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House of Representatives Standing Committee on
Infrastructure, Transport and Cities
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Parliament House
Canberra ACT 2600

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Dear Members of the Standing Committee

Austroads' submission to the inquiry into procurement practices for government-funded infrastructure

Austroads is the collective of the Australian and New Zealand transport agencies, representing all levels of government.

We provide high-quality, practical and impartial advice, information, tools and services to help our members to deliver efficient, reliable and safe mobility to their customers.

Austroads solves problems for transport agencies in Australia and New Zealand. We focus on making mobility safer and more reliable for all users and our transport infrastructure sustainable and future proof.

We also provide national services that help transport agencies to operate seamlessly across state borders and bring national efficiencies to their operations.

Austroads is a not-for-profit, nonpartisan organisation. We are funded by Australian and New Zealand government transport agencies but our work impacts a wide range of agencies including planning, service, infrastructure, health and safety, public health and policing.

We value agility, collaboration, objectivity, and knowledge sharing. Our work underpins evidence-based practice and is underpinned by human-centred design.

Austroads' activities include:

- Conducting strategic research which helps road agencies address current and emerging issues.
- Developing and maintaining technical guides and tools to promote a nationally consistent approach to the design, maintenance and operation of road networks.
- Facilitating the sharing of knowledge by widely disseminating research outputs, conducting seminars, and promoting the use of Austroads work.
- Conducting business activities on behalf of Australasian road agencies.
- Fostering international collaboration by engaging with and supporting international road organisations.

Austroads uses a program management approach to deliver on the *Austroads Strategic Plan 2020 – 2024*. Each Program focuses on an operational area of the road system and is supported by a number of Task Forces. The role of each Task Force is to identify areas of interest and develop project proposals, oversee projects, promote the outcome of projects, and provide a forum to exchange information between members and related organisations.

Eight focus areas direct the work of Austroads:

- Infrastructure - Delivering affordable infrastructure that meets community needs
- Technology - Optimising the benefits of new technologies
- Data - Managing and harnessing the decision-making power of data
- Sustainability - Reusing materials, reducing emissions, and mitigating the impacts of climate change
- Investment - Optimising transport investment
- Safety - Improving safety for road users and workers
- Journeys - Improving the reliability and efficiency of end-to-end journeys
- Customers - Understanding and meeting customer needs.

Austroads Guides

Austroads publishes a range of Guides which cover the design, construction, maintenance and operation of the road network in Australia and New Zealand.

The Guides document agreed methods and processes and provide information about new technologies and procedures related to the road and road transport industry. They provide practical advice, are globally respected and are continually updated.

All road agencies across Australasia have adopted the Austroads Guides.

The *Austroads Guide to Project Delivery* provides guidance to road agency personnel involved in the delivery of infrastructure projects. Project delivery includes all the activities required to facilitate completion of the project, and comprises project planning, project management, environmental assessment, design, and construction.

The Guide compiles material from Austroads member agencies into a consolidated resource, providing an Australasian approach to project delivery that covers the main road authority requirements.

The Guide to Project Delivery comprises:

- Part 1: Overview
- Part 2: Project Delivery Planning and Control
- Part 3: Contract Management
- Part 4: Direct Management and Construction
- Part 5: Road Construction Quality Assurance

Austroads is currently undertaking a project to update the *Guide to Project Delivery Part 2: Planning and Control* and *Guide to Project Delivery Part 3: Contract Management* with new industry best practice and techniques that have recently become available. Part 2 will be updated to include:

- Enhanced guidance on project planning and project controls with a focus on improving quality outputs and value for money for project delivery.
- Lean Construction methodologies to enhance project controls.
- Relevant processes from the NEC suite of documents for example, digital engineering issues.
- Principles of digital engineering where relevant.

Austroads is also initiating a project to develop a new Austroads *Guide for Digital Engineering*. The purpose of this project is to assist transport agencies in Australia and New Zealand to deliver and operate their assets more effectively through obtaining better value and consistency in the application of Digital Engineering (DE). The Guide to Digital Engineering will provide transport agencies with consistent guidance to develop organisation level DE objectives and effectively and consistently implement DE.

Optimising Project Delivery Performance

Austroads commissioned a study in 2019 to investigate the current challenges and issues affecting the delivery of transport infrastructure projects and the consequential impacts on value for money, timeliness of delivery, agency and political reputation. This study focuses on 'smaller scale' transport infrastructure projects (between $1 million and $100 million). The Austroads report *Optimising Project Delivery Performance* outlining recommendations from Stage One of the study was published in August 2020. A webinar was held in September 2020.

Two central themes emerged from the research – firstly, to optimise project delivery there should be increased time and resources allocated to the early stages of a project (in areas such as planning, scoping, consultation, design, investigations and pre-works), and secondly, when project delivery is accelerated (due to emergency or other considerations) this reduces the available time for project planning and early works, often to the detriment of quality or budget.

Austroads is about to commence Stage Two of the project with the primary focus to progress the short term (<2 year) recommended actions:

1. Support informed acceleration of projects
2. Amplify excellence.

Procurement Decision Tool: A Case Study of the Toowoomba Second Range Crossing

Austroads engaged Queensland University of Technology (QUT) to trial its state-of-the-art procurement decision tool on the Toowoomba Second Range Crossing, a major public sector road in Queensland. The trial was successfully completed, and the Austroads report *Procurement Decision Tool: A Case Study of the Toowoomba Second Range Crossing* was published in June 2020 and a webinar was held in July 2020.

While the tool largely supported the procurement decision for the Toowoomba Second Range Crossing, its application on another major road indicated potential for significantly better value for money by using its recommended procurement approach (see pages 11-23 in the ARC Report)

The tool was first developed in 2014 as part of an Australian Research Council-funded project. It is the world's only empirically tested procurement decision-making tool to mobilise Nobel Prize-winning microeconomic theories for better decision-making.

This tool could soon be saving taxpayers around the world billions of dollars on major infrastructure projects with the Organisation for Economic Co-operation and Development (OECD) signing a licensing agreement with QUT. The OECD is using the tool on two major road projects in Norway with a view to promoting it as the Support Tool for Effective Procurement Strategy (STEPS) across its 38 member countries later this year.

In collaboration with Infrastructure Australia, QUT is publishing a user guide that illustrates the use of the tool on a major Australian public sector road and hospital.

In Australia, there is room for improvement in procurement planning for major public sector infrastructure projects and those early decisions impact later stages so, post-COVID-19, this tool should be used before any major spending.

It is the only tool that systematically performs the pre-contract packaging work to determine procurement in an impartial way to achieve superior value-for-money outcomes, including reducing the chance of long-term cost blow outs.

The tool guides experts through a process to determine contract outcomes. It de-risks projects by filtering out supplier monopolies that undermine competition pre-contract and hold-ups or costly variations post-contract award.

The tool breaks down the project into parts based on project specific design, construction, operations and maintenance activities. It then re-assembles activities in the most cost-effective bundles and contract types – from competitive to collaborative contracting.

The OECD decision to license the tool came among an Australian industry debate following the release of the Grattan Institute's report on the cost of infrastructure titled *Megabang for megabucks: driving a harder bargain on megaprojects*. The tool walks the line between the report recommendations calling for more competition, and major contractor calls for more collaboration. In doing so, the tool reduces risk for contracting parties, improves the likelihood of a wider distribution of work, strengthens the pipeline of work and promotes full government disclosure of decision making. These are aspects of procurement that all government and industry stakeholders agree is critical.

Austroads Technical Specifications - Harmonised specifications for roadworks and bridge works

The Austroads Technical Specifications are a comprehensive suite of specifications for the construction of roads and bridges. The specifications specify requirements for the supply of materials, treatments and infrastructure. They are published in a numerical sequence relating to their subject matter:

- General (Series 1000)
- Earthworks & Stormwater (Series 2000)
- Pavements (Series 3000)
- Traffic Facilities and Incidental Construction (Series 4000)
- Bridgeworks (Series 5000).

A set of uniform technical specifications adopted by Australia and New Zealand will make contract and tendering processes easier for industry and government.

Most Australasian road transport agencies maintain a suite of technical specifications that support road and bridge construction and maintenance. The specifications form part of procurement contracts and refer to unique agency test methods and prequalification schemes.

Different requirements can make it difficult for companies tendering for projects to standardise construction techniques or management processes.

This increases costs for contractors. Lack of consistency can also lead to requirements being overlooked or misunderstood which can lead to disputes. Staff working across borders may need additional training to manage the increased risk for contractors.

While jurisdictions may have specific local requirements, many standard technical requirements apply to all roadworks and bridgeworks regardless of the location.

Adopting the Austroads Technical Specifications will:

- save time and money in the long term by delivering efficiencies for industry
- encourage contemporary best-practice road and bridge construction
- reduce training and tendering costs for the road and bridge construction industry
- simplify contract preparation for government agencies

- provide consistent infrastructure quality
- improve industry compliance in the delivery of projects
- reduce the risk of project delivery disputes and encourage consistent skill development for contractors
- allow experts to focus on improvements and adopt new technology
- encourage sustainable levels of technical capability within road agencies to develop and maintain specifications for road infrastructure.

The Austroads Technical Advisory Group, made up of a senior representative from each jurisdiction, is overseeing development of the specifications.

Austroads is consulting with industry and all jurisdictions as each specification is developed.

When a new technical specification is developed, existing documents are reviewed first. This includes agencies' specifications, and Australian and New Zealand Standards. Technical experts in government and private practice are then consulted to determine the best approach for each specification.

The Austroads Technical Specifications will supplement or replace many of the existing road agency specifications. The specifications will still allow for agency specific requirements where appropriate, based on the technical content of existing agency specifications.

All Australian and New Zealand jurisdictions will be responsible for implementing the Austroads Technical Specifications.

Industry will be advised in advance of the implementation plans and phasing-in periods.

Strategy and action plan for a national code of practice to manage utilities in roads

Austroads is currently initiating a project to improve consistency, compliance and minimise negative impacts of third-parties operating in roads and on the successful delivery of road infrastructure projects across Australia.

The project will lead to the development of a national code of practice which sets out specifications and procedures and a plan on how to change the overall compliance environment. This will ensure utilities clearly understand and comply with their obligations when operating in Australian roads. The national code of practice will provide long-term positive impacts on safety, adaptability, cost savings and innovation.

Currently, there is no best practice standard or national consistency on how utilities are managed on roads. This leads to poor understanding and compliance by utilities, particularly those with a national footprint, leading to poor outcomes when utilities operate in roads which do not adequately consider asset life or safety of the road user.

The project will improve:

- consistency between road and utility regulations across Australia
- the framework of regulation of utilities on a national basis
- road agencies' ability to respond to future policy challenges
- regulatory conditions for innovation at the national level
- opportunities for administrative reform.

In 2019, Austroads completed a project that developed a discussion paper recommending specific changes to the Telecommunications Act 1997 (Commonwealth) and related statutory instruments, to balance the telecommunications carriers and road agencies networks' powers and obligations to ensure public safety, road utility and continued telecommunication infrastructure delivery.

The key elements of this report formed the basis for the Austroads formal response to the Proposed Changes to the Telecommunication Statutory Framework

Australasian Procurement and Construction Council Inc (APCC)

The APCC was created by government for government, to enable members to work together to collaborate and provide leadership to the broader public sector and relevant industries. The APCC does this by harnessing and leveraging the extensive knowledge and expertise of members to generate innovative solutions that add value to what and how they buy and build, and how they manage their assets.

Austroads and APCC collaborate in areas of common interest for the advancement of government and industry. An example was the development of the *General Conditions of Contract for Construction - National Capital Works 4* (NCW4) to improve the efficiency of project delivery and reduce the potential for contractual disputes.

Austroads and APPC have also recently agreed to establish a dedicated group to develop a roadmap for procurement to support the Net Zero Carbon targets. A joint position by APCC and Austroads would represent a significant portion of those delivering governments' infrastructure spend and demonstrate leadership to industry.

Australasian BIM Advisory Board

Austroads is a member of the Executive Committee of Australasian BIM Advisory Board (ABAB). The Board is a first for the Australasian building sector with government, industry and academia partnering to provide leadership to improve productivity and project outcomes by taking a leadership and coordinating role in the consistent adoption of BIM and associated integration and collaborative processes.

The new technologies and processes in Building Information Modelling (BIM) can lead to increased productivity and improved asset management across Australasia. As developments continue in the digital built environment, the BIM Advisory Board continues to provide a coordinated approach to development of BIM practices, standards and requirements through collaboration, education, innovation, and simplification.

The following projects have been initiated by ABAB to support a consistent approach to the adoption of BIM across jurisdictional boundaries:

- Asset Information Requirements (AIR) Guide: provides guidance for clients, their agents and lead consultants on formulating and defining their asset information requirements for building and infrastructure projects they are planning.
- BIM Process Consistency Report: will assist the Australasian construction industry by creating a common framework and language for everyone involved in the construction process. It identifies and promotes which BIM elements should be consistent across Australasia to ensure the optimisation of BIM benefits and therefore eliminate waste in construction practices. Download BIM Process Consistency Report.
- Digital Twins Position Paper: written to assist the ABAB Board formulate its objectives and agenda regarding Digital Twins. To this end it provides a brief overview of the subject including Digital Twins' relationship to concepts such as BIM, Digital Engineering, Smart Cities, and Intelligent/Smart Infrastructure. It examines frameworks for evaluating them and factors government and industry organisations should consider when planning, procuring, or using them. Download Digital Twins position paper.

Looking forward, in 2021 ABAB will pilot BIM Benefits Metrics across a range of different types and sizes of government projects to help government and industry deliver projects more effectively.

Further projects are planned, including a common set of principles for BIM strategies across Government, and clarifying BIM roles and responsibilities.

It is noted that the Australasian BIM Advisory Board (ABAB) recommends that Government adopt a number of practices including:

- The use of BIM and digital delivery on all major government infrastructure projects in line with the Productivity Commission recommendation.
- Procurement models to be established that include digital delivery protocols, and standards.
- The development of consistent national BIM and digital delivery standards which align with the relevant international standards to provide certainty to industry.

Austroads Partnership with BuildingSMART Australasia - Development of digital engineering standards for the roads sector

Austroads has partnered with buildingSMART Australasia to provide subject matter expertise, project management services and sector engagement for digital engineering and BIM in road infrastructure. The work will be undertaken through buildingSMART Australasia as part of the IFC 4.3 *Infrastructure Deployment Project.*

The purpose of the IFC 4.3 *Infrastructure Deployment Project* is to support the Australian roads sector in progressing development of digital engineering / BIM standards, including local and international engagement and implementation for the roads sector. This involves Austroads taking the leadership role on behalf of member road agencies as the key point of contact with buildingSMART Australasia.

The endpoint for these developments is to work towards ISO standards for the management and open exchange of infrastructure related to digital engineering / BIM data. This data arises from design and construction for transfer into the asset management and operations and maintenance phase for road assets. This will inform future development of the *Austroads Road Asset Data Standard* to encompass digital engineering / BIM moving forward.

Austroads welcomes the opportunity to further discuss this submission.

Yours sincerely

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