the appropriate type of scope document for the project in question.

Participants recognise that the appropriate approach will depend on the principal's objectives for the project in question.

One criticism raised, most often by contractors (but also acknowledged as valid by some principals), is that principals sometimes adopt a prescriptive based scope without giving proper consideration to whether that is the best approach for the particular project. Often this might be done simply because that is the way it has been done in the past, and principals did not want to depart from what they consider to be a "tried and tested" approach.

While sometimes the principal has valid reasons for preferring a prescriptive scope, it does have disadvantages:

- it potentially increases the cost to the principal of preparing the scope
- it reduces or removes the ability of the contractor to be innovative in design, and means the principal does not make the most of the contractor's expertise
- it can create inefficiencies, ambiguity and the potential for disputes.

Performance or output based scope

Outlines the ultimate outcomes requirements for the project, leaving it to the contractor to determine the best way to achieve those outcomes and design the works accordingly.

Prescriptive scope

Appropriate where the principal has very specific requirements or preferences for the type of detail they require in the finished works. Describes in great detail the works to be undertaken, leaving little if any discretion in the contractor.

Principals and consultants refer to a tendency of principals, particularly in the public sector, to "dump" information in the scope – to submit "everything they have got" to contractors as a risk transfer exercise, telling contractors in effect that they are to assume all the risks those documents disclose. One contractor commented that this practice imposes excessive burdens on contractors, increases cost, and represents an unrealistic expectation on contractors to scope or complete the scope for the project.

While recognising that no one approach is suitable for all projects, there is widespread support for the view that performance based scopes are mutually beneficial and often the preferable approach.

Choice of delivery model

One contractor expressed the view that the broader palette of procurement options available has assisted to improve scoping. Contractors and principals have adopted this wider range of procurement options.

While there appears to be general acceptance that some contract delivery models are better than others in assisting the parties to prepare a better scope and help improve scoping outcomes, there is no one contracting model which is universally accepted as being problem free.

There are a number of advocates, both principals and contractors, for the early contractor involvement (ECI) model. They acknowledge that this requires the principal to invest time, resources and money in the process, but for scoping to be done properly that should be happening regardless of the procurement model. If done properly, the outcome of the ECI process is that the scope is properly defined, and both parties know and give informed sign off to the scope.

While some principals, both public and private sector, reported good experiences with the ECI model, not all principals are convinced of its benefits.

The main concern for principals is how to maintain competitive tension. Many principals consider that there is real value in maintaining competition to get the best possible outcome, and that getting contractors involved early does not necessarily lead to better outcomes because of that loss of competitive tension.

Some principals expressed the view that contractors do not necessarily have the skill set to define scope. Also, if the key issue is to identify what the principal really wants from the project, then it is the principal's job to define scope, not the contractor's.

Principals who do use and champion the ECI model acknowledge both of those viewpoints, but are confident that they can produce a better scope when working interactively with the contractor using the ECI model. Those principals would much prefer to work with the contractor on an ECI model to develop scope, particularly compared with the EPCM model where their concern is that the contractor's approach tends to be "all care and no responsibility" while spending someone else's money.

Cost of tendering

“While costs of tendering has been an issue for some time, it has become increasingly so since the beginning of 2013.”

Cost of tendering

Causes and impacts of the tendering process

Comparatively complex and lengthy processes adopted in Australia

High direct costs associated with the requirement for fully compliant tenders

Significant resources tied up on unsuccessful bid teams

Lack of clarity about proposed risk allocation

Impact of costs of tendering exacerbated by increased competition among contractors, and lower margins

Compromised outcomes

Improved outcomes

Pay for design undertaken during the tender phase

Contribute to the costs of unsuccessful tenderers

Choose a delivery model which minimises the unpaid costs incurred by tenderers

Identify the proposed risk allocation at the earliest possible time

Streamline the tender process – adopt a two stage process to narrow the field of tenderers

Suggestions for change

Costs of tendering was identified as a pressure point in the Scope For Improvement report in 2006.

Key findings in the 2006 report included that:

"Costs of tendering are onerous for contractors, who are forced to incur large expenses in an overly competitive tendering market and narrow profit margins, and who only have a chance of recouping these costs if successful

The desire to win the contract also leads directly to tenderers promising more than they can realistically deliver or bidding at a price which is lower than can be achieved."

Industry comments indicate that those findings remain current in 2014. In fact, contractors report that while costs of tendering has been an issue for some time, it has become increasingly so since the beginning of 2013.

Although the cost of tendering is something which most directly affects contractors, principals also report that it has become more of an issue in the industry.

"The cost of tendering is a bigger issue and of greater concern to contractors than the same period a year ago. Markets are tighter and we are worried about bidding and cost."

"Cost of tendering has become more of an issue over the last 12 months. We are getting a lot of pressure to reimburse unsuccessful tenderers for their tender cost."

Costs of tendering are seen as a particularly significant issue on Public Private Partnership (PPP) projects. On major PPPs, contractors report that it is not uncommon for consortia to incur tendering costs in the tens of millions of dollars.

Key conclusions

Costs of tendering has become a big issue

Costs of tendering has become a very significant issue. It is particularly acute on large projects and PPP projects, but the issue is not limited to large projects. Costs of tendering has become more of an issue as competition for work has increased. More contractors are competing for any given project, resulting in lower contract prices, lower margins for contractors, and more unsuccessful bids.

Australia is unique

There is a view among multi-national contractors that the tendering process for big projects is more complex and expensive in Australia than most comparable jurisdictions. This makes costs of tendering a bigger issue in Australia than in most other jurisdictions.

"The tendering process in other countries is much quicker and the cost of tendering much lower."

Streamlined process

Many participants (contractors and principals) consider that the simplest solution to the problem is for principals to streamline the tender process so that tenderers are not obliged to incur substantial costs (out of proportion to the size of the project) until they have become the preferred tenderer.

Glenn Palin – President, ACA and Managing Director, John Holland Group; **Joanna Jenkins** – Partner, Ashurst; and **Grant Rowlands** – Partner, Ashurst - consider the causes and impacts of tendering costs increasing and what can be done to decrease tendering costs while maintaining the competitive tension provided by tendering processes.

Click on the image to view the video

Major causes and impacts of high cost of tendering

Fully compliant bids

A common theme among contractors is that the major reason for the high cost of tendering is that principals inevitably require fully documented and fully compliant bids.

"Prices are astronomical to produce tenders for larger projects. Both successful and unsuccessful tenderers will pass on those costs to industry somehow, and unsuccessful tenderers are left licking their wounds."

"The expectations by principals of full compliance in tenders has significantly increased tender costs."

All tenderers need to engage their own team of consultants, and are required or expected to undertake significant design and engineering work to include as part of their bids.

"The level of detail required in the tender is unjustified and inhibiting. It pushes out skilled but smaller contractors who have the skillset to perform but not the financial resources to risk an expensive tender which may be unsuccessful."

"The size of the [cost of tendering] issue has changed due to the complexity of modern construction projects. A project double the size of another will involve a tender four times the cost."

Although the cost of tendering is a particularly acute issue on large projects and PPP projects, it is not confined to large scale projects. For D&C contracts generally or wherever the tenderer is required to undertake any design work, costs of tendering are not insignificant. As one major contractor noted, they have to spend a significant amount on tendering even on smaller D&C contracts - they still need to pay for consultants and design work.

It was estimated by one participant that even for a relatively straight forward $100 million D&C contract, tenderers regularly incur costs of between $300,000 and $400,000 to tender.

Inefficiency

Quite apart from driving up the cost, the requirement for fully compliant bids can also have a potential impact on project outcomes. It means that the successful (and any individual) bidder will not necessarily include the best team or provide the best value for the principal. Each bidder has their own teams, which means the best consultants, contractors and suppliers will not necessarily be available to work for the winning team.

The requirement for fully documented bids can also have a broader impact on productivity more generally. On big projects (particularly PPP projects), more consultants will be involved working with the various bid teams during the tender process, meaning fewer consultants will be available to work on other projects for other principals and contractors.

For one recent major public sector project in Perth which included significant road infrastructure, it was calculated that there were 200 people doing design work in the pre-award process. That included a large part of the design capacity of some very substantial organisations, all involved during the tender phase on one project. Anecdotally, all road consultants were tied up on that one project for many months – there was little, if any, capacity anywhere in Perth to do any work on any road projects.

Quite evidently there is an opportunity cost and productivity/efficiency cost in adopting that approach.

Increased competition

Regardless of the size of the project, the cost of tendering has become more of an issue because in many sectors there is less work around and more competition among tenderers. Greater competition means more pressure on price, and lower margins from which contractors can recover the tender costs of a higher number of unsuccessful tenders.

One principal commented that contractors are much more willing to work for them now that the resources boom is easing. For example, if they had tendered a $100 million project a year ago they would have been lucky to get two tenderers. Now if they tender a project in that range they will get 10 or more tenderers. Not only that, major contractors are tendering for projects worth less than $100 million. That was unheard of at any time in the recent memory of that principal.

This extra competition heightens the significance of the cost of tendering. Anecdotally, the unwritten rule in the past was that tenderers aim to win at least one in three of the contracts for which they tender, and if they win one in three tenders they will cover their costs and can make money.

Now that work is becoming more scarce and more tenderers are competing for each job, tenderers have a lower success rate. A lower success rate means it takes longer for contractors to recoup their costs of more unsuccessful tenders.

Added to this, tenderers have been aggressive with their pricing in an effort to win work. Principals and contractors alike report instances where tenderers, keen to generate cash flow to cover the cost of maintaining their workforce and fixed overheads, appear to have adopted a strategy of submitting low prices to, in effect, try and "buy" work. If they win the tender, margins on that work are lower. Lower margins mean it would take longer to recoup the cost of unsuccessful tenders even if they were achieving the historical "one in three" success rate.

The combined effect is that contractors face lower margins from which to recover the cost of a higher number of unsuccessful tenders.

Contractors report that as markets have tightened they are becoming more worried about bidding and the cost of tendering. One of the critical issues is selecting jobs to bid for. The cost of bidding and the number of other tenderers against whom they will be competing are key factors in selecting the jobs they will seek to win.

> "The high costs of tendering are causing some organisations to re-evaluate their willingness to participate in big projects, especially PPPs, and this is the case even where principals have been willing to make some contribution to bid costs."

Unnecessarily complex

Some contractors stated that tendering in Australia is more complex and expensive than in most other jurisdictions. The tendering process in other countries is said to be much quicker and the cost of tendering much lower.

For example, according to one contractor, the overall cost to get to financial close on PPP projects is relatively similar in Australia and elsewhere. However, in other jurisdictions the tenderer incurs the more significant costs at a different (later) stage. In Australia, the expensive part is the upfront tendering process, before the tenderer has been appointed as the preferred bidder.

It was reported that in the United Kingdom principals get to the preferred tenderer stage quite quickly, and then spend time to close out the contract. The opposite applies in Australia.

It was also reported that other countries adopt different approaches which result in lower tender costs. In some jurisdictions it is common for the principal to do much more of the design than is often the case in Australia, meaning that tenderers do not need to incur significant costs engaging consultants and undertaking design during the tender process.

In other jurisdictions (especially the United Kingdom and Canada) the use of standard form documents is much more common, particularly for PPPs. The view is that the process is much more "mechanical", more efficient, and the tender process much quicker and cheaper.

"There have been some great outcomes for PPP projects in Australia, but the process is horrible. It is very costly to bid."

"On major PPPs, it is not uncommon for consortia to run up tendering costs in the tens of millions of dollars. These costs are increasingly difficult to recover, even on a 'winning' bid."

Clarity about risk allocation

Contractors commented that one big issue they face is that they often have to expend significant resources in the early stages of assessment of a project before the principal provides details of the proposed risk allocation or the tenderers can identify the proposed risk allocation.

It often takes a long time from when a project is initially foreshadowed until it gets to the market. Contractors can spend significant time and resources evaluating the project and positioning themselves to win a role on the project, even before they are invited to submit an EOI or are requested to submit tenders.

The proposed risk allocation is not always evident during the EOI phase and is not always immediately apparent at the beginning of the RFT phase. Lengthy bespoke contracts or heavily modified standard form contracts can mean that further resources are required to evaluate the project and then extract and understand the complete risk profile.

Contractors expressed the view that the whole process could be conducted more efficiently if it was done more transparently and the principal identified the proposed risk profile at the earliest possible stage in the tender process.

What is the scope for improvement?

Streamline the tender process

One solution is for principals to reduce the level of complexity and design expected from tenderers. The tender process and the principal's expectations of tenderers should be adapted to suit the size and complexity of the project.

Contractors suggest that principals ought to adopt a two stage tendering process in which tenderers are not required to prepare full documentation during the initial stage. Principals should select a preferred tenderer at the end of the first stage, based on less finalised documentation. Detailed work and negotiation can be undertaken with the preferred tenderer in the second stage.

"You don't mind spending the money to close out the contract when you have the contract or at least are not competing against one or more other tenderers with a chance of losing."

Principals also acknowledge that the two stage process is one solution to the cost of tendering problem, particularly for major projects.

"Two stage tendering for major projects is now often a preferred option for both principal and contractor as this reduces tender cost by streamlining the amount of tenderers invited to submit bids in the second phase. The two stage process still allows for competitive tension throughout the tendering process."

Principals are generally willing to consider a two stage process, but want to avoid losing competitive tension too early in the process. Many principals prefer to have at least two, and often three, tenderers progress through to the stage where they submit detailed bids. One principal noted that reducing the field to two tenderers in the second stage can leave the principal exposed if one bidder fails to submit a compliant tender.

The two stage process might not necessarily be suitable for smaller and less complicated projects. For those projects a single stage tender process with a broader field of participants might be appropriate, given that the resources required and the cost of participation would be significantly less.

However, some contractors are of the view that even for smaller projects a single stage process is not ideal. There is some frustration that, particularly in the public sector, principals are putting smaller projects to the market without an EOI process. This results in large numbers of tenderers from small to medium sized contractors. Many contractors would prefer principals to use an EOI process to narrow down the field of tenderers to whom the RFT is issued.

Early identification of proposed risk allocation

A common theme in the comments is that industry resources could be more efficiently allocated, at lower total cost, through the earliest possible indication from principals of their proposed risk allocation.

One suggestion for achieving this is for principals to make greater use of industry standard contracts. There are already a number of industry standard contracts in use in Australia. If they were used consistently with no or minimal amendment then tenderers could avoid the cost of a detailed review of the contract terms to identify the proposed risk allocation every time they tendered. This would help make the tender process more efficient and less costly.

A number of contractors say this works well in other jurisdictions, particularly on PPP projects.

Another suggestion is that, in the absence of an applicable industry standard contract, principals could to use a template in the RFT (if not before) in which they identify their proposed position on the key issues which affect pricing. This would include things such as caps on and exclusions from liability, liability for consequential losses, indemnities, warranties, liquidated damages, security, termination rights and the like.

One contractor commented that there are 10 to 15 issues which invariably take a significant amount of time during the negotiation phase. If principals identified their position on those issues earlier in the tender process, contractors could identify very quickly whether the proposed risk profile is consistent with their own risk policies, whether it is a project they should consider tendering for, and how much resources they should devote to the tender for the project. This would assist contractors to evaluate a project and make a "go / no go" decision on a project prior to committing significant resources to it.

Some principals, both public and private sector, see merit in that solution.

Their concern with that approach is that the template might take away some flexibility on those issues during the negotiation phase. Often a party's preferred position is their starting point, but on some issues and risks they will depart from that position depending on the overall deal. Principals would not want to scare away potential tenderers by having them decide not to submit a tender, based only a template risk allocation.

ECI delivery model

A number of participants suggest that using the ECI delivery model is one way of reducing the extent of the tender costs issue. Contractors are willing to spend time and resources on design and engineering, better defining the scope and calculating the contract price when they are paid to do that.

Many principals recognise that the ECI model is a possible solution. However, the common concern of principals is whether and how they can maintain competitive tension from tenderers while using an ECI procurement process.

One way of maintaining competitive tension is to run parallel ECI processes, but principals do not necessarily have the budget or the appetite to pay more than one contractor for doing ECI work. Depending on the project, those costs can run to millions of dollars and that is a cost that few principals can afford or are keen to bear.

Another concern raised by principals about the ECI process is that it is or can be labour and cost intensive for the principal. The principal needs to devote resources during the ECI phase while the contractor develops the scope and formulates the final contract price. Some principals consider that they need to devote significant resources to the ECI model to make sure that it is effective and efficient and delivers value. From their perspective, the ECI delivery model can potentially overcome the cost of tendering issue, but it does require principals to devote significant resources during the ECI phase and there is a cost in that as well.

The level of resources a principal needs to devote will depend on how much control the principal wants to retain. For example, if the principal wants to control the contractor's design, they will need to devote more resources to manage it. Conversely, if the principal is comfortable to specify the performance and output it wants, the principal can specify those criteria and leave the design up to the ECI contractor.

"The ECI contracting model can help to identify potential risks, and provide potential opportunities for mitigation of those risks, leading to better overall outcomes for all parties."

Contribution to the tender costs of unsuccessful tenderers

A solution which is commonly suggested is that principals ought to be willing to contribute to the cost of unsuccessful tenderers. This is something which principals are being asked to do more and more often, particularly on big projects where the tender costs are substantial. Only in a minority of cases do principals compensate or reimburse unsuccessful tenderers for the cost of tendering.

Not surprisingly, there are differing views among principals, contractors and even consultants about the merits of this solution.

A number of principals say that it would be a big shift and require a significant change in policy to pay unsuccessful tenderers, and they are not persuaded a change in policy is justified. Contributing to tender costs suggests that the tender process is unreasonable or flawed, and principals do not necessarily agree with that even if tenderers do incur significant tender cost.

Another school of thought is that contributing to the cost of unsuccessful tenders is not an effective solution and is economically inefficient. Any sum a principal might be able to afford and willing to pay would be insignificant in comparison to the costs each of the unsuccessful tenderers are likely to incur. According to one consultant, the principal could agree to pay $2 million to unsuccessful tenderers on a big project but payments of that amount "don't even wet the sides of the bucket".

Conversely, and not unexpectedly, the more widely held view of contractors is that they welcome a contribution to the cost of unsuccessful tenders. Even if the amount is often considered "token" by contractors, any amount contributed by the principal is better than nothing.

Payment for design work

Rather than compensating the unsuccessful tenderers for tender costs, an alternative solution is for principals to agree to pay for or contribute to any design or engineering work undertaken by the tenderer.

The design work often is a significant component of the tender cost. From a contractor's perspective, the design work is done for the benefit for the principal, so the principal should pay for it. This is particularly the case if the principal wants tenderers to be innovative with their tender design, and if the principal wants the right to utilise design solutions prepared by one or more unsuccessful tenderers.

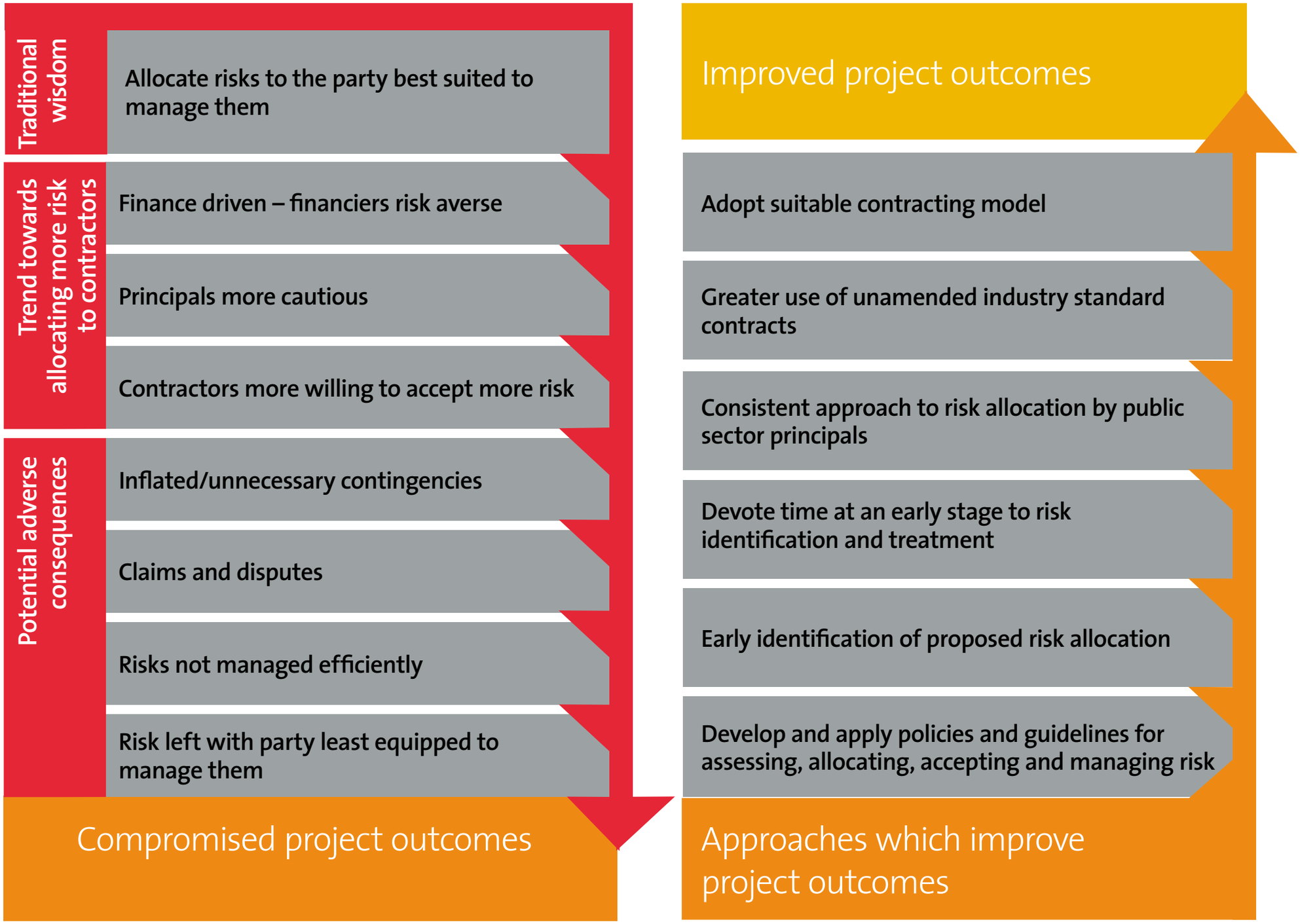
"Projects where the principal incurs its own tendering cost are often looked on more favourably by tenderers especially if significant early design is required."

"We are happy to do design but we don't want to pay for it, particularly in a much more competitive environment where we face a much bigger risk of not winning the contract."

Risk allocation

“In 2014, there remains broad acceptance that risk identification, allocation and management is a key issue and a significant influence on whether a project is successful.”

Risk allocation



The 2006 Scope For Improvement Report highlighted that risk allocation was considered to be a major pressure point for projects.

The 2011 Report was devoted entirely to the specific issue of risk in projects, and identified that the majority of organisations involved in major construction and infrastructure projects in Australia had well developed, well understood and consistently applied policies and procedures to identify, allocate and manage risks.

In 2011 the majority of participants believed that risk identification, allocation and management was improving, and many indicated that they saw:

- A more detailed and sustained focus on risk issues throughout the course of a project
- Improvements due to lessons learnt from experience
- A greater appreciation of the benefits that come from a good approach to risk issues.

Even so, in 2011 industry considered that there was room for further improvement.

In 2014, there remains broad acceptance that risk identification, allocation and management is a key issue and a significant influence on whether a project is successful.

What is risk?

For the purposes of this report, "risk" refers to a potential event or circumstance which, if it occurs, could result in an adverse impact on the outcomes of a project.

Key conclusions

Current trend

Over the last few years there has been a trend back towards allocating more risk to contractors. Principals and contractors acknowledge that this is not necessarily the optimal approach, but in an increasingly competitive market contractors are willing to accept more risk in order to win contracts.

Different contracting models

Some contracting models are better suited to result in what is considered to be a more appropriate risk allocation between the principal and contractor, and help achieve better project outcomes. The common feature of those contracting models is that they each involve the principal and contractor devoting time at an early stage to identifying the potential risks and deciding how best to deal with them.

Consistent approach to risk allocation

There is some support for the view that a consistent approach to risk allocation ought to be possible for all public sector principals, at least those within the same jurisdiction.

Early identification of proposed risk allocation

In the absence of a consistent risk approach among all principals, there is merit in principals (public and private sector) identifying at the earliest opportunity their proposed risk allocation in any given project.

Glenn Palin – President, ACA and Managing Director, John Holland Group; **Joanna Jenkins** – Partner, Ashurst; and **Grant Rowlands** – Partner, Ashurst – reflect on changes to the approach to risk allocation in the construction and infrastructure industry and how these approaches may drive an improvement of project outcomes.

Click on the image to view the video

Risk allocation – the current state of the market

A trend toward allocating more risk to contractors

Traditional wisdom is that risks should be allocated to and managed by the party best suited to handle that risk. Both contractors and principals observed that many projects run into difficulties because the party best placed to manage a specific project risk or group of risks is not the party with responsibility in the contract for that risk or risks.

"Appropriate risk allocation from a very early stage is essential to successful outcomes."

"The discussion shouldn't be about risk transfer – it should be about who is in the best position to manage the risk."

"The agencies which are more regularly involved in delivery of major assets and infrastructure are more aware of the issues that arise around risk allocation and that the concept of seeking to 'shift' risk to the private sector is both costly and ultimately may not be effective, particularly from a political point of view."

Many principals recognise that shifting risk to a contractor is not always effective and can be costly. It can often lead tenderers to include in their tender prices excessive contingencies which may never be required, thereby inflating the original contract price. Furthermore, those risks are often not dealt with as efficiently and cost effectively as they might otherwise be, because the person most capable of managing the risk is not responsible for managing the risk.

Despite that recognition, it was almost universally recognised that there is a trend in construction contracts towards allocating more risks to contractors. More specifically, the trend is for the contractor to be left bearing most of the risks in what are considered to be one sided and onerous contracts.

The most recent trend represents a reversal of what appeared to be a slight trend at the height of the resources boom. At that time there was a tendency towards principals being more willing to accept risk.

"Ideally, risk should be allocated to the party best suited to handle that risk. That is the ideal, however, the majority of principals are often dogmatic in their practices. Instead principals will try to pass on as much risk as possible to contractors."

"The old problems of risk transfer persist. The principal will try to transfer all the risk to the contractor, and contractors are left in the position of having to accept an unfair risk allocation or lose the job to competitors who will take on the risk."

"A few years ago principals started to become more willing to accept some risk, but the reluctance has crept back in."

One public sector principal commented that they suspect that this trend toward moving more risks back to the contractors will result in more disputes, but their projects have not yet reached the stage where disputes have emerged. In the short term principals have taken comfort from the fact that the contractor is bearing most of the risks of a project.

A very competitive market

A number of reasons for the trend have been advanced.

Some principals say that this approach is being driven by financiers. Tight market conditions remain after the global financial crisis. Funding for projects remains scarce. Banks and other financiers remain cautious and risk adverse, and they want to see risks passed to other parties in the contracting chain.

Others say that principals themselves are adopting a more cautious approach coming out of the global financial crisis, especially after having experienced themselves or having seen reports of high profile projects with undesirable outcomes – delays and cost blowouts. Principals want to take the safest option, and this approach is more acceptable from an internal accountability perspective.

While those are valid reasons, the reason which is cited most often by principals and contractors is that principals adopt the 'risk shifting' approach because they can.

"The balance between taking the risk or refusing the work is always one that contractors struggle with."

It is a very competitive market. It is common for many more contractors to tender for any given project than has been the case for many years, and contractors are more aggressive in pricing and accepting risks in order to win the contract. Contractors are left in a position of having to accept the risk allocation or lose the contract to competitors who will take on the risks.

Others argue that principals should not be blamed for this trend. The contracting market has the opportunity to consider the project, including the risk allocation, and to decline to take on the risk. It is unfair and unrealistic to expect principals not to take advantage of the opportunity provided by a very competitive market.

It is evident from the research for the 2011 Report, and confirmed again in 2014, that many contractors have well established risk assessment policies and guidelines. Those contractors are more likely to refuse to tender or enter into a contract for a project if they are being asked to assume a risk beyond that permitted by their policies, or where it is not commercially viable to assume the risk which tenderers are being asked to accept.

"Contractors have developed internal policies which attempt to assess risk levels against a threshold before projects can be accepted."

"We will not expose ourselves to a level of risk beyond that permitted by our policies. Less experienced contractors will fill the void and this can and does have disastrous consequences."

Risk is left with those least able to manage it

Just as the trend has been toward principals shifting risks back to contractors, contractors seek to pass that risk down the supply chain to subcontractors and suppliers.

Risk is being allocated to or left with the subcontractor or supplier lowest in the subcontracting chain. Inevitably this means that risk is ultimately allocated to parties who possibly do not understand or appreciate the ramifications of the onerous provision, who are least likely to be able to manage it or cope with it, and who are less financially capable of absorbing the risk.

"Often the risk is pushed down to smaller subcontractors who are not as commercially savvy as larger contractors and not in a position to deal with the effects of the risk should they transpire."

What is the scope for improvement?

Choice of contracting model

A number of participants suggest that some contracting models are better suited than others to result in what is considered to be a more appropriate risk allocation between the principal and contractor, and help achieve better project outcomes. The common feature of those contracting models is that they each involve the principal and contractor devoting time at an early stage to identifying the potential risks and deciding how best to deal with them.

Some contractors and principals suggest that the ECI model can assist in achieving better risk allocation. ECI is seen as potentially a good option to refine issues and align principal and contractor visions at an early stage.

One contractor commented that ECI contracting is something that private sector clients are exploring more, often because of bad experiences with lump sum contracting. Principals have entered into lump sum contracts on the assumption that all risk has been passed to the contractor for a fixed lump sum cost, but very often it does not work out that way.

The ECI model encourages the parties to spend more time upfront identifying the risks and having a serious discussion about how to deal with them to achieve the best outcomes for a project. As one contractor noted, there are inevitably some robust discussions during that phase. The risk allocation and pricing of risk is not necessarily the same as it would have been under a more traditional approach (where risk was simply passed to the contractor or allocated as it had been in previous contracts), but there are fewer issues during the delivery of the project and both parties get a better outcome.

Alliancing was also suggested as helping to deliver a better risk allocation. Interestingly, a number of participants report a trend away from using alliances, and a number of public sector principals reported unsatisfactory outcomes from using alliances (although this was not attributed to the risk allocation under this delivery model).

Industry standard contracts

It was suggested that risk allocation would be improved by the greater use of industry standard contracts, developed with input from a variety of stakeholders including principals, contractors, consultants and representative bodies involved in the relevant industry or sector.

The use of industry standard contracts has the potential to deliver a risk allocation which takes into account the interests of principal and contractor.

There are a number of industry standard contracts already in existence. A widespread complaint by contractors is that most principals, both public and private sector, heavily amend those contracts for most projects.

> "The trouble with many of the standard form contracts are that they are quite old now and so heavily amended in most projects that they are not serving the purpose they were originally intended for. They do not allow contractors to quickly and efficiently appreciate the risk profile for any specific project."

Consistent approach to risk allocation by public sector principals

Some contractors commented that, even if different private sector principals have their own specific circumstances affecting their risk profile, the same cannot be said of public sector principals. Public sector principals, at least those within the same jurisdiction, should have the same risk profile. There is no reason why all public sector principals within the same jurisdiction can't adopt a consistent approach to risk allocation.

If that is correct, that would enable public sector principals within a jurisdiction to adopt a standard form contract for all of their projects.

At least one public sector principal agreed that there is no reason why every public sector principal could not have the same risk allocation for the same type of project, and saw merit in seeking to implement a standard form contract for government infrastructure projects.

In Western Australia for example, in 2007 the Major Government Projects Taskforce created the Centre for Excellence and Innovation in Infrastructure Delivery (CEIID) within the public sector. The key objectives of CEIID were to establish practices which promote formal collaboration between works agencies on infrastructure related issues, including improved asset management and delivery of major infrastructure. One initiative of CEIID was to try and identify a consistent risk allocation within the public sector for each contract type. Some progress was made on that (for example, types of insurance policy and levels of insurance that would be required, and requirements for bank guarantees) before CEIID was discontinued.

Early identification of proposed risk allocation

One suggestion which is seen as having merit by contractors and public and private principals is the possibility of having principals indicating at the earliest possible stage their position on risk allocation, at least on the key issues in any project.

This would make the risk allocation process more efficient and transparent.

"Our preference is for principals to be upfront. We want to bid with open eyes. If there are immoveable positions on, for example, consequential loss, we need to be able to walk away. This makes it clearer and more transparent for everyone."

Ashurst

Ashurst is a leading international law firm advising corporates, financial institutions and governments. Our core businesses are in corporate, finance, dispute resolution, and the development and financing of assets in the energy, resources and infrastructure sectors. In November 2013, Ashurst Australia (formerly Blake Dawson) and Ashurst LLP merged to form one global team.

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Australian Constructors Association

The Australian Constructors Association (ACA) represents the major construction businesses in Australia. The ACA was formed in 1994 and its mission is to make 'the construction industry safer, more efficient, more competitive and better able to contribute to the development of Australia'.

Membership of the ACA is open to companies with an annual turnover exceeding $1 billion. There are currently 18 members of the ACA. The combined annual revenue of the ACA members exceeds $50 billion and they directly employ over 100,000 in their Australian and international operations and subcontract many more.

ACA member companies operate in a range of markets, including residential and non-residential building, engineering construction, process engineering, contract mining, engineering design, infrastructure development and maintenance, oil and gas operations and maintenance, telecommunications services and environmental services.

The ACA has, for many years, been active in promoting improvements in the commercial life of the industry and has used its energies to inform, to identify issues and to propose strategies to improve performance.

www.constructors.com.au/

Infrastructure Partnerships Australia

Infrastructure Partnerships Australia (IPA) is the nation's peak infrastructure body – formed in 2005 as a genuine and enduring policy partnership between Australia's governments and industry.

IPA's formation recognises that through innovation and reform, Australia can extract more from the infrastructure it's got, and invest more in the infrastructure we need.

Through our research and deep engagement with policymakers and industry, IPA seeks to capture best practice and advance complex reform options to drive up national economic prosperity and competitiveness.

Infrastructure is about more than balance sheets and building sites. Infrastructure is the key to how Australia does business, how we meet the needs of a prosperous economy and growing population and how we sustain a cohesive and inclusive society.

IPA draws together the public and private sectors in a genuine partnership to debate the policy reforms and priority projects that will build Australia for the challenges ahead.

www.infrastructure.org.au

Ashurst, The Australian Constructors Association, and Infrastructure Partnerships Australia would like to thank all industry participants who participated in this research and all who were interviewed for the purposes of this report.