**Submission No 22**

# PROCUREMENT OF GOVERNMENT INFRASTRUCTURE PROJECTS


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AUSTRALIAN CONSTRUCTORS ASSOCIATION

# NSW LEGISLATIVE ASSEMBLY COMMITTEE ON TRANSPORT AND INFRASTRUCTURE - INQUIRY INTO PROCUREMENT OF GOVERNMENT INFRASTRUCTURE PROJECTS

## SUBMISSION BY AUSTRALIAN CONSTRUCTORS ASSOCIATION

**February 2016**

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## AUSTRALIAN CONSTRUCTORS ASSOCIATION (ACA)

The Australian Constructors Association (ACA) represents leading construction and infrastructure contracting companies operating in Australia and is dedicated to promoting a sustainable construction industry for Australia.

The ACA member companies have a combined annual turnover exceeding $50bn and employ over 100,000 workers with many more being employed through subcontractors providing services to ACA members.

A list of ACA members is attached (**Annexure 1**).

ACA member companies operate in a number of market sectors including:

- **Engineering construction incorporating public and private sector infrastructure**
- **Commercial and residential building**
- **Contract mining**
- **Oil and gas operations**
- **Process engineering**
- **Telecommunications services**
- **Environmental services**
- **Maintenance and related services**

## ACA RESPONSE TO THE TERMS OF REFERENCE

### General

The ACA commends the Committee for determining to undertake its inquiry into the procurement of government infrastructure projects, as the inquiry has been initiated at a time when is extremely important to the state as a whole and the building and construction industry in general given the nature, size and financial impact of the infrastructure projects planned and being delivered over the next 5 to 10 years.

The ACA believes that the Committee's findings, conclusions and recommendations will add value not only to the procurement of infrastructure in NSW, but across all Australian jurisdictions.

In its response to the Committee's terms of reference, the ACA has taken a holistic approach to the issues under consideration rather than provide in depth comments on individual aspects of the terms of reference, although we do make some targeted comments on the terms of reference below.

The ACA's approach is based on its view that while the individual components of the terms of reference are each important in their own right, there are some fundamental issues that the Committee needs to address as they will significantly impact upon the Committee's approach to the task it has set itself. The ACA will elaborate on these issues later in its submission.

**Terms of Reference:**

***1. The best process of gateway decision making on the efficacy of public private partnerships compared to other procurement methods***

ACA addresses this issue in the context of its comments on mega-projects later in the submission. However, in general terms, if a government undertakes an appropriate analysis of the project under consideration, and involves the private sector early enough in that process, it will identify whether a PPP approach to the project ought to be favoured over other options.

In making the assessment between project options, policy decisions (such as user charges (road or operational)) will be a relevant factor, as will the opportunity for the constructor and/or its consortium, as well as the government, to value capture from the project. Accordingly, a government needs to have a clear understanding of the opportunities and constraints that will apply before making a decision on the form of the procurement method.

***2. The best procurement process and documentation***

There is no one best procurement process and documentation. However, what is essential is that a government should recognise the following:

- The lowest priced bid is not always the best option in terms of a successful project, and
- Seeking to transfer project risk to other parties is counterproductive to a successful project.

***3. The desirability of the standardisation of procurement processes and documentation***

Standardisation of significant components of the procurement process and documentation is achievable and desirable from all perspectives because it assists in de-risking the project and enables innovation as well as competition between bidders.

However, it needs to be recognised that one size does not fit all, so flexibility needs to be available to manage specific issues.

***4. The desirability of a standard national process and documentation for the delivery of government infrastructure within a federal structure***

A constant problem for industry is the fact that all governments adopt different approaches to delivery issues. A standardised approach is essential to improve project deliverability and outcomes. This should include acceptance by governments that they have an important role to play with constructors in developing and maintaining an efficient delivery process.

***5. Methods to minimise the cost of contractors tendering for the supply of services with respect to government infrastructure***

Current tender processes are far too complicated, ask for far too much information at initial stages and are counterproductive to increasing competition and innovation because of the cost of tendering.

Tender costs could be as high as 2% of any project depending on the complexity of the project. Accordingly, unsuccessful tenderers will lose millions of dollars in bids. This is not a sustainable outcome for industry and limits competition.

***6. Methods to achieve optimal contestability in tendering for the supply of services with respect to government infrastructure***

Simpler, more focused tender documentation coupled with appropriate risk allocation and documentation are required if optimal contestability is to be achieved.

A further issue of concern is the emerging trend of political parties announcing that they will cancel contracts if elected. This sovereign risk simply adds costs to projects and reduces the number of entities that may bid, as well as injecting mistrust into bidding processes and contract delivery relationships.

***7. Any other related matter.***

Other matters of significance are addressed by the ACA through reference to previous reports of inquiries into productivity and tender processes referred to below.

**Productivity Commission Inquiry into Public Infrastructure – May 2014**

There have been many inquiries and reviews of the issues before the Committee both in Australia and overseas. The ACA recommends to the Committee the report by the Productivity Commission of its inquiry into public infrastructure that was completed in May 2014 as an excellent reference tool for its own examination of the issues before it.

The Australian Government asked the Commission to undertake a 6-month public inquiry into ways to encourage private financing and funding for major infrastructure projects,

including issues relating to the high cost and the long lead times associated with these projects.

The Commission was required to conduct a broad ranging investigation into costs, competitiveness and productivity in the provision of nationally significant economic infrastructure and examine ways to:

- Address any barriers to private sector financing, including assessing the role and efficacy of alternative infrastructure funding and financing mechanisms, and to recommend mechanisms and operating principles to overcome such barriers.
- Reduce infrastructure construction costs.

Many components of the Committee's terms of reference may be found in the Productivity Commission's report and the submissions made to the Commission's inquiry.

The ACA made substantial submissions to the Productivity Commission's inquiry and a copy of the primary submission is attached (**Annexure 2**).

**Changing the Game – How Australia Can Achieve Success in the New World of Mega Projects**

In October 2015, the ACA released a report prepared by consultancy firm, *Agilience*, into issues relating to the development, delivery and ongoing management of large construction/infrastructure projects (**Annexure 3**).

The title of the report, "Changing the Game", was chosen because industry had identified that the historical way that industry interacted with government and private sector clients on large projects was not working, and many billions of dollars were being wasted through poor project identification, development, management and implementation.

In the foreword to the report, then ACA President David Saxelby said:

***"The ACA recognised the need to change the way we think about the projects of the future. We pride ourselves on engineering excellence but we have also recognised that our world is changing. Both the private and public sector are searching for long-term viable economic solutions. We recognise we need to develop the capabilities to better understand and support the diverse sets of stakeholders that are engaged in this process. Our traditional project management processes need to evolve to provide far more predictable outcomes for the future. This research explores our new world and identifies some of the changes we will need to undertake to be successful. We are looking forward to engaging with the industry stakeholders in a robust discussion so we can all make the changes required to ensure our investment dollars achieve their maximum impact."***

The ACA recommends the report to the Committee because the scope for improvement contained in it will, if implemented, result in a fundamental re-think as to how infrastructure projects are developed, how specific contractual and delivery models that ought to apply to a project are identified and how the financing and/or funding components of a project are

determined. Some of the ways that project procurement and implementation may be improved are identified in the report as follows:

**1. Engaging the Eco-systems**: Mega-projects need to address many diverse stakeholder communities and we need to shift our project focus to people and social needs that pull through supporting processes and technology.

**2. Enabling innovative solutions**: Our engineering and contracting models need to allow for continuous innovation, rather than being too rigidly specified upfront in an ineffective attempt to reduce risk.

**3. Architecting complex change**: We need to look at how we best break down these complex solutions into viable related component parts. This will be as much about managing human change as about structural engineering.

**4. Building a performance culture**: We need to develop a culture of collaboration across all the diverse delivery agents on megaprojects so that they can make continuous optimisation decisions at the point of need, rather than relying on centralised control.

**5. Aligning business models**: New projects need contract models that align outcomes across diverse stakeholders, and can flex with the dynamic environment.

**6. Changing leaders**: We need to change the capability and focus of mega-project leaders and leadership from task management to achieving political, social and economic outcomes.

**7. Learning agility**: We need to embrace learning and rapid adaptation during and between projects so we can develop new processes based on a different form of project outcome.

**What needs to change?**

***Moving beyond the contract:*** At present, there is a view that the contract form needs to be the mechanism to ensure compliance and order on projects – assuming that bad behaviour will occur. We need to see that human collaboration is the key to success and ensure that the form of agreement (alliance, D&C, schedule of rates, lump sum) supports, not supplants this.

***Flexibility:*** In complex mega-projects, it is not possible to know all the 'right stuff' on day one, so we need to create a business model that reflects the emergent nature of these projects, aligns stakeholders around success and allocates a fair share of value and risk.

***Contracting in a complex world:*** There are numerous examples today where the legal document is driving significant contention, claims and disputes, or has been put aside to allow project progress. We need to develop a more accessible way of creating an agreement around outcomes that guides successful solutions and incentivises performance.

***What can we change?***

**1.** Mutuality of interest is where the ultimate project results and the relative contribution of all parties (both resources and collaborative behaviours) can be agreed on and then captured in an appropriate form. The process needs to be shaped in the real world of projects using social, emotional and political skills to align the different stakeholders in achieving success.

**2.** Joint ventures to create value, not limit exposure: The model needs to be able to flex and adapt to external and internal changes as part of the core process, not as an exception.

**3.** Project issues should be resolved by people raising them early and seeking to solve them, not by resorting to, at best, historical records of an imprecise understanding of scope and costs from several years before. Otherwise, we may win the skirmish in a contract dispute, but then create a lose-lose cultural impact that ultimately undermines the sensitive collaborative culture of the project and the economic and social benefits it delivers.

**CONCLUSION**

The ACA submits that if the concepts it has referred to above are adopted as part of the procurement process there will be a fundamental shift in the approach by stakeholders to the issues raised by the Committee's terms of reference.

This approach, coupled with greater regularity and certainty in project establishment and appropriate management of risk will lead to more efficient projects completed on time and on budget. But the potential of achieving these outcomes won't be realised if the parties are not prepared to enter into true trusting partnership arrangements. If they do, there is scope to develop the procurement processes and systems to achieve "world's best practice".

The ACA and its members would be pleased to have further discussions with the Committee on the issues the ACA has raised or any aspect of the terms of reference if that would assist the Committee in its deliberations.

February 2016

**Annexure 1**: Members of the Australian Constructors Association

- Acciona Infrastructure Australia Pty Ltd
- BGC Contracting Pty Ltd
- Brookfield Multiplex Australasia
- Clough Limited
- CPB Contractors Pty Limited
- Downer EDI Limited
- Fulton Hogan Group Ltd
- Georgiou Group Pty Ltd
- Hansen Yuncken
- John Holland Group Pty Ltd
- Laing O'Rourke Australia Construction Pty Ltd
- Lend Lease Building Pty Ltd
- Lend Lease Engineering Pty Ltd
- McConnell Dowell Corporation Limited
- UGL Limited
- Watpac Limited

**Annexure 2**


# SUBMISSION TO THE PRODUCTIVITY COMMISSION INQUIRY INTO PUBLIC INFRASTRUCTURE

**December 2013**

**CONTENTS** **PAGE**


1. Introduction…… ..... ..1
2. Australian Constructors Association…… ..... …1
3. Approach to the Inquiry…… ..... 2
4. Historical Perspective…… ..... 2
    - General…… ..... 2
    - Summary of Australian and International Activities…… ..... 3
5. Workforce Issues…… ..... 9
    - General…… ..... 9
    - Action Taken after Cole Royal Commission…… ..... 9
    - Proposals for Change…… ..... 10
    - Key Workplace Issues Affecting the Cost of Projects…… ..... 10
    - The Nature of Disputes and their Resolution…… ..... 12
    - Skill Shortages and Cost Pressures…… ..... 13
    - Key Workforce Issues…… ..... 13
    - Scope to Reduce Labour Shortages…… ..... 14
6. Market Structure and Behaviours…… ..... 15
    - General…… ..... 15
    - Barriers to Entry…… ..... 16
    - Tender Costs…… ..... 16
    - Shortlisting…… ..... 16
    - Procurement and Project Management…… ..... 18
    - Contractor Knowledge Prior to Committing Resources…… ... 18
    - Key Contractual Issues…… ..... 18
    - Contractual Dispute Resolution…… ..... 19
7. Conclusion and Future Action…… ..... 19

Annexure 1

    - List of members of Australian Constructors Association…… ..... 21

AUSTRALIAN CONSTRUCTORS ASSOCIATION

# PRODUCTIVITY COMMISSION INQUIRY INTO PUBLIC INFRASTRUCTURE

## 1. INTRODUCTION

**1.1** The Australian Constructors Association (ACA) welcomes the opportunity to respond to the Issues Paper released by the Productivity Commission on 28 November 2013, as part of the Commission's Inquiry into public infrastructure financing, costs and productivity.

**1.2** The ACA congratulates the Government for issuing the terms of reference for the Inquiry. This is not the first inquiry of this kind that has been undertaken, but it is to be hoped that it will be the most significant in terms of its long term outcomes. The findings and recommendations of this Inquiry will lead to much needed improvements in the methods and costs of delivery of infrastructure across the country for the benefit of Australian citizens and the economy as a whole.

**1.3** The ACA and its members are committed to working with Australian governments and industry stakeholders to ensure that the Commission identifies all of the key issues and roadblocks to greater productivity within the delivery of infrastructure projects and construction projects in general.

**1.4** The ACA also urges all levels of government to commit to implementing the findings of the Inquiry. The recent announcement by the Federal Government as to Australia's current debt position is an important wake-up call for all stakeholders that it is past time that action is taken to address the current impediments to the efficient and cost effective delivery of Australia's infrastructure.

**1.5** It is important that this Inquiry does not suffer the fate of previous inquiries and reports that have promised much but have not comprehensively or consistently delivered the outcomes achievable. That is why the ACA calls on all Australian governments to use the COAG process to ensure that the findings and recommendations of the Inquiry result in quantifiable and long term improvements to the financing and delivery of major infrastructure in all Australian jurisdictions.

## 2. AUSTRALIAN CONSTRUCTORS ASSOCIATION

**2.1** The ACA represents the nation's leading construction contracting organisations. A list of ACA members is attached (Annexure 1). The ACA is dedicated to making the construction industry safer, more efficient, more competitive and better able to contribute to the development of Australia**.**

**2.2** ACA member companies operate in a number of market sectors including:

- Engineering construction incorporating public and private sector infrastructure
- Commercial and residential building
- Contract mining

- Oil and gas operations
- Process engineering
- Telecommunications services
- Environmental services
- Maintenance and related services

**2.3** Association members operate globally, with member companies operating in Australasia, Europe, Asia, North and South America, Africa and the Middle East. Collectively ACA member companies have a combined annual revenue in excess of $50 billion and employ over 100,000 people in their Australian and international operations.

**2.4** The ACA has four (4) key objectives:-

1. To require the highest standards of skill, integrity and responsibility of member companies.
2. To represent the interests of major contractors to government and other decision makers.
3. To enhance and promote the status of construction contractors and the industry which they serve.
4. To facilitate the exchange of technical information and encourage further research.

## 3. APPROACH TO THE INQUIRY

**3.1** The purpose of this submission is to respond in broad terms to the Issues Paper released by the Productivity Commission. The ACA does not propose to respond in detail at this stage to all of the questions contained in the Issues Paper, but will identify the key issues from the ACA's perspective.

**3.2** As part of its more focussed response to the Inquiry, the ACA will provide at a future point in time further data and statistical evidence in relation to key areas of interest identified in the Issues Paper.

## 4. HISTORICAL PERSPECTIVE

### General

**4.1** The issues that are the subject of this Inquiry are not new. They have been evident for a significant period of time in various forms and are reasonably well known in terms of their structure and impact. An examination of the reports and papers referred to below demonstrates the significant knowledge of governments and industry, both in Australia and internationally, about the issues.

**4.2** However, what is also clear is that there has not been a consistent approach in Australia at state and federal government levels to coordinate and implement a long term and sustainable program of action to address the strategic issues now being faced. As a result, Australia has not been as well placed as it might have been to take advantage of the strength of its economy and to use that strength to develop and commit to a national infrastructure model to take the country forward following the global financial crisis.

**4.3** The ACA contends that this situation has occurred because governments in Australia have been unable or unwilling to plan significantly past each electoral cycle, and have not made infrastructure decisions on the basis of the long term benefits that may be achieved. That said, more recent work by COAG, as contained in the communique issued following COAG's 13 December 2013 meeting, indicates a degree of urgency in COAG's work to

address infrastructure issues and recognition by all Australian governments that coordinated action is required.

**4.4** The communique indicates that COAG has commissioned the following work on infrastructure:

- Practical options to accelerate project delivery, including how planning and approval timeframes can be fast-tracked.
- Advice on the next major transport reforms, including proposals for heavy vehicle charging and investment reform.
- Options to increase private sector investment in infrastructure projects.
- Ways to prioritise projects that improve productivity or unlock economic growth potential including in regional economies.

**4.5** The ACA also notes that the Federal Government has moved to legislate to establish Infrastructure Australia as a stand-alone statutory authority. The ACA commends the Government for taking this action as it sends an important message to the construction and infrastructure sectors that the government is serious about advancing the important issue of infrastructure delivery.

**Summary of Australian and International Activities**

**4.6** In understanding how operational practices relating to project and industry costs have developed over time, it is helpful to briefly examine historical and contemporary approaches to the issues. Set out below is a snapshot of the findings of some, but by no means all, inquiries and reviews conducted in Australia and, more recently, in overseas countries.

**4.7** It will be seen that the same, or similar, issues frequently recur and only recently does it seem that governments have accepted the need to make fundamental changes to the structure of infrastructure projects and committed to those changes on a long term basis.

**4.8** The inquiries and reviews covered in this section of the submission are as follows:

- Australian Industry Commission - Inquiry into Construction Costs of Major Projects (March1991)
- Infrastructure UK and HM Treasury – Infrastructure Cost Review (December 2010)
- Infrastructure UK and HM Treasury – Infrastructure Cost Review: Annual Report 2011-12 (April 2012)
- HM Treasury – Infrastructure Cost Review: Annual Report 2012-13 (June 2013)
- Infrastructure Australia – National Infrastructure Plan (June 2013)
- NSW Government – Better Value Infrastructure Plan (April 2012)
- European Commission - Connecting Europe Facility 2014-2020 (October 2011)
- Deloitte Touche Tohmatsu Limited – Funding Options: Alternative Financing for Infrastructure Development (April 2013)

***Australian Industry Commission Inquiry into Construction Costs of Major Projects (1991)***

**4.9** On 11 March 1991, the then Australian Industry Commission released its report into construction costs of major projects. The report had been prepared following terms of reference provided by then Federal Treasurer P.J.Keating on 18 October 1989.
The Commission highlighted industrial relations as a major factor in construction costs stating that, at that time, ***"working days lost for the industry as a whole were substantially higher than the Australian average"*** (p1)**.**

**4.10** The Commission also identified a range of other impediments. At p.4 of the report, the Commission notes that ***"Despite frequent reviews and commitments by governments to***

***change, approval processes continue to impose an unnecessary cost burden on proponents of major projects".***
Also at p.4 the Commission states ***"Conformity among governments in administrative procedures and the standards employed is limited".***

**4.11** While the findings are obviously reflective of the situation at that time and those circumstances may have changed over time the findings are nonetheless instructive.

**4.12** A summary of some of the relevant findings is as follows:

- In some areas Australian construction costs for major projects are comparable or lower than overseas but in other areas there are disadvantages of the order of 20 percent compared to the lowest cost developed country.
- Capital costs for those major projects for which data was available represented 40 percent of the unit cost of the final product while erection costs were around half of capital costs and labour costs accounted for about half of erection costs.
- Industrial relations problems, particularly in the central business districts of Sydney and Melbourne, and inefficient planning approval processes are the two most important factors subject to the influence of government which result in the capital costs of major projects in Australia being higher than necessary.
- Governments, being major clients of the industry, can hasten labour market reform by insisting that more efficient labour and management practices are adopted on government construction sites.
- Governments need to accelerate the reviews of regulations, standards and associated administrative procedures so as to reduce uncertainties and delays and reduce the costs resulting from variations in standards and regulations.

***UK Government Infrastructure Cost Review 2010***
**4.13** Progressing forward some 20 years from the Industry Commission inquiry, in the June 2010 UK Budget the UK Government announced that Infrastructure UK would carry out an investigation into how to reduce the cost of delivery of civil engineering works for major infrastructure projects.

**4.14** In the foreword to the report produced as a result of the investigation, Lord Sassoon said (at p.3):

***"There should be little surprise that this study confirms that very substantial savings are available – at least 15 percent, which can deliver sustainable benefits of £2 to 3 billion per annum. This is £20 to £30 billion over the next decade".*** (Emphasis added)

**4.15** It is useful to include in this submission a substantial extract from the Executive Summary of the report as it succinctly identifies a wide range of issues and actions that were to be implemented in the UK to give effect to the report. The ACA submits that the findings of the UK investigation are entirely relevant for Australia. The relevant components of the Executive Summary are reproduced below:

***"The ability to deliver infrastructure investment priorities efficiently and effectively is crucial to achieving the UK's growth objectives.***

***The weight of evidence confirms that the UK is more expensive than its European peer group and demonstrates that there are significant opportunities to reduce costs in the delivery of infrastructure.***

***There is no single overriding factor driving higher costs. However, the investigation has identified that higher costs are mainly generated in the early project formulation***

***and pre-construction phases and provided evidence of a number of contributing factors including:***

- ***stop-start investment programmes and the lack of a visible and continuous pipeline of forward work;***
- ***lack of clarity and direction, particularly in the public sector, over key decisions at inception and during design. Projects are started before the design is sufficiently complete.***
- ***the roles of client, funder and delivery agent become blurred in many public sector governance structures;***
- ***the management of large infrastructure projects and programmes within a quoted budget, rather than aiming at lowest cost for the required performance. If the budget includes contingencies, the higher total becomes the available budget;***
- ***over-specification and the tendency, more prevalent in some sectors than others, to apply unnecessary standards, and use bespoke solutions when off-the-shelf designs would suffice;***
- ***interpretation and use of competition processes not always being effective in producing lowest outturn costs, with public sector clients in particular being more risk averse to the cost and time implications of potential legal challenges;***
- ***companies in the supply chain typically investing tactically for the next project, rather than strategically for the market as a whole; and***
- ***lack of targeted investment by industry in key skills and capability limiting the drive to improve productivity performance.***

***Over many years in the UK there has been fragmentation of the construction industry and a significant shift towards the use of subcontracting. Compounded by the problems of infrastructure pipeline uncertainty and overly complex procurement approaches, this has increased transaction costs and deterred industry from a more strategic approach to investment in skills, technology and innovation.***

***The immediate challenge is to find ways for government and other infrastructure providers to work effectively with the construction supply chain to develop new business models that will improve productivity, achieve better supply chain integration and promote innovation.***

***Addressing these issues effectively will help reduce the costs of infrastructure and deliver significant benefits in performance and value for money. There is a clear opportunity to realise savings of at least 15 percent, which can deliver sustainable benefits of £2 to 3 billion per annum. This is £20 to £30 billion over the next decade.***

***While several industry and government reviews have recognised the need for change, few of the targets and recommendations set out in these reports have been fully met or implemented. The Government will develop the actions and proposed programme set out in this Report into a detailed implementation plan by March 2011.***

***Building on this initial report, the implementation plan will be designed around five key interlinked objectives to:***

- ***create better visibility and continuity of the infrastructure investment pipeline, through publication of the future investment programme in the National Infrastructure Plan;***
- ***implement effective governance of projects and programmes, particularly in the public sector, by ensuring clear accountability for key project decisions;***

- ***instil greater discipline in the commissioning of projects and programmes by ensuring greater objective challenge of the specification of requirements and cost estimates;***
- ***develop smarter ways to use competition by improving risk-based assessment of procurement options; and***
- ***create an environment that encourages industry and the advisory community to invest in efficiency and reduce the direct costs of construction by developing cost effective delivery solutions.***

***The Government has identified a range of actions to meet these objectives and will consider how these will be taken forward in the implementation plan. Key actions that have been identified include:***

- ***examining ways to extend planning and funding cycles for non-contentious maintenance and renewals;***
- ***finalising and implementing a new assurance process for all major projects and programmes; and***
- ***reviewing the ways in which contingency is assessed, allowed for and managed."*** (emphasis added)

**4.16** Importantly, Infrastructure UK has now produced two annual reports detailing progress on the implementation of the initial report. This approach is essential if governments are to be held accountable for ensuring that the benefits to be derived from the recommendations in these reports are to be achieved, and achieved within a set timeframe.

***HM Treasury Infrastructure Cost Review: Annual Report 2011-2012***
**4.17** The first implementation report contains an excellent analysis of the various ways of achieving the cost efficiencies identified in the 2010 Infrastructure Cost Review, most of which could easily be replicated in Australia.

**4.18** In the first implementation report, Infrastructure UK indicates that it focused on enabling work to identify and remove potential barriers to the efficient delivery of infrastructure. This included:

- Publication of an economic infrastructure pipeline incorporating a consolidated list of the Government's funded construction pipeline (ACA notes that this has now been implemented in Australia for state and national projects that have been funded, but does not contain details of those projects that have been announced but not yet funded).
- Government and industry agreement on an Infrastructure Charter as a basis for setting out the behaviours required to improve collaboration and reduce costs.
- Development of a "route map" to enable public and private clients to select the most appropriate procurement strategy and drive consistent behaviours and practice across infrastructure programs or projects.
- Application of new approaches to the management of risk and contingency in public sector infrastructure projects.
- Formation of an Industry Standards Group to remove duplication and redundancy in technical standards for infrastructure assets (ACA notes that Standards Australia has recently formed a technical committee to review the AS4000 suite of construction contracts, but has not yet included relevant peak industry associations on that committee).
- Partnerships with industry to improve supply chain skills and capability and access cross sector efficiencies.

- A Memorandum of Understanding between agencies to pool data and access commercial intelligence.

**4.19** All of the above make commercial sense and should be examined by the Productivity commission as part of its deliberations.

***HM Treasury Infrastructure Cost Review: Annual Report 2012-13***
**4.20** The most recent annual report of the Infrastructure Cost Review confirms (p.5) that visibility of the infrastructure pipeline, longer term investment planning and a programme based approach are vital components in establishing more effective delivery environments.

**4.21** The report contains a number of case studies designed to identify how progress is being achieved in the delivery of better value in infrastructure projects. This approach is consistent with work that has been undertaken by Infrastructure Australia that incorporates proposals for the assessment of key performance indicators for government agencies to test their management capabilities in delivering various projects **(See Efficiencies in Major Project Procurement: Volume 1: Benchmarks for Efficient Procurement of Major Infrastructure (June 2012) and Efficiencies in Major Procurement: volume 2: Consultations Outcomes Report (June 2012))**

**4.22** The HM Treasury report goes on to say that the measures referred to at p.5 of its report are key to unlocking the behavioural changes and improved capability required to improve infrastructure delivery and support sustainable supply chain growth. This is essential for implementation within Australia as it is evident that significant behavioural change is required to realise the benefits available in re-working the model for infrastructure delivery.

**4.23** However, while the report indicates that there is evidence of improved behaviours and more successful outcomes it is stated that, ***"progress is not yet systemic and there is an inconsistent progression in different infrastructure sectors"*** (p.6).

***NSW Government Better Value Infrastructure Plan – April 2012***
**4.24** The ACA supports the findings of the Better Value Infrastructure Plan (BVIP) and notes that the plan recognises (at p.2), again, the following issues that impact on the value achieved in current infrastructure provision:

- The lack of a coordinated and staged pipeline of projects that can be relied upon with confidence.
- Limitations in the effectiveness and efficiency of infrastructure procurement across the value chain.
- The complexity and layering of environmental and planning legislation across federal and state jurisdictions.

**4.25** The report goes on to note priority issues identified by industry across the value chain relating to the procurement and delivery of infrastructure. The ACA endorses the issues identified as priorities for governments to address and notes that the NSW Government is implementing a range of new approaches to the financing and delivery processes for government infrastructure.

***Infrastructure Australia – National Infrastructure Plan (June 2013)***
**4.26** Infrastructure Australia has produced a comprehensive assessment of the issues facing Australia if it is to be more productive in the Asian Century. That assessment highlights the challenges ahead and argues for bold reforms. It lists seven reforms required to be made to boost infrastructure performance and improve capital productivity. They are:

- Establishing a Single National Infrastructure Fund.
- Use Government Budgets Innovatively.

- Recycle Capital For New Infrastructure.
- User Pays – User Says.
- Reduce Layers of Government.
- Be World Leaders In Project Governance.
- Smarter, Leaner Infrastructure Procurement.

**4.27** The ACA supports the approach recommended by Infrastructure Australia in addressing the structural impediments to Australia's historical approach to infrastructure funding and project delivery.

***European Commission - Connecting Europe Facility 2014-2020 (October 2011*)**
**4.28** The Connecting Europe Facility (CEF) is a new European model aimed at supporting the development of high-performing, sustainable and efficiently interconnected trans-European networks in the fields of energy, telecommunications and transport.

**4.29** Approximately 50 billion euro will be made available between 2014 to 2020 to promote growth, jobs and competitiveness through targeted infrastructure investment using new financing instruments such as EU Project Bonds.

**4.30** It is interesting to note that the European Union, comprised of countries with many different economic positions and agendas, appears capable of advancing a program to make connectivity and operational progress for the benefit of the EU as a whole. There should be no valid reason why Australian Governments could not achieve similar advances.

***Deloitte Touche Tohmatsu Limited – Funding Options: Alternative Financing for Infrastructure Development (April 2013)***
**4.31** In a paper published earlier in 2013, Deloitte identifies the constraints placed on the financing of infrastructure projects. The paper discusses the trends and the impact that each has on infrastructure funding/finance, particularly with regard to the prospects for public-private partnerships.

**4.32** The Deloitte report identifies a number of key options for financing infrastructure developments. These include:
- Private Activity Bonds (U.S. facility operating on a tax free basis)
- U.S. TIFIA Loans (Issued pursuant to the Transportation Infrastructure Finance and Innovation Act 1998)
- Infrastructure funds with PPP allocations
- European Investment Bank debt funding facility
- European Governments Subordinated Debt Facilities
- UK Government Infrastructure Finance Unit Co-Lender Program
- UK Infrastructure Debt Platform
- Government Supported Debt Models in UK and France
- IDBI Indian Infrastructure Debt Fund
- Infrastructure Trusts (Recent development in U.S.)

**4.33** Clearly, there are many different options available for Australian Governments to adopt under a new approach to infrastructure financing and the above options (and others) need to be analysed by the Productivity Commission as part of its analysis of infrastructure financing in Australia.

## 5. WORKFORCE ISSUES

### General

**5.1** There is no doubt that the workplace practices of employers and employees have the potential to have a significant impact on the cost of infrastructure projects in Australia, although they are only part of the large range of issues impacting on construction costs.

**5.2** The size, nature, location and complexity of major infrastructure projects results in a complex matrix of responsibility designed to address project risk including the risk of financial impacts from industrial activity. From the client's perspective, standard contractual arrangements on major construction projects provide for head contractors to accept responsibility for managing risks associated with labour costs and delays to completion timeframes, as well as for a range of other significant operational risks including workplace health and safety.

**5.3** Head contractors face substantial liquidated damages for delays as well as other high risk employee relations matters. However, head contractors are not usually the direct employers of a substantial component of the workforce on major projects and must rely on the roles of sub-contractors and others as part of the control of project outcomes.

**5.4** The workplace relations impact on infrastructure costs is not just a function of direct labour costs, although this is a significant component, but the result of a myriad of day to day workplace issues all of which may impact on productivity, but generally do not find themselves disclosed in public statistical documentation. Some of these issues are contained within enterprise bargaining agreements, while others manifest themselves through on-site actions.

**5.5** The reports and issues papers prepared by the 2001 Cole Royal Commission into the Building and Construction Industry extensively detail the key issues that impact on wage and other conditions of employment in the industry. The Cole Royal Commission reports contain a particularly rich mine of information that reflects the approach that had been prevalent in the industry at that time and which added significantly to the cost of projects when aggregated.

**5.6** The reports highlight various practices imposed on contractors through enterprise bargaining negotiations that add to daily operational costs which are inevitably passed on to clients, as well as other costs associated with negotiations for employers to agree to participate in and support various schemes including redundancy trusts, income protection insurance and top up insurance, amongst others.

**5.7** An examination of the various submissions made to the Cole Royal Commission by employers and employees and their respective industry associations provides further useful detail as to the impact of the industrial dynamics operating within the industry in Australia which impact on the cost of infrastructure projects.

### Action Taken After Cole Royal Commission

**5.8** The ACA notes that following the Cole Royal Commission the then Federal Government legislated a suite of structures aimed at providing a framework that would ensure a level playing field between employers and employees in terms of their ability to negotiate workforce issues as well as reasserting the requirement for industry participants to comply with the rule of law.

**5.9** The new structures included the establishment of an appropriately resourced and empowered industry regulator known as the Australian Building and Construction Commissioner, complementary legislation and guidelines designed to assist the industry to

shape its workplace relations negotiations. This was to ensure that only appropriate issues were included in enterprise bargaining agreements and industry participants complied with relevant responsibilities when tendering for and implementing government financed projects. This latter process was intended to support the findings of the Royal Commission as to the need to more effectively control the costs (both labour and operational) associated with construction projects.

**5.10** The ACA submits that the implementation of the Cole Royal Commission recommendations resulted in a settling down of the previous contentious industrial climate in the industry with resultant improvements in productivity and lowering of the costs associated with construction. This situation was reflected by a downturn in the number of industrial disputes notified as well as a moderation in the number of day to day worksite issues that had previously held up operational activity but which did not ultimately result in a formal industrial dispute.

**5.11** However, following a change of Federal Government, the regime implemented after the Cole Royal Commission has progressively been wound back, both in legislative, administrative and operational terms with the result that costs and industrial activity have trended upwards and are headed towards an unsustainable level.

**5.12** The ACA is concerned that this weakening of the controlling regulatory and administrative structures has resulted in a re-emergence of the industrial problems in evidence prior to the Cole Royal Commission as the equilibrium in the industry becomes more unstable and this is pushing up costs and delaying project completions.

**Proposals For Change**

**5.13** The ACA is pleased to see that the new Federal Government, elected in September 2013, went to the election with a policy platform designed to re-focus the need for compliance with the rule of law in the industry and implement a common and strengthened approach to issues surrounding enterprise agreement negotiations and site activities.

**5.14** The ACA is fully supportive of the current proposals to revitalise the regulator by re-establishing the office of the Australian Building and Construction Commissioner, as well as legislating for a number of other changes that effectively return the industry to the position of reasonable stability it was accustomed to after the Cole Royal Commission.

**5.15** The ACA is fully supportive of the right of a union to appropriately represent its members. However, there are many opportunities under existing legislation and industrial agreements for that right to be exercised in a way that does not advance the interests of the union's members, or is used for purposes intended to disrupt activities on work sites for the purpose of placing contractors under operational pressure to agree to certain action to maintain industrial peace.

**Key Workplace Issues Affecting the Cost of Projects**

**5.16** When employee and employer representatives work cooperatively together to address operational issues there is clear evidence that projects are able to be completed on time and on budget.

**5.17** However, where the cooperative arrangements break down, or issues external to the core relationship are allowed to gain a foothold on sites, legislative and regulatory structures should be in place to prevent inappropriate activity being undertaken to the detriment of the parties and productivity and cost on projects.

**5.18** One of these areas of concern relates to pattern bargaining on an industry-wide basis. Pattern bargaining was identified in the Cole Royal Commission as having a potentially significant effect on the cost of construction.

**5.19** This form of bargaining was described as a bargaining process in which unions or employers attempt to achieve common outcomes across different enterprises in an industry or sector, for example by the adoption of standard agreements, or a specified wage increase, the effect of which is designed to regulate the employment relationship of a large number of employees and their employers.

**5.20** Information before the Royal Commission indicated that pattern bargaining displaced, or nullified, the scope for genuine enterprise level bargaining about wages and conditions and increased the cost of projects by from 13 percent to as much as 20 percent or higher.

**5.21** Industry-wide pattern agreements need to be differentiated from project-specific pattern agreements developed by head contractors for major projects (typically in the form of greenfields agreements). Head contractors and subcontractors have supported the use of project-specific pattern (greenfields) agreements on major projects as industrial risk is reduced and working conditions can be aligned with the needs of the particular project.

**5.22** While it is unlawful under the *Fair Work Act* for a head contractor to coerce a subcontractor to make a particular type of enterprise agreement, provided that the adoption of the project pattern agreement is genuinely voluntary the law is complied with. Further, proceeding on a project pattern agreement basis avoids the potential risk that arises under an industry-wide pattern agreement of increasing labour costs across the industry.

**5.23** Some of the areas that need to be monitored or addressed by legislative or administrative means include:

- Greenfields Agreements should be able to be approved by the Fair Work Commission at any time if agreement is reached between the contractor and one or more unions which are eligible to represent any employees on the project and on application by the employer, or if agreement has not been reached between the contractor and the relevant union/s after a reasonable period of time (e.g three months of negotiations), provided that the Greenfields Agreement passes the Better Off Overall Test and meets the National Employment Standards.
- Greenfields Agreements must only contain matters that pertain to the relationship between an employer and its employees and must not contain any 'unlawful terms'.
- Where an employer initiates bargaining with union/s for a Greenfields Agreement, good faith bargaining obligations should apply to the bargaining parties, but good faith bargaining rights should not apply to unions which the employer has not initiated bargaining with.
- The current provisions of the *Fair Work Act* in the area of content of bargaining claims and enterprise agreements are too loose, resulting in unnecessary disputation and the potential misuse of the bargaining provisions to undermine key protections for contractors and employers in the Act (e.g. right of entry procedures and the right to engage subcontractors.
- Bargaining claims and enterprise agreements should only deal with 'permitted matters' and not any other matters. 'Permitted matters' should be defined as matters that pertain to the relationship between an employer and its employees.
- The list of 'unlawful terms' in the Fair Work Act should be expanded to include clauses which impose restrictions or limitations on the engagement of subcontractors, clauses which deal with right of entry for union officials (this is a matter that should be dealt with entirely by the Act to avoid undermining the laws); and clauses which are not 'permitted matters'.

- Before issuing a protected action ballot order, the Fair Work Commission must be satisfied that the applicant union is not pursuing any claims which are not 'permitted matters' or which are 'unlawful terms'.
- The Federal and State Governments should agree on a consistent set of procurement Guidelines which prohibit the inclusion of specified unproductive and inappropriate clauses in enterprise agreements. The general protections in the *Fair Work Act* should be amended to ensure that the enforcement of such Guidelines does not breach the general protections.
- The winding back of industrial legislation has resulted in the re-emergence of "nominated labour" activity. The *Grocon* dispute in late 2012 centred on this issue. The unions demanded that the company employ individuals nominated by the unions as work health and safety officers, not the persons that the company believed were the most qualified to ensure health and safety on the project.
- A union official should only be permitted to hold discussions with employees during meal times or other breaks.
- When investigating alleged breaches of workplace laws and instruments or holding discussions with employees, union officials must give the occupier at least 24 hours' notice of entry.
- When investigating alleged breaches of workplace laws and instruments, the union official must give details to the occupier of the alleged breaches at the time that notice is given of entry.
- The occupier of the worksite should have the right to determine the location of union meetings provided that the location is reasonable.
- Union officials should give 24 hours' notice of entry for WHS purposes unless the entry is for the purposes of investigating a breach of a WHS law and the alleged breach involves an imminent risk to the health and safety of workers. Notices of entry for WHS purposes are required to include details of the alleged breaches of WHS laws and why such breaches involve an imminent risk to the health and safety of workers.
- Where an enterprise agreement applies to a group of workers and a union is covered by the agreement, only the union covered by the agreement should have the right to enter the premises.
- Enterprise agreements should not be permitted to include provisions dealing with right of entry; this is an issue which needs to be dealt with by the Act.
- A union official's right to enter should be conditional upon the official acting reasonably and not disrupting work.

**The Nature of Disputes and Their Resolution**

**5.24** A significant amount of relevant information relating to the dynamics of industrial disputes, their duration and the type of project targeted (and where), is contained within the reports and papers of the Cole Royal Commission. In more recent times there appears to be a growing tendency for industrial disputation to manifest itself at higher profile infrastructure projects that are located in areas that are likely to generate greater media or public interest such as some public hospitals.

**5.25** The primary causes of disputes may not have any correlation to activities on the specific site but may be related to other issues altogether with the specific site chosen on the basis of achieving maximum pressure or impact.

**5.26** In the absence of an effective regulator that is prepared to quickly intervene in industrial action, the issues are left to the parties to pursue through the mainstream legal system. While the existing legal system provides some options for addressing issues through the use of injunctions and related processes, the reality is that the real issues are often not resolved

at the time, but become entwined in drawn out civil legal battles that may last for years and are inevitably expensive for the parties who choose to take them on.

**5.27** From the ACA's perspective, the key issues that need to be implemented (in totality and consistently) to address the financial impact of industrial action by avoiding the development of problems in the first place, or addressing them expeditiously, are as follows:

- A commitment on the part of industry participants to comply with the rule of law.
- A commitment on the part of industry participants to employ representatives to properly and sensibly bargain and negotiate in respect of agreements and entitlements and address worksite issues responsibly.
- The establishment of an effective, well resourced, regulatory body such as the ABCC that is prepared to become involved early in industrial activity.
- Legislation that clearly identifies and addresses the problems that may occur and provides the regulatory system with appropriate sanctions (including fines and related sanctions) for employer and employee entities that fail to meet their legal responsibilities.
- An effective, Australia wide code or regime that sets out in clear and unequivocal terms that parties who do not comply with the requirements of the code can expect to be the subject of a range of sanctions that may lead to those parties being excluded from tendering for public infrastructure projects.

**Skill Shortages and Cost Pressures**

**5.28** The construction industry, in terms of major projects, is always going to be affected to some degree by the availability of sufficient qualified and skilled workers.

**5.29** The cyclical nature of the industry in Australia, and the current unreliability of the pipeline of construction work, tends to force the major contractors to rely to a significant degree on sub-contractor organisations while maintaining a core group of employed staff.

**5.30** The industry has also suffered from having a poor overall culture compared to other industries. The level of fatalities and serious injuries that occur on projects from time to time, together with the perception created by unlawful industrial action has a detrimental effect on people considering whether they should seek to be employed in the construction industry. This has a potential impact on the size and availability of the pool of workers and thus a potential impact on construction costs.

**5.31** Nevertheless, the industry and, in particular, ACA member companies, is taking action to address the perceptions surrounding it in terms of workforce development and skills as well as safety.

**Key Workforce Issues**

**5.32** The ACA considers that the following are the key issues behind the cost of labour in terms of availability and skills:

- Prior to the recent slowdown in the growth of the resources sector the industry was faced with skill shortages in a number of areas because a significant proportion of the existing workforce were employed on resource projects and being paid significantly above market rates. This has tended to result in activity by employee representatives to lift local labour rates to similar levels to those paid on infrastructure projects.
- As infrastructure projects are potentially more complex than commercial projects there has been a tendency to employ only those persons with the necessary skill levels to undertake the work within project programs and safely. As there are a finite number of persons with the requisite skills they have been more costly to employ, although this is moderating following the slowdown in resource projects.

- The cost of fly in fly out and drive in drive out employees adds significantly to the cost of projects, but many employees would not be prepared to move to isolated areas for a significant time while they worked on a project so contractors have been required to meet the extra costs.
- The unreliability of continuity of employment is a mitigating factor for long term commitment to the industry and the consequent lead times to undertake university studies and trade apprenticeships means that potential employees cannot be guaranteed jobs when they complete their training. This results in many contractors determining not to directly employ as many workers, but to rely on obtaining workers from the general pool of workers as needed, or by engaging independent contractors.
- Union based enterprise bargaining agreements negotiated during times of significant activity have tended to be negotiated on the basis of increases year on year for up to 4 year terms with the consequence for contractors that when they face leaner times they must continue to pay workers at previously agreed premium rates. These costs are likely to be passed onto clients thus increasing the cost of projects.
- Section 457 visa employees are not the answer to the labour cost problem as their cost, in terms of salary and on costs, are more than local employees so it could not be said that employing these persons represents a cost saving to employers. However, these workers do possess the relevant skills at the time they are required whereas timeframes for specific projects prevent sufficient numbers of local employees from being up-skilled within reasonable timeframes.
- There has been reluctance in certain sections of the workforce to be prepared to travel significant distances to obtain work. This has also impacted on costs as contractors have been required to search further afield to employ staff. Significant adjustments to the previous arrangements for Living Away From Home Allowances has added substantial cost to projects and has militated against the attraction of the widest pool of experienced workers.

**Scope to Reduce Labour Shortages**

**5.33** The ACA considers that there is scope for the industry to re-assess the level of skills required to perform various tasks on projects without compromising safety or productivity. However, this approach would also have to address the potential impact of what is called in industry circles a “dumbing down” of the workforce. Further, it may be argued that the industry requires a workforce that possesses greater, not lesser, skills in relation to infrastructure projects as opposed to, say, residential home building.

**5.34** While the various skills councils with coverage of the industry sectors and the Australian Workforce and Productivity Agency conduct annual environmental scans that provide excellent information as to actual or potential areas of skill shortages, there is a need for industry to more effectively coordinate its activities on a broader basis to ensure that an appropriate pool of skilled workers is available both now and into the medium to longer term.

**5.35** This will require cooperation between industry leading organisations representing industry sectors such as construction, mining, resources and related activities, clients and government agencies to develop the necessary processes for fast tracking skills development and targeting the occupations based on a more reliable pipeline of work than has previously been available. The ACA has already established a working party of member companies to assess this strategic approach.

**5.36** A greater focus on core skill requirements within the industry would better serve employees and employers. This would require coordinated action by governments and industry to properly identify future skill needs, target relevant personnel for up skilling and provide support for the training and employment of persons eg young people and women, amongst others, to attract them to the industry and up skilling opportunities.

**5.37** An example of an excellent program that was recently piloted and aimed at providing up skilled and qualified workers into the workforce at an expeditious rate is the National Apprenticeship Program. Under this program, workers are able to be fast tracked into completing studies and in becoming qualified and available for immediate start with industry employers. However, these programs will only be truly successful if government and industry are confident that work will be available for those who complete these programs. Again, a reliable pipeline of work will convince employers to invest in these options.

**5.38** There is also scope for industry, in conjunction with manufacturers, to assess the capacity for a greater level of construction activity to take place off-site or through prefabrication or emerging technologies. This approach is already evident in overseas jurisdictions and could result in significant cost savings if accompanied with appropriate changes to project designs and regulatory approvals as well as workforce industrial structures.

**5.39** The ACA also wishes to raise the issue of the effect of non-compliant product on infrastructure costs, particularly in relation to wages and lost time costs. The Australian Industry Group recently released a report titled "The Quest for a Level Playing Field – The Non-conforming Building Products Dilemma" in which it identified the impact on the industry of the use of non-compliant products.

**5.40** The ACA considers that the implementation of a more robust regime to address this issue would reduce costs on major projects when additional work is required to repair or replace goods and materials that have previously been incorporated into buildings or other structures.

## 6. MARKET STRUCTURE AND BEHAVIOURS

### General

**6.1** The ACA notes that the Productivity Commission's Issues Paper seems to imply that there is a certain amount of market dominance in existence in Australia with apparent difficulties for international entities to enter the local market for major projects.

**6.2** The ACA does not accept any proposition along these lines and submits that international players of significance (often with a market capitalisation much larger than Australian based entities) have operated in Australia for decades and have remained in the country or withdrawn on the basis of their own commercial decisions as opposed to the existence of strong local brands either in the past or in terms of the recent existence of the Lend Lease and Leighton groups.

**6.3** The ACA membership is comprised of eighteen entities which operate and compete in a variety of market sectors. These entities vigorously compete against other ACA members as well as other large local or international businesses for involvement in construction projects whether they are infrastructure, resources and mining or commercial in nature.

**6.4** It should also be noted that a number of large construction companies operating in Australia are controlled by international companies with construction expertise, or have large international construction or related companies as major shareholders. This is in addition to those international construction companies that have established separate businesses in Australia.

**6.5** Over the years, many local and international construction companies have tendered and been successful on projects by way of joint venture or as members of larger consortia.

Accordingly, it is submitted that the success or otherwise of international construction businesses in Australia is more related to the level of local commitment they are prepared to inject by way of corporate structure, equity, finance, expertise, operational capacity, workforce structure and demonstrated long term commitment, as opposed to the suggested market dominance of specific local entities.

**Barriers to Entry**

**6.6** The ACA submits that there are no industry based barriers to entry into the Australian construction market. If there are issues that may impact on the capacity of local or international entities to be successful in the Australian market, those issues are more likely to be in place as a result of the tendering and procurement practices of clients or the industrial landscape rather than the operation of the market in general.

**6.7** Earlier in this submission, the ACA identified a number of factors impacting on construction costs that are in the hands of government clients to address. These issues have been in place for some time and have previously been identified in reviews undertaken by governments in both Australia and the UK, amongst others. For the purpose of a discussion of issues in this area, the key items of concern to the ACA are discussed below.

**Tender Costs**

**6.8** The tendering and procurement practices of government clients make tendering for many projects so prohibitive as to potentially be beyond the financial capacity of many individual entities to manage.

**6.9** On the basis of past experience with large projects, the ACA believes that respondents to expressions of interest (EOI) for large projects that are subsequently shortlisted could each expect to outlay between $30m and $45m to lodge quality responses as part of subsequent Request for Proposals (RFP) processes.

**6.10** Tender costs of the magnitude indicated above would have a substantial impact on the annual net profit of many businesses in the construction industry today, and are not a sustainable approach in the current difficult financial climate, particularly where constructors may be unsuccessful bidders on a number of projects throughout any year.

**6.11** While the Victorian Government is to be commended for trialling the reimbursement of some of the external costs of constructors in bidding for large projects, the actual amounts likely to be reimbursed compared to the real cost of bidding are far apart. The cost of tendering is invariably passed on to the client as part of the project cost so to avoid this situation clients need to re-think their approach to tendering and procurement requirements.

**Shortlisting**

**6.12** The ACA is aware of some recent media discussion about the process of shortlisting tenderers for large projects in Australia when compared to shortlisting on projects in overseas jurisdictions.

**6.13** While it may be correct that in some overseas countries a shortlisting of 3, 5 or more tenderers may occur, the Productivity Commission should satisfy itself that the shortlisting processes and requirements in other jurisdictions are based on similar criteria and client expectations to those operating in Australia.

**6.14** The ACA believes that a commercial re-assessment of tendering for major public sector infrastructure is necessary as global changes in financing and tendering for infrastructure have moved on in recent times with adjustments to traditional tendering and procurement practices now being necessary to open the market and enable constructors to remain commercially competitive and viable businesses.

**6.15** The ACA submits that, with the recent announcements by Victoria and NSW of major infrastructure projects, governments need to have greater regard to the impact of their tendering decisions on industry. With the benefit of recent evidence that Australian governments have a renewed interest in infrastructure, now is an opportune time for Australian governments to make clear to industry that they will assess projects primarily on the basis of a competitive approach based on skill and capacity to deliver rather than primarily on lowest cost.

**6.16** If Australian Governments intend to maintain their existing position on tendering for major projects, the ACA submits that governments would receive better value for taxpayer dollars by determining a final shortlist of no more than two entities as this would generate real competition between the final two proponents while also providing the opportunity for a wider range of bidders to compete in early rounds of the process without having to expend vast amounts on initial bid costs.

**6.17** The key reasons why the ACA considers that this approach would be successful are as follows:

- Selecting two respondents for the final shortlist on a major project guarantees that significant effort would be generated in the development of the project teams and designs in response to the RFP stage because both entities will know they have an equal chance of being selected as preferred tenderer. It is only at this stage that the real competitive aspect of the project emerges and constructors are prepared to inject the resources into the bid. This is not guaranteed when three or more entities are included in the final shortlist.
- Where two tenderers are shortlisted they will have greater scope in the market to procure the best financing compared to the situation where the available pool of financiers is spread across a larger number of shortlisted tenderers.
- Unlike governments, which operate only within their specific jurisdictions, the industry responds to EOI's across Australia and not just on government projects. Consequently, constructors are spending time and financial resources on many projects across all jurisdictions without the expectation of being successful in any tender. This is ultimately an unsustainable position in that it reduces the available resources that constructors may invest in particular projects and, over time, actually could lead to a limitation of competition and innovation to the detriment of government projects.
- The absence of a coordinated, sustainable pipeline of work across governments places the industry in the position of making commercial decisions to respond to EOIs or RFPs in the absence of having certainty that the projects will proceed, or proceed within an expected or announced timeframe. This uncertainty weighs heavily on decisions made by industry participants when considering which projects to tender for. Constructors need certainty to be able to convince their boards and shareholders to permit them to commit their human and financial capital to bid for projects.
- As constructors allocate more and more resources responding to EOIs issued by government (and private sector) clients across Australia (with greater numbers of respondents being shortlisted on major projects) the more likely is the risk that the client will not receive the best value for money in terms of design innovation, construction innovation, quality of project and timeliness of delivery due to the lower level of resources that industry is able to inject over time into bidding processes. In short, the longer term capacity of the industry to take the risk of being shortlisted to more than two entities on major projects will be a diminishing return for governments.

- There is also concern that on large projects the client's capacity to properly service each of the shortlisted tenderers to enable them to advance their tenders to their best advantage diminishes as the number of tenderers on the shortlist increases past two.

**Procurement and Project Management**

**6.18** The risk allocation and commercial terms ('**Commercial Framework'**) applicable to a project are typically described by the contract documents including those specific to the project (e.g. Scope of Works and Technical Criteria, Project Brief, Specifications to the extent that they have been amended for that Project).

**6.19** It makes commercial sense for the parties to contracts to discuss and assess the nature and extent of project risks and how those risks may be minimised or apportioned through the contract negotiation process. How those risks may be addressed will depend on many factors including the nature of the project and the reasonable commercial responsibilities that should apply to individual parties.

**6.20** A sensible and reasonable approach to the Commercial Framework surrounding projects and the parties involved is important. It is likely to lead to the completion of the project on time and on budget and for any issues that may lead to a dispute being identified expeditiously and addressed in a process that avoids significant disputation or litigation and maintains the commercial and operational relationship between client and contractor.

**Contractor Knowledge Prior to Committing Resources**

**6.21** Considerable time and money is expended in identifying and evaluating project opportunities and then participating in the subsequent stages of that client's procurement process for the opportunities that each company has decided to pursue.

**6.22** The issues are often incorporated in bespoke contracts containing an amalgamation of clauses and processes drawn from different tender documents. The larger and more complex projects are often associated with long gestation periods with the cost and time input stretched over a significant period of time, and the associated resources partly or wholly seconded into these opportunities over that time.

**6.23** Industry resources could be more efficiently allocated, at lower total cost, through the earliest possible advice from clients on their intended Commercial Framework for each project opportunity. This would assist contractors in separately and properly evaluating the 'go/no-go' decision in relation to an opportunity prior to committing significant resources to it.

**6.24** Historically, and dependent to some extent on the client's chosen delivery model, the sufficient information required to fully and properly evaluate the client's Commercial Framework is often not provided until the issue of a 'Request for Tender' (or equivalent phase). A further period of time then elapses (with costs associated with pursuing that project opportunity by that stage well committed and partly expended) before the proposed Contract has been digested and an initial view can be formed on the treatment of this Framework (eg by departure/qualification, time and/or cost allowances in the tender).

**Key Contractual Issues**

**6.25** Particularly in public sector tenders, it is common for the relevant agency to require a conforming tender to be submitted without departure or qualification in order for an alternative tender to be considered. This can present a significant challenge to constructors in the event that the contract contains one or more items that fall outside of a constructor's Corporate Limits of Liability.

**6.26** Essentially the constructor has to then decide, with consideration to the time and money expended to date, whether to submit a tender (seeking internal approval to operate

outside of their Corporate Limits of Liability) or to withdraw from any further participation in the client's procurement process. Where Bid Bonds are provided, and conditions associated with this security are accepted prior to receipt of the contract, the decision whether to proceed is made even more difficult.

**6.27** The issues could be addressed by encouraging the parties to define the commercial framework early in their procurement process.

**6.28** These issues are further exacerbated by the fact that constructors are often not provided with examples of the proposed contracts, or contracts are drafted in such a way that they attempt to transfer all risk to the constructor with scant regard for the commercial impact. Contract risk should be borne by the entity most appropriate for the specific component of the contract for which they are responsible for delivering.

**Contractual Dispute Resolution**

**6.29** The use of Dispute Resolution Boards (sometimes called dispute avoidance boards) is used extensively in large contracts across the world and is a generally accepted model for reducing or eliminating time and cost issues, and subsequent disputes, on projects.

**6.30** The use of DRBs in Australia, although limited to date, has the enviable record that all disputes have been resolved within the DRB process, with no disputes proceeding to arbitration or litigation. In addition, many potential disputes have either been avoided or amicably resolved within the DRB process, without crystallising into formal disputes. ACA has previously supported the DRB concept and released a paper (contained on the ACA website) setting out their benefits.

**6.31** Notwithstanding the existing contractual "model" clauses available for the implementation of DRBs, various parties appear to seek to circumvent dispute resolution clauses where it suits their particular commercial position, and this adds to the cost and timing of the resolution of disputes.

**6.32** There is evidence that many stakeholders do not have an adequate knowledge or understanding of the benefits of individual dispute resolution models, nor which model to apply to specific projects and this militates against selection and implementation of the best model for each project.

**6.33** This may result in the drafting of hybrid dispute resolution processes obtained from amalgamating parts of a range of different clauses without thought to the operational issues and problems that may be created. Bespoke contracts with an amalgamation of clauses drawn from different projects should be avoided.

**6.34** The effectiveness of the use and acceptability of DRBs requires further support to increase the use of the option. Provision should be made in the Standards Australia suite of contracts (AS4000) to include the use of DRBs as an alternative to formal litigation or arbitration.

## 7. CONCLUSION AND FUTURE ACTION

**7.1** The ACA is committed to supporting the development of a sustainable infrastructure financing and delivery model for Australia. The reports and recommendations of inquiries and reviews referred to in the ACA's submission should provide the Commission with the key components of that model.

**7.2** Industry and other stakeholders need certainty of approach to ensure that projects are delivered safely, on time and on budget and based on a known and reliable pipeline into the

future. Cost and productivity gains will not be consistently achieved without market certainty and commitment to the forward pipeline being implemented outside the electoral cycle.

**7.3** The Commission should adopt a holistic approach in its investigation of the issues. There is no one fundamental component to the issues before the Commission that overrides any other. While some issues may be classified as a higher priority than others in terms of development, timing and delivery, the ACA submits that unless the circle of issues is closed there will always be those components that will prevent a consistent and reliable outcome from being fully achieved.

**7.4** The implementation of the Commission's recommendations is a key issue. Government and industry should establish processes aimed at ensuring annual reports against progress with recommendations. All parties have to accept responsibility for their part in achieving the outcomes and this process needs to be rigorously enforced on an ongoing basis.

December 2013

**Annexure 1**

## MEMBERS OF AUSTRALIAN CONSTRUCTORS ASSOCIATION

BGC Contracting Pty Ltd

Brookfield Multiplex Australasia Pty Ltd

CH2M Hill Australia Pty Ltd

Clough Limited

Downer EDI Limited

Fulton Hogan Construction Pty Ltd

Georgiou Group Pty Ltd

John Holland Group Pty Limited

Laing O'Rourke Australia Construction Pty Ltd

Leighton Holdings Limited

Leighton Contractors Pty Ltd

McConnell Dowell Corporation Limited

Lend Lease Building Pty Ltd

Lend Lease Construction and Infrastructure Pty Ltd

Lend Lease Engineering Pty Ltd

Thiess Pty Ltd

UGL Limited

Watpac Limited

Annexure 3

AUSTRALIAN CONSTRUCTORS ASSOCIATION

# Changing the game

## How Australia can achieve success in the new world of Mega-projects

"The ACA recognised the need to change the way we think about the projects of the future. We pride ourselves on engineering excellence but we have also recognised that our world is changing. Both the private and public sector are searching for long-term viable economic solutions. We recognise we need to develop the capabilities to better understand and support the diverse sets of stakeholders that are engaged in this process. Our traditional project management processes need to evolve to provide far more predictable outcomes for the future. This research explores our new world and identifies some of the changes we will need to undertake to be successful. We are looking forward to engaging with the industry stakeholders in a robust discussion so we can all make the changes required to ensure our investment dollars achieve their maximum impact."

David Saxelby
President
ACA

"We have reached an inflection point in the way we think about and manage the delivery of services projects in Australia. As with many step changes, we seldom solve them with the same mindsets that created them. This research has identified the need to take a much broader perspective on the nature of what we are trying to achieve and then adopt a far more reflective and adaptive model that can deliver a different outcome that meets the expectations of the diverse stakeholder groups involved."

Malcolm Dunn
Lead Researcher and Learning Integrator
Agilience

# In the media today

## We have a mega problem that is threatening our economic growth

### Headlines

"Global mega project* spending to hit US$6 - 9 trillion per annum or 8% of global GDP. The Australian infrastructure pipeline is greater than A$300 billion for the resources and infrastructure sectors (approximately 100 mega projects are underway at any time)."

"The nature of projects is changing from engineering success to delivery of sustainable services and economic outcomes. Accordingly, projects are becoming increasingly larger, longer and more complex (compounding at 2.5% p.a.)."

"The complication is that these complex projects have low success rates (international estimates are in the order of 1/1000 for economic success, with Australia's experience less than 50%, based on budget and schedule)."

"The iron law of mega-projects has become 'over-time, over-budget and over again'."

"The value at risk for Australia is in the order of 20% or greater than A$60 billion based on conservative estimates of pipeline and success rates. So the imperative to better manage these projects is high."

Traditional models are failing us and we need to understand why and adopt a new approach: 'the conventional way of running mega-projects has reached a tension point where tradition is being challenged and reform is emerging'.

# Our challenge

"We have a nation-shaping pipeline of infrastructure projects and need to create ways to share experiences."

John Fitzgerald Infrastructure Australia

This research has been commissioned by the Australian Constructors Association to explore the nature of this next generation of complex mega-projects

## The challenge

Despite recent cutbacks in the Resources sector, Australia's investment pipeline still includes greater than $300 billion of Resources and Infrastructure projects over the next decade.

Unfortunately, there is a very low success rate (measured by achieving budget, schedule and economic business case) for complex mega-projects both globally (less than 15 %) and in Australia (40 – 50 %). If we apply even the most optimistic assessment, this implies an overrun of approximately $60 billion (20 % of $300 billion), which corresponds to many roads ($1 – 5 billion), LNG plants ($10 -20 billion), mines ($1 billion), schools ($1 billion) and hospitals ($1- 2 billion).

So our challenge is to really understand the evolving nature of these projects in our increasingly sophisticated and socialised economy, and explore why existing approaches are proving insufficient or inconsistent. From this understanding, we can develop the next generation of approaches and create a supporting environment to ensure mega-project success and maximise social, political and economic investment returns.

## Changing the game

We require a completely new perspective for the next generation of complex mega-projects.

Flyvbjerg (2014) defines mega-projects as "large-scale complex ventures that typically cost $1 billion or more, take many years to develop and build, involve multiple public and private stakeholders, are transformational, and impact millions of people. They are not just magnified versions of smaller projects, they are a completely different breed in terms of their aspiration, lead times, complexity and stakeholder involvement."

Australian mega-projects of the past have been complex engineering achievements, such as the Sydney Harbour Tunnel, the Victorian Desalination Plant and the Snowy Mountains Scheme.

However, there is an emerging view that not only is the nature of projects changing, but also the social environment in which these projects occur. Accordingly, these mega-projects require a completely different perspective, level of stakeholder engagement, cultural environment and project leadership than that practiced at the moment, which is based on up-scaled large project management disciplines.

We will explore the nature of this mega-project world in several ways, including:

- Identifying the challenges
- Studying key research insights
- Taking a different perspective
- Exploring new solutions to change the game

## Critical research question

Most importantly, we will filter our research through the following question: "What do we need to do differently to improve our project success rate in this new environment?"

## Research/Discovery Approach

We wanted to understand the changed social, political and technological environment for mega-projects and, based on this, consider what new perspectives and approaches are required. We reflected that there were also successful projects in Australia that we could learn from. We purposefully explored the views of a range of new stakeholders who are now intimately involved in this next generation of projects to understand their views of what is required for a successful outcome. Our research approach involved three key elements:

### Quantitative

Assess the performance gap in Australia through a survey of successful and challenged projects from the perspective of Owners Teams, Delivery Teams, Engineering Procurement & Construction Management (EPCM) Contractors and Constructors.

### Qualitative

Understand the root causes of success and failure, and identify potential solutions through success case/appreciative enquiry interviews with > 30 stakeholders (Policy-makers, Government and Private Sector Owners and Delivery Teams, EPCM Contractors, Constructors, Lawyers and Infrastructure Investors.

### Action forums

Engage key stakeholders in discussing the research insights to help identify solutions able to change the game.

# Doomed to failure?

From an international perspective there is a high rate of mega-project failure, with less than 1 in 1,000 projects achieving their promised business cases

## Current mega-project performance

| Source | Evans & Peck | Flyvbjerg | IPA | Accenture * |
|---|---|---|---|---|
| # Projects | 16 | 258 | > 1000 | 31 |
| % on budget | - | 10% | - | 17% |
| Overrun (% budget) | 10-20% | 26.7% | 25% | - |
| Overrun Schedule | -10 - +10 | 90% | 60% | < 20% |
| Achieve Business Case | - | 5% | - | 17% |

* Accenture (2012), 'Achieving Superior Delivery of Capital Projects', Global survey of the metals and mining industries

* Accenture (2012), 'Developing Strategies for the Effective Delivery of Capital projects', Global survey of the energy industry

## Break Fix Model

"Generally mega-project planners and managers do not know how to deliver successful mega-projects and therefore they tend to break sooner or later. The fix often takes place at great and unexpected cost to stakeholders. The cure is to get projects right from the outset through proper front end management".

## Faulty decision-making

"With the consistent errors and biases of forecasts that form the basis for business cases, cost benefit analysis and social and environmental impact assessments, such analysis will with a high degree of certainty be misleading".

# There is a big prize at stake

The Australian projects performance gap identified by the research is significant and presents a valuable prize

## Australian Mega-projects Survey Results

| This study | Total | Successful Projects Average | Challenged Projects Average | Overall Performance Gap ($M) | Private Sector Gap ($M) | Public Sector Gap ($M) |
|---|---|---|---|---|---|---|
| # Projects | 44 | 23 | 21 | - | 21 | 23 |
| Budget ($M) | 43,809 | 1,074 | 910 | - | - | - |
| Budget overrun ($M) | 6,021 | 83 | 196 | 3,629 | - | - |
| Budget overrun (%) | 13.74% | 8.4% | 27.4% | 19% | 19.1% | 20.2% |
| Schedule overrun (%) | - | (.3)% | 20.3% | 20.6% | 27.9% | 27.6% |

This is the most comprehensive set of survey data on Australian mega-projects completed to date. The survey covered 44 mega-projects (> $1 billion each) worth nearly $44 billion

- The total budget overrun across the portfolio was $6 billion or 13.7%, with both successful and challenged projects having budget overruns. This is good by international standards.
- Schedule overruns ranged between 0 – 20%, which is fair by international standards.
- However, there was still a significant gap (> 20%) between successful and challenged projects from both budget and schedule perspectives.
- There was little difference between private and public sector performance from a budget or schedule point of view.
- Closing the gap from average challenged to average successful (19%) would save over $3.5 billion on this project portfolio. This would be even greater if we could shift to the best-practice level of performance.

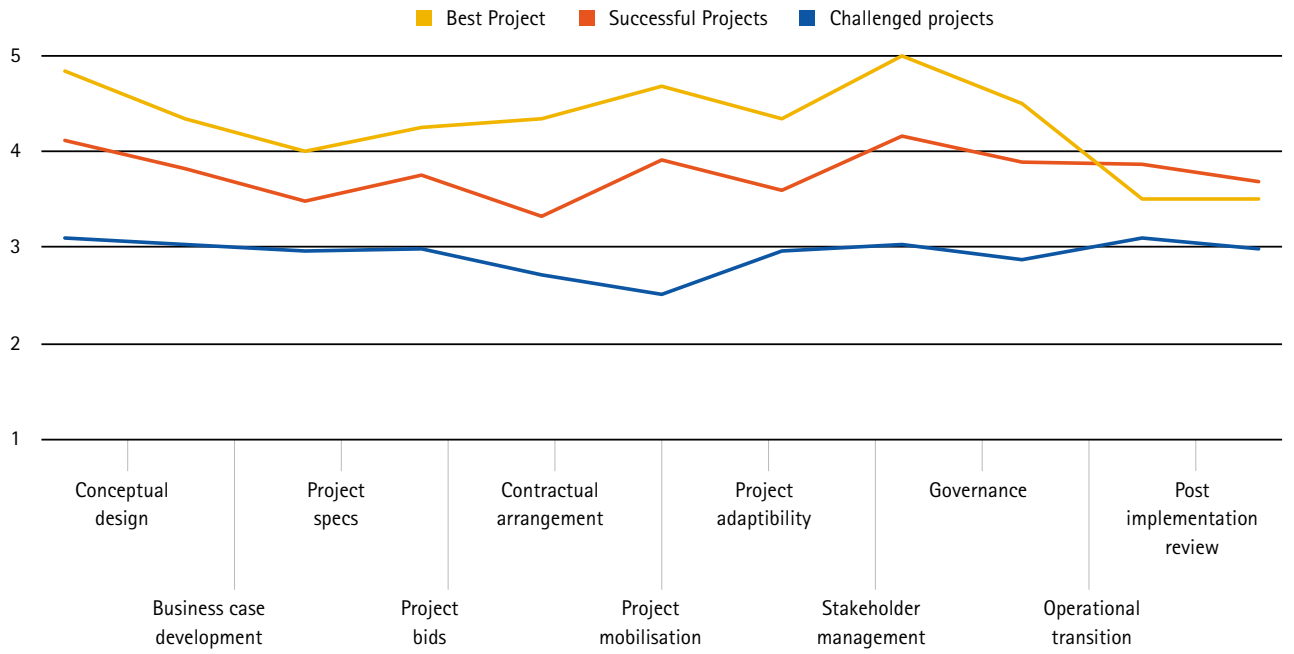
# Understanding the root cause of future success

## There was a significant difference in performance at all stages between successful and challenged projects

There were projects that were set up for success by the way those involved approached the early stages. Equally, the challenged projects started badly due to time pressures, inadequate stakeholder engagement, loosely specified requirements and aspirational businesses cases. Project managers then tended to compensate for this with risk-oriented contracts and overly strong project management and governance.

This chart records the average survey results by project stage for successful and challenged projects in comparison to the best project.

## Project Stage Performance



# The performance gap was clear

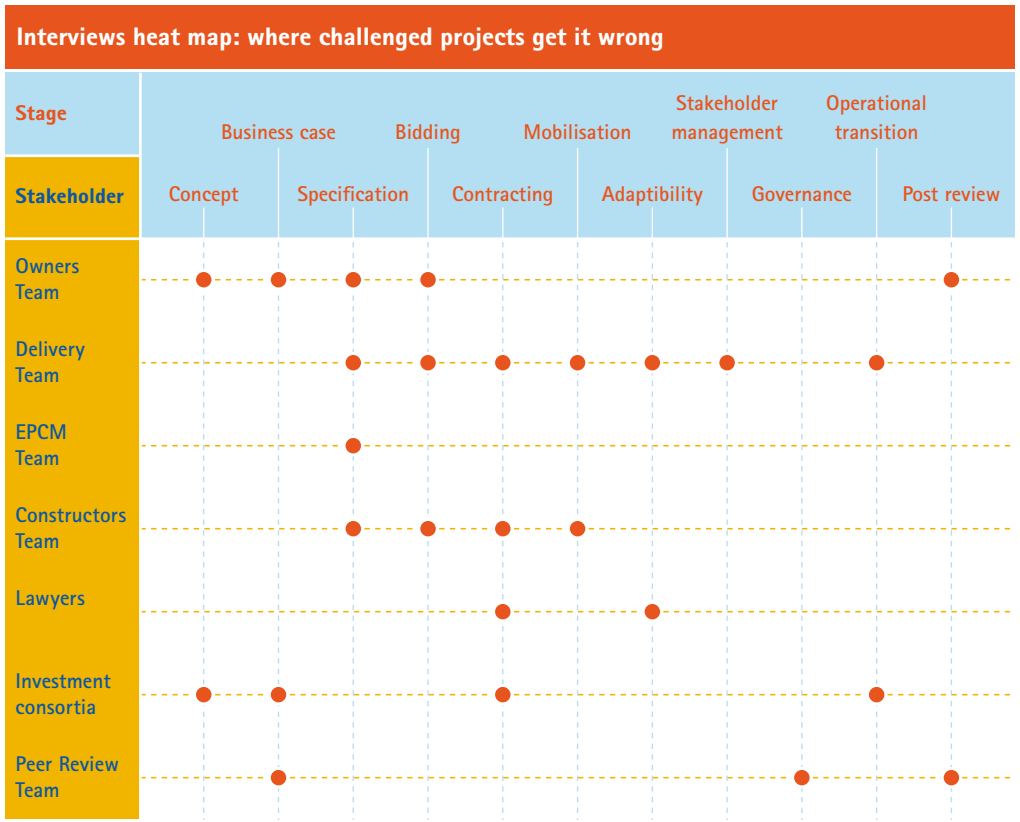
We identified a number of critical differences between successful and unsuccessful projects at all stages.

| Project stage | Successful Projects | Challenged Projects |
|---|---|---|
| Concept Design | Wide support/time-staged/stakeholder engagement | Fast-tracked, aspirational, too high-level |
| Business Case Development | Alternate scenarios/sensitivities/staged | Reverse-engineered/optimism bias/no reference benchmarking |
| Project Specifications | Outcomes focused with flexibility for innovative input | Either light on or too much detail that stifled innovation and added cost |
| Bidding process | Set the stage for formation of collaboration and problem-solving | Excessive focus on competitive tension and risk management |
| Contracting | Different strategies based on flexibility and alignment | Focused on task details and risk transfer |
| Mobilisation of team | Whole of extended team including external stakeholders | Driven by strong project management and schedule |
| Stakeholder Management | Good upfront and continuous engagement through process | Transactional when needed and too late |
| Governance | Self-managed and accountable team | Strong project management and schedule-driven |
| Operational Transition | Early and continuous engagement of owners' teams in process | Lack of engagement and disconnected process with blame |
| Post review | Genuine opportunity to learn | Firing of Project Manager |

# There are diverse views of success

The research also identified a number of different risk hot spots for the various stakeholders on projects that are not necessarily aligned and can cause contention

## Stakeholder hot buttons




## Observations

1. Owners teams are subject to significant political pressure in both the private and public sectors. Long-term failure is discounted in favour of short-term drivers such as press announcements.

2. Delivery team are often handed a 'poisoned chalice' of an undeliverable project. They then try too hard to achieve an impossible outcome without having "stop" as an option.

3. EPCM Teams want to ensure there is a great design but potentially over-engineer for the desired economic outcome.

4. Consortium teams are looking primarily for expected financial outcomes. Bids are costly (> $15 million) and the cost of losing is high, which leads to underbidding and the 'winner's curse'.

5. Lawyers are seeking to protect their clients' interests (even against the group's). They often shape project culture through the contract model.

6. Delivery teams focus too much on the technological aspects of complex projects and negate the socio-political aspects in dealing with diverse unengaged stakeholders.

7. Peer reviews are regarded as annoying, rather than as sources of insight from experienced practitioners.

# Adopting a fresh approach

## From the research, we recognise that we need to start thinking about mega-projects from a different perspective

## Key insights and implications

### 1. The nature of projects is changing

The nature of projects is changing to match changes in our society. Projects are becoming increasingly sophisticated and involve an ever-greater number of diverse stakeholders with different requirements, who need to be engaged to ensure a successful outcome. The failure to recognise this leads to poorly specified designs, continuous scope creep and major budget and schedule overruns.

### 2. Projects have become increasingly complex

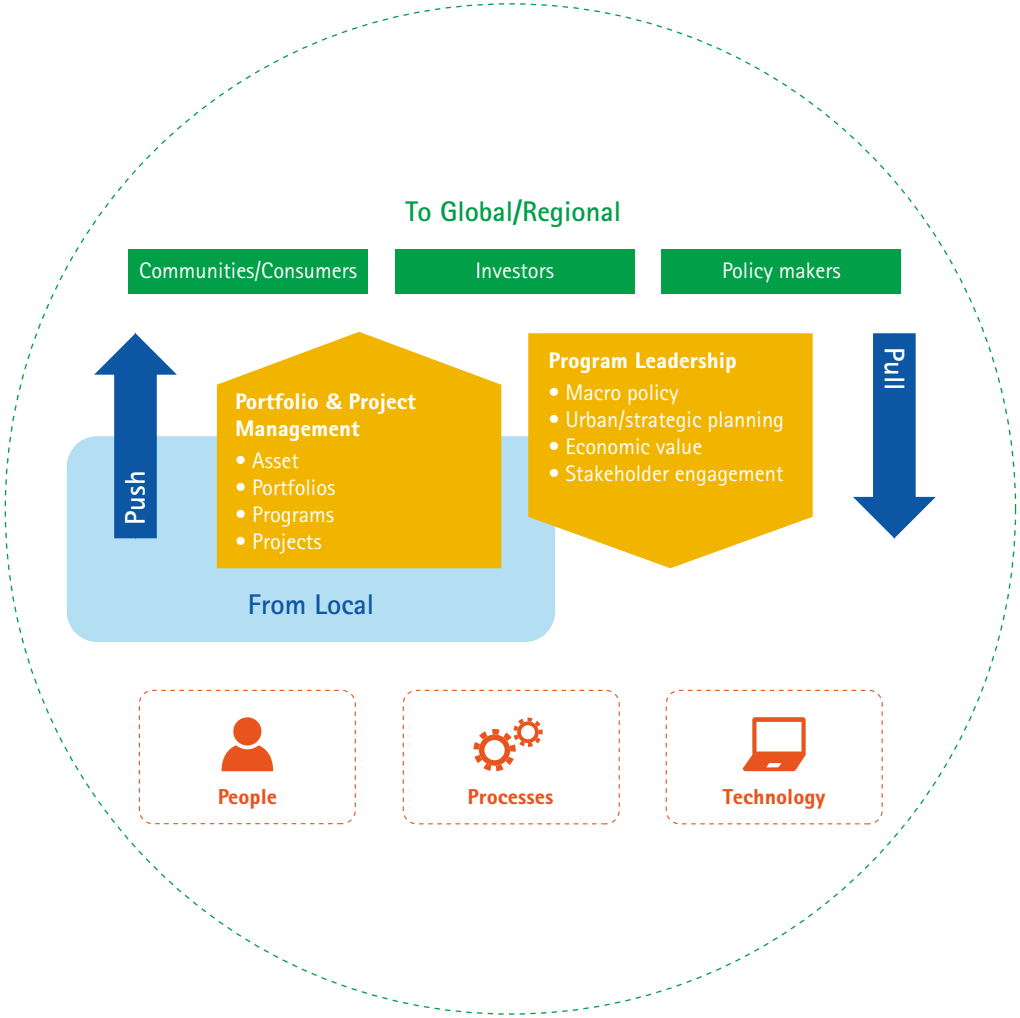
Projects have become increasingly complex and are exposed to many more human variables and environmental and political uncertainties; they are no longer just engineering projects. We need to change our approaches to recognise these factors and be able to more rapidly adapt to emergent knowledge or external changes. Our new business models and governance processes need to be able to flex to allow change while still ensuring transparency, accountability and safety. We need a new form of more inclusive and pervasive agile project leadership.

### 3. Changing mindset and models

Changing mindset and models are required for these new age mega-projects. The engineering mindset is critical but not sufficient. We need not only to broaden the inclusion of other stakeholders' perspectives, but also to build a new culture of collaboration across corporate and political boundaries.

### 4. Next generation distributed and pervasive leadership

Next generation distributed and pervasive leadership is required that enables flexible decision-making at the distributed point of need.




"The psychological commitment to projects happens early, from then on we just backsolve"

# Insight 1.

## The nature of projects is changing and this requires a different response

The focus of projects is changing in many aspects, as the construction of components develops into the provision of sustainable, high-quality operational services.

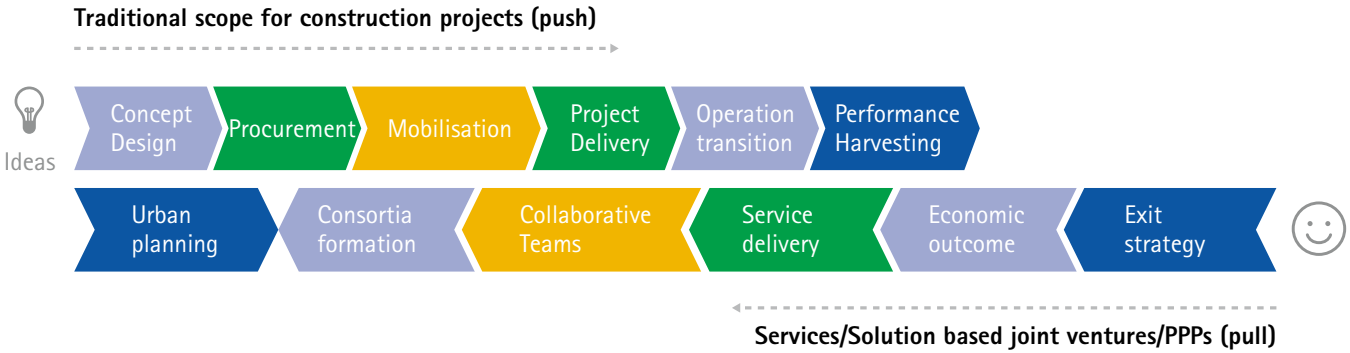
This shift involves different stakeholders throughout the process and requires early involvement of the ultimate operators. There are now global sources of funding for projects, with international companies included in development consortia. This applies especially to infrastructure projects such as airports, ports, hospitals, prisons, toll roads and light rail, but it is also applicable to next-generation mining and gas projects with significant local community and regional consumer market involvement.

In addition to these global sources of capital, there are global views on risk (project and sovereign) that shape project expectations and have consequences for follow-on projects.

Environmental expectations and international labour mobility (457/FIFO/DIDO) are also part of the ever-changing dynamic of projects. Because of their nature, the size and duration of mega-projects is also increasing, with some projects involving over 20,000 staff (many from offshore) for durations of more than 5 – 10 years, as well as up to 100 sub-contractor businesses. This implies a shift from the somewhat transactional nature of traditional project teams to the formation of high-performing project communities with a shared sense of purpose.

"The structure is only there to keep the rain off the services"
Anthony Manning, NSW Health, Northern Beaches Health PPP

"We need to run projects backwards with the ultimate owners involved from day one
Brett Himbury, IFM Investors



# Insight 2.

## Increasing project complexity requires more adaptive processes

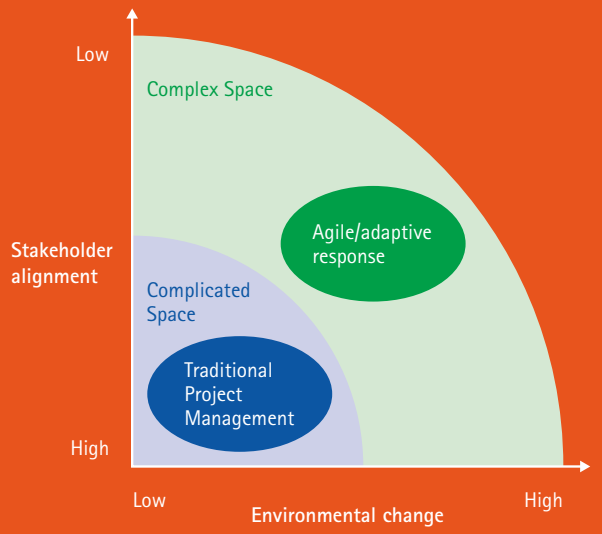
There has been limited improvement in the performance of mega-projects over the last few decades and projects will only become increasingly complex and human-centric in the future. There is much research underway on how to improve our performance on mega-projects. Areas of focus include better modelling of risk, the development of more accurate estimate classes and improved institutional design for accountability. However, it may be useful to apply a different set of lenses to the whole phenomenon of mega-projects. By using some of the thinking from the complexity sciences and organisational behavior, we can better understand the issues at play in this environment and seek novel solutions.

We have learned that a different set of leadership capabilities are required to manage complex systems. They allow us to gain a better sense of the environment, shape an identity that can drive self-management, rapidly adapt to emerging trends and regularly seek agile pathways in order to achieve better outcomes.

"Complex projects have been characterised as embodying uncertainty, ambiguity, dynamic interfaces and significant external influences"
IBM

"Humans are central to the creation of complexity, the people involved, the ways they communicate and the relationships they develop constitute the behaviour and combined culture of the organisation or project"
Complex Project Management Task Force Report

"Traditional project management approaches, tools and techniques are inadequate for managing the increasing complexity and ambiguity in our rapidly changing business environment"
Complex Project Management Task Force Report



# Insight 3.

## We need change mindsets to build a new culture of collaboration across corporate and political boundaries

We know that for the complex eco-systems that we call mega-projects we need a different culture and type of leadership (everywhere) that can rapidly adapt – within agreed boundaries – to meet emerging challenges.

From organisational behaviour, we have learned that shaping such a performance culture takes time. It requires trust and authenticity, the freedom to adopt alternate views, emotional engagement with a sense of purpose, an environment of coaching not blaming and a sense of shared accountability.

In this environment, the incremental discretionary effort is high and the ability to collaborate to solve problems or deal with emergence is prevalent. This culture works best when it is supported by an appropriate business model, but can also transcend one.

Another key notion here is that of boundary-spanning leadership, as on complex mega-projects we are working across organisations and even across different layers of Government. We need to manage using influencing techniques, as we may not have recourse to direct line authority. Alpha project managers often struggle in this space and can cause collateral damage in the name of project progress.

These lenses of complexity and behavioural science will be used to frame a set of responses to the challenge of mega-projects.

Our next generation service oriented projects are complex not complicated. They require a different approach to being guided rather than managed. Traditional project management approaches used in the Simple (routine) or Complicated space are useful for engineering projects but are not able to deal with the ambiguity and emergence of complex social service delivery projects.

# Insight 4.

## Changing mindsets and models

### Inside out to outside in

We are changing from an inside out to an outside in approach to how we think, sense and architect the way we look at and drive projects. We need to be aware of the business and service impact of decisions at all times and optimise outcomes to deliver value to all stakeholders. This requires the business model to flex as we move through the project stages and requires delivery agencies to collaborate and align their contributions to achieve the best outcomes. In this complex eco-system, the people best able to take decisions make them because there is trust, transparency and shared accountability. The role of the leader is to create the flourishing environment that enables distributed leadership.

"Alliances change the focus of what adds value and become a catalyst for behavioural change and collaboration"

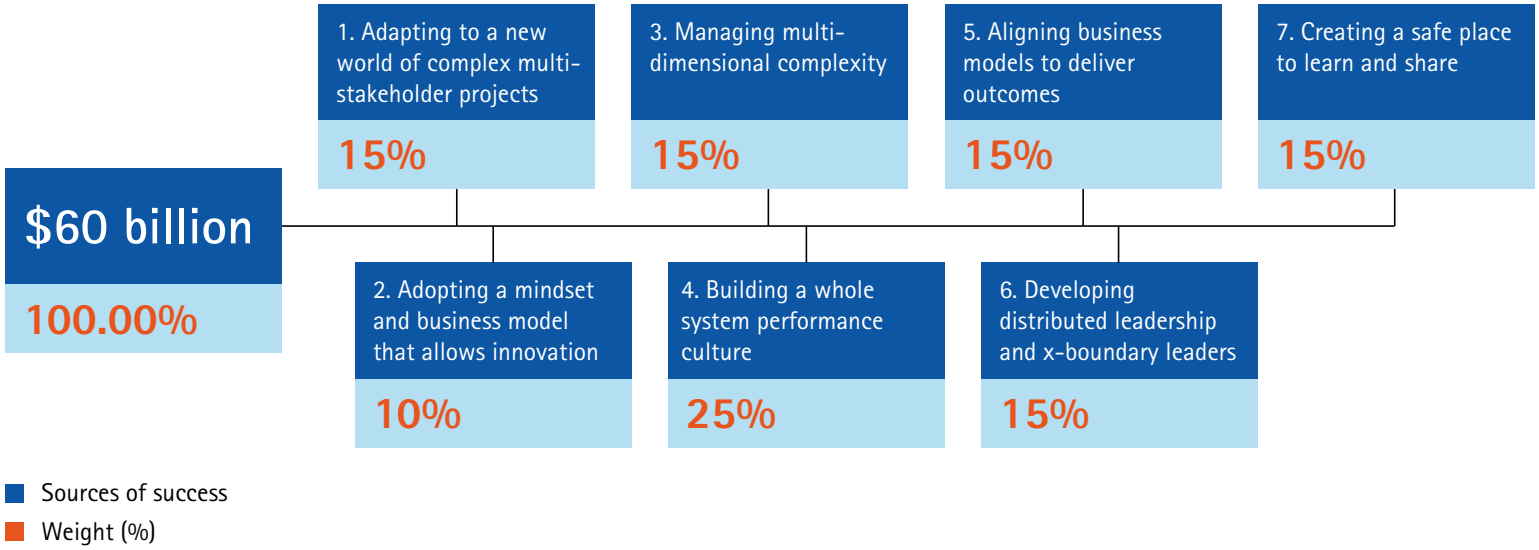
| | Traditional Project Management | Next generation Project eco-system leadership |
|---|---|---|
| **Aspect** | **From** | **To** |
| Outcomes | Engineering and budget success | Business case and operational performance success |
| Primary Stakeholders | Owners and Contractor teams | Customers, Service providers, Investors, Owners and Constructors |
| Timescale | Construction project | Operating asset use lifecycle |
| Locus of attention | Project resources | Service consumers, delivery agents and shareholders |
| Leadership | Hierarchical and centralised | Distributed leadership at point of events |
| Vision and engagement | Top-down and siloed | System-wide and engaged |
| Decision-making | Centralised | At point of need |
| Business model | Protecting interests | Agile creation of value for all |
| Risk | Tightly controlled | Managed as emerges |
| Governance | Adherence to plan, variation-oriented | Achievement of outcomes, value-oriented |

"Psychology is prime and will override any business model"

# Emerging Solutions

## From over 30 interviews we identified the following root cause of future success

From the research process, we have focused on what we can do differently from a behavioural perspective to achieve better outcomes for the next generation of mega-projects. These are additive to the well-known Prince 2 approaches, processes and systems that we use for traditional engineering-oriented projects. The degree of impact will depend on the nature and complexity of the new project. The clear areas for improvement identified below come from the domains of leadership, social, behavioural and organisational sciences. We use many of them in steady-state organisations but now have the challenge of using them adaptively for complex projects in a dynamic environment. The goal is to select from well-known bodies of engineering/ financial knowledge, while building an adaptive, performance-focused organisation that spans many diverse stakeholders and engages them in an emergent process.



# Tackling complexity

## Based on these insights we have developed a new behavioural-based model for the world of complex mega-projects

### Model elements

1. Engaging the Eco-systems: Mega-projects need to address many diverse stakeholder communities and we need to shift our project focus to people and social needs that pull through supporting processes and technology.

2. Enabling innovative solutions: Our engineering and contracting models need to allow for continuous innovation, rather than being too rigidly specified upfront in an ineffective attempt to reduce risk.

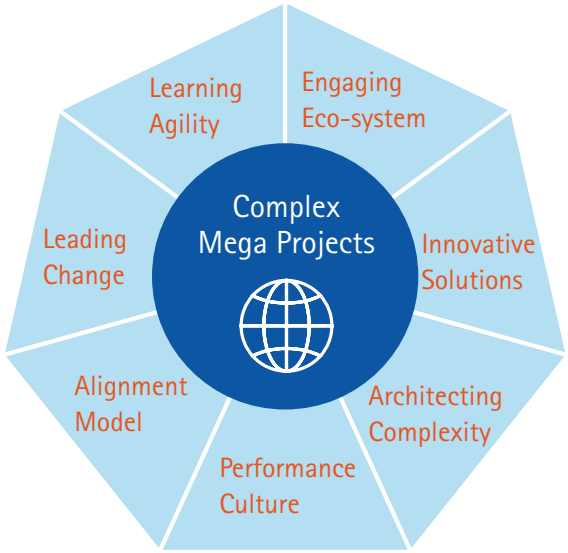
3. Architecting complex change: We need to look at how we best break down these complex solutions into viable related component parts. This will be as much about managing human change as about structural engineering.

4. Building a performance culture: We need to develop a culture of collaboration across all the diverse delivery agents on mega-projects so that they can make continuous optimisation decisions at the point of need, rather than relying on centralised control.

5. Aligning business models: New projects need contract models that align outcomes across diverse stakeholders, and can flex with the dynamic environment.

6. Changing leaders: We need to change the capability and focus of mega-project leaders and leadership from task management to achieving political, social and economic outcomes.

7. Learning agility: We need to embrace learning and rapid adaptation during and between projects so we can develop new processes based on a different form of project outcome.



# 1. Engaging eco-systems

## What needs to change?

- Stakeholder engagement: We need to recognise that in the new world of solutions-focused projects, there is a large and diverse set of stakeholders with different views of success. These views can be political, social and economic. We will need to develop a new market-facing and inclusive project eco-system that engages and aligns these stakeholders.

- Adaptive concept-scoping: Many current projects are aspirational (strategic or social infrastructure projects) in both the private and public sectors. They are large, complex and hard to specify. Because of their nature, these projects are exposed to global and local economic, political and social volatility that does not allow for reliable estimates or promised outcomes. We need a new, more flexible project business model that can evolve as greater knowledge emerges or flex as the external environment changes.

- Human engineering: Our focus is often drawn to the now complicated world of technology and we ignore the complex human social-engineering aspects of projects at our peril. We need a shift in focus to include the far broader range of deliverables and processes that these future projects require. This implies a different governance and leadership model that incorporates the external and internal communities that are part of the project eco-system.

## What can we change?

1. Engage the broader set of eco-system stakeholders in an inclusive and sustainable way: Former BCA Chairman Tony Shepherd spoke of the community engagement program for the Sydney Harbour Tunnel. By genuinely listening and creating an environment of openness and trust, the team enabled an easier resolution of the inevitable challenges that came later.

2. Change the way we manage iconic projects: From a psychological perspective we need to recognise the importance of iconic projects in both the private and public sectors, but make this recognition more transparent. If we deny our ambition for these projects we are left trying to reverse-engineer viable business cases. This will require changes to our project parameters that allow other factors to be included in place of unconscious bias or deception.

3. Adopting a new more holistic perspective: Using some of the approaches from complexity science such as sensing and sense making, we can ensure we can flesh out the concepts sufficiently so that we better understand their cost of construction/ service provision. This can involve structured creative processes that include multiple key stakeholders – such as scenario planning, design thinking and simulations – to allow for more robust tested concepts.

"The psychological commitment to projects happens early, from then on we just backsolve."

"We are trying to produce a recipe that ignores humans."

# 2. Enabling innovative solutions

## What needs to change?

- Trapped in a cycle: Senior executives feel that they are subject to relentless BAU strategic planning cycles, market reporting cycles and election cycles which drive the pace and timing of new project announcements for publicity purposes, rather than allowing space for diverse or disruptive thinking.
- Trapped in probity: Many construction companies believe that they are asked for orchestrated, risk-averse answers and are not allowed to challenge or change the questions.
- Trapped in risk adversity: In seeking the fantasy of certainty, we specify the unspecifiable and wish risks away through rigid processes and registers. Innovation needs an environment of creativity and a willingness to fail and learn that is not present in most project environments.

## What can we change?

1. Creative space for innovation: There is a need to create time and thinking space to allow for more mature stakeholder engagement, debate and co-creation of new/alternative solutions. Open innovation platforms or parallel task forces can uncover novel solutions.
2. Adopt a different procurement model that allows time and parallel processes: From NASA and many of the other great innovative projects, we see an environment of shared visions and value alignment, incentivising all parties to consider viable and sustainable operational outcomes rather than just the input costs of components.
3. Minding risk: "Creative approaches to risk management recognise the need to develop a shared interest in successful outcomes through identification of resultant mutual opportunity, rather than perceived protection against risk of failure and loss". **Complex Project Management Task Force Report**

"We sometimes see innovation in a crisis that cannot occur in a structured environment!"

"On many bids we are not allowed the time, space and attitude for innovation to occur."

# 3. Architecting complex change

## What needs to change?

- Deconstruction of complex projects into component packages or parts is reductionist and primarily driven by technological drivers. It ignores both the complex intra- and inter-world of the project. Such packaging can create human interfaces that are a source of greater complexity, misunderstanding and friction with many different contractors.
- Drive for certainty: the attempt to eliminate change creates rigidity, and endless scope variations. When coupled with a risk-averse contracting strategy, it creates contention and disputes rather than an aligned problem-solving approach to novel issues.
- Negative feedback loops end up prioritising reporting and managing variances, when we know the original estimates were never accurate in a dynamic multi-stakeholder environment.

## What can we change?

1. The project architecture needs the psychological and sociological knowledge on how to manage change. The construction engineering is often challenging, but the human engineering is far more complex and yet given such little attention by or within the project.
2. Complex Project Management: we must learn to observe and guide rather than constrain the forces involved. We can also build the abilities of the people at the primary interfaces by trusting them to make the myriad of optimising decisions they need to on a daily basis, without having to resort to a centralised command-and-control model.
3. Learning to tolerate uncertainty and ambiguity by building a culture of trust and results agility.

"We create our own complexity by the way we try to manage complexity – endless documents, risk logs, contracts."

"If it is bigger than $2 billion or has more than 3 interfaces it is too complex and will fail."

# 4. Building a performance culture

## What needs to change?

- The new model involves a far broader range of people that need to be engaged, aligned and committed. This cannot be achieved by Gantt charts. There needs to be an environment across the many aspects of the project that promotes a sense of shared purpose, constructive engagement, collaborative problem-solving, trust, accountability and self-management.

- Decisions made at point of impact not at the centre: As a response to project complexity and consequent anxiety we try to centralise decision-making. This ends up as a bureaucratic logjam on complex projects where work often has to continue in spite of the governance.

- Shared accountability: Under the current model there is a run-for-cover shifting of blame or contracts when things go wrong. This needs to change to a sense of mutual achievement and learning how to work better in the future.

## What can we change?

1. Build a performance culture upfront: We need to focus much more on the creation of sustainable project environments where we have a clear sense of "why" and aligned teams across boundaries. The formation of the partnership should come from organisations and people who have both the ability to deliver and the willingness to collaborate to achieve success.

2. Build trust and transparency in everyday actions: The challenge is for us to move beyond platitudes and to consciously develop a nurturing environment by the way we conduct ourselves in the many transactions and interfaces we have on a daily basis. Culture is emergent, not proclaimed. We need to call out non-values aligned behaviours immediately, at any level.

3. Conflict resolution: The fear of conflict or avoidance is just as problematic as uncontrolled conflict. Creating a safe place to offer alternative solutions and challenge status quo is healthy. This can be both a value and a process. Dispute Avoidance/ Resolution Boards can be useful safety nets but the stakeholders can learn how to have difficult conversations with positive outcomes by using a coaching mindset.

"We need experienced and collaborative people with just enough governance not technocrats and autocrats."

"Governance is more useful at head office than on the site, we need experienced people not paper."

# 5. Aligning business models

## What needs to change?

- Moving beyond the contract: At present there is a view that the contract form needs to be the mechanism to ensure compliance and order on projects – assuming that bad behaviour will occur. We need to see that human collaboration is the key to success and ensure that the form of agreement (alliance, D&C, schedule of rates, lump sum) supports, not supplants this.

- Flexibility: In complex mega-projects, it is not possible to know all the 'right stuff' on day one, so we need to create a business model that reflects the emergent nature of these projects, aligns stakeholders around success and allocates a fair share of value and risk.

- Contracting in a complex world: There are numerous examples today where the legal document is driving significant contention, claims and disputes, or has been put aside to allow project progress. We need to develop a more accessible way of creating an agreement around outcomes that guides successful solutions and incentivises performance.

## What can we change?

1. Mutuality of interest is where the ultimate project results and the relative contribution of all parties (both resources and collaborative behaviours) can be agreed on and then captured in an appropriate form. The process needs to be shaped in the real world of projects using social, emotional and political skills to align the different stakeholders in achieving success.

2. Joint ventures to create value, not limit exposure: The model needs to be able to flex and adapt to external and internal changes as part of the core process, not as an exception.

3. Project issues should be resolved by people raising them early and seeking to solve them, not by resorting to at best historical records of an imprecise understanding of scope and costs from several years before. Otherwise, we may win the skirmish in a contract dispute, but then create a lose-lose cultural impact that ultimately undermines the sensitive collaborative culture of the project and the economic and social benefits it delivers.

"Hard money contracts can engender adversarial behaviours where ambiguities arise, as parties tend to protect their individual positions, each interpreting the contract in their own favour."

"We need to put the Partnership 'P' back in PPP!"

# 6. Changing leaders

## What needs to change?

- New leadership model: The shift from managing complicated technological projects to leading complex social solutions needs a different form of leadership that is distributed through the project eco-system, not resident in a single person.
- New Leaders: The current form of centralised project leader who is a single point of responsibility is not viable in a large, complex project environment. There are just too many variables and interfaces. Their role needs to change to one of enabling leadership, rather than acting as the choke point for decisions.
- Leadership development: At the moment there is a limited cohort of jumbo project pilots. They tend to learn by surviving the school of hard knocks and often burn out or lose their edge. There is limited development of the next generation on an apprenticeship basis.

## What can we change?

1. Develop a distributed leadership model: As the project eco-system is set up, it can be designed in such a way that it enables timely leadership decision-making close to the operational parts of the project. Leaders can collaborate as a team to review, assess and solve the myriad of daily issues that emerge. They can communicate and share performance outcomes and take joint accountability for success.
2. Identify the behavioural capacities required for your next generation leaders: The project leaders of the future will have to have a 360 degree leadership style and become orchestrators and integrators of distributed leadership. They will need to transcend boundaries (political, national and organisational) and unify disparate stakeholders into an aligned mega-project team.
3. Create a pipeline of project leaders: Develop an action-learning model for project managers as part of their everyday activities. They can have defined learning stretch goals, formal peer groups and experienced mentors.

"We need to use large projects as an environment to blood younger people, they bring energy and drive to the project."

"They appointed Alpha Project Managers to difficult contracts to contain the costs, but they ended up destroying the team."

"The perceived complexity of a situation or system is relative to the capacity of the responsible individual or group to comprehend it."

Complex Project Management Task Force Report

# 7. Learning agility

## What needs to change?

- Risk appetite limits learning: Typically the level of anxiety on complex projects does not allow learning or experimentation to occur. The emphasis is on risk minimisation and therefore tight governance and procedural adherence.
- Wrong approach: Research has found that the use of absence of governance frameworks and methodologies makes very little difference to project outcomes. People tend to rely on their own experience and that of those around them. Yet we spend a great deal of training and control effort on mechanisms that have limited impact. We need to shift approach and learn through experience and reflection.
- Limited learning appetite: Project post-implementation reviews seldom take place or have sufficient attention paid to them. There is limited appetite to explore failure and learn, and typically project managers end up as the immediate collateral damage.

## What can we change?

1. Change the culture: The project needs to create a way to fail safely. This way we can genuinely explore what happened and what needs to change and avoid making the same mistake again. NASA created a safe space to be expected to "not know" and therefore be open to learning.
2. Adopt a new, embedded learning model: NASA also recognised the apprenticeship process of learning to deal with complexity and supported this with knowledge management, mentors and simulations to give real-life experiences.
3. Learn across projects: We can leverage great models of successful transfer of learning across projects through knowledge management. This can be a first port of call for novel project problems, allowing teams to explore others' experiences and even use new technology platforms for crowd solving and learning.

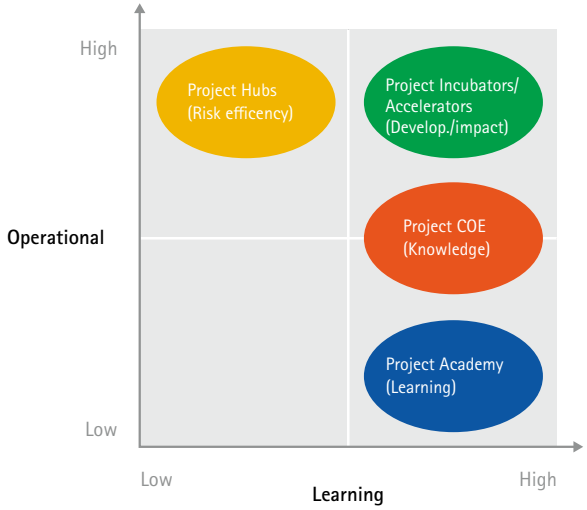
"We will make the same mistakes again, just with different people."

"I have been asking for lessons learned for 30 years but never get them."

# Changing our approaches will be challenging

## Changing the way people think, relate and operate is complex but we have some models to draw on

| Model | Project HUBS | Centres of Expertise | Project Academy | Project Incubators/Accelerators |
|---|---|---|---|---|
| Approach | Centralise mega/major projects | Virtual or physical sharing of knowledge and methods | Specialised learning environments for developing project leaders | Built into mega-projects to develop leadership and culture |
| Benefits | Reduces risks if few very capable mega-project managers | Low-cost, low-touch, available 24x7, can be outsourced | Brings like-minded cohorts together and is a focused development activity | Real-time learning in the project environment with the real systems and project team |
| Limitations | Can alienate the owners and other site and eco-system stakeholders. Is also susceptible to economic cycles. | Relies on being kept up to date and relevant. Is optional and does not change behaviours | There is an abstraction from the real project environment that requires deliberate application of learning | Takes some upfront investment of time and a commitment to ongoing development as part of a sustainable practice |
| Examples | BHPB | Rio Tinto | NASA<br>John Grill Centre<br>Accenture | Telstra<br>VC start-ups |




A real concern unearthed by the research was the low rate of improvement over the years. We explored different ways that organisations had used to either try to ensure consistency through centralisation or share best practices through centres of expertise. Both approaches had their challenges. The Project Academy model used by NASA developed a good pipeline of experienced project leaders who leveraged knowledge supported by mentors. However, as with the Project Hubs this investment could not be sustained through the usual boom/bust cycles. Learning as an integrated part of the project itself and across and between projects using a leadership incubator approach appears to best create the culture that is required to break the cycle of repeated errors. This is regarded as normal practice in many U.K. projects.

# Measuring success in the new world

We need to change the way we look at these projects and measure their outcomes. This will drive the behavioural changes required for success. This entails engaging with key external and internal stakeholders and really understanding the drivers of performance. We need to know we can measure success and then be able to use the performance data to help us all adapt our inputs and processes to focus on outcomes. We can no longer live in the world of engineering success and economic failure.

| Value | From (Challenged) | To (Successful) | Prize (based on $ 1 Bn project) | through... |
|---|---|---|---|---|
| Social Value Capture | Disconnected | Aligned with community needs | Multiplier effect | • Services outcomes specified<br>• Early engagement of community<br>• Service delivery lifecycle perspective |
| Political Value Capture | Aspirational | Inspirational | Multiplier effect | • Visionary<br>• Planned<br>• Policy enabled |
| Economic Value Capture | < 5 % Business case achievement | > 50 % | > $ 500 m | • Stakeholder alignment and engagement<br>• Adoption of innovative techniques<br>• Focus on value harvesting |
| Improved budget success | Overruns > 30 % | < 5 % | > $ 250 m | • Realistic estimates<br>• Flexible outcomes based business model<br>• Collaborative rapid problem solving |
| **Meeting schedule** | Overruns > 30 %<br><br>LD Fees 5 % | < 5 %<br><br>Early bonus 5 % | > $ 100 m | • Architecting bite sized and parallel chunks<br>• Stakeholder alignment and engagement<br>• Delivery teams work as one |
| Reducing Risk | Liquidated damages 5 % | 0 % | $ 50 m | • Reduced risk through early intervention<br>• Aligned business model |

# How do we know if our project is complex?

It is important that we apply the right mindsets to the nature of the project. Routine projects are predictable and  low risk. They can be well managed using traditional project management approaches. Complicated projects have a higher risk profile from an engineering perspective. They need a disciplined framework and business model that can adapt us the unknown aspects become clearer. Complex projects are far more emergent. We don't understand the risks upfront and can constrain innovation and incur endless variations by being too rigid. They require a more adaptive approach and business model that can align the different stakeholders interests as they  collaborate to deliver successful shared outcomes.

| Complexity Factor | Routine Project | Complicated Project | Complex Project |
|---|---|---|---|
| **System properties: Variety & domain knowledge** | Stable, known & repeatable | Stable & linear<br>Known & unknown but discoverable | Emergent & non-linear<br>Unknown but knowable |
| **Example** | Highway, Mine | Desalination plant, Port | Health service, Space station |
| **Nature of outcome** | Clearly defined and know approach | Defined but approach to be refined | Conceptual and changing with adaptive approach |
| **Stakeholder relationships** | Limited, aligned and engaged | Known set, may be influenced | Wide variety and wicked (oppositional) |
| **Impact intensity** | Product-only failure | Impact beyond system | Broad social and political implications |
| **Resources** | Known, available and engaged | Known, scarce and sought after | Known/Unknown, rare and to be developed |
| **Technology** | Known & stable | Known/Unknown and evolutionary | Known/Unknown and revolutionary |
| **Interfaces** | Stand-alone | 1 -3 modules | Many-to-many |
| **Methodology** | Known and repeatable | Discoverable and reductionist | Discernible but adaptive |
| **Value capture** | OTOBOS | Economic value captured | Social, political and economic value captured |
| **Governance** | Structured process, risk averse | Structured discovery, innovative, transparent, trust & communications | Shared purpose, distributed leadership, transparency and outcomes accountability |

# 2020: In the media

We have experienced a portfolio of successful projects that have developed Australia's fundamental economic infrastructure for the next 30 years

## Headlines

"These projects were complex and costly but they were well managed and met all of the performance hurdles in terms of social engagement and impact and economic success for venture partners, as well as sustainability and safety."

"We had many learning challenges and a number of mistakes along the way, but we learned from them and shared this knowledge with others to ensure we did not make the same mistakes again."

"We established project communities made up of many diverse stakeholders, unified by a shared sense of purpose and a fair economic model. The culture was collaborative and 'can do' outcomes-focused, where any issues were dealt with quickly in a generative manner."

"We now have an amazing generation of complex project leaders who are in demand by the rest of the world, and we are comfortable that our processes will continue to build both the leadership and the leaders we need for the ever-increasing complexity we face in the future."

# Acknowledgements

The interview/ discovery process was conducted through 30 interviews with different stakeholders to get their perspectives of success and failure

### Political leadership

- Former Premier of New South Wales

### Infrastructure Agencies:

- Infrastructure Australia
- NSW Treasury
- Infrastructure NSW
- Infrastructure Partnerships Australia

### Professional Peak bodies:

- Australian Constructors Association
- Project Management Institute
- Australian Institute of Project Managers

### Business Leadership

- Former Chair of Business Council of Australia
- President of Australian Constructors Association

### Owners team Mega-project Managers

- Resources
- Transport
- Health

### Construction companies

### Engineering Design organisations

### Law firms

### Infrastructure Investors

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# The research team

## Malcolm Dunn

Lead Researcher

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**Malcolm** is an Executive Change Coach. He has been involved in applied research for the last five years in the areas of human behaviours in a business context, accelerated development of leaders and boundary spanning leadership. He is currently part of the coaching team at the John Grill Centre for Project Leadership and Adjunct Faculty at AGSM.

As an Asia Pacific Industry Managing Partner in major international consulting firms (Booz & Co and Accenture) and Director of Business Schools (AGSM and MBS) he has executive teams plan and transform their organisations.

He has worked extensively in both the private and public sectors with large-scale Resources and Oil industry multinationals, as well as with the Federal and State Governments.

Malcolm has focused on adult learning/capability models and successfully used action-learning techniques to build cross-business unit/agency collaboration in both large organisations and Government. He conducts applied research in the application of complexity and behavioural sciences to organisations and mega-projects.

Malcolm has postgraduate degrees in Business, Science, and Psychotherapy.

## James Bawtree

Research Support

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**James** is an internationally-accredited strategy & execution, portfolio project, programme, PMO, benefits and project management consultant. James is an approved trainer with an extensive proven history of uplifting the capability of over 1,000 executives, programme, project, PMO, benefit and change managers.

He has supported executives and teams to better understand their roles and responsibilities, increasing speed of delivery within the project/programme/portfolio environment.

Clients leverage James' deep experience as a Programme Director, PMO Manager, Organisational Change Manager and Portfolio Advisor to optimise organisational project delivery. He has delivered many of his clients' most challenging programmes while coaching clients to ensure ongoing delivery capability uplift.

For the last four years James has led the MBA course in Strategy Implementation, Queensland University of Technology for full- and part-time Executive Masters students. He is a sought-after speaker at conferences and workshops.

## Craig Tapper

Research Support

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Craig focuses on Executive Development, Digital Marketing Strategy and Operational Excellence.

He has been a long-standing Program Director and Faculty member on AGSM's MBA, MBT and Executive Education Programs. He has consulted to major telecommunications, consumer products and resources companies. In addition, he led a boutique management consulting firm for over six years and accumulated over 15 years' experience as a director on boards.

Craig's career includes more than 25 years' experience at senior levels in the corporate and public sectors in both Australia and the United Kingdom, including senior sales, marketing and executive roles in major Australian and international companies.

Craig brings a breadth of functional expertise coupled with genuine adult learning experience to help organisations change. He understands how to engage the participants of change in the process.

He has an undergraduate degree and postgraduate degrees in economics, industrial relations, marketing and an MBA. He is a Fellow of the Australian Institute of Company Directors and a Senior Fellow of Finsia as well as being a Certified Practising Marketer.

## About Australian Constructors Association (ACA)

The Australian Constructors Association represents leading construction and infrastructure contracting companies. ACA members operate globally, with member companies operating in Australasia, Europe, Asia, North and South America and the Middle East. Collectively ACA member companies have combined annual revenues in excess of $A50 billion and employ over 100,000 workers in their Australian and international operations.

## About Agilience

Agilience is engaged in action based research, execution impact and learning. We have studied the heart and science of agility, and from this position we seek to become a catalyst in your process of outcomes driven strategic change. This applies to strategy and project execution in a complex world."