The infrastructure conundrum

By Gillian Cottle, Director, Slattery Australia

Two-thirds of Australians now live in our capital cities, and the growth of our urban nation continues to accelerate at an ever-increasing rate.

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According to Infrastructure Australia, the percentage of city dwellers will rise from 69.3 per cent in 2031 to 73.4 per cent by 2061. By then, up to 15.7 million Australians will live in our capital cities.

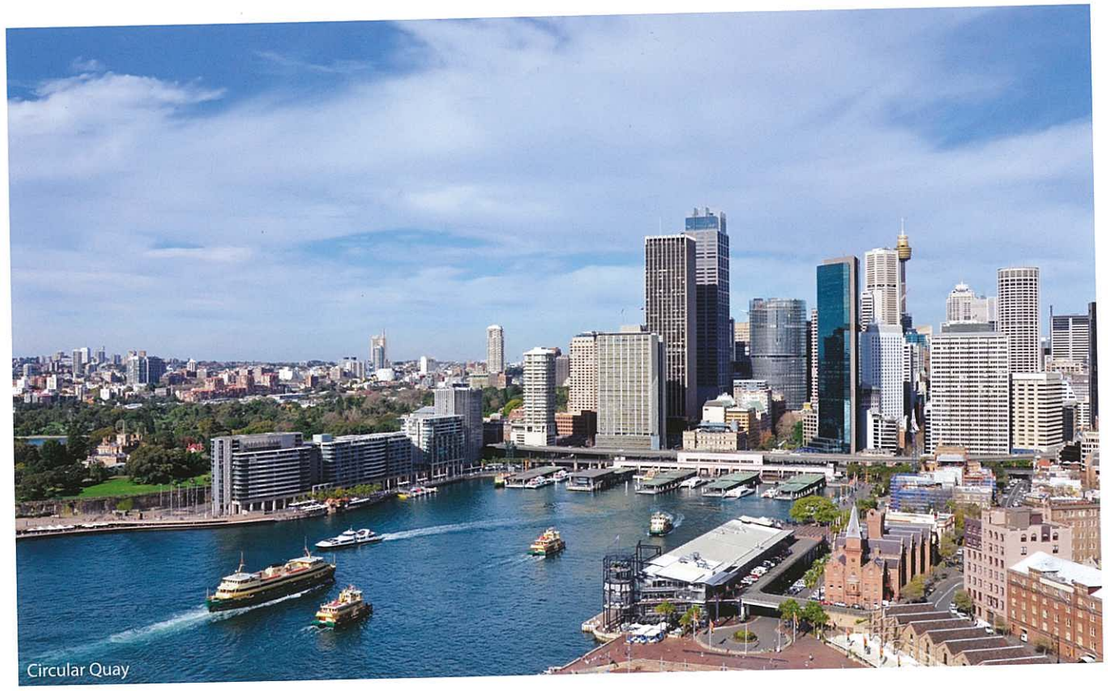
Accommodating this growth will be one of the great challenges of our nation's city builders in the decades to come. But how will we meet the infrastructure needs of this population growth? How will we fund this infrastructure? And how will we overcome the grave deficiencies in the current infrastructure network? Answering these questions lies at the heart of our infrastructure conundrum.

Before we look to the future, we need to fix the deficiencies in our current network. Some of this can be attributed to our lack of forward planning. Three-year election cycles are never long enough to adequately develop and implement an infrastructure plan. But there are other factors at play. A lack of collaborative thinking and communication is also at fault; for example, there are currently three major plans in New South Wales produced by Infrastructure NSW, Transport for NSW and the Greater Sydney Commission. This leaves us without a single plan for New South Wales that addresses the complex interface between housing, social infrastructure, work and travel, and how we provide more job opportunities closer to major residential areas.

Attitudinal shifts are also required. We need to recalibrate the community's mindset towards densification, and to demand a rethink on car ownership. But smooth infrastructure delivery demands more than just planning and public support; it also requires a laser focus on industry productivity.

In 2015, the Warren Centre launched the IP30: Infrastructure Productivity project to increase the value of infrastructure delivery in Australia by reducing waste. This research indicated that eliminating inefficiencies in the construction sector could save 25 per cent in costs, totalling $30 billion.

Among the inefficiencies identified were unnecessary complexities, resulting in time and cost delays; poor designs


Circular Quay

that hampered construction; confusing standards and specifications; multiple reworking; nonconformance; delays; poor-quality materials; defects; and performance failures.

Risk management: a fine balancing act

Of all the questions arising from the Warren Centre research, risk allocation is perhaps the most important.

Far too frequently, the preferred approach is to pass risk on to the contractor. This ignores the fact that astute risk management allocates the risk to the party best able to manage that risk. By off-loading all risk, clients ultimately pay a higher cost for the contractor's management of those risks.

The current stoush between the New South Wales Government and Spanish contractor ACCIONA is instructive. In June, the media reported that ACCIONA, which is currently building the $2.1-billion CBD to South East Light Rail project, had demanded an extra $340 million to finish the job. ACCIONA claims that alterations to the route, and the discovery of extra utility connections and wires under George Street have cost millions. This comes after one of the three tenderers for the job withdrew because it was unhappy with the risk allocation of the utilities relocations required.

Compare this with the Cross City Tunnel project: New South Wales's then Roads and Traffic Authority decided that, given the length of the procurement process, it was prudent to move utility assets prior to commencing the main tunnelling works. The relocations were completed under budget and delivered on time in a relationship of collaboration.

Cost and contract transparency

Transparency of costs is also essential to the delivery of efficient and successful infrastructure projects. Collaborative contracting approaches – whereby clients agree to collaborate with bidding suppliers to find the best solution that creates value for each party and situation – is a successful model employed around the world. Working collaboratively increases efficiency and reduces abortive work, especially on complex projects with restricted time frames; however, collaborative contracting demands that all parties actively seek win-win outcomes.

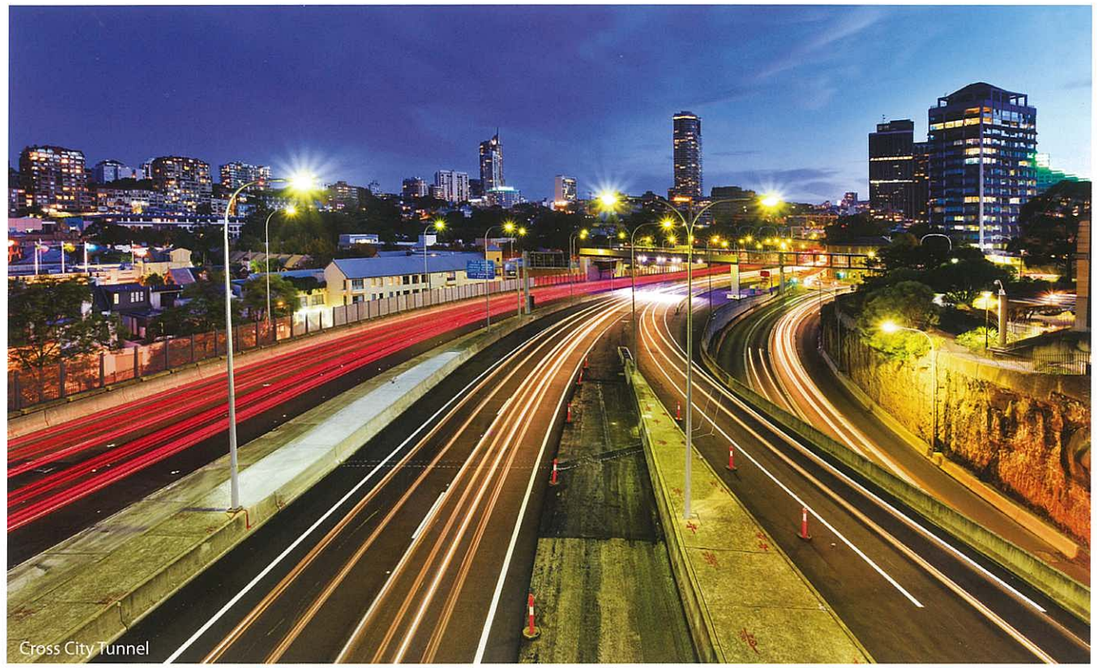
The complex and often confusing multiplicity of standards – especially between federal, state and territory legislative systems – also reduces efficiencies. The most efficient way of working is clear: use the same standards and legislative codes in each government jurisdiction. Imagine a single Security of Payment Act to follow, regardless of where works were undertaken, or a single occupational health and safety (OHS), WorkCover or public liability system. Meanwhile, our current structure continues to impede efficiencies in project delivery.

One of the biggest inefficiencies in the procurement of works are the contracts used. There is a tendency to use old contracts that have been tested in the courts, as everyone is familiar with their workings; however, these contracts must be heavily modified to capture the latest legislative changes. The multitude of different contracts available is enormous, but they are rarely left unamended, even if they are currently compliant. Each project team may want to create its own special contract, but few projects are unique. By using a single suite of contracts throughout the country, we would realise significant efficiencies, which would, in turn, lead to lower tender prices and shorter procurement periods.

Suitable skills to deliver

A final risk to infrastructure projects is ensuring that the industry has the skills to deliver quality projects. In some cases, this is not a concern. For example, Australia has sufficiently skilled tunnellers from the mining boom who can meet the staged release of tunnel projects.

The challenge arises in finding suitable skilled and qualified consultants to manage, design, cost and control these projects. The New South Wales Department of Education's summary of 2016 student figures has found that only 2.3 per cent of students are studying architecture and building. A further 7.9 per cent of students are studying engineering and related technologies. We must encourage more people to choose well-paid, interesting and fulfilling careers in the construction industry, otherwise there will be nowhere for our new residents to live, work and play.


Cross City Tunnel

Funding the future

The million-dollar question remains: how will we pay for all this infrastructure?

Value capture along transport corridors is an obvious way to help fund the future. The term 'value capture' refers to funding and financing mechanisms that leverage the multiple benefits generated by new or upgraded transport infrastructure, from uplift in property values and higher workforce participation rates. The Australian Government launched a value capture discussion paper in 2016, and is currently examining how to use policy and funding levers to stimulate the use of value capture in the development and delivery of transport infrastructure.

The value capture model can encompass areas of significant population, commercial and other employment growth areas, such as education, health and retail. Currently, Sydney Metro Northwest is undertaking significant planning around new stations. At Rouse Hill station, for example, Sydney Metro Northwest is exploring major residential and commercial opportunities to develop the right mix that encourages businesses to relocate. The master planning is being controlled to ensure that a preferred solution is achieved.

Value capture can also be applied in other areas by building over the top of existing transport corridors in proximity to the city. Current proposals are being prepared to develop the airspace over the rail corridor between Central Station and Cleveland Street. This area is dead space in the centre of the city, and its potential use could add significant commercial and residential opportunities, while still maintaining the full functionality of the station. There have been missed opportunities in the past, such as the Epping to Chatswood rail line, where options were considered for a large residential and commercial tower to be built above the station. We can't miss these opportunities again.

Despite their unpopularity with the public, user-pays models should also be on the table. While media articles continue to sensationalise the impact of current and proposed toll roads in Sydney, these have been demonised over need, impacts, cost and tolls. A special investigation by the *Daily Telegraph* in June 2017 found that Sydney will have more road tolls than any city in the world by 2023. This begs the question: how else should infrastructure be funded?

Despite the challenges, we are on the cusp of a very exciting time in Australia – one that will lay the foundation for our nation's ongoing prosperity. The risk is that we will fail to deliver the infrastructure that we need for growth. While there are inherent risks in any project, the benefits to the nation – enhanced productivity, livability and prosperity – are far too big to ignore.