# Procurement Reform **Report Update**

## Momentum for a sustainable transport sector

December 2022

# Contents

# Executive summary

Reform of the procurement of transport infrastructure in Australia has never been more critical and more important. It is time to ensure the nation has a sustainable transport infrastructure industry and that the productivity of the sector is lifted for the immediate and future challenges and opportunities.

The rapid growth in the project pipeline together with a drive for more ambitious requirements from clients is occuring in an increasingly challenging national and global environment. Responding requires the whole industry to work together to ensure communities are delivered the critical transport infrastructure they need for their wellbeing and prosperity and that infrastructure businesses grow and are successful and sustainable into the future. The transport infrastructure industry makes a significant contribution to the life and economy of the nation and is worth celebrating.

The need for reform is not new, however a step change in order to continue and accelerate that reform is now absolutely essential. In 2019 RA and its members identified that, at the same time as a welcome boom in infrastructure investment was occurring, serious and major issues in the way transport projects are delivered needed to be remedied. This is essential if Australians were to get best value for money and best project outcomes for the investments being made.

These critical issues included risk definition and allocation, increase in project size and complexity, lack of visibility of a long-term pipeline of work, inadequate timeframes to assess risks, inadequate time in the design phase for innovation and improved design solutions, inadequate engagement between governments and industry during the design stage, and deficient education and immigration approaches to provide the required workforce skills and diversity in the workforce for the industry.

Following a meeting with the Victorian Premier in May 2019, industry and government roundtable discussions in November 2019 and a major workshop in March 2020, RA produced its **Procurement Reform Report: Recommendations and Strategies** in September 2020.

The 2020 Report identified the 'green shoots' being seen in procurement reform across a number of states and territories. However, it was clear that "a lot more must be done". Since the release of the report, RA has continued to work with governments nationally on the implementation of the recommendations. RA continues to advocate for reform of procurement in collaboration with its members across government and industry.

This Procurement Reform Report Update 2022 is an important further step in building the momentum for procurement reform of transport infrastructure in Australia. Update 2022 builds on the framework and recommendations of the 2020 Report with clear areas of priority and detailed, specific recommendations, that when acted on will move the reform of procurement forward for the benefit of government, industry and the community.

RA and its members have identified the need to review the 2020 Report as a matter of priority, to consider new and emerging challenges and changes in the environment in which transport infrastructure procurement is being undertaken. The landscape has changed dramatically since the 2020 Report was developed. In recent months there have been a number of high-profile business failures in Australia, particularly in the residential construction sector.

The dramatic collapse of Carrillion in the United Kingdom in 2018 highlighted to the international community, among other things, the need for sound procurement practices in the delivery of public infrastructure and services. It is incumbent on the whole sector to ensure that businesses are successful and do not fail due to the failings or inadequacy of settings in the procurement process, particularly with the new challenges being faced.

There has been significant growth in the transport infrastructure project pipeline since 2020 and there is continuing growth in the number of mega-projects. Government clients are also increasingly using procurement to achieve important social outcomes including, to benefit Indigenous and local employment, increased workforce diversity and the building of local capacity in supply chains.

Clients are prioritising the increased use of recycled materials and the priority to achieve a reduction in the carbon footprint of infrastructure both in its construction and in its use.

Since 2020 there has also been a significant deterioration in the economic, geopolitical and social climates that is negatively impacting the planning and delivery of infrastructure. Significant and increasing supply chain and hyper escalation challenges including for materials, plant and equipment, and supporting transport logistics are impacting industry and the way contracting is undertaken. Workforce challenges are being experienced with Australia at near full employment leading to worker and skills shortages.

At a workshop in August 2022, RA members identified the following critical additional challenges in procurement:

- cost escalation, foreign exchange rate volatility and hyper-inflation for construction materials and manufactured items;
- increasing pressures on wage and labour costs;
- often unreliable timeframes for the tendering process and inconsistent approaches to bid cost reimbursement;
- lack of skilled resources with near full-employment and low skilled-migration levels;

- difficulty in adopting innovation, including the use of new methods and recycled materials within the existing contracting approach;
- access to and cost of professional indemnity and project insurances and inappropriate cascading of requirements to project partners, including principal arranged insurance;
- increasing importance of visibility of operations and maintenance pipeline and the need to reform procurement in this area in line with capital projects; and
- a more collaborative approach is needed for appropriate risk allocation and mitigation between clients, contractors and sub-contractors.

It is clear that reform of the procurement of transport infrastructure is more critically urgent now than ever before. In a lead up to the August workshop, two thirds of RA members stated that reform is critically important and more urgent than it was 12 months ago.

Without improvement in procurement there are major risks for the whole industry, specifically:

**Government clients** will not be able to deliver the planned transport infrastructure for the community, with increased uncertainty around real project costs, timeframes and a loss of confidence from the community in project planning and delivery;

**Industry** experiencing inflexible contract arrangements with unrealistic risk allocation, unsustainable cost pressures, leading to increased risk of business failure, reduced investment in resources and career opportunities, withdrawal of some industry players from the sector and negative impacts on the well-being of employees; and

**The community** not receiving the full value of the transport infrastructure investment through sub-optimal planning and delivery.

In addition to these risks is the continuing issue of stagnation in productivity growth in the transport construction sector. In its October 2022 submission to the Productivity Commission, RA observed that productivity in the sector has not increased in some years. Even a small improvement in productivity would produce significant savings that could be further invested in infrastructure or other priority areas. The issue of poor productivity in the construction industry has also been highlighted by the Australian Constructors Association in its *Disrupt or Die* Report of November 2022[1]. RA believes that government needs to prioritise reform in the procurement of transport infrastructure as a key contributor in improving productivity across the sector.

While transport infrastructure has been a major proportion of the overall infrastructure pipeline, and it will continue to be significant and important, there is a rapidly growing pipeline of energy transmission and renewable energy projects.

This will likely result in fierce competition for scarce resources – both businesses and labour. It is therefore imperative that the procurement settings in the transport sector are optimised to deliver the pipeline of critically important transport projects.

Since 2020, RA has continued to champion procurement reform including at the RA Transport Summits in 2021 and 2022, the Procurement and Risk workshop in August 2022, interviews with a broad range of industry members and in several submissions to government.



[1] Disrupt or Die, ACA November 2022

A critical matter for RA members are the issues of value and value for money and the need for a mature approach to determining value-for-money through the whole procurement process. Value for money is about delivering the infrastructure for the right price, not necessarily the cheapest price. The right price can be complex – there are many variables that need to be considered. It is critical that a sustainable and competitive industry is fostered and championed for the future.

RA and its members acknowledge that reform is occurring nationally across jurisdictions, with each taking an approach that is locally relevant to its own pipeline and market. These initiatives are applauded and valued by the industry. RA believes there is a great opportunity for clients to be proactively learning from each other, and in a coordinated manner taking forward the best reform initiatives where they suit that particular client or circumstance.

This Updated Report provides examples of good practice from across states and territories to promote sharing of innovation and improvements in procurement. It also draws on national and international reform initiatives in procurement reform.

The Updated Report identifies recommendations that will drive real changes and improvements in the procurement of transport infrastructure. When government and industry work together real and meaningful outcomes can be achieved for the benefit of all.

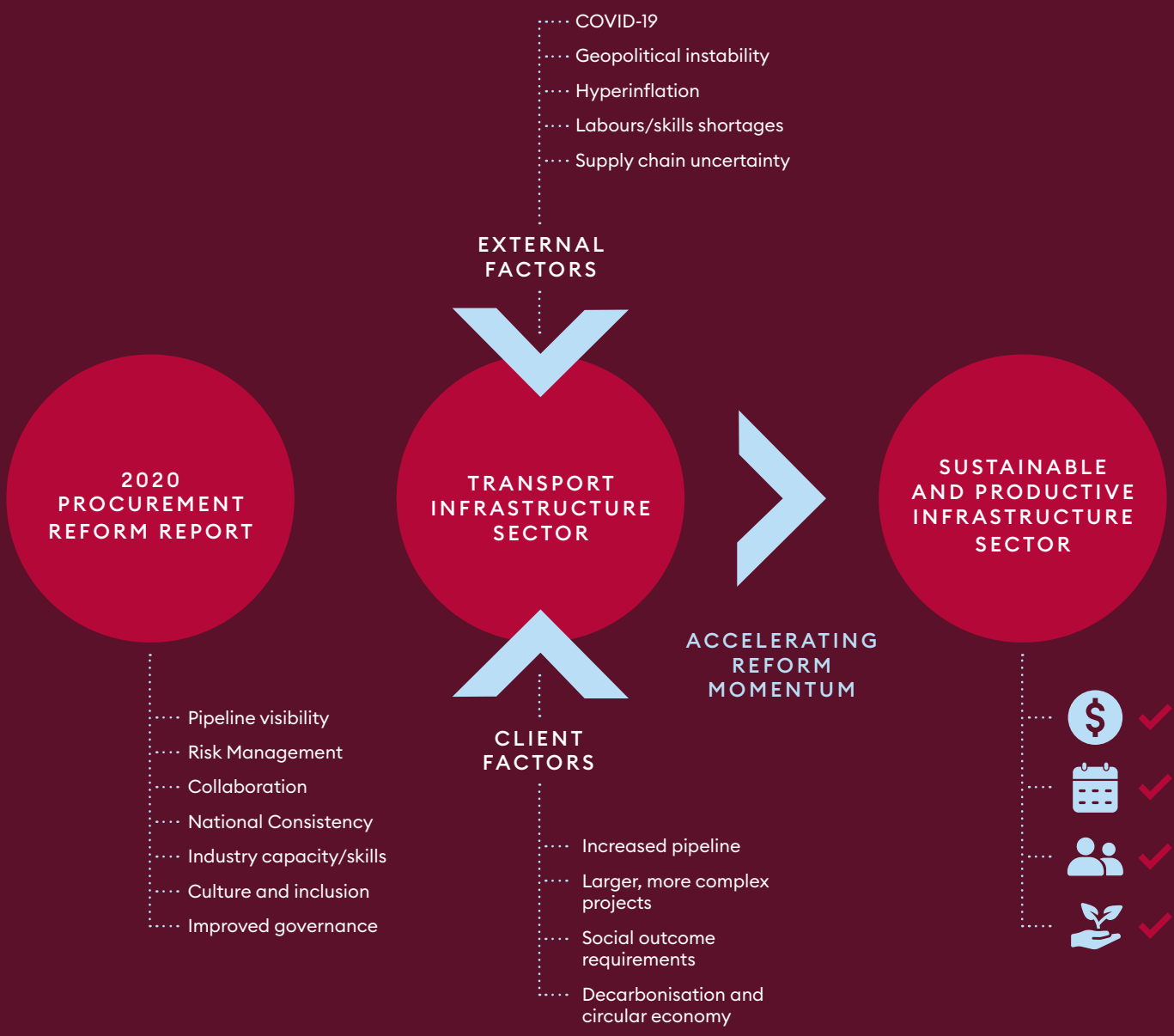
The implementation of these recommendations will deliver real long-term benefits and contribute to building a more sustainable and productive infrastructure sector. Doing so will benefit three key parties:

**Government** will be able to deliver the project pipeline with more certainty, where true costs are known and managed, timeframes are assured, projects risks are proactively managed and planned project outcomes are delivered for the community;

**Industry** will have confidence to build and invest in capacity and capability for the project pipeline, have greater certainty with regard to timeframes, costs and risks; and be energised to bring innovation and efficiency in project planning and delivery; and.

**The community** will benefit from well planned and delivered infrastructure projects that meet its transport and mobility needs, with real confidence in the planning and delivery processes.

It is time to build further momentum in procurement reform to meet the challenges of delivering the transport infrastructure Australia needs. A sustainable, productive and successful transport infrastructure sector, where the whole industry works together for better outcomes is an imperative - now and for the future.


COVID-19
Geopolitical instability
Hyperinflation
Labours/skills shortages
Supply chain uncertainty
EXTERNAL FACTORS
2020 PROCUREMENT REFORM REPORT
TRANSPORT INFRASTRUCTURE SECTOR
SUSTAINABLE AND PRODUCTIVE INFRASTRUCTURE SECTOR
ACCELERATING REFORM MOMENTUM
Pipeline visibility
Risk Management
Collaboration
National Consistency
Industry capacity/skills
Culture and inclusion
Improved governance
CLIENT FACTORS
Increased pipeline
Larger, more complex projects
Social outcome requirements
Decarbonisation and circular economy

# Summary of recommendations

The recommendations in each of the priority areas will deliver real improvements in outcomes in the procurement of transport infrastructure across the nation.

The following table outlines those outcomes against each recommendation and indicates the impact and benefit for government, industry, the supply chain and community.

| Outcomes | Rec No. | Priority areas and recommendations | Impact/Benefit | | | |
|---|---|---|---|---|---|---|
| | | | Government | Industry | Supply chain | Community |
| **OWNERSHIP AND ACCOUNTABILITY** | | | | | | |
| A nationally collaborative approach to the reform of procurement of transport infrastructure projects through sharing and benchmarking of reform initiatives across all jurisdictions. | 1 | Jurisdictions continue (and further enhance) the sharing of actions taken to improve project procurement, including benchmarking and sharing of outcomes to deliver continuous improvement across all jurisdictions. At a minimum, jurisdictions should report the outcomes of their reforms to industry at an open forum annually. | ✓ ✓ ✓ | ✓ ✓ | ✓ | ✓ ✓ ✓ |
| Improved project planning and delivery through genuine, timely and responsive engagement with industry through the entire procurement process. | 2 | Government clients should commit to engaging with industry in the planning and development of projects through to contracting and delivery, including transparency on processes, timeframes, value of industry responses and decisions by clients. | ✓ ✓ ✓ | ✓ ✓ ✓ | ✓ ✓ | ✓ ✓ |
| A national pipeline of infrastructure projects that matches industry capacity to deliver the planned projects and builds confidence for industry to further invest in capability and capacity to deliver upcoming projects. | 3 | Infrastructure Australia should consider the development, management and ongoing coordination of a national pipeline of infrastructure projects in partnership with the states and territories. | ✓ ✓ | ✓ ✓ ✓ | ✓ ✓ ✓ | ✓ ✓ |
| | 4 | Jurisdictions should ensure alignment between the project pipeline and industry capacity including re-profiling the pipeline to reduce peaks and troughs to match industry capacity, and to ensure that specialist resources are able to contribute to projects nationally as required. | ✓ ✓ ✓ | ✓ ✓ ✓ | ✓ ✓ ✓ | ✓ |

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| **OWNERSHIP AND ACCOUNTABILITY** | | | | | | |
| A national pipeline of infrastructure projects that matches industry capacity to deliver the planned projects and builds confidence for industry to further invest in capability and capacity to deliver upcoming projects. | 5 | Jurisdictions should continue to provide comprehensive information on the pipeline of projects with expanded information on project details, timeframes for contracting arrangements and form of contract to the best level possible – to inform industry and allow it to prepare and allocate resources. Project details including cost estimates should be updated as projects are planned and developed. | ✓<br>✓ | ✓<br>✓<br>✓ | ✓<br>✓ | ✓ |
| The full capacity of industry is available for government clients is delivering transport infrastructure projects. | 6 | Jurisdictions should ensure that the pipeline caters for all tiers of industry both through a spread of project size and complexity to allow direct engagement and thorough mechanisms that facilitate and allow smaller industry players to participate meaningfully in larger projects as valued partners. | ✓<br>✓ | ✓<br>✓<br>✓ | ✓<br>✓<br>✓ | ✓ |
| **PLANNING AND DESIGN** | | | | | | |
| Project Planning | | | | | | |
| Transport infrastructure projects are well planned and developed with a rigorous approach to managing issues and risks before coming to market. | 7 | Jurisdictions should allocate adequate time and resources to ensure projects are well developed, planned with robust estimates of time and cost and a clear understanding of all the project risks, with early industry engagement to foster innovation and options for the project; and project details are announced when the project has been adequately planned and developed. | ✓<br>✓<br>✓ | ✓<br>✓<br>✓ | ✓<br>✓ | ✓<br>✓<br>✓ |

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| **PLANNING AND DESIGN** | | | | | | |
| **Project Development and Design** | | | | | | |
| Transport infrastructure projects are well planned and developed with a rigorous approach to managing issues and risks before coming to market. | 8 | Jurisdictions should ensure that adequate time is allowed and funds allocated for the project development and design phases of a project and that clients adopt procurement approaches that respond to the size, complexity, duration and risk profile of the project - including engagement with all elements of the industry. | ✓ ✓ ✓ | ✓ ✓ ✓ | ✓ ✓ | ✓ ✓ |
| | 9 | Jurisdictions should continue to focus on approaches to de-risk projects through early works, service relocations and other accommodation works and adopting appropriate timeframes for project development, contracting and delivery and provide more certainty on project timeframes and costs. | ✓ ✓ | ✓ ✓ | ✓ ✓ | ✓ |
| **Technology and Digital** | | | | | | |
| The efficiency of planning and delivery of transport infrastructure projects is improved through the use of digital technology in all project phases. | 10 | Federal, state and territory governments should take a strong leadership role in delivering the 'digital by default' approach as advocated by Infrastructure Australia. | ✓ ✓ | ✓ ✓ | ✓ ✓ | ✓ |
| **Social Procurement** | | | | | | |
| A national approach to social procurement initiatives with clear and transparent guidance for industry while recognising the needs and goals of individual jurisdictions. | 11 | Clients should provide clear guidance and transparency on assessment and evaluation of social procurement initiatives proposed by bidders as part of the overall bid assessment process. | ✓ ✓ | ✓ ✓ ✓ | ✓ ✓ | ✓ ✓ ✓ |

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| **PLANNING AND DESIGN** | | | | | | |
| **Social Procurement** | | | | | | |
| A national approach to social procurement initiatives with clear and transparent guidance for industry while recognising the needs and goals of individual jurisdictions. | 12 | Industry should work together with jurisdictions to develop a national framework for social procurement as part of transport infrastructure procurement. This framework should provide national consistency in approach, assessment, evaluation and valuation of social procurement while recognising the individual needs and goals of particular jurisdictions. | ✓ ✓ ✓ | ✓ ✓ ✓ | ✓ ✓ | ✓ ✓ ✓ |
| **The Circular Economy and Decarbonisation** | | | | | | |
| Increasing use of recycled materials in transport infrastructure projects leading to a lower carbon footprint and improved environmental outcomes for the community. | 13 | Jurisdictions should take a national approach to the development of alternative materials specifications to increase recycling together with benchmarking and sharing of recycling outcomes on projects, and provide straightforward mechanisms for the approval of innovative and recycled materials during the procurement process. | ✓ ✓ | ✓ ✓ ✓ | ✓ ✓ | ✓ ✓ ✓ |
| **LEGAL AND RISK** | | | | | | |
| **Right Contract for the Right Project** | | | | | | |
| The optimum contract form is adopted for each project and both clients and industry teams are working together to achieve the planned project outcomes. | 14 | Jurisdictions should:<br><br>- adopt the most appropriate form of contract for each project based on relevant critical factors and engage with industry in determining the optimum model; and<br><br>- together with industry, focus on each party bringing teams to the project that build constructive and positive working relationships with a best-for-project mindset. | ✓ ✓ ✓ | ✓ ✓ ✓ | ✓ ✓ | ✓ |

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| **LEGAL AND RISK** | | | | | | |
| **Risk Allocation and Management** | | | | | | |
| Project risks are identified and managed collaboratively by clients and industry throughout the project lifecycle leading to fewer 'surprises' and fewer disputes. | 15 | Jurisdictions should continue moving to a more mature approach to allocation of risk including the form of contract and processes of risk assessment and allocation matched to the project size, complexity and risk profile. | ✓ ✓ ✓ | ✓ ✓ ✓ | ✓ ✓ | ✓ ✓ |
| **Cost Escalation and Hyper-Inflation** | | | | | | |
| Effective and equitable management of cost and supply chain risks for the benefit of both government and industry. | 16 | Jurisdictions should work together and with industry on a national approach to develop and adopt a range of appropriate mechanisms to respond to equitably inflationary pressures and supply chain constraints, both for existing and future contracts. | ✓ ✓ ✓ | ✓ ✓ ✓ | ✓ ✓ | ✓ |
| **Insurance Challenges** | | | | | | |
| A fit-for-purpose insurance regime that reflects the real risks and exposure of each and all industry participants. | 17 | Jurisdictions should adopt a Professional Indemnity and broader insurance regime that is fit-for-purpose and that reflects the real risks and the exposure of industry participants, including a rational approach to passing down of insurance requirements to sub-contractors that better reflects the risk and reward in the project. | ✓ ✓ | ✓ ✓ ✓ | ✓ ✓ | ✓ |

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| **LEGAL AND RISK** | | | | | | |
| **Tendering and Contracting Processes** | | | | | | |
| Tendering and contracting processes that are clear and transparent, honour agreed timelines and reduce unnecessary use of limited resources across both the client and industry. | 18 | Government clients should improve the efficiency of tendering processes by:<br><br>- structuring their procurement approach to reduce timeframes within the tender process;<br><br>- developing and publicising the procurement timetable for each project including key decision dates and ensuring that these timeframes are honoured; and<br><br>- seeking to reduce the number of bidders going through the whole tender process. | ✓<br>✓ | ✓<br>✓<br>✓ | ✓<br>✓ | ✓ |
| A bid reimbursement regime on larger projects that is clear and transparent and provides certainty for industry. | 19 | Government clients should move to bid cost reimbursement on larger capital projects and provide clarity and transparency on the processes for the payment of bid stipends. | ✓<br>✓ | ✓<br>✓<br>✓ | ✓ | ✓ |
| **Value for Money** | | | | | | |
| Increased confidence and efficiency for industry to work across jurisdictional boundaries through consistent contract documentation. | 20 | Government clients should work both within and across jurisdictions to develop consistent and aligned contract documentation to promote certainty and efficiency in industry. | ✓<br>✓ | ✓<br>✓ | ✓ | ✓ |

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| **LEGAL AND RISK** | | | | | | |
| Value for Money | | | | | | |
| A contemporary definition and application of Value-for-Money that responds to current and emerging challenges and meets the needs of the transport infrastructure sector across Australia. | 21 | The Federal Government should work with the states and territories to develop a more contemporary definition of 'value for money' in infrastructure procurement that meets the needs of the larger, more complex projects and programs of works being delivered in Australia. | ✓<br>✓ | ✓<br>✓<br>✓ | ✓ | ✓<br>✓<br>✓ |
| **CAPACITY AND CAPABILITY** | | | | | | |
| A larger and more skilled workforce to respond to current and future shortages to deliver the growing pipeline of projects across the nation. | 22 | The Federal Government should work with the states and territories and with industry to ensure the increased migration program contributes to the skills and capacity requirements needed to deliver the growing pipeline of transport infrastructure projects across the nation. | ✓<br>✓ | ✓<br>✓ | ✓ | ✓ |
| | 23 | Work across jurisdictions should be done to:<br><br>- reduce barriers to the movement of skills and capability across jurisdictional borders through mutual recognition of skills and qualifications;<br><br>- provide opportunities for the capacity in Tier 3 and 4 businesses to directly contribute to the delivery of transport infrastructure; and<br><br>- facilitate the entrance of people from other industry sectors with transferable relevant skills into the transport infrastructure sector. | ✓<br>✓ | ✓<br>✓<br>✓ | ✓<br>✓ | ✓<br>✓ |

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| | | | Government | Industry | Supply chain | Community |
| **CAPACITY AND CAPABILITY** | | | | | | |
| A larger and more skilled workforce to respond to current and future shortages to deliver the growing pipeline of projects across the nation. | 24 | Industry, industry associations, government delivery agencies and relevant training organisations work together to ensure that training and education programs provide the number and quality of appropriately skilled and qualified people to meet industry growing needs. | ✓<br>✓ | ✓<br>✓ | ✓ | ✓ |
| **GOVERNANCE** | | | | | | |
| Increasingly competent clients working in partnership with industry together with project assurance approaches that are effective and efficient. | 25 | Jurisdictions should:<br><br>- adopt a more efficient and streamlined approach to project assurance including reporting that adds value to both the client and industry; and<br><br>- continue to grow their leadership and strategic competencies in infrastructure procurement in partnership with industry. | ✓<br>✓<br>✓ | ✓<br>✓<br>✓ | ✓ | ✓ |
| **CULTURE AND INCLUSION** | | | | | | |
| Improved wellbeing of all participants in the transport infrastructure sector. | 26 | Continue improving the culture of the industry, particularly through the adoption of the culture standard and other initiatives. Share information and success across jurisdictions and benchmark. Promote best practice in improving culture. | ✓<br>✓<br>✓ | ✓<br>✓<br>✓ | ✓<br>✓ | ✓<br>✓ |

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| **CULTURE AND INCLUSION** | | | | | | |
| A diverse and inclusive workforce contributing positively to projects and the sector. | 27 | Continue initiatives to improve the diversity and participation in the industry and benchmark and share across the jurisdictions. Consider the adoption of a demonstration project where a suite of these initiatives is implemented to demonstrate their effectiveness and measure the outcomes on the project. | ✓ ✓ ✓ | ✓ ✓ ✓ | ✓ ✓ | ✓ ✓ ✓ |
| High performing transport infrastructure projects and project culture are recognised and celebrated. | 28 | - Jurisdictions should develop and implement a program to recognise and celebrate projects where there is a strong, positive and healthy culture leading to great project outcomes; and<br>- RA should develop a program/scheme/award to recognise high performance projects in terms of culture, team performance and community outcomes. | ✓ ✓ ✓ | ✓ ✓ ✓ | ✓ ✓ | ✓ ✓ ✓ |
| | | | ✓ ✓ ✓ | ✓ ✓ ✓ | ✓ ✓ | ✓ ✓ |

## LEADING IN CAPACITY

Getting the right systems and the right people

### 1 A visible pipleline

Working for a nationally coordinated project pipeline, so that governments and industry and plan their activities with certainty, confidence and clarity and projects can be delivered efficiently.

### 2 Procurement reform

Modernising systems and regulations to promote more effective approaches to project development, contracting, risk allocation and utilities management, to enhance transparency for all parties.

### 3 Driving digital uptake

Highlighting the potential of digital approaches to deliver productivity and safety benefits in the design, construction, operation and management of transport assets.

### 4 Workforce resilience

Making sure our workforce is equipped with the right skills for future needs - and reflects the values, diversity and expectations of the communities it serves.

# Introduction

Roads Australia (RA) is the peak body for roads within an integrated transport system, representing an industry that contributes $236 billion annually to the economy and supports 1.4 million jobs. RA has over 150 members and brings industry, government, and communities together to lead the evolution of Australia's roads, integrated transport and mobility.

RA prides itself on being a leader in the industry. The organisation strives to be at the forefront of setting the industry up for success and pioneering new ways to be able to attract and retain highly skilled people now and into the future. This is iterated in the RA Strategic Plan 2022-2024 which outlines our four strategic values as being:

### THE LEADER

**To be a leading voice of influence.**

RA is recognised by government, industry and the community as driving value and connectedness for the Australian roads and integrated transport sector.

### THE FACILITATOR

**To facilitate contributions to the industry and public policy.**

Develop and communicate sound, evidence-based policy solutions encompassing safety, capacity, transport reform, customer experience and sustainability.

### THE COLLABORATOR

**To collaborate on the efficiency, development and national priority of Australia's roads and integrated transport systems which underpin the social, economic and cultural fabric of the nation.**

Promote recognition by government, industry and the community of the critical importance of Australia's roads and integrated transport in infrastructure assets and networks.

### THE CHAMPION

**To champion a diverse, inclusive, sustainable and values-led organisation and industry.**

Support our people to be high performing through our culture and systems.

Our main priority in embodying these characteristics is to make positive changes to the integrated transport system and our member organisations – both of which sit within the context of the construction industry.

## The RA Strategic Plan 2022-2024 outlines RA's four policy themes:

### Place Making

Capitalising on neighbourhood spaces to optimise their use and to promote people's health, happiness and well-being.

### People

A focus on the people of transport, the workers and customers.

### Data and Technology

Using information and emerging technology to deliver improvements to customers and the development of infrastructure.

### Resilience

To be able to rapidly and successfully respond to change.

## Our strategic plan also includes three policy goals:

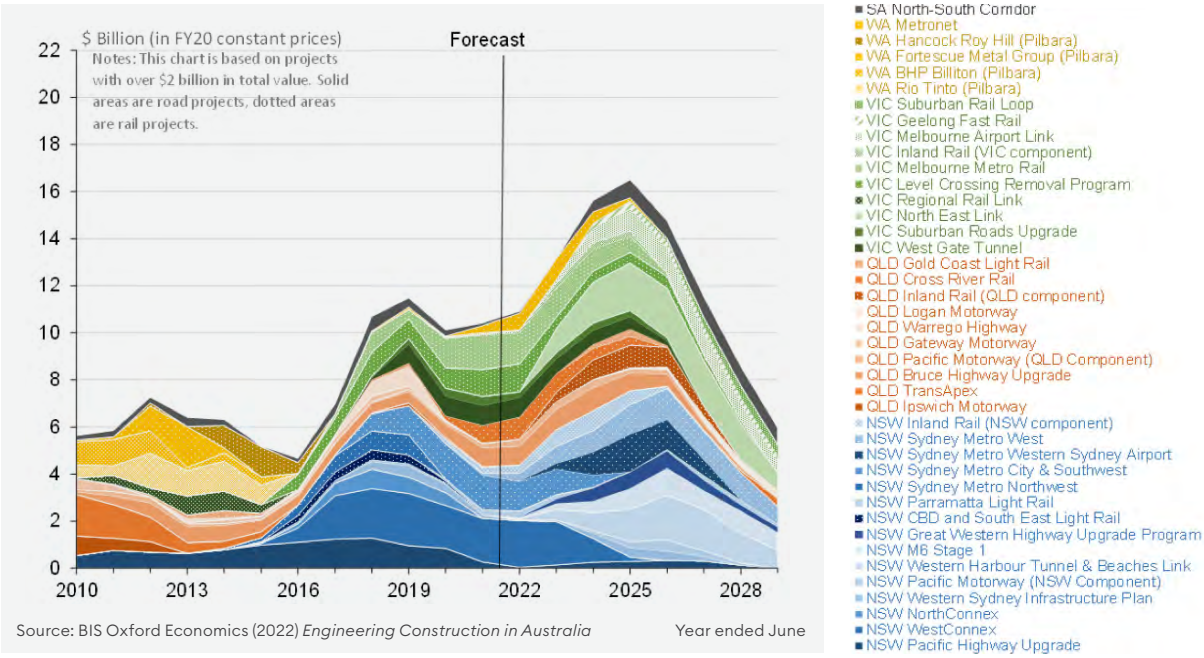
- optimise the use of our roads for environmental, social, economic and cultural outcomes;
- improve the stewardship of our roads for the workers on them and the people who use them; and
- decarbonise the economy.

# Growing infrastructure pipeline and global challenges

Australia is delivering the largest and most ambitious pipeline of transport projects in history – vital projects that will increase productivity, improve our cities, reduce road injury and trauma and move freight more efficiently.

Now more than ever, it is critical that procurement of this vital infrastructure is undertaken in the most efficient and effective manner to ensure that the maximum value for the investment is realised. It is essential that governments and industry work together effectively to best utilise scarce resources and ensure that taxpayers' funds are invested wisely and efficiently.

Australia is delivering more mega-projects than ever before with these being planned and delivered across all states. Investment has grown from less than $6 billion in FY2021 to nearly $11 billion in FY2024, for major road projects greater than $2 billion.




Source: BIS Oxford Economics (2022) *Engineering Construction in Australia* Year ended June

In addition to these mega-projects, governments across Australia are investing in road and transport projects at record levels with many new infrastructure development and improvement projects across all states and territories. The pipeline of projects is likely to increase with further project priorities and commitments.

Governments are making investments in these projects to deliver improved transport outcomes for the community, particularly with growing populations in major east coast cities. Many of these projects are city-shaping, nationally significant and will fundamentally improve transport systems, economic productivity, road safety and liveability outcomes for the whole community.

Compounding the planning and delivery of transport infrastructure in Australia is a move to more accelerated project planning to effect earlier delivery thereby increasing risks, competition across State boundaries for specialist skills and increasingly demanding planning and approval processes.

In its 2019 Infrastructure Audit, Infrastructure Australia in focussing on industry efficiency, capacity and capability stated:

*"Projects are getting larger and increasingly complex, and will require new approaches. How the public sector make decisions, handles procurement, selects contract models and handles risk will have significant bearing on the functionality and efficiency of our infrastructure. Alongside these changes new demands for sustainability, resilience and security will provide opportunities to achieve better outcomes. However, this makes the planning and management of industry capacity more complex."*[2]

The challenges involved in the procurement and delivery of government funded infrastructure have been well articulated by industry participants and representative organisations like Roads Australia over many years and were the impetus for the 2020 Procurement Reform Report[3].

These challenges may not be new, but the need for solutions that will effectively address them has unquestionably become more urgent since the COVID-19 pandemic. Governments at every level are relying on the delivery of transport infrastructure projects as a major aspect of their post-COVID economic stimulus recovery. However, at the very time when it is most critical, time delays and cost blowouts on projects are being experienced, because the work of procurement reform has not kept pace with the challenges. As a result, project delivery is suffering as governments and industry struggle with often outdated, inflexible commercial frameworks and as industry struggles to attract the workforce it needs.

The procurement of infrastructure is now encountering a range of new headwinds and challenges in the broader economic, national and global climate. Global conflicts and heightened international tensions are contributing to significant challenges. Industry is experiencing major disruptions to the supply chain (particularly for imported materials and equipment), with increased uncertainty and costs for industry. Cost escalation and hyper-escalation for materials are a real challenge for the industry.

[2] An Assessment of Australia's Future Infrastructure Needs, The Australian Infrastructure Audit 2019, Executive Summary *Page 18*

[3] Roads Australia Procurement Reform Report September 2020

With Australia at near full employment, the shortage of workers and skills is having a major impact on industry's capacity to deliver the upcoming pipeline of work. The national and international drive to reduce carbon emissions and move to net-zero is also impacting the way projects are planned and delivered.

The 2021 Australian Infrastructure Plan[4] from Infrastructure Australia recently identified industry productivity and innovation as a key priority and has identified the following areas for reform:

## Reform 3.1

Improving planning, portfolios and pipelines – A series of reforms that will transform how governments sequence, plan, engage and communicate with industry so it becomes more efficient and effective.

## Reform 3.2

Enhancing project outcomes – Proven best practice approaches that, when applied early, drive superior project outcomes.

## Reform 3.3

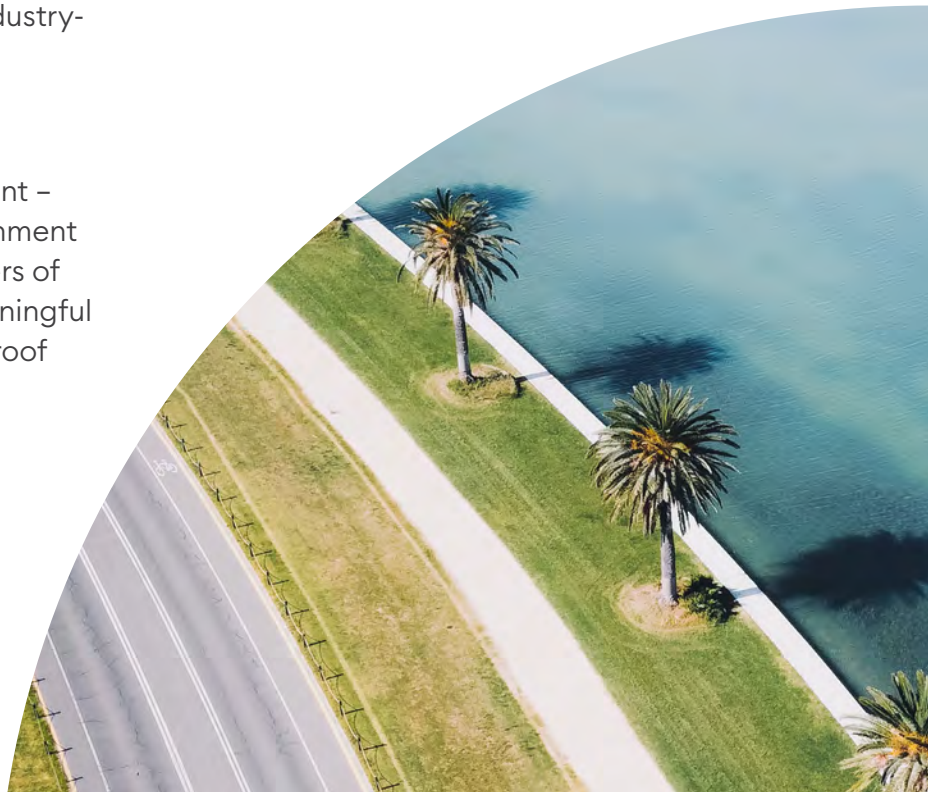
Digital by default – Why the sector must adopt innovative digital technologies, tools and processes and why innovation needs industry-government partnership.

## Reform 3.4

Next generation infrastructure investment – Australia needs a new operating environment for the infrastructure sector where all tiers of government work together to drive meaningful and structural change that will future-proof assets and services.

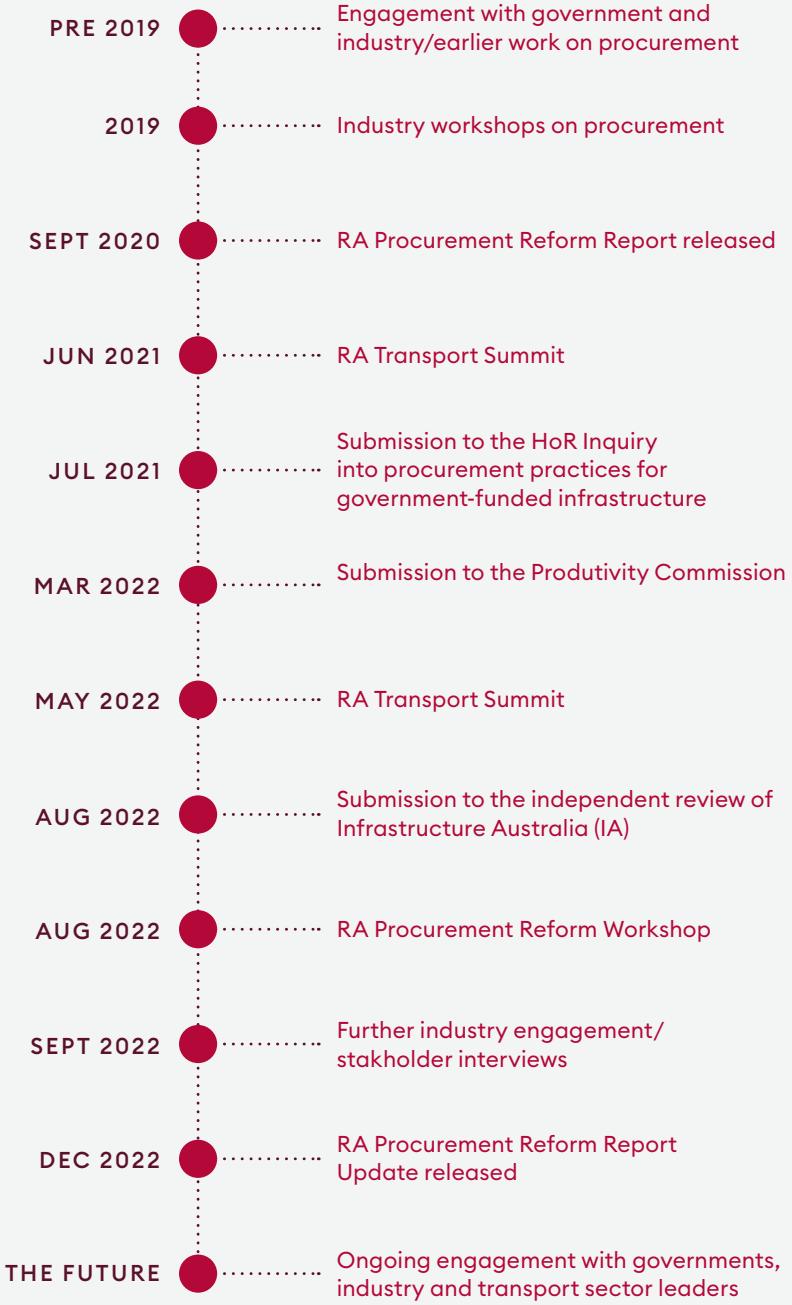
There has been little improvement in productivity in the procurement of infrastructure for some years and so innovation is critical to deliver the growing pipeline of projects within the constrained and changing market. There are real innovation opportunities through the increased use of technology, improved systems and tools, system and product modularisation and more collaborative contract models.

The whole industry needs to work together to respond to these challenges to deliver the pipeline of transport projects the community needs now and into the future. It is recognised that a number of clients and transport agencies have recognised this and are pursuing reform of the procurement process and more fully engaging with the industry and whole supply chain.



[4] 2021 Australian Infrastructure Plan

# Procurement reform journey



# Procurement reform progress

Roads Australia released its Procurement Reform Report[5] in September 2020. The report was developed in response to significant growth in the transport infrastructure program with larger, more complex projects, the need for improvement in project delivery and the long-term sustainability of the construction sector.

The report identified the following key issues driving the need for reform of procurement:

- investment in infrastructure by governments across Australia is at once-in-a-generation level and is likely to remain so for some years;
- the emergence of mega-projects has reshaped the infrastructure landscape with some sections of the industry unable to participate in planning, design and delivery;
- the process of risk definition and allocation particularly on larger projects is inadequate;
- lack of visibility of the forward pipeline of work thereby not allowing companies to gear up for future work opportunities;
- current procurement models which include 'hard edged' risk transfer often resulting in significant complex legal disputes with no real winners;
- need for governments to engage with industry earlier during the design phase;
- education and immigration schemes are not meeting the increased demand for skilled labour; and
- a lack of women and people from diverse backgrounds in the industry.

Roads Australia, together with a number of CEOs from its membership, had met with the Premier of Victoria in May 2019 to discuss these issues. RA then convened a roundtable with government and industry in November 2019 followed by major workshop in March 2020.



[5] Roads Australia Procurement Reform Report September 2020

Further industry and industry consultation was undertaken following the roundtable and workshop in the development of the Report.

The report presented a number of recommendations for the reform of procurement in transport infrastructure in Australia based on the following areas:

## Ownership and Accountability

Recommendation focuses on close industry and government collaboration in pursuing the other recommendations.

## Pipeline

Recommendations seek to improve the way government prioritises and publicises future infrastructure projects. It also encourages early engagement with industry.

## Planning and Design

Recommendations focus on devoting additional time to planning and design including early engagement with industry, as well as the separation of the design and construction stages, when appropriate.

## Legal and Risk

Recommendations seek to better assign risk and streamline contracting processes for the benefit of both government and industry. It is proposed there is early engagement with industry to help get ahead of project risks and that risks should be allocated to the party best able to manage and mitigate those risks.

## Capacity and Capability

Recommendations seek to broaden the range of firms which can participate in procurement, and improving overseas and interstate migration for people seeking positions in the industry. It recommends working closely with external training and education providers to better match their offerings with industry needs.

## Governance

Recommendations seek improvements in quality control and to look at alternative governance models. It calls for a reassessment of the role of the Independent Review within the project assurance process, and establishing special purpose companies to oversee mega-projects.

## Culture and Inclusion

Recommendations aim to ensure industry seeks to attract a wider pool of prospective talent. This includes supporting the Construction Industry Culture Taskforce (CICT) with the implementation of their Culture Standard, as well as developing a culture and inclusion performance framework

Since the release of the Procurement Reform Report, RA has continued to champion its strategies and recommendations particularly through engagement with Ministers and leaders in government.

It has been provided to Premiers and Transport Ministers in Victoria and New South Wales and National Cabinet, Board of Treasurers and the Transport and Infrastructure Council. It has also been provided to the (then) Transport and Infrastructure Senior Officials Committee (TISOC) and CEOs of relevant Departments in Victoria and NSW.

RA has also continued to engage with the road and transport industry through a series of webinars, presentations and discussions. In addition, RA continues to meet with Ministers and leaders in government to discuss procurement reform and has actively engaged with Infrastructure Australia on the matter.

RA has established a Capacity Expert Panel with representatives across industry to work with all jurisdictions to pursue recommendations of the Procurement Reform Report, monitor developments and improvements in procurement in individual jurisdictions, and share those developments and lessons nationally.

In 2021, RA made a submission to the House of Representatives Standing Committee on Infrastructure, Transport and Cities inquiry into Procurement Practices for Government-funded Infrastructure. In that submission RA highlighted that the planning and delivery of this significantly larger pipeline of projects presents significant challenges for governments, industry and the whole supply chain.

RA's submission included a range of recommendations about how the Federal Government can take a leadership role in partnership with State and Territory governments in improving the procurement of government funded transport infrastructure.

An independent review of Infrastructure Australia has been undertaken by the Federal Government. RA made a submission to that review in August 2022 and several of the recommendations made by RA are related to procurement reform.

As part of the Productivity Commission's review of Australia's productivity consultation was undertaken including the invitation for public submissions.

RA also made a submission to the Productivity Commission in October 2022 highlighting that the productivity in the infrastructure and construction sectors have lagged other industries and there has been little improvement in productivity for some years.

Several recommendations relevant to the procurement of transport infrastructure were made, including:

- that the Commonwealth, along with state and territory governments, support reforms to the procurement and delivery of transport infrastructure by implementing the many productivity enhancement recommendations outlined by RA and Infrastructure Australia (IA) in our various reports and submissions; and
- support for continued research into the greater inclusion of "waste" streams as a replacement for virgin materials in infrastructure and as a means to develop a sustainable circular economy in infrastructure development and maintenance.

RA has continued engagement with government, industry and its members on procurement reform through Procurement and Risk panel sessions at the RA Transport Summits in 2021 and 2022, and an industry workshop (including pre-workshop survey) in August 2022. A summary of the key issues, findings and priorities are included in Appendix B of this report.

Following the August 2022 workshop, RA undertook a series of interviews with a select group of members across government, legal and advisory, design consultants and the construction industry to gather more specific information on achievements, issues and priorities for the future. This information together with the outputs from the survey, workshops and additional research has been used to develop priority areas and recommendations in this update report.

# National and international reform initiatives

The need for reform in the procurement of infrastructure is being recognised nationally and internationally.

Infrastructure Australia has undertaken important work in this area and advocated for significant reforms across all infrastructure categories including transport.

Its Delivering Outcomes Report[6] of March 2022 identified seven focus areas for reforms needed to deliver better outcomes for the community and for industry. It identified the need for a more productive, innovative and sustainable infrastructure sector. The seven focus areas strongly align with the priorities identified by RA and its members and with the recommendations for reform in the procurement of transport infrastructure in Australia. The seven focus areas are:

## Outcomes for people and places

Infrastructure investment is driven by delivering economic, social and environmental outcomes to enable people and places to flourish and prosper.

## Systems

Managing and planning infrastructure as a system drives more informed decision-making leading to higher quality, faster and cheaper infrastructure solutions that better align to the needs of people and places.

## Digital

Digital transformation will drive productivity and innovation in infrastructure delivery.

## Collaboration

Collaboration and integration across the ecosystem will drive a financially sustainable and high performing infrastructure industry.

## Commercial

Commercial alignment and optimisation drives industry financial sustainability and enables innovation.

## Innovation

Delivery integration and innovative techniques enable increased productivity.

## People

People wellbeing and resilience.



[6] Delivering Outcomes, Infrastructure Australia 2022

Each of these focus areas is supported by overarching actions to achieve the desired outcomes. These proposed actions strongly align with priority areas and recommendations for procurement reform identified by RA.

Project 13[7] in the UK was developed in response to some real issues in the infrastructure sector including some high-profile business failures. The Project 13 model moves away from the transactional model based in the 1980's, one that prevents efficient delivery, prohibits innovation and fails to deliver the high-performing infrastructure networks that business and community require. It moves to an enterprise model that brings together owners, partners, advisers and suppliers, working in more integrated and collaborative arrangements, underpinned by long term relationships. Participating organisations are incentivised to deliver better project outcomes.

Project 13 is a part of the Infrastructure Client Group program and is a partnership initiative of the Institution of Civil Engineers and the World Economic Forum. Project 13 is supported by the UK Government Construction Playbook[8] which sets out key policies and guidance on public works projects and programs and their assessment, procurement and delivery.

As part of the reform of procurement, the UK Government has developed a structured and guided approach to the use of "Should Cost Models (SCM)" in its procurement. The UK Government has identified the importance of deep client knowledge of the real and true cost of infrastructure recognising that the client's knowledge of the cost of a project will and should mature through the phases of project planning, development and delivery. The three fundamental benefits of SCMs are to provide a better understanding of the costs associated with different delivery model options; to provide insight into those potential delivery models; and help protect the government from 'low-cost bid bias' (the tendency to favour the lowest cost bid as the preferred option).

These national and international examples of procurement reform support the priorities and directions being proposed by RA in the reform of procurement of transport infrastructure in Australia.

[7] Project 13, UK
[8] Construction Playbook, UK Government 2022

# Priority areas and recommendations

## Approach to priority areas and recommendations

The priority areas are consistent with the 2020 Procurement Reform Report and the recommendations build on the previous report providing a higher level of detail on specific actions required. The recommendations from the 2020 Procurement Reform Report are provided in Appendix A.

Examples of Good Practice from jurisdictions are included under each priority area noting that this is not a comprehensive representation as to what is happening in every state and territory. The Examples of Good Practice are provided to show what can and is being done to respond to the current procurement challenges and acknowledge where real progress is being made.

## Ownership and accountability

Ownership and Accountability, which focuses on close collaboration between industry and government.

When government and industry work together the best project outcomes are achieved, and the transport benefits delivered to the community are maximised.

Collaboration is most effective when it begins early, from the early project development phase and right through the option development, design, contracting and delivery. Collaboration should be driven by the best-for-project outcomes.

Clients and transport agencies have increased their engagement with the industry and the whole supply chain. Across jurisdictions there has been an increase, and growing interest, in using Early Contractor Involvement (ECI) contracts.

This approach involves the contractor in the planning and design phase and allows the contractor to look at the constructability of the project, development of mitigations for construction risks and design improvements. It can also provide a better understanding of real construction costs. The second phase of an ECI takes the final design to a design and construct phase where the client is able to competitively tender the project.

This model can reduce the tendering timeframes, reduce project variations, enhance innovation on the project and lead to better team performance. There is real potential to utilise ECI contracts more extensively in delivering the pipeline of transport and other infrastructure projects.

It moves to an enterprise model that brings together owners, partners, advisers and suppliers, working in more integrated and collaborative arrangements, underpinned by long term relationships. Participating organisations are incentivised to deliver better project outcomes.

"Industry could do a lot more. Adversarial contracting – means if we get it wrong, PI insurance claims follow hence the layers of prescriptive specifications. Let's get a 10-page document about the outcomes and let industry be smart about how we get there. Old habits die hard - we need a cultural shift."

Project 13 in the UK was developed in response to some real failures in the infrastructure sector, including some high-profile business failures. The Project 13 model moves from a transactional model based in the 1980s and one that prevents efficient delivery, prohibits innovation and fails to deliver the high-performing infrastructure networks that business and community require.

## Example of good practice

In Victoria there has been significant reform of procurement practices for transport infrastructure. Major Road Projects Victoria (MRPV) as part of the Major Transport Infrastructure Authority (MTIA) has adopted a Program Delivery Approach (PDA) for delivery of road and freeway projects across Melbourne and Victoria. This approach has been developed in response to the current challenges in the infrastructure market with the key objectives of:

- creating a sustainable contractor market, with the capacity and capability to support the State in delivering its program of infrastructure projects utilising available contractor market capability and resources across all tiers;
- improving the efficiency of project procurement in the roads sector, saving time and minimising costs; and
- improving project outcomes, contractor performance and optimise value through a more collaborative approach by incentivising contractor performance.

The key features of the PDA model include:

- establishment of five contractor panels and two designer panels has facilitated the engagement of capacity across all tiers of the market and has matched market capability to the size and complexity of the project;
- competition and contestability during the panel establishment phase and negotiation of commercial terms with panel members and open book tender pricing and market testing of subcontract pricing;
- streamlined procurement processes with agreed commercial terms and a consistent margin reducing procurement time and costs;
- performance incentives and risk sharing mechanisms included in the incentivised target cost (ITC) design and construct framework;
- strong regime of assurance activities including independent challenge teams, robust value for money framework underpinning the final cost estimates, annual gateway reviews and project assurance reviews; and
- benchmarking across the whole program supporting value for money assessments and the sharing of innovation and knowledge sharing across the program and with industry participants.

The PDA is underpinned by a clear and transparent pipeline of projects that provide confidence for the contractors and designers to invest in growing their resources, capability and capacity. Since the inception of the PDA in June 2020, MRPV have awarded 24 delivery contracts valued at $3b with an average time from Request for Proposal (RFP) to contract execution of 5.5 months. MRPV have found that with a less adversarial open book environment and with the performance incentives in the model there is a stronger focus by all parties on collaborative problem solving, best for project outcomes and timely completion of projects. delivering improved project outcomes.

Clients in other jurisdictions are also implementing a range of reforms reflective of their project needs and the local market environment. There would be real benefit in sharing of these reform approaches across jurisdictions nationally. This would provide government as clients and industry understanding of the benefits of the approaches through benchmarking and sharing of key learnings, and clarity around new models of procurement.

### RECOMMENDATION 1:

Jurisdictions continue (and further enhance) the sharing of actions taken to improve project procurement, including benchmarking and sharing of outcomes to deliver continuous improvement across all jurisdictions. At a minimum, jurisdictions should report the outcomes of their reforms to industry at an open forum annually.

Both government and industry recognise the benefits that come from early engagement with industry on projects from the early development to the tendering phases. Without this collaboration, the long-term sustainability of the industry and the ability of governments to have their projects delivered on time and on budget is at risk. It is important that this engagement and collaboration is genuine and there is transparency around the processes, timeframes, value of industry responses and subsequent decisions by clients. This will build confidence in industry to continue to invest and build its capacity and capability to deliver the governments pipeline of infrastructure projects.

## Example of good practice

In January 2021, a taskforce was established between the Department of Transport and Main Roads (TMR), Construction Skills Queensland and peak infrastructure industry associations, including:

- Australian Flexible Pavement Association (AfPA);
- Civil Contractors Federation (CCF) Queensland;
- Consult Australia;
- Infrastructure Association of Queensland (IAQ); and
- Queensland Major Contractors Association (QMCA).

This taskforce was formed to develop and deliver a collaborative procurement and delivery model. The taskforce found that a successful collaborative model needed shared culture and behaviours. The TMR-Infrastructure Industry Engagement Charter was jointly developed to support this approach. The Charter commits TMR and industry to a collaborative culture of effective leadership, building trust through open communication, celebrating success and innovation, acknowledging differences and promoting accountability.

Work is underway in Queensland to embed the Charter so that it becomes 'just how things are done around here'. TMR is building its capability in collaborative behaviours and integrating the Charter into its procurement and contracting framework from prequalification through to delivery. The behaviours must be demonstrated across the sector – at every level of the supply chain, from principal contractors to sub-contractors and suppliers, consultants and TMR as client.

**RECOMMENDATION 2:**

Government clients should commit to engaging with industry in the planning and development of projects through to contracting and delivery, including transparency on processes, timeframes, value of industry responses and decisions by clients.

## Pipeline

Pipeline recommendations seek to improve the way government prioritises and publicises future infrastructure projects. They also encourage early engagement with industry. It is essential that industry has visibility of upcoming projects so that it can plan and allocate appropriate resources to deliver the projects effectively and efficiently for the client. This list of projects is generally referred to as a project pipeline.

These projects should be adequately scoped and funded with clear and feasible timeframes, but this is not always the case, with projects sometimes announced with minimal detail with funding falling outside of government budget cycles. Governments should be regularly engaging with industry to collaboratively test the value of projects and to determine optimum design and delivery.

Pipeline visibility and industry engagement is essential to give industry the time to innovate in the procurement process to maximise efficiency and deliver value for money. There is a need to lock in multiyear project pipelines that endure beyond political cycles and provide greater certainty for industry participants. The Infrastructure Australia Market Capacity report[9] confirms that one in three advertised jobs in the sector may be unfilled by mid-2023, forecasting a shortfall of more than 100,000 workers. This underscores both the urgency of reform and the need for a nationally coordinated project pipeline.

### Examples of good practice

1. The Queensland Transport and Roads Investment Program (QTRIP)[10] lists every project, together with the proposed delivery model, prowject size, timeline, project manager contact details, and the design stream for projects. For example, regional directors regularly present to industry in their regions on project opportunities and progress.
2. TfNSW has demonstrated its commitment to sharing a transparent view of its investment program so as to help industry plan their resourcing. A series of Transport Infrastructure Pipeline events designed to foster a strong relationship between industry and the agency have been run across NSW in metropolitan and regional areas, to promote engagement and the participation of all tiers of the market.

The Federal Government established Infrastructure Australia (IA) to "advise governments, industry and the community on the investments and reforms needed to deliver better infrastructure for all Australians."[11] It takes a national approach in providing investment advice on major projects across all infrastructure where proponents are seeking $250 million or more in funding from the Federal Government. IA develops the national Infrastructure Priority List[12] – a pipeline of projects – that will deliver the best outcomes for communities across the nation.

In addition, most states have their own infrastructure advisory bodies. These, together with the state and territory transport agencies, produce various priority and infrastructure investment pipelines. Some of these pipelines are legislated by individual states and some are more ad-hoc and less rigorous.

[9] Infrastructure Australia Infrastructure Market Capacity Report October 2021
[10] Queensland Transport and Roads Investment Program
[11] Infrastructure Australia
[12] Infrastructure Priority List, IA, Feb 2021

The result of this approach is that there is not a single national pipeline of infrastructure priorities and projects, but a complex range of sources of information on upcoming infrastructure projects with a variable level of detail and completeness. This presents considerable challenges both for government as client and industry in planning for and delivering these projects.

The concurrent release of multiple large tenders across several states can mean that industry is unable to best allocate its resources in responding and states may have a reduced number of bidders or bids of lower quality with less innovation for its particular project.

This can result in sub-optimal outcomes for the client, industry and the community. Some transport infrastructure projects require specialist skills that have limited availability, and where tenders requiring these skills are released concurrently, industry may not be able to provide those skills to every project thereby compromising the delivery and outcomes of some projects.

These issues can also be compounded when there are significant delays to the contracting process, with contractors being uncertain about the utilisation of their skilled workforce while waiting to be advised on tender outcomes. In some cases, contractors are being asked to hold their workforce for some months through the delayed tender and contract process. This is extremely expensive for industry and is an ineffective use of scarce resources and skills.

In launching the IA Infrastructure Market Capacity Report, then CE Romilly Madew stated[13], "This research further underscores the need for a coordinated project pipeline to manage capacity constraints and provide confidence and certainty for both industry and government. While infrastructure investment is rightfully a key component of our national COVID-19 recovery, we need to ensure we are equipped to deliver this once in a generation infrastructure spend. The challenge of driving a step-change in infrastructure productivity and innovation is a shared one – it cannot be solved by governments or industry alone."

RA believes that IA has a key role in coordination of the pipeline and made such a recommendation in its submission to the review of IA in August 2022.

While it is recognised the challenges of a coordinated national pipeline within Australia's federal governance system, this goal is still considered worthy of active pursuit.

### RECOMMENDATION 3:

Infrastructure Australia should consider the development, management and ongoing coordination of a national pipeline of infrastructure projects in partnership with the states and territories.

With the growing pipeline of projects and current environment of resource constraints, it is critical that governments align their pipelines with the capacity of industry to deliver that pipeline. Where feasible, governments should consider re-profiling their infrastructure investments to remove unnecessary peaks and extend the delivery time of projects. It is important that governments review and update projects and project estimates in the pipeline. Often the true cost of a project is not well understood at the point of inception. Only when significant project planning and development, including assessment of options together with a better understanding of risk can a more accurate cost estimate be known.



[13] Media Release CE Romilly Madew, Infrastructure Australia, 13 October 2021

Projects are often announced early together with a project cost that is premature and following project development is found to be unrealistic. While indicative estimates for projects in the pipeline are a useful indicator for industry in terms of the size and scale of a project, it is important that public communication of project costs is made when there is good assurance of the likely cost of the project.

This is important when communicating project information to the community and ensuring there is continued confidence by the public in project planning and delivery.

*"We are long overdue a mature conversation about this boom. Industry needs to be honest about depth of capacity. It is not clear where the real smarts in our industry are coming from - we must adopt off site manufacture to improve quality, safety, and productivity."*

It is also critical that all tiers of industry have the opportunity to contribute to and participate in the delivery of transport infrastructure projects aligned with their enterprise size and capability. By not facilitating the involvement of the whole industry, clients will be missing out on the significant expertise, capability and capacity it needs to deliver the growing pipeline of projects. Some clients are breaking larger projects into smaller components to provide opportunity for tier two and three contractors to participate in project delivery. While this is supported by industry it is imperative that this be undertaken with appropriate mechanisms to identify and manage any interface risks through a clear framework. It would also be beneficial if there was improved visibility of the pipeline of works that are sub-contracted by tier one contractors to other tier contractors, recognising that there is no obvious mechanism for this currently.

### RECOMMENDATION 4:

Jurisdictions should ensure alignment between the project pipeline and industry capacity, including re-profiling the pipeline to reduce peaks and troughs to match industry capacity and to ensure that specialist resources are able to contribute to projects nationally as required.

### RECOMMENDATION 5:

Jurisdictions should continue to provide comprehensive information on the pipeline of projects with expanded information on project details, timeframes for contracting arrangements and form of contract to the best level possible – to inform industry and allow it to prepare and allocate resources. Project details including cost estimates should be updated as projects are planned and developed.

### RECOMMENDATION 6:

Jurisdictions should ensure that the pipeline caters for all tiers of industry both through a spread of project size and complexity to allow direct engagement and thorough mechanisms that facilitate and allow smaller industry players to participate meaningfully in larger projects as valued partners.

## Planning and design

Planning and Design recommendations focus on devoting additional time to planning and design. As above, they propose early engagement with industry, as well as the separation of the design and construction stages, when appropriate.

## Project Planning

It is essential that projects in the priority pipeline are well developed, planned with robust estimates of time and cost and a clear understanding of all the project risks. It is critical that adequate time and funds are allocated to project planning and development. This will ensure project outcomes are better delivered and that project risks are better understood and managed.

There has been a tendency for clients to be given inadequate time or resources to undertake this vital project planning process. Governments have been keen to commit to projects despite an inadequate development period for the project including understanding the risks, particularly stakeholder interests and environmental approval requirements. In some instances, the business case is developed after there has been a project commitment made. It is in the project development phase where assessment of the contracting options can be undertaken and decisions on a suitable contract form made to optimise outcomes and manage the risks.

Governments should allow more time and allocate more funding to the early project planning and design phases. This will enable a wider range of engineering solutions and foster innovation through industry engagement. This approach also allows for better risk identification and development of risk mitigation strategies for both client and industry. For industry, it would result in more accurate contract pricing, reduce working capital requirements and reduce balance-sheet risks. For government clients, it will result in better project outcomes, improved certainty regarding project costs and timeframes, and proactive management of client-side risks.

*"We have to be better at managing our projects – stop announcing costs and program timelines before they have been planned and procured."*

Almost all projects require a range of statutory processes to be undertaken and approvals to be gained. These can include planning approvals, land acquisition, and environmental approvals among others.

Often the level of effort and timeframes to undertake these are under-estimated, bringing significant time, cost and stakeholder risks to the project. It is essential that adequate time and resources are allocated to undertake these statutory processes and approvals and that they are completed early within the project lifecycle. The outcome of these processes and approvals will have a significant impact on project design and constructability.

In some cases, an Environmental Impact Statement (EIS) or local equivalent is required as part of the project approval. The EIS will include appropriate mitigations for specific environmental impacts. These can often be very prescriptive and do not facilitate innovation either by the client or contractor in meeting the intended mitigation outcomes as the project is delivered. It would be helpful if there could be more of an outcomes focus in the EIS process that allows innovative approaches in delivery.

Effective stakeholder engagement is critical for project success and this need to commence as early as possible during the project planning phase and be carried through the project to completion.

## Example of good practice

The Victorian Government has embarked on an ambitious program of rail level crossing removals in Melbourne with a commitment to remove 85 level crossings by 2029. This program commenced in late 2014 and as at quarter three in 2022 a total of 66 level crossings had been removed at a total cost of $22b. These are complex projects in brown fields sites and include new train stations, creation of new urban and open space precincts and require significant disruption management on the rail and road networks during the construction phase.

The Level Crossing Removal Project (LXRP) has utilised an innovative approach of four program alliances to optimise the delivery in terms of risk allocation, industry capability and capacity, community engagement, innovation and continuous improvement. This approach also ensures capability capture within the market, reduced bid costs and a more efficient procurement process, enabling high performing teams to stay together to deliver across a broader range of works. LXRP has developed a strong benchmarking approach that allows it to fully understand the project scope through detailed planning and development. This innovative approach provides real transparency across the alliances in terms of costs, performance and value.

*"Without the reform that has happened in Victoria over the last few years, the government would not have met its ambition in the delivery of infrastructure."*

Where premature announcements of projects including their timeframes and costs are made, the result is a loss of confidence by the community in the planning and delivery of projects. It is in the whole industry's interest that projects are only announced when the project has been adequately developed, options assessed, risk properly understood and there is an appropriate level of confidence in the project cost estimate and timeframe.

### RECOMMENDATION 7:

Jurisdictions should allocate adequate time and resources to ensure projects are well developed, planned with robust estimates of time and cost and a clear understanding of all the project risks, with early industry engagement to foster innovation and options for the project; and project details are announced when the project has been adequately planned and developed.

## Project Development and Design

### Improved Project Outcomes

It is important that adequate time is allowed and funds allocated for the project development and design phases of a project. The project development phase is where options are developed and evaluated based on their transport outcomes, environmental and community impacts, constructability and costs.

It is during these phases that real innovation and better engineering solutions can be explored and implemented. Too often, not enough time is dedicated to project development and design – often resulting in overlooking significant project risks and locking in costs that could be avoided.

Industry believes that giving project bidders more time and latitude in the tender process to develop with the best engineering solutions will achieve improved project outcomes. The typical approach of restricting bidders to tender on a reference design reduces the time available to innovate and often results in a sub-optimal project outcome or costly reworking or variations during construction to achieve the best solution.

There is a strong case for the client, designer and contractor to be involved in the planning stage of the project. Too frequently, projects are brought to market with a completed Environmental Impact Statement based on a sub-optimal scope of works and construction methodology. This can result in significant delays while the scope is reviewed, the EIS is redone, and approvals are sought. There can be consequential flow-on effects including delays in land acquisition and site availability as examples. Also, in the current environment of hyper-escalation there can be substantial misalignment between the client's project budget and market reality. This may cause significant delay to the procurement as clients seek additional funds or reduce the project scope to meet the available budget. This can tie up scarce resources from both the client and contractors' sides for significant periods.

Early Contractor Involvement (ECI) contracts are a powerful approach of shifting the design and engineering resources to the front of the process, in a collaborative effort with clients, to improve project design and final engineering outcomes. Although ECI and associated alliance contracts are not appropriate for all projects, neither is the dominant Design and Construct (D&C) approach. Governments and industry should work together to share experiences and knowledge towards selection of fit-for-purpose procurement approaches for major projects.

Several jurisdictions are utilising a program approach to the planning, development and delivery of projects. This provides clients and industry the ability to deeply understand the planning, design, stakeholder and construction issues across projects and share and learn from one project to the next driving innovation in project planning and development. This approach also positions the client in understanding the real cost of projects and facilitates a more sophisticated approach to value and value-for-money across the program through benchmarking and project review.

On certain projects across jurisdictions, an Incentivised Target Cost (ITC) regime is being adopted. This recognises, through the project development phase, that there is a need for an appropriate cost risk sharing regime to overcome the pricing challenges that are often presented on mega infrastructure projects – particularly where the delivery phase is long and there are a number of key delivery risks that are unquantifiable. This approach is being adopted on the North East Link Program in Victoria and on the Warringah Freeway and Western Harbour Tunnel projects in NSW. It is understood that other jurisdictions are considering this approach particularly on some of the mega-projects.

It is also important that clients incorporate in their timeframes and milestones during the procurement process the requirement for industry to provide extensive responses including a number of management plans, digital and design details, sustainability approaches and social procurement initiatives.

These requirements can place unrealistic pressure on industry and their staff to provide the information in the required timeframe. There is an opportunity to streamline and review the submission requirements to be more fit-for-purpose for the specific project.

**RECOMMENDATION 8:**

Jurisdictions should ensure that adequate time is allowed and funds allocated for the project development and design phases of a project and that clients adopt procurement approaches that respond to the size, complexity, duration and risk profile of the project - including engagement with all elements of the industry.

## Services and Utilities

Almost every transport infrastructure project will be impacted by the location of water, power, communications and other services. The relocation of these services can be both expensive and difficult to achieve in a reasonable timeframe. Allowing sufficient time during the design phase to work with service authorities to properly design the relocation as part of the overall design options process is vital.

With improved planning, services can be relocated prior to the commencement of project construction. This can sometimes be aligned with other utility works programs to reduce impact on communities and the effort required to deliver them. Delays in service relocations are reduced and industry gains improved certainty by eliminating risks that no longer needs to be priced into the contract. It is imperative that service authorities are engaged during the project development and design phase of the project to optimise the relocation of services from both a cost and timing perspective.

### Example of good practice

The North East Link Project (NELP) in Victoria is being delivered through five major project packages plus an early works package. The early works package has been critical in preparing the way for the major contract packages and the tunnel construction planned for commencement in late 2022. The early works commenced in early 2020, with specialist crews moving almost one hundred above and underground services. This has involved relocating power, water, gas, sewer and telecommunication services as well as preparing future work sites and building new infrastructure to support the next stage of construction. This approach to project planning has provided significant benefits to the project including the ability to better manage risks, develop a robust approach to the subsequent construction contracts.

**RECOMMENDATION 9:**

Jurisdictions should continue to focus on approaches to de-risk projects through early works, service relocations and other accommodation works, as well as adopt appropriate timeframes for project development, contracting and delivery to provide more certainty on project timeframes and costs.

## Technology and Digital

Technology and innovation have the potential to massively increase productivity in the design and construction of new infrastructure, as well as ongoing operations and maintenance. However, low ownership and authority around digital technology and risk-averse government clients have led to a low uptake and maturity in this field.

Digital engineering is a new innovative tool that is transforming the way infrastructure is designed, constructed and managed, and there are many opportunities that would benefit clients and industry that are not currently being realised. In many cases, digital technology is used in one phase of a project - but this technology, data and information is not extended through the whole process and is disjointed in its use and application. This is an inefficient use of the technology and results in a loss of information which presents risks at every interface of the project phase.

*"There remain digital blockages in the supply chain – federated models, 5D, staging etc. Next step is how we quantify risk and help reduce cost of risk management. Digital tools – disruption with a lot of investment and a lot more required. Use is patchy across the industry – unclear who is investing and where?"*

For example, a road or bridge is designed using a digital model. This model may then be translated into paper drawings for field construction with annotations made regarding on-site design changes. Often, these changes are not fed back into the digital model to ensure it is complete and accurate. As a result, the operators or managers of the infrastructure receive incomplete and inaccurate information on the infrastructure asset and do not have the ability or the tools to utilise the digital model in managing the asset.

Some jurisdictions are developing state-based digital strategies, but there needs to be a nationally consistent approach to maximise the benefits of this digital technology. For example, the Office of Projects Victoria (OPV) has developed a Digital Assets Strategy that provides clear digital requirements for department and agencies to support the planning, design and construction of Victorian Government projects and assets. The Digital Asset Policy is founded on the Victorian Digital Asset Strategy released in March 2020 and supports the government in delivering unprecedented levels of new infrastructure by uplifting the capability of Victorian Departments and Agencies. OPV has stated that implementing the Digital Asset Policy will improve project delivery efficiency, uplift design, and delivery capability, and provide greater data insight and analysis to continuously improve project performance.

## Example of good practice

In 2016 TfNSW launched the first Technology Roadmap built in collaboration with industry. It was the first of its kind in government and transformed the way TfNSW drove technology innovation by sharing the problem and creating the opportunity with industry to develop solutions. A key enabler of this was TfNSW's Digital Accelerator embedded in the Sydney Start-up Hub.

The Digital Accelerator lead the shift from detailed requirements procurement towards a more collaborative approach, co-designing with start-ups and industry.

TfNSW is working to expand the use of digital technologies across the portfolio, within government and industry more broadly including the use of BIM in the procurement process. To achieve this outcome, TfNSW are working in partnership with INSW in collaboration with Digital Built NSW and more broadly with Microsoft, AWS, academia and software vendors to pressure test new solutions and expand capabilities.

## Example of good practice

TfNSW supports the need to work with industry to continue to drive greater digital adoption to improve productivity. Currently more than 150 TfNSW projects utilise the TfNSW Digital Engineering Framework, which is an increase of 72% on 2021 figures.

Recognising the need for greater efficiency in the design process, TfNSW is integrating and streamlining their internal processes under a new Engineering and Technical Management Manual (ETMM). The Manual aims to streamline the design process including consistent design terminology across multi modes, clarification of design reviewers' roles, digital review tools, improving classification of comments and effective processes to improve efficiencies. TfNSW is also well progressed in piloting the use of digital design review tools, and testing new technologies of gathering data on their assets through Artificial Intelligence-enabled drones and AI cameras across the transport network.

The Australian Infrastructure Plan recognises that digital technology will be one of the key tools to unlock productivity in Australia's infrastructure and construction sector and calls for governments and industry to move to a "digital by default" operating model. This approach, if led from a national perspective, could deliver significant improvements not only in the delivery of infrastructure, but also in government decision making and planning for new infrastructure.

Embracing digital and data-driven opportunities to create a more productive infrastructure sector is a challenge industry can solve.

All levels of government have a lead role as policy makers, investors, clients and regulators and work together to create change that enables an effective industry response. This will drive the successful implementation of digital and data innovation across the sector.[14]

It is imperative that governments work with industry to deliver this outcome to provide a comprehensive and nationally consistent approach to digital engineering in the procurement, operation and management of infrastructure.

### RECOMMENDATION 10:

Federal, state and territory governments should take a strong leadership role in delivering the 'digital by default' approach as advocated by Infrastructure Australia.

## Social Procurement

Government clients are increasingly using their procurement of transport infrastructure to achieve social outcomes. For example, TfNSW has developed a Social Procurement and Workforce Development program that is centred around four key focus areas: jobs (including employment pathways for local and regional people), skills, workforce diversity and local and diverse business capability building. Many clients have identified the opportunity to improve employment opportunities for indigenous employees and enterprises. On some projects, there are specific requirements and targets to be met with regard to social procurement and the aspiration to improve social outcomes through the procurement process is recognised and supported by industry as a positive initiative to achieve long lasting community outcomes.



[14] Australian Infrastructure Plan *Page 279*

The transport infrastructure sector is a major contributor to the well-being and prosperity of the community. The infrastructure procurement process has real potential to contribute to that well-being and prosperity through facilitating social outcomes that provide a long-term legacy in terms of employment and pastoral outcomes.

The procurement process requires bidders to include in their submission their approach to achieving the social procurement targets as part of the overall bid.

Often it is unclear how these initiatives and approaches are assessed as part of the overall tender and bid process. It is important that there is a clear and transparent process for the assessment and evaluation of social procurement initiatives as part of the overall bidding process. There needs to be clear guidance to industry on how any proposed approach to meet social procurement requirements are assessed and valued as part of the consideration by clients.

### RECOMMENDATION 11:

Clients should provide clear guidance and transparency on assessment and evaluation of social procurement initiatives proposed by bidders as part of the overall bid assessment process.

At this stage there is no consistency across jurisdictions in terms of the requirements for social procurement outcomes or how they are incorporated into procurement processes, including assessment and evaluation. While various clients may have different social outcome goals, a national approach to the inclusion of social procurement requirements in the procurement process including consistent terminology, metrics and assessment criteria would be of benefit to the industry across the country. While the social procurement requirements are focused on a project-by-project basis with real local and immediate benefits, a focus on initiatives that lead to more opportunities for social outcomes and the ability to leave a long-term legacy for communities is a real opportunity for clients and industry together.

*"We are changing culture in the industry, implementing social procurement, and improving sustainability – is industry clear how that should be valued?"*

As each client pursues outcomes through social procurement requirements in their projects, there has been no overall assessment about whether the outcomes and aspirations can be achieved. For example, there have been cases when contractors have struggled to meet some of the indigenous employment targets and are looking for broader ways to achieve those outcomes. It is critical that there is ongoing engagement between government and industry regarding social procurement and the targets being set for various outcomes.

Major Road Projects Victoria through its Program Delivery Approach has identified that they have invested three per cent of their total program of $3b on social procurement including one per cent towards indigenous businesses.  It would be beneficial if each client was able to value its contribution to social procurement outcomes. It is likely that each client is making a significant investment in social procurement and a review of its effectiveness in delivering the desired outcomes will be important in refining and improving the approach. It is important that Value-for-Money discussions also take social procurement into account.

## Example of good practice

Main Roads Western Australia has taken an ambitious approach to improving Aboriginal industry capacity in the South West of Western Australia through maximising employment and commercial opportunities on the Bunbury Outer Ring Road (BORR) project. Valued at $1.25 billion, the project represents one of the largest ever investments into the South West of WA and a key opportunity to build construction capacity in the region, ensuring job opportunities into the future for the local population, Aboriginal and non-Aboriginal. The Bunbury Outer Ring Road Aboriginal Participation Strategy implemented during procurement, and continuing during delivery, was developed by Main Roads' Principal Advisor Aboriginal Engagement.

Measures for ensuring Aboriginal participation on the project include the foundation of the BORR Aboriginal Participation Advisory Group. Made up of representatives from the South West Aboriginal community and organisations who work with them, the group has met on several occasions initially to establish suitable means for ensuring local Aboriginal business benefits from the project.

Located on the traditional lands of the Wilman and Wadandi people of the Noongar nation, the project team has undertaken extensive consultation with the South West Aboriginal Land and Sea Council. In delivery of the BORR project two Aboriginal advisory groups provide input and guidance on procurement, employment and heritage matters.

At the outset, it was determined that procurement for BORR needed to include formation of a delivery alliance, including Main Roads as the owner-participant, rather than awarding a Design and Construct contract. This approach would afford Main Roads and the non-owner-participants the flexibility to make the best decisions for the project, and its objectives, without incurring costs significantly above the project budget.

The procurement experience on BORR has highlighted to Main Roads the importance of planning Aboriginal engagement early and ensuring suitable representation in decision making. A well-designed Aboriginal participation strategy and securing the right representatives from the community to form the Aboriginal Advisory Group, were key measures in this regard. The Alliance is unbundling its sub-contracts to maximise opportunities for smaller Aboriginal businesses and to involve as many Aboriginal businesses as possible. This has proven to be an important measure for simplifying the process for procuring less experienced businesses and sharing the work amongst the local contractors. As of September 2022:

- 48 Aboriginal people were working on BORR;
- 6 Aboriginal people were working directly for the Alliance;
- 7 Aboriginal trainees were working on BORR;
- More than 4700 employment hours were recorded by Aboriginal people on the project;
- 5 dedicated Aboriginal business briefings have been held; and
- $17.2 million (57 per cent) of the $30 million targeted Aboriginal business spend was committed.

In addition, support has been provided to local plant nurseries supporting Aboriginal employment and traineeships and to the Yaka Dandjoo (Working Together) Ready for Work Program with 82 graduates and 31 working directly on BORR.

**RECOMMENDATION 12:**

Industry should work together with jurisdictions to develop a national framework for social procurement as part of transport infrastructure procurement. This framework should provide national consistency in approach, assessment, evaluation and valuation of social procurement while recognising the individual needs and goals of particular jurisdictions.

## The Circular Economy and Decarbonisation

As governments pursue increased levels of waste recycling and move to a circular economy, there is an opportunity for infrastructure to make an increased contribution to recycling. This can have the added benefit of reducing the use of scarce virgin materials, such as quality rock sources for concrete aggregates.

Transport and infrastructure ministers at their meeting of 5 June 2019 noted the opportunity through the increased pipeline of transport infrastructure projects to re-purpose waste in support of the COAG Waste Export Ban and the National Waste Action Plan. It is critical that there be consistent and national standards and appropriate targets for recycling.

In the Journey to Net-Zero report of June 2022 it was stated that whole-of-life and circularity principles are currently not well understood across the industry and that there is an opportunity, through education and capacity building of key stakeholders, to access opportunities for emissions reduction through whole-of-life considerations in the early stages of a project. The report also noted that during procurement, whilst the evaluation criteria include non-financial components, these do not appear to significantly influence the outcome.

In the majority of cases capital cost appears to be the metric that overrides all others when evaluating a project's merits during a tender process.[15]

Current procurement approaches, while stating support for the use of recycled materials and that their use is included in the evaluation, often do not easily facilitate their use and substitution for new materials. There is often misalignment between the technical specifications for a project and the use of recycled materials. It is very difficult - if not impossible - for industry to propose alternative materials and gain their approval during a procurement process.

There are usually inadequate timeframes within the process to gain that approval and it is often unclear how this is valued in the tender assessment process. There would be significant benefit in the development of technical specifications on a national basis that would facilitate the replacement of new materials with recycled materials, providing they meet the appropriate performance outcomes as compared to new materials.

The impacts of climate change will require changes to the planning, delivery and procurement of infrastructure. This will include ensuring that infrastructure is adequately resilient to deal with those impacts. This will necessitate modifications to technical standards to build in appropriate performance so that infrastructure and its performance is not compromised by the impacts of the changing climate.



[15] Towards Net-Zero May 2022

## Examples of good practice

1. The Albion Park Rail Bypass project in NSW is good example of the use of recycled materials with more than 1.1m tonnes of infrastructure waste being used to complete a high standard road between Sydney and Bomaderry. The recycled materials included coal wash (mining waste), tunnel spoil, recycled onsite select materials, recycled heavily bound pavement layers and crushed glass.
2. The Mordialloc Freeway in Victoria incorporated the following materials into the project among other sustainability initiatives:
    - 570 tonnes of plastic into noise walls;
    - 5 tonnes of recycled plastic into drainage pipes; and
    - 202 million glass bottles as a component of asphalt.

It is recognised that other states and territories are also incorporating recycled materials in their projects. A number of jurisdictions have developed specifications for particular classes of recycled materials for example, recycled asphalt pavement materials and crushed concrete and brick pavement materials.

### RECOMMENDATION 13:

Jurisdictions should take a national approach to the development of alternative materials specifications to increase recycling together with benchmarking and sharing of recycling outcomes on projects, and provide straightforward mechanisms for the approval of innovative and recycled materials during the procurement process.

## Legal and risk

Legal and Risk recommendations seek to better assign risk and streamline contracting processes for the benefit of both government and industry. Once again, they propose early engagement with industry to help get ahead of project risks. They also suggest that risks should be allocated to the party best able to manage and mitigate those risks.

## Right contract for the right project

It is critically important that clients utilise the most appropriate form of contract for that project, and often this is best determined in consultation with industry. The selection of the optimum contract form for a project depends on a range of factors including among others:

- size and complexity;
- duration of project and its phases;
- value;
- market capacity, capability and sophistication;
- risk understanding and profile;
- level of project development and options consideration;
- financing opportunities; and
- client capability and sophistication.

Each contract form will have specific strengths when applied to the right project in the pipeline from Construct Only, Design and Construct, Early Contractor Involvement, Alliances, to Public Private Partnerships among others. Many of these forms of contract are customized to meet specific project needs and to respond to emerging issues, such as the current challenge of hyper-inflation.

However, the selection of the optimum contract form is only part of the equation. Successful project delivery is about relationships - and the attitude and approach from all parties in the contract is critical to the project's success. Where there is early engagement with industry and interactive processes that foster innovation, the positive behaviours from the bidding phase are taken into delivery phase. This was a key theme of the panel session at the 2022 RA Transport Summit – focusing on the culture of the teams is critical. It is not just about the commercial framework but about the people involved in the project.

*"Usually, the cheapest price wins the work. Choosing a contract partner, if the price isn't right on a D&C, the culture falls apart, claims come, siege mentality sets in and everyone loses. If we continue to believe transferring risk to industry is how we deliver value, we make them go broke, we won't have anyone left to do the work."*

The inherently adversarial nature of many current procurement approaches–which encourage a client-versus-contractor mindset–is increasingly unhelpful as projects grow larger and more complex. Frequently, procurement activities are viewed as an administrative burden, with a very narrow view taken and with many industry participants unwilling to use procurement as an opportunity to consider how to deliver better medium- and long-term outcomes for governments, industry and the community.

Too often, the bid with the lowest cost is automatically assumed to be the best, with far too little attention paid to complex issues around risk and with an unwillingness to consider new and innovative approaches.

Such rigid attitudes are stifling opportunities to enhance both productivity and workforce culture through embracing new technologies and new ideas and perspectives, particularly those offered by the next generation of the industry's workforce.

The primary focus in procurement needs to shift away from cost and move towards value. All parties will be better served by adopting this broader focus. While it is possible projects might take slightly longer to deliver, they will be better planned and more effectively delivered by a workforce that is healthier and more productive.

**RECOMMENDATION 14:**

Jurisdictions should:

- adopt the most appropriate form of contract for each project based on relevant critical factors and engage with industry in determining the optimum model; and
- together with industry, focus on each party bringing teams to the project that build constructive and positive working relationships with a best-for-project mindset.

## Risk Allocation and Management

There is real evidence government clients are taking a more sophisticated approach to understanding and management of risk, although there remains significant work to be done.

Where there has not been a collaborative approach to risk management and risk sharing between clients and industry, the default approach has been to shift all the risks to the contractor. The model results in adversarial behaviour between the parties because problems usually arise in project delivery during which the emphasis is on mitigating contractual liability rather than issue resolution.

The competitive nature of the market means contractors often accept risks without adequate investigation, mitigation or contingency in bid pricing. Governments are then compelled to accept tender bids, leading to risks of cost overruns, litigation and loss to contractors, and political risks to the client through project delays and budget overruns. In many cases this makes it virtually impossible for small and mid-tier firms to bid. There is evidence that this approach to risk allocation is driving tier 2 and 3 businesses from what should be suitable projects for them.

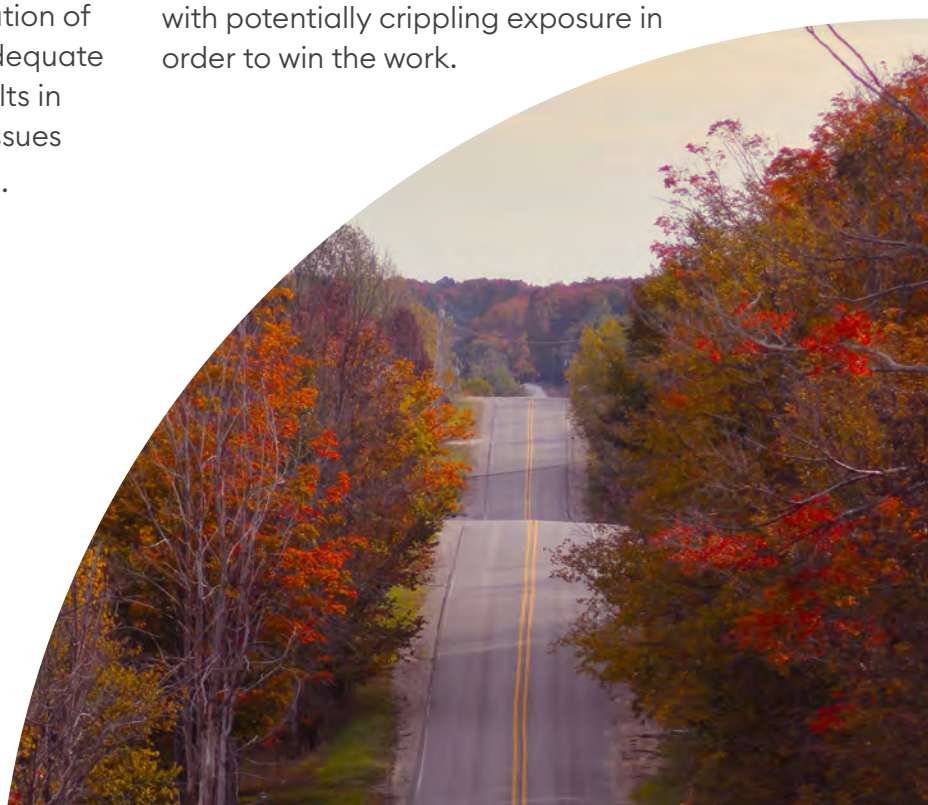
Risk identification conducted by clients or contractors in isolation is a major cause of many problems during construction. Time pressures, or lack of collaborative effort, can lead to risks not being fully understood or missed altogether.

Further, the arbitrary and blanket allocation of risks during the tender stage, without adequate and thorough investigation, usually results in parties being unprepared to deal with issues that invariably arise during construction.

*"Health and sustainability of our workers is paramount. We have to be successful and make money. There is progress on the risk models, with more mature discussions about risk management which is the key to a healthy industry/ workforce."*

When risk is shifted to contracting parties, they often have to account for it in the bidding price. Usually this is done on an uncertain basis. A contractor might, for example, assess a worst-case overrun caused by unforeseen circumstances divided by the chance of it happening. If the overruns do not happen, the contractor makes better than usual profit at the expense of the government client. But if the overruns do happen, the contractor may not have the funds to cover them and go out of business, leaving the government client with a half-constructed project.

Often the tendering process makes it difficult for tenderers to devote enough time to better understand risk, and price accordingly. Commercial pressures can lead firms to inadequately assess risks, leaving them with potentially crippling exposure in order to win the work.



Allocation of risk to parties without the skills and financial capacity to manage them is a major risk in itself, and clearly short-sighted given the downstream consequences. As a general principle, risks should be allocated to the party best able to manage and mitigate those risks.

So, although shifting the risk to contractors may appear to be the smart thing for governments to do, in the long run it may prove more costly. It is better that the entity which can bear them take on the big risks. If that is done, projects and contractors do not fall over as often, and the government clients get lower bidding prices because contractors have not had to factor in a price for big risk.

Governments' attempt to bulletproof contracts by shifting all risk on to the other party, particularly for large-scale projects, results in higher legal costs in both the lead up to contract signing and in administering the contracts.

A more effective approach to risk identification, assessment, pricing and allocation (including allocation of risk management responsibilities), will benefit all parties, and there are examples across jurisdictions that this happening more regularly.

This requires greater disclosure by clients and industry of the risk assessments and information collected in the planning phase, so that proponents can better assess and cost their risks. Industry proponents are often excluded from the early discussions between government and community stakeholders and third-party services providers, such as utilities.

In response to market feedback, TfNSW has adopted a commercial approach that seeks to match contract form to the project to deliver value for money. The Sydney Project Alliance to deliver the early works on the Sydney Western Harbor Tunnel project and the Mulgoa Road Stage One project in Western Sydney are some recent examples of how alliancing is being used to better manage risk on complex projects.

TfNSW is also adopting more bespoke risk allocation related to the individual project. For example, on the Sydney Gateway project extensive industry engagement work was undertaken to understand the contamination issues including type, location and volumes and determine the optimum way to manage those risks in partnership with the contractor.

A similar approach has been applied to utilities on the project. While this approach required additional time during the tender phase, it resulted in a much better understanding of the risks and a more appropriate risk allocation between the parties. TfNSW is leveraging the learnings gained through these projects more broadly across the portfolio. As a result, more bespoke risk allocations have been reached with industry partners delivering projects like the Coffs Harbour Bypass.

## Example of good practice

The objective of the Rockhampton Ring Road project is to provide a western link of the Bruce Highway, extending from the Capricorn Highway in the south, through to Rockhampton-Yeppoon Road/Bruce Highway intersection in the north. This will include a new crossing of the Fitzroy River.

The Department of Transport and Main Roads Queensland (TMR) is utilising a collaborative procurement model developed jointly between TMR and an industry working group. A modified Expression of Interest has been developed to identify one preferred tenderer for each construction package.

The development phase included collaborative and technical sessions with contractors and designers. Open discussions on risk allocation and modification, project budgets and timelines allowed greater flexibility and will be critical in reaching a true Target Outturn Cost, especially given current market conditions. This will ensure there is a rigorous assessment on agreed Target Outturn Cost to ensure value-for-money.

This approach by TMR is focussed on:

- reducing the cost of tendering and maximising value at the front end;
- determining value-for-money differently; and
- producing more realistic project outturn costs.

There continues to be a large number of mega projects in the market and these consume a significant portion of the total infrastructure spend. With an increased focus on more appropriate risk allocations, the opportunity exists for procurement requirements that drive higher levels of participation of Tier 2 and 3 firms at the head contract level, where it is not possible to break projects down into projects less than, say $500m. Improving the risk allocation in procurement processes and evaluation criteria will increase the long-term capability of the industry and meets the objective to broaden the range of businesses that can participate. The states where there is more equitable risk allocation are seeing a more vibrant Tier 2/3 sector.

In addition to leveraging existing approaches for early contractor involvement during development phase activities, MTIA is actively developing further initiatives to enhance its early supply chain engagement, including deploying dedicated utilities engagement teams to de-risk projects and minimise disruption to the public.

**RECOMMENDATION 15:**

Jurisdictions should continue moving to a more mature approach to allocation of risk, including the form of contract and processes of risk assessment and allocation matched to the project size, complexity and risk profile.

## Cost Escalation and Hyper-Inflation

One of the most critical issues facing the infrastructure industry – clients, designers, contractors, and the whole supply chain – is the hyper-inflation being experienced in the industry. The cost of materials is increasing significantly together with real challenges in supply and increasing transport costs.

It has been reported that in the 12 months to June 2022, the price of critical construction materials has increased by[16]:

- Steel Reinforcing Bar 30–60%%
- Concrete Supply and Place 10–30%
- Structural Steel 30–70%
- Formwork Supply and Install 10–30%
- Rail Steel 10–40%
- Cable Supply 10-30%

These increases are across all sectors in construction and have had a devastating impact on the residential construction sector in particular with a number of high-profile business collapses.

These price increases are also seen in the context of supply chain uncertainty particularly with international importing of materials subject to availability and transport uncertainty. The transport of materials has also been significantly impacted by the increase in transport cost including both fuel and shipping costs. In the international environment, Australia is a price taker.



[16] Australian Constructors Association July 2022

For contractors locked into fixed price contracts, this is major challenge and a risk to the survival of businesses. If not addressed adequately and quickly, this could significantly impact the ongoing sustainability of the construction industry with negative flow on effects to the Australian economy. In addition, interest rate rises are increasing borrowing costs for business, further adding to cost pressures.

The shortage of skilled labour is also impacting project delivery and adding pressure through both the scarcity of skills and wage pressure costs. The RA procurement workshop of August 2022 highlighted this as a critical issue with wage increases of more than 15% being reported for some highly sought-after roles, that is if the skilled resource can be found at all. The National Skills Commission Skills Priority Report[17] of October 2022 stated that the shortage of professionals had increased from 19 per cent in 2021 to 39% in 2022, and from 42 percent to 47 per cent for technicians and trade workers in the corresponding period. There is further discussion regarding the labour shortage issue in the Capacity and Capability section of this report.

One of the critical issues with the current increases in costs is the misalignment between the tender validity periods businesses are required to provide to government clients and what businesses are able to obtain from their suppliers.

A tenderer for a government client is required to hold their price for 90 days and potentially longer. However, businesses are finding that suppliers are only holding their price for one or two weeks. This disparity is creating real issues for businesses tendering for government clients with no ability to really know what their input costs to the project are going to be even at the commencement of the project and over the life of the project particularly if it is a multi-year project.

*"Support the contractors to succeed. More solutions less problems. Need to get on top of the problems early – which requires transparency and timeliness of issue management."*

Some jurisdictions have rise-and-fall provisions in their contracts. For example, Main Roads Western Australia has adopted a broad approach to the use of rise and fall across a range of materials in their roads and bridges contracts. The Department for Infrastructure and Transport in South Australia is also taking a broad approach to rise and fall on all capital projects and is also working with contractors on dealing with material price increases on existing contracts.

The use of rise and fall provisions in contracts is based on the movement of price indices for particular materials and represents a reasonable first order approach to dealing with price and cost fluctuations. However, the rise and fall approach does present complexities for example when dealing with fuel cost increases impacting the transport of a range of materials, and when determining the rise and fall amounts for works done by sub-contractors. While the rise and fall provisions are attractive in terms of administration from a client perspective, they tend to be a blunt instrument and not responsive to the particular issues associated with an individual contract and its context.



[17] National Skills Commission 2022 Skills Priority Report

There are other approaches that clients should consider in dealing with the cost escalation issue for example, including among others:

- early engagement with contractors on materials supply and cost issues and agreed mechanisms to mitigate cost risk issues for that project, including early ordering and payment for materials in the contract;
- client payment of the actual cost of materials as based on evidence from the contractor;
- increased use of client supplied materials, noting this can result in other contractual risks and issues; and
- increased use of collaborative contracting that facilitates an open-book approach and transparency on the actual costs of materials.

It is forecast that increasing material and labour costs are going to be experienced by the construction sector for some time ahead.

With local natural disasters such as bushfires and floods expected to occur at more frequent intervals, global conflict and uncertainty, a very tight labour market and increased investments from governments across Australia inflationary pressures will remain at high levels over the medium term. It is important that clients act responsibly and ethically and provide an approach that responds to the challenge of hyper-escalation of costs and provides a balanced sharing of risk and cost pressures between clients and industry.

### RECOMMENDATION 16:

Jurisdictions should work together and with industry on a national approach to develop and adopt a range of appropriate mechanisms to respond to inflationary pressures and supply chain constraints, both for existing and future contracts.

## Insurance Challenges

Investing in appropriate insurance cover is an important part of doing business in the transport infrastructure and construction sector. All parties including clients, designers, constructors, materials suppliers and sub-contractors should include appropriate levels of insurance as part of their management of risk in planning and delivering transport infrastructure projects.

A constant theme in the feedback from industry is that the current regime of insurance requirements within contracts is presenting real challenges. There is a belief that there is a level of commercial and insurance complexity that is not really required and is not fit-for-purpose. The liability limits and associated insurance requirements often do not align with the actual risks on a project and the likely risk exposure of the particular industry player.

These concerns were highlighted during the industry engagement leading to the 2020 RA Procurement Reform report and raised as a matter of concern at the panel session at the RA Transport Summit in 2021.

In particular, it was highlighted that the issue of Professional Indemnity (PI) insurance was a critical issue. Often the requirements exceed the risk profile on the project. It is becoming more difficult to obtain the required level of insurance, there are reduced providers in the market and the costs are becoming more prohibitive.

One industry member advised that the cost of insurance for their business has increased tenfold over the last two years. Designers and subcontractors are also finding that the insurance requirements are just cascaded in totality from the head contractor rather than being adjusted to reflect the real risk-reward profile.

In some cases, the insurance is out of reach of businesses, particularly small companies, and their only option to continue to participate in project delivery is to self-insure. This can put the business's balance sheet at risk with potential financial failure a real risk for self -insuring enterprises.

## Examples of good practice

1. TfNSW do provide guidance for insurance requirements for their contracts through their standard contract documentation. For example, Contract Document C71 Professional Services Contract[18] provides details of the Principal Arranged Insurance together with specific professional indemnity insurance requirements for the contractor depending on the value and type of the work being undertaken. This customized approach to insurance based on the project size and risk profile is positive move and its adoption and expansion to other contracts and other jurisdictions provides a good way forward.
2. Also the MTIA in Victoria is reviewing its insurance coverage requirements, including industry requirements, for opportunities to achieve greater risk management efficiency across projects.

The need for reform of insurance requirements was again raised during the August 2022 industry workshops as one of the highest priorities for immediate action.

It is imperative that government acts as a model client in setting out requirements for insurance on projects and in particular with PI insurance.

A move to more collaborative contracting with a stronger emphasis on risk identification and management with industry being undertaken by a number of clients is very positive and supported by industry. There is a real opportunity to adopt this more collaborative and sophisticated approach in the consideration of insurance requirements thereby ensuring there is fit-for-purpose regime of insurance that meets the needs of clients and each part of the industry.

### RECOMMENDATION 17:

Jurisdictions should adopt a Professional Indemnity and broader insurance regime that is fit-for-purpose and that reflects the real risks and the exposure of industry participants, including a rational approach to passing down of insurance requirements to sub-contractors that better reflects the risk and reward in the project.

## Tendering and Contracting Processes

There are several opportunities to provide improvements to the procurement of transport infrastructure and ensure a robust, sustainable and competitive industry is available to deliver governments' priority transport infrastructure projects.

It is critical that not only the optimum form of contract is adopted for each project, but utilisation of that form of contract is done well from both the client and from the industry side. This includes clients developing and publicising the procurement timetable for each project including the key decision dates, and then honouring that process and key dates. This provides a higher level of certainty for industry, allowing participants to plan bids and resource management more effectively.



[18] TfNSW C71 Professional Services Contract

This reduces the need for industry to hold resources unnecessarily thereby wasting scarce resources and adding inefficiency to the whole industry. Streamlining the tendering process to reduce overall timeframes should also be considered. The separation of non-price and price components in the bid process built on an efficient prequalification can also improve the efficiency of the tender process. It also needs to be recognised that a stronger focus on social procurement requirements adds to effort and time required for bidders. Any mechanisms that can streamline this element would be beneficial.

*"Productivity – time to strip unproductive procurement processes out."*

Another critical issue is the large number of industry participants that are taken through the whole tender process, leading to businesses needing to expend funds through the bid processes and hold resources where the probability of having a successful outcome is lower than it might be with a smaller number of bidders. Industry appreciates early advice that they will not be successful, as this allows them to reallocate resources at the earliest possible time.

## Example of good practice

The Department of Infrastructure and Transport (DIT) in South Australia has been proactive in working with industry to set out the timeframes and key decision points in the tender process for each project and ensuring they honour those commitments. The extension of timeframes due to DIT client issues is now the exception and this approach has been welcomed by industry. In addition, DIT are now taking two bidders forward into the Request for Proposal (RFP) from the Expression of Interest (EOI) phase particularly for D&C contracts. Clients in other jurisdictions are often taking three or more bidders forward from the EOI phase as they are concerned that the withdrawal of one of the bidders will result in reduced competition. This has not been the experience with DIT in South Australia. They have found that the two bidders taken forward have almost always remained in the tender process recognising that they have a fifty per cent chance of being successful, all other things being equal.

## RECOMMENDATION 18:

Government clients should improve the efficiency of tendering processes by:

- structuring their procurement approach to reduce timeframes within the tender process;
- developing and publicising the procurement timetable for each project including key decision dates and ensuring that these timeframes are honoured; and
- seeking to reduce the number of bidders going through the whole tender process.

The cost to industry to bid on mega-projects can be substantial and into the tens of millions of dollars. There has been an increasing response by clients to reimburse these costs in part to unsuccessful bidders through a bid stipend payment.

This allows the client to recognise the significant effort required by industry to submit a bid, encourages industry to fully participate in the bid process and permits the client to obtain the intellectual property of any unsuccessful bid. This intellectual property can be valuable in further improving project design and construction when shared with the successful bidder.

## RECOMMENDATION 19:

Government clients should move to bid cost reimbursement on larger capital projects and provide clarity and transparency on the processes for the payment of bid stipends.

Several states have commenced a program to review, update and consolidate their contract documentation to provide more consistency within jurisdictions. This is strongly supported by industry and is considered a positive initiative.

## Examples of good practice

1. The Department of Treasury and Finance in Victoria (DTF) is undertaking a significant review of infrastructure procurement guidance. This includes updating guidance materials for delivery agencies to inform the development of procurement strategies and deliver projects using a range of procurement approaches. This is in response to the increasing use in Victoria of cost reimbursable procurement models with the aim of bringing a consistency of approach across the sector particularly in the alliance and ITC approaches. DTF is developing a policy document for these innovative forms of procurement models in a similar way that it has a policy document for Public Private Partnership (PPP) contracts. DTF is looking to undertake this work under the three following categories:

- Lump sum and more traditional contracts
- Cost reimbursable contracts including alliancing, contracts with ITC provisions
- PPP and whole of life contracts

   This guidance will be supported by contract standardisation and clear guidance and consistency of approach for agencies in Victoria delivering transport and other infrastructure funded by government. In addition, DTF Victoria has been working with NSW Treasury to harmonise the PPP deeds to provide a consistent approach across the two jurisdictions.
2. TfNSW has, through its Project Streamline, worked with industry over a period of 18 months to develop three standard templates for Professional Service Contracts tailored for three tiers of contract for use across the transport portfolio. This has been welcomed by industry with these three standard templates replacing approximately 27 previous templates used in the transport portfolio. TfNSW has recognised these agreements will need to evolve with time and has established ongoing engagement mechanisms to continue to refine the contracts through market feedback.

**RECOMMENDATION 20:**

Government clients should work both within and across jurisdictions to develop consistent and aligned contract documentation to promote certainty and efficiency in industry.

## Value for Money

The issue of value for money and its definition and quantification has been an issue for industry for some time including in the work for the 2020 RA Procurement Reform Report and in subsequent industry discussions.

At the 2022 RA Transport Summit there was a discussion on the issue of value for money and how there are a range of views and approaches across jurisdictions. A belief was expressed that there needs to be more consistency across and between jurisdictions on the definition of value-for-money and how it is used in the procurement and contracting environment. There was a suggestion to move away from value for money to just “value”. The panel acknowledged there is good work going on in this area, but it needs to be shared across jurisdictions and there needs to be a different conversation about how value is added and it not consistent and widespread across all jurisdictions.

*"Value for money versus value – as an industry we suffer from inconsistency. There are pockets of greatness. It is time we had a different conversation about how value is measured and added."*

There are two elements that create the framework where value can be added – the commercial framework and the people culture of the project. Commercial frameworks are important, but whatever that framework is, it will never work if there are not the people with the right frame of mind. The session heard about the experience of working on a "hard money" design and construct contract with people with the mindset to make it work and add value - and it was a success. The session also heard about so called collaborative contracts with people who do not have that mindset – and it was not successful – it delivers outputs but it does not deliver value outcomes.

It is crucial that everyone is aligned on a project and that everyone is clear on what is trying to be achieved. The session heard that Early Contractor Involvement (ECI) contracts are a great way of achieving that alignment. Getting everybody focused on the outcome changes the dynamic of the project.

The panel also discussed the proposition that value is about efficiency – the less design that needs to be done, the less resources will be needed – resources which are already scarce. It will also result in less materials being used leading to better environmental outcome, better productivity and improved programming outcomes.

Wherever possible, the industry should be looking for that efficiency and that value – they are absolutely connected. It is important that there are procurement and contracting frameworks that actually lead to those outcomes.

The issue of value for money was also raised as an important issue through the RA Procurement Workshop in August 2022 and highlighted in discussions with individual RA members in follow up interviews.

It is often the case that the lowest price usually wins the contract even when that price may not align with the real or true cost of the project. The actual true cost of delivering the infrastructure is the value for money, not the cheapest price. If the contract price is below the real or true cost the first casualty is usually the culture of teams on the project. There is often a siege mentality, claims become the way of doing business and everyone moves to a position of protecting their own interests rather on focusing on delivering the project outcomes. It is not realistic to transfer all risks to the private sector as this will result in an unsustainable industry with no-one available to actually deliver the infrastructure for our communities. Value for money is about delivering the infrastructure for the right price, not the cheapest price. The right price can be complex – there are a lot of variables in it. It is critical that through the current challenges we foster a sustainable and competitive industry for the future.

## Examples of good practice

1. The Construction Industry Leadership Forum (CILF) has a dedicated workstream to develop a more contemporary definition of value-for money particularly one that meets the need of the current procurement environment. The goal is to have a more consistent and inclusive definition and include approaches to improving the assessment of value during tender evaluations and how best to assess value for money in collaborative sole source procurements.
2. The Major Transport Infrastructure Authority (MTIA) and DTF in Victoria are continuing to review the tendering process and tender process requirements seeking to find ways to streamline them for transport infrastructure projects. DTF, in consultation with MTIA and other departments/agencies, is also developing an updated framework for determining the preferred packaging approach, procurement process and contracting model for transport and other portfolios that focuses on procuring for value and allows for long term sustainable outcomes.

The work of the CILF and MTIA with DTF are positive reforms in considering value-for-money in the procurement process and a national coordinated approach would benefit the industry and community across all states and territories.

**RECOMMENDATION 21:**

The Federal Government should work with the states and territories to develop a more contemporary definition of 'value for money' in infrastructure procurement that meets the needs of the larger, more complex projects and programs of works being delivered in Australia.

## Capacity and capability

Capacity and Capability recommendations seek to broaden the range of firms which can participate in procurement and improve overseas and interstate migration for people seeking positions in the industry. They recommend working closely with external training and education providers to better match their offerings with industry needs.

### Capacity and Capability Forecasting

RA has identified the need for improvement in forecasting of future capacity requirements. In the past, this has not extended beyond the very large contractors. It is important that analysis of capacity and capability takes into consideration the complete supply chain. It should also consider options to transfer skills from other industries undergoing change and where there may be surplus capacity. This transfer could be facilitated with appropriate re-training and re-skilling to meet the need of the transport infrastructure industry.

In October 2021, Infrastructure Australia released the Infrastructure Market Capacity[19] report. This is the most comprehensive analysis to support decision makers in better understanding the capacity of the market to deliver the forward infrastructure pipeline across Australia. The report has concluded that over the next two to three years there will be a doubling of the amount spent on transport infrastructure in Australia. It is also expected that by 2023, there will be 100,000 jobs that will be left unfilled.



[19] Infrastructure Market Capacity, Infrastructure Australia, October 2021

In the associated media release[20], the key findings were identified as:

- a forecast average annual growth rate of 33% as industry reports reduced confidence in their capacity to deliver on-time and on-on-budget;
- industry indicates a high confidence of delivering 10-15% annual growth, but a low confidence in delivering growth over 18%;
- demand for plant, labour, equipment, and materials will be two-thirds higher than the previous five years;
- over the next three years it is expected there will be:
  - 120% average growth in demand for materials;
  - 125% growth in demand for equipment; and
  - 140% growth in demand for plant.
- the peak of demand for skills is 48% higher than supply. Meeting this demand would require annual growth of 25% over the next two years, which is more than eight times higher than the projected annual growth rate of 3.3%; and
- 34 of the 50 public infrastructure occupations identified are potentially in shortage.

RA was pleased to provide input and support to Infrastructure Australia in the analysis and development of this report. The findings strongly align with the priorities and recommended directions identified by RA.

The BIS Oxford Economics report The Value of Australia's Roads, commissioned by RA, concluded that:

*"Over the next four years (2021-22 to 2024-25), the estimated expenditure on roads construction activity is equal to $106.8 billion. Correspondingly, this heightened level of expenditure will lead to the direct and indirect creation of approximately 722,000 jobs (on an annual FTE basis) over the next four years or an average of 181,000 FTE jobs per year."*[21]

## Building Workforce Capacity

It is essential that the capacity of the industry grows to meet the growing pipeline of transport nfrastructure projects. This needs to include reducing barriers to international and interstate skills migration.

Industry continues to work with government through the regular Commonwealth Skilled Migration Occupation Lists review processes. However, lack of skills recognition and consistency across state boundaries regarding local experience rules, continues to hinder skills mobility and should be addressed. It is acknowledged that this landscape will change dramatically as a result of the COVID-19 pandemic, and may result in long-term structural change in the way that industry can engage workers from outside Australia.

The Federal Government has previously announced the addition of 22 occupations to the Priority Migration Skilled Occupation List (PMSOL).

This included several roles relevant to the delivery of transport infrastructure projects, including electrical engineer, structural engineer, geotechnical engineer and transport engineer.



[20] Media Release CE Romilly Madew Infrastructure Australia 13 October 2021

[21] 2021 Update: The Value of Australia's Roads, BIS Oxford Economics, August 2021 - Page 5

This is a welcome development and is in line with recommendations RA put forward in its joint submission[22] with the Australasian Railway Association (ARA) to Federal Parliament's Inquiry into Australia's Skilled Migration Program in March 2021.

At the Federal Government's Jobs and Skills Summit in September 2022, the Federal Government committed to a range of immediate actions related to immigration including:

- increase the permanent migration program level to 195,000 in 2022-23 to help ease widespread, critical skills shortages;
- provide additional funding to accelerate the visa processing and resolve the visa backlog;
- increase the duration of post study work rights by allowing two additional years of stay for recent graduates with select degrees in areas of skills shortages; and
- extend the relaxation of work restrictions for student and training visa holders until 30 June 2023 to help ease skills labour shortages.

The Federal Government has also committed to review the purpose, structure and objectives of Australia's migration system to ensure that it meets the challenges of coming decade. These are important initiatives and it is critical that the skills need of the infrastructure sector are central in this approach.

The Infrastructure Partnerships Australia Pipeline Report of September 2022 stated:

*"In the context of a global competition for talent, and competing jurisdictions embarking on ambitious infrastructure programs, Australia must provide better signals to attract and retain global talent, rolling out the 'green and gold' carpet for in-demand workers. Although this challenge may seem daunting, it is not insurmountable. Australia's infrastructure sector is both robust and sophisticated. With the right settings for domestic skills and training and appropriate reforms to Australia's skilled migration program, the sector can and will rise to these challenges."*

One RA member commented during a recent interview that rather than relying on a central human resource function for the business, individual projects are needing to have their own human resource resources on site to specifically recruit for and resource the project. This is an overhead that has not previously been accounted for in projects.

### RECOMMENDATION 22:

The Federal Government should work with the states and territories and with industry to ensure the increased migration program contributes to the skills and capacity requirements needed to deliver the growing pipeline of transport infrastructure projects across the nation.

Skilled worker migration and qualification portability across state boundaries is equally important. States lack consistency in recognition of skills and qualifications. Often state governments apply local-content and experience requirements. In addition, work-away-from-home costs are often prohibitive and a new more sustainable approach is required.

Industry capability is stretched in some places, but not effectively utilised across the tiers. Governments should engage more with all contractor tiers and industry should improve partnering between those tiers.



[22] Joint Submission Australia's Skilled Migration Program

Small and mid-tier contractors are missing out in this infrastructure boom. According to Australian Owned Contractors, "Of the nearly $50 billion in construction contracts awarded over the country in the past five years, only 3% were won by mid-tier Australian-owned contractors".[23] Where smaller firms are treated as mere suppliers, they are often unable to add value through their experience or proprietary intellectual property, beyond the tasks they have been engaged to undertake.

When small and mid-tier contractors are engaged through a principal contractor rather than directly by government, it can cause under-utilisation of smaller firms and the inappropriate cascading of risk down the supply chain. These issues could be overcome with better engagement across the industry, better packaging of projects and improved risk processes as mentioned earlier. Governments should encourage small and mid-tier contractors to engage in the tender process. There needs to be education sessions to help improve knowledge of specific projects and also provide detailed information about the pipeline. This would help inspire them with the confidence they need to make decisions about investing in capacity and capability development.

*"The whole industry is competing for talent – it won't be helpful to just cannibalise each other – we have to be smarter about building a bigger pool of talent for the industry."*

Industry thinking should change to accept more people with transferable skills from other industries. This is likely to include the mining sector, the military, the automotive industry, indigenous employees and businesses. While this may require flexibility and retraining, the long-term benefits will be realised through expanded capacity and capability.

### RECOMMENDATION 23:

Work across jurisdictions should be done to:

- reduce barriers to the movement of skills and capability across jurisdictional borders through mutual recognition of skills and qualifications;
- provide opportunities for the capacity in Tier 3 and 4 businesses to directly contribute to the delivery of transport infrastructure; and
- facilitate the entrance of people from other industry sectors with transferable relevant skills into the transport infrastructure sector.

## Building Workforce Capability

Industry and education providers should co-operate more to ensure the needs of a growing workforce is met.

While the industry has grown significantly, overall participation in traditional technical education and training has fallen. The broadness of traineeship and apprenticeship packages and government programs are not keeping pace with industry needs. A review of practical alignment between training authorities and the needs of the construction industry is urgent.



[23] Australian Owned Contractors, Roads and Infrastructure, July 2019

Government emphasises apprentices and trainees. However, the qualification process has become too broad to be of value to industry, as specialised skill requirements grow. Entrenched processes in the state education bureaucracies are causing them to lag well behind the needs of industry.

Taking on graduates, apprentices and trainees is a significant financial burden on companies. Closer industry engagement with education providers in the development of curriculum and training delivery is required.

Industry associations could take the lead, possibly through a 'collaborative compact'.

Industry-government collaboration should ensure TAFE and RTOs deliver competent people, proficient in the skills required by industry. Changes in technology require continuous upgrades of the skills of equipment users, so better collaboration between TAFE and equipment manufacturers is also needed.

Industry and government delivery agencies should engage with TAFE and other training and education providers to explore the reasons for industry dissatisfaction and to look at long-term improvement of education and training. Curriculum setting should take account of project pipeline capacity and capacity requirements.

To further increase the workforce capability that can be brought into the construction sector the removal of requirements for local content experience from tender processes; and the acceleration of work on the harmonisation of state and territory trade qualification recognition would be constructive steps.

An outcome of the Jobs and Skills Summit is a commitment by national, state and territory governments to:

- a $1b one-year National Skills agreement to provide for additional funding for fee-free TAFE in 2023, while a longer-term agreement that drives sector reform and supports women's workforce participation is negotiated; and
- accelerate the delivery of 465,00 additional fee-free TAFE place with an additional 180,000 to be delivered next year.

In addition, commitments were made to further reform skills and training programs specifically to support workers and vulnerable Australians, improve apprentice support systems and increase completion rates, with a focus on removing barriers for women's participation in the workforce.

Every available strategy to grow the capability of the workforce in the construction and infrastructure sector needs to be pursued in delivering the pipeline of transport infrastructure projects across the nation. This needs to ensure that every part of the workforce has the opportunity to be part of the industry through skill development, removal of barriers to participation, and the adoption of flexible working arrangements to meet workers specific needs. A number of these initiatives are considered in the section on Culture and Inclusion in this report.

One critical issue in terms of workforce capacity is the issue of retention of trained and skilled staff. Currently there is a real issue of retention of skilled workers when there are many alternative employment opportunities in other industries. There needs to be a focus on supporting existing skilled people and growing the talent pool for the industry. Industry is witnessing a significant amount of "poaching and leaching of talent" across the industry resulting in disruption and driving up costs.

The “war for talent” is driving up wage costs particularly in the engineering sector while some industry participants continue to be unable to fill critical roles in their businesses even with substantial wage growth.

### RECOMMENDATION 24:

Industry, industry associations, government delivery agencies and relevant training organisations should work together to ensure that training and education programs provide the number and quality of appropriately skilled and qualified people to meet industry's growing needs.

## Governance

Governance recommendations seek improvements in quality control and to look at alternative governance models. They call for a reassessment of the role of the independent review within the project assurance process, and establishing special purpose companies to oversee mega-projects.

In the 2020 Procurement Reform report RA recommended a reassessment of the role of independent reviewers and work with industry and government stakeholders to develop more appropriate and effective project quality control processes. This issue remains an important one for the whole industry. It is appropriate that government clients assure themselves regarding project delivery and quality. The current approach tends to result in inefficient use of scarce resources with ‘person-marking’ leading to duplication of effort and extensive reporting requirements on industry without real understanding of the need and value of that reporting. In some cases, it seems that reporting is done for its own sake without really adding value.

### Example of good practice

The MTIA in Victoria is working with the DTF to review and update the suite of assurance functions to ensure a fit-for-purpose framework for transport mega projects. This work is vitally important to the assurance requirements for government as the client of transport infrastructure projects and for optimising the use of scarce labour resources while bringing a timely approach to reviews and reporting.

It is also essential that clients (in partnership with industry) grow their competency in procurement of infrastructure projects and move beyond considering procurement to be just an administrative function but one of strategic leadership and strategic thinking. There is real evidence that this is happening in several states and the need for a more sophisticated client with a growing project pipeline particularly with more mega projects is vital. The RA Procurement Worship of August 2022 identified that the exchange of experienced infrastructure and procurement between clients and industry as one initiative that can assist in developing broader maturity in approach to infrastructure procurement.

### RECOMMENDATION 25:

Jurisdictions should:

- adopt a more efficient and streamlined approach to project assurance including reporting that adds value to both the client and industry; and
- continue to grow their leadership and strategic competencies in infrastructure procurement in partnership with industry.

## Culture and inclusion

Culture and Inclusion recommendations aim to ensure industry seeks to attract a wider pool of prospective talent. This includes supporting the Construction Industry Culture Taskforce (CICT) with the implementation of their Culture Standard, as well as developing a culture and inclusion performance framework.

The RA Procurement Reform of 2020 report identified three challenges under this strategic theme:

- a culture of mistrust between government and industry is holding us back;
- work-life balance and mental health challenges are an industry-wide issue; and
- the industry's workforce is not diverse nor inclusive enough.

In 2018, the industry commissioned Associate Professor Luke Downey & Professor Con Stough from Swinburne University to undertake a study of the mental health of professionals in the construction industry in Australia. The project was funded by several RA members who considered this to be a priority issue.

The report reached the following conclusions:

- Australian infrastructure/construction professional staff are highly stressed, report compromised mental and physical health, have unsatisfactory levels of work-life balance, and exhibit very high rates of burnout;
- increasing demands, long hours, time pressure, and expectations to operate outside of normal working hours are requiring unsustainable efforts from infrastructure/construction professional staff that is resulting in mental and physical damage to the workforce;
- these high rates of psychological and physical disturbance can be expected to continue to contribute to the high rates of turnover, absenteeism, stress/burnout-related leave, and determinations to leave the industry; and
- attention to the psychological and physical costs to the individuals working within infrastructure construction professional staff roles is immediately necessary, for the health and welfare of individuals, and more broadly for company profitability and organisational citizenship.[24]

It is imperative that the roads and transport industry is one where people want to work and one where they can be innovative, work as whole teams, experience personal safety and personal growth and where they are included and valued. It is acknowledged that there has been little change in the issues and challenges identified in 2018. If anything, the growing pipeline and increased the pressure to deliver and further impacted workplaces and projects.

*"What's in our control – commercial terms and great people. If we could get the culture piece right, we can achieve anything."*

Adversarial attitudes within the construction industry, coupled with long and irregular hours, often over a six-day working week, pose significant workforce issues within the sector, which is regrettably characterised by poor mental health outcomes and a lack of both gender and cultural diversity.



[24] Measuring the Psychological Impact of Work-Related Stress, Downey & Stough 2018

These frustrations feed directly into the industry's inability to attract and retain talented individuals to its workforce, as younger workers and those from more diverse backgrounds are persuaded to seek opportunities in other sectors, where they feel they will be more valued. It is imperative that there is a move from the 'self-protection' stance by each and all parties to a more positive and constructive best-for-project approach.

The industry has recognised that it needs to do a lot more in this area. There is some movement, but there is scope for major improvement.

The Construction Industry Leadership Forum (CILF) is a partnership with the Australian Constructors Association and the NSW and Victorian Government formed due to the commercial, capability and capacity pressures from the significant pipeline of government funded infrastructure projects.[25] CILF has established the Construction Industry Culture Taskforce (CICT) with a focus on improving the culture within the construction industry. This includes the development of a new culture standard to lift productivity and performance of the industry and address significant issues of excessive work hours and fatigue, poor mental health, and the failure to attract a diverse workforce.

The CICT has developed a draft Culture Standard[26], designed to improve work life balance, deliver improved mental and physical health outcomes for the industry's workforce, and enhance the diversity and inclusiveness of our industry.

The Culture Standard Consultation Paper identified the following critical issues with respect to the construction sector workforce:

## Long working hours

- 64% report working >50 hours per week
- 59% unsatisfied with work life balance
- 14% construction industry employees experiencing presenteeism

## Wellbeing

- 2 x suicide rate vs national average
- 75% report moderate to high stress levels
- 46% experiencing burn-out

## Lack of diversity

- #1 most male-dominated industry
- 12% of the workforce is female
- <2% of on-site roles occuwpied by women

The draft Culture Standard has three key themes:

## Diversity and inclusion

Ensuring the industry can attract and retain a diverse range of people to work in our industry.

## Wellbeing

Ensuring the occupational health and mental wellbeing of our workforce is prioritised.

## Time for life

Ensuring our workforce is provided adequate time to rest and pursue life activities outside of work.

[25] Construction Industry Leadership Forum

[26] A Culture Standard for the Construction Industry, Consultation Paper, October 2021

The draft Culture Standard is being trialled on several projects in Victoria and NSW to determine its effectiveness improving the culture on these projects. The results of these trials will be helpful in refining the standard and identifying further opportunities to improve the culture on projects thereby benefiting the wellbeing of all employees and improving the attractiveness of the industry.

Notwithstanding the work of the CICT, there are already many individual projects and businesses providing a great culture and delivering exceptional outcomes in terms of diversity and inclusion. It is important that these projects and businesses are recognised and celebrated and that there be mechanisms to elevate the profile of these successes and to celebrate their achievements.

Additionally, industry and government should invest in training, coaching and mentoring of project leaders to help improve culture. This would help improve project management and delivery, with a focus on collaboration, transparency, inclusion, health and safety, and work-life balance. Demonstration of these behaviours can then be rewarded and held up as an example of good culture. This would also lead to better mental health outcomes.

## Example of good practice

The Department of Transport and Main Roads Qld (TMR) is upgrading the Pimpana Interchange (Exit 49) on the Pacific Motorway. Rapid industrial and residential development in the northern Gold Coast area is adding pressure to a number of already busy interchanges on the Pacific Motorway (M1).

The project will deliver numerous safety benefits to motorists using the M1 and the surrounding local road network by improving traffic flow and increasing efficiency at the interchange. It will also improve reliability of access conditions for freight movements and transit times for all motorway users.

TMR has utilised a two-stage procurement process with a non-price component as part of the second stage to ensure the concept of 'value' reflects more than just price. The contract was awarded in late June 2022 and includes enhanced reporting to monitor and measure performance to ensure commitments are met and performance achieved.

The benefits committed to in the project include:

- more "Time for Life" for workers during project delivery;
- stronger focus on training and capability;
- safety innovations for workers and road users;
- engagement with Gold Coast local suppliers; and
- use of more recycled materials

## Examples of good practice

1. In Victoria the Civil Contractors Federation is taking proactive steps to design and introduce practical initiatives to assist and support construction businesses, their owners and managers to build mentally healthy workplaces through their Positive Plans –Positive Futures initiative. Mentally healthy workplaces are not only good for staff, but they are good for business. According to a 2014 PwC Report, for every$1 invested in successful mental health initiatives, businesses see an average of $2.30 return on investment.
2. Over 2021-22 TfNSW has been piloting the use of a Project Health Indicator (PHI) Tool on its Regional Development Projects, including Nowra Bridge and Belford to Gold Highway projects. The PHI measures the human and organisational factors that are often missed in regular project reporting that focus on harder factors of program and safety.

   The PHI tool involves the use of regular pulse surveys of all project team members across the Designer, Contractors and Client teams and looks at the soft factors, such as cooperation, teamwork culture, reliability, communications, leadership and personal stress. The data is benchmarked across other infrastructure projects across Australia, including health infrastructure and water. The review of the data can highlight the different pressure areas for projects and assist in reaching proactive resolutions. TfNSW has then worked with industry partners and external facilitators to carry out workshops to address the findings.

   The pilots have received positive feedback, supporting TfNSW and contractors to address all aspects of a project, including mental health and diligence concerns. The use of the PHI tool is now being built into the RFT documentation for future projects, including Narrabri to Moree and Rankin Park to Jesmond projects, as a method of supporting the right culture and behaviour within integrated project teams, and in supporting a culture of positive physical, mental and social wellbeing in the workplace.

As clients and funders of important transport infrastructure projects, all governments should be concerned about the culture and welfare of those delivering transport and infrastructure projects on their behalf. This could include selection criteria in the procurement process to mandate a certain level of performance in relation to culture and diversity. This could be linked to the draft Culture Standard or other relevant measures related to culture and how people are valued.

The infrastructure sector is critical for the ongoing prosperity and wellbeing of communities and Australia as a nation. It is important that the achievements of the sector are recognised and celebrated even in the context of the need for continued reform in the procurement of transport infrastructure.

### RECOMMENDATION 26:

Continue improving the culture of the industry, particularly through the adoption of the culture standard and other initiatives. Share information and success across jurisdictions and benchmark. Promote best practice in improving culture.

### RECOMMENDATION 27:

Continue initiatives to improve the diversity and participation in the industry and benchmark and share across the jurisdictions. Consider the adoption of a demonstration project where a suite of these initiatives is implemented to demonstrate their effectiveness and measure the outcomes on the project.

### RECOMMENDATION 28:

- Jurisdictions should develop and implement a program to recognise and celebrate projects where there is a strong, positive and healthy culture leading to great project outcomes; and
- Roads Australia should develop a program/scheme/award to recognise high performance projects in terms of culture, team performance and community outcomes.

# Future initiatives and priorities

RA has identified a range of further initiatives and priorities that should be considered in the future.

## Operation and Maintenance

Current infrastructure pipelines consist almost exclusively of capital projects. The operation and maintenance (O&M) of infrastructure is critical for ongoing service delivery and requires much of the same materials and skilled workers who are already in short supply in the sector. It is important that O&M projects be included in the pipeline to allow industry to better plan for the future and ensure they have the specialist skills and resources to deliver these programs for clients.

These O&M programs can involve significant investment by clients. Some jurisdictions are already undertaking engagement with industry regarding the development and implementation of these contracts. Including O&M in project pipelines together with strong industry engagement during the development and implementation of these projects would provide real benefits to government and industry.

### FUTURE ACTION

Jurisdictions should include major Operation and Maintenance (O&M) projects/contracts in their pipeline and engage with industry during the development and implementation of these projects.

Currently there are no bid cost reimbursement provisions for O&M contracts. Where these are large long-term contracts of significant value the bid costs for industry can be substantial and comparable for similar sized capital projects. Bid cost reimbursement for large O&M contracts should also be considered.

### FUTURE ACTION

Government clients should move to bid cost reimbursement on O&M projects and provide clarity and transparency on the processes for the payment of bid stipends.

## Risk Charter

In the 2020 RA Procurement Reform Report RA identified that a more effective approach to risk identification, assessment, pricing and allocation (including allocation of risk management responsibilities), will benefit all parties. The report also stated that comprehensive early work would ensure a more complete and joint understanding of risks, enabling better provisions to fund risk and for better allocation of risk management between the parties. The need to develop the risk management capability and expertise for smaller firms was also highlighted and that industry should pursue partnering opportunities with training providers for skills program development and delivery. The development of a risk charter based on the CILF Interface Risk Management practice notes was and remains a priority.

### FUTURE ACTION

The Infrastructure & Transport Ministers' Meeting (ITMM) should develop a Risk Charter that can promote a collaborative approach to project risk identification and management.

## Recognition of Schemes Nationally

The National Prequalification Scheme for civil construction contracts was developed in 2010 with the aim of consolidating the various jurisdictional specific systems to provide a harmonised framework for applications, assessments and reviews.

It provides a uniform set of road and bridge construction categories along with a separate set of financial levels that each participating jurisdiction adopts.

The system is not administered centrally but by each of the participating state and territory transport agencies. Once prequalified in one jurisdiction, eligible contractors can seek to have their prequalification status recognised by other participating agencies. Prequalification requirements for industry vary across each of the jurisdictions even within the national scheme. There would be real benefit from strengthening the scheme and making it more streamlined and less onerous for industry participants and in particular for those that operate in multiple jurisdictions.

There are now requirements in both Queensland and Victoria for the registration of professional engineers and it is understood that other states are likely to follow. It is critical that there be mutual recognition of professional engineers' registration across state and territory borders so as not to place an unnecessary administrative and cost burden onto industry.

### FUTURE ACTION

Government clients should strengthen the National Prequalification Scheme to simplify prequalification for industry across state and territory borders, and that there be mutual recognition of registration of professional engineers across state and territory borders.

# APPENDIX A: 2020 RA PROCUREMENT REFORM REPORT RECOMMENDATIONS

## Ownership and Accountability:

- RA should establish a collaborative partnership with governments to pursue recommendations.

## Pipeline:

- State governments should develop protocols for early strategic involvement in project development and prepare a schedule for regular pipeline information and industry strategic engagement sessions.
- State Governments should:
  i. Develop a system to categorise capacity and risk profiles for companies
  ii. Develop a framework to promote industry collaboration
  iii. Establish a voluntary charter and register for companies to self-assess and commit to the framework.
- State Governments should develop criteria upon which any significant pipeline changes are made.

## Planning and Design:

- State Governments investigate alternative engagement models to foster innovation and improve design outcomes.
- State Governments develop criteria for when appropriate to adopt Early Contractor Involvement to improve innovation and design outcomes.
- State Governments develop criteria on when appropriate to split D&C projects into two tender phases.

## Legal & Risk:

- ITTM to:
  i. Identify best practice approaches to procurement and contract standardisation
  ii. Identify a framework to identify the optimal approach for each project type
- State Governments to adopt procurement approaches that allow early contractor involvement in risk, project development and delivery.
- ITTM to develop a set of best practice principles for project tendering.
- ITTM to develop a risk charter that promotes a collaborative approach to project risk identification and management.

## Capacity & Capability:

- State Governments should propose a series of engagement initiatives and guidelines to help small and medium sized firm to participate in tender process.
- Roads Australia to collaborate with RTOs and industry associations to identify areas where training can be changed or enhanced to better match industry requirements.
- Part A: National Cabinet:
  i. Consider proposing the removal of requirements for local content experience from tender processes
  ii. Accelerate work on harmonisation of state and territory trade qualification recognition.

  Part B: Roads Australia, in collaboration with other industry associations, work with the Commonwealth Government to ensure that when the skilled migration program is updated it meet industry needs.
- Roads Australia to form an industry working group to coordinate promotion of the industry.

- TTM work with state and territory government agencies, and other industry stakeholders, to participate in reviews of collaborative project implementation for recently completed projects to help identify skills gaps. industry.

## Governance:

- ITMM reassess the role of Independent Reviewers, and if appropriate, work with industry and government stakeholders to develop alternative, more effective project quality control and assurance processes.
- ITMM engage with senior State Government representatives to discuss alternate governance models and work with an independent corporate governance specialist to develop proposals that would help drive major improvements in governance for mega-projects.

## Culture and Inclusion:

- Roads Australia in collaboration with other relevant infrastructure industry associations, work with CICT to further develop and refine its Culture Standard, and once developed, work with Government and industry to promote its adoption.
- Roads Australia in collaboration with other relevant infrastructure industry associations, work with CICT and other stakeholders, to propose a framework to measure and enforce culture and inclusion performance, which can be embedded in the procurement process.
- 21. PART A: Roads Australia in collaboration with other relevant infrastructure industry associations, work with government agencies to oversee the creation of an industry-wide training and development program, targeted at improving leadership and culture.
- PART B: Roads Australia, in collaboration with other relevant infrastructure industry associations:
- (i) develop and provide employment information and strategies that encourage people of diverse backgrounds to seek employment in the industry and for industry to employ them; and
- (ii) point out to industry the advantages of a more diverse workforce.

# APPENDIX B: RA INITIATIVES – PROGRESSING THE PROCUREMENT REFORM AGENDA

## Key Themes Outcomes from 2021 RA Transport Summit

A number of common themes emerged from the panel presentations and the question-and-answer session, including:

### National Discussions

Procurement reform is being actively discussed across jurisdictions and industry. There is a recognition across government and industry that with a growing pipeline of projects reform is required to effectively plan and deliver this critical transport infrastructure. It was recognised that there needs to be ongoing discussion and collaboration between government and industry and that there is still more to be done.

The panel acknowledging that it is seeing State treasuries, delivery entities and agencies working together on reforms within their own jurisdictions. There is some collaboration and sharing across jurisdictions but this could be expanded further. There is more work to do with regard to the pipeline clarity, cost/price certainty of projects and with risk management.

### Collaborative Contracting

There is evidence of increased use of collaborative contracting including Early Contractor Involvement contracting on components of the Sydney Metro West project, the new Bridgewater bridge in Tasmania, and the new Program Delivery Approach model with Major Road Projects Victoria (MRPV).

Recognition of a number of larger projects being delivered through small project packages thereby allowing smaller contractors to participate in design and delivery. Examples include ARTC's Inland Rail project and MRPV's Program Delivery Approach model.

Measurement against the NSW Government 10-point commitment to the construction sector is showing some improvement in some areas but there is still more to do.

Main Roads WA is using a number of alliance contracts in the delivery of its infrastructure program together with other forms of contracts.

It noted that there are a number of new models of contracting being developed and there is work to do in bedding them in and measuring their performance. Implementation is varied across jurisdictions. It was noted that clients are more proactive in engaging with industry earlier in the development of projects and this is welcomed by industry.

### Improving Productivity

The lack of improvement in the productivity of the construction industry in Australia in recent decades was identified as a critical issue. Lifting productivity in the delivery of a growing pipeline of transport infrastructure projects is essential. Uncertainty regarding the project pipeline and the loss of productivity of idle project teams awaiting tender outcomes were two issues identified during the session. Technology and digitisation were identified as real opportunities to lift productivity but there does not seem to a coordinated or comprehensive approach to its adoption across the sector.

## Value-for-Money

Clarity of value-for-money in contracting is still an elusive concept with lack of definition and transparency from government. There has been some unhelpful commentary in the popular media regarding contracting and cost "blow-outs" that is not helpful when a more mature discussion on value is required. The conversation needs to be about creating the best value – rather than just a race to the bottom on price alone.

There was recognition of the work of the Construction Industry Leadership Forum intends to undertake on developing an updated and consistent narrative on value for money.

## Commercial and Risk

The panel discussed a number of examples where a better approach to risk management has been taken. This included the North East Link Program where an early works contract to move services and secure the corridor has been undertaken prior to the awarding of main project contracts. This significantly de-risks the project and provides more certainty for future contracts.

The lack of standardisation of contracts and their complexity poses risks for all parties to contracts. There is an opportunity to manage risks through more straightforward and standardised contracts with risks properly managed and appropriate mechanisms built into contracts. It is critical that commercial arrangements are fair for all parties – we need a sustainable industry if we are going to deliver a growing program.

## Insurance Requirements

The Professional Indemnity insurance requirements for contractors is presenting a real challenge. Often the requirements exceed the risk profile on the project. It is becoming more difficult to obtain the required level of insurance and costs are becoming prohibitive. In some cases, this insurance is out of the reach of small companies and can put their balance sheet at risk.

## Technology

The uptake of technology and particularly digital across the lifecycle of projects is slow and patchy. There is real opportunity to lift the performance of project delivery through improved and integrated use of digital technology from project planning through to delivery and operations.

## Culture and Inclusion

The Covid pandemic has taught us that it is possible to be flexible with the workforce. However, there are still real challenges with the culture in the industry with diversity and gender equity issues and particularly with a more diverse representation in leadership roles. The industry is losing many women in the first 3 to 6 years. Construction tends to be an unattractive workplace for many and there are many mental health challenges. There is a suicide in the construction industry every second day. An aggressive culture is not good for anyone. The industry needs to work on culture, capability and commercials as a whole. Decisions about infrastructure are decisions about people.

Are we prepared to reshape our project scheduling and move to, say a 5-day work week, where there will be better people outcomes? Is the industry ready to have that conversation with clients?

In the "war-for-talent" how do we make the construction and attractive industry. Skills harmonization, having transferable skills across industries and focus on leadership training are all important elements that need focus. This includes the development of people and leaders in government.

The Culture Standard being developed by the CICT is an important step in improving culture. It is going to take a commitment from the whole of industry to transform itself.

The panel identified the priorities for the next year as:

- Clarity on Value-for-Money and its effective use in procurement decisions;
- Improvement in the insurance regime for contractors;
- Opportunities in digital engineering that could lift productivity;
- A need to continue building collaboration across industry and government; and
- Improvement in the culture of the construction industry to make it an attractive place to work.

## 2022 RA Transport Summit Procurement and Risk Panel Session

As a key element of the Roads Australia Transport Summit in Melbourne in May 2022, a panel session on progressing procurement and risk was held. The panel consisted of representatives of government clients, contractors, industry and legal experts.

The session heard about a number of initiatives being undertaken by government clients in reforming procurement in their jurisdictions. A number of reviews and reports have been undertaken by governments and agencies and these were highlighted as important developments in pursuing reform of procurement for transport and other infrastructure projects across the nation. In particular the work of Infrastructure Australia (IA) in their 2021 Australian Infrastructure Plan was noted with their call for:

- Improved planning, pipelines and engagement between government and industry;
- A digital be default approach – reliant on an industry-government partnership; and
- A new operating environment where all tiers of government work together.
- The session also considered the review of the capacity of the infrastructure market in Australia undertaken by IA, which included the following critical issues:
- A shortfall of more than 100,000 workers by mid-2023;
- 120% demand growth for materials;
- 125% growth in demand for equipment; and
- 140% growth in demand for plant.
- The panel recognised the real progress that is being made in the reform of procurement of transport infrastructure in Australia recognising that it is variable across jurisdictions. There was a belief that there would be real benefits in that reform being implemented more consistently across States and Territories.
- The panel also discussed:
- The need to, within the project timeline, allow for better planning to deliver improved design outcomes, better quality and safety in the project;
- Importance of addressing resourcing challenges by ensuring all tiers of industry have opportunity to contribute and how smoothing of the pipeline could assist with resource management into the future;

- The significant economic conditions, geopolitical issues and external challenges that are having a major impact on the construction industry;
- The critical importance of improving culture in the construction industry acknowledging real progress and continuing the momentum;
- The need to more positive about the industry and celebrate the outcomes delivered to the community;
- The importance of climate change, environmental responsibility and social outcome considerations through the procurement process;
- The need to improve productivity in the industry and reduce unproductive components from the procurement process right through to delivery; and
- Value for money considerations and the need for transparency and improvements in the tendering and contracting processes.

The panel identified the following priorities procurement reforms for the next 12 months:

1. Better understanding of industry's capacity to deliver the planned projects and a sensible adjustment of the pipeline of projects to ensure effective and timely delivery of projects aligned with industry capacity and capability.
2. Ensure the health and wellbeing of all industry participants through the whole procurement process, including improving the culture of the sector across government and industry to build a long term successful and sustainable industry.
3. Celebrate and reinforce the positives of the industry in delivering great outcomes for our communities.
4. Continue to build on our reform successes particularly in the collaboration between clients, contractors and the supply chain in delivering the projects we have in front of us. New and emerging challenges are making this reform more important than ever.
5. Training and development of high school students and graduates so as to be healthy and effective participants in the industry.
6. Continue to better define success and value-for-money on projects. Focus on innovation, efficiencies and ways to improve the productivity of the industry.

## RA Procurement Reform Workshop

A key outcome of the 2022 panel session was a need to keep the momentum on procurement reform moving. On that basis a specific workshop with industry was held in August 2022 to address three questions, with a focus on detail and specifics:

1. What progress has been made in procurement reform for transport infrastructure and how is it making a difference?
2. What the new emerging issues that are impacting procurement?
3. What are the immediate priorities for continued procurement reform including specific actions to be taken? Ranked by importance and achievability.

Prior to the workshop a survey of attendees was undertaken to gather information on key issues related to procurement reform and to ensure the workshop focused on the critical issues and the priorities for action.

Respondents to the survey ranked the top issues currently being faced with infrastructure procurement in terms of productivity and sustainability of the industry in Australia, being:

1. Shortage of labour and skills (workforce sustainability)
2. Escalation of material costs within fixed price contracts
3. Risk allocation between client and contractor, and management of risk during deliver
4. Supply chain challenges
5. Inadequate project development and understanding of risks prior to tender phase
6. Constraints in bringing innovation and enhanced design outcomes during the tender phase

## Procurement Progress

The procurement reform workshops RA held on 10 August 2022 sought to recognise the significant progress towards in procurement reform and its benefits while also identifying the new and emerging challenges in the changing environment since RA's 2020 Procurement Reform Report.

The workshop participants included increased pipeline visibility, collaboration, more informed clients, culture change, focus on social procurement and improving the sustainability of the industry as notable progress in procurement reform.

The increased pipeline visibility improves confidence of future work for non-tier 1 companies while simultaneously incentivising good quality project delivery because of future work prospects. The certainty of future work encourages organisations to upskill their people, grow their business, increase procurement efficiency through digital systems and reducing duplicate efforts, improving the sustainability of the industry. Further enhancement of the industry's sustainability is being done through an increased focus on social procurement and culture change which will promote more people to participate in the industry and result in better outcomes for the community.

There was also attention drawn to the increased nature of collaboration which is resulting in expanded industry engagement, improved commercial and contract models and outcomes being jointly owned.

## Emerging Issues in Procurement

The environment has changed significantly since RA's 2020 procurement reform creating new challenges that are impacting procurement.

In the workshop, participants stated emerging issues facing industry include material and skills shortages, supply chain uncertainty, rising costs, unfair risk allocation, unclear guidance for alternative material use, clients with unrealistic expectations and insufficient attention to the operation and maintenance (O&M) of infrastructure.

The effects of COVID-19 are still presenting challenges for industry. Investing in infrastructure is being used globally as a tool for economic recovery from the numerous lockdowns.

From this record level of infrastructure investment, there is global competition for finite materials and labour causing costs and supply chain uncertainty to escalate.

Along with this, the exclusion of rise and fall clauses in contracts, contractors facing disproportionate risk and minimal recognition for climate change related risks, are impacting industry's already low profit margins.

Simultaneously, industry is managing the increasing effects of climate change including extreme weather events.

An important step in decarbonising the industry is transitioning to a circular economy which can be done through increased use of recycled materials.

## Priorities for Reform

The workshop participants identified the immediate priorities for continued procurement reform and ranked them in accordance with their relative importance and achievability on the following grid.

Following the survey and workshop, RA undertook a series of interviews with a select group of members across government, legal and advisory, design consultants and the construction industry to gather more specific information on achievements, issues and priorities for the future. This information together with the outputs from the survey, workshops and information from other sources has been used to develop key themes and recommendations.

| IMPORTANCE | Easiest | | ACHIEVABLILITY | | Hardest |
|---|---|---|---|---|---|
| Most | Reduce visa processing timeframes<br>Provisional sums for inflation and utilities<br>Industry and government collaboration to develop scope before procurement<br>Improved reliance of information<br>Incentivise sharing (IP and learnings) | Support alternative material specifications<br>Drive ESG outcomes through procurement<br>Co-ordinated pipeline<br>Standardised procurement documents | Reduce tender evaluation times<br>Bid cost recovery<br>Improve people's skills and knowledge of procurement | Include rise and fall clauses for broader range of products<br>Ease immigration restrictions<br>Mutual recognition for pre-qualification<br>Adopt collaborative frameworks for ALL contracts | Incentivise social procurement |
| | Maintain a "true" collaborative approach | Break up large projects<br>PI Insurance reform<br>Shorter tender to award timeframe | Transparency on $ and commercial information | Assessment criteria reflect social and environmental gaps<br>Consistent procurement messages<br>Earlier O&M consideration | Shared utility mapping data |
| Least | Improved pipeline clarity<br>Harmonised reporting requirements<br>More collaborative contracts | Remove rebar, fabricated steel, and PC from 'buy local' requirements<br>Transferability of people with experience across industry | Shared risk allocation<br>Greater government support for social procurement<br>Sharing available mapping data for bid use<br>Openminded to technology innovations | Maintain a "true" collaborative approach | Standardised specifications within and across jurisdictions<br>Standardised contracts within and across jurisdictions |

# APPENDIX C: KEY DOCUMENTS, REPORTS AND SUBMISSIONS

## RA Documents, Reports and Submissions

*Roads Australia 2022-2024 Strategic Plan*

*Roads Australia Procurement Reform Report, September 2020*

*Submission to Infrastructure Victoria's Draft 30-year Infrastructure Strategy, Roads Australia, February 2021*

*Joint RA / ARA Submission to the Inquiry into Australia's Skilled Migration Program, Roads Australia/Australasian Railways Association, March 2021*

*Submission to House of Representatives Inquiry into Procurement for Government-funded Infrastructure, Roads Australia, July 2021*

*Skilled Migration Occupation Lists Consultation, Roads Australia, February 2020*

*The impact of stress in the infrastructure construction industry, Roads Australia, July 2018*

## Key Documents and Reports

*An Assessment of Australia's Future Infrastructure Needs, The Australian Infrastructure Audit, Infrastructure Australia, 2019*

*2021 Australian Infrastructure Plan, Infrastructure Australia, August 2021*

*Infrastructure Priority List, Infrastructure Australia, Feb 2021*

*Infrastructure Market Capacity Report, Infrastructure Australia, October 2021*

*2021 Update: The Value of Australia's Roads, BIS Oxford Economics, August 2021*

*RA Events - Capacity Policy Stream*

*Roads Australia Procurement Reform Workshop, Sydney and Melbourne, August 2022*

*Roads Australia Transport Summit 2022, Procurement and Risk Panel, May 2022*

*Roads Australia Transport Summit 2021, Procurement and Risk, Peter Anusas, June 2021*

*Progressing Procurement Reform Webinar 28 October 2020*

*Procurement Reform Webinar (NSW), 13 August 2020*

*Temporary Skills Shortage Visa Workshops, July 2019*

*National Capacity and Skills Forum, February 2018*

*National Roads Summit 2017, The Cost of Tendering, Dan Reeve*

*National Capacity and Skills Workshop, Dan Reeve Facilitator, 4 September 2017*

*National Procurement Survey, Presentation and Summary, 2015*

*Ducere Business School, University of Canberra, Tendering Process Review Presentation, 2016*

**Roads Australia**
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