

Infrastructure – The Path to Progress

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Infrastructure is crucial to creating a more productive and competitive Australia. Paul Foxlee, National Head of Transport and Infrastructure and Partner, and Stan Stavros, National Head of the Infrastructure and Projects Group at KPMG Australia discuss the road ahead.

We need to get better at implementing more holistic infrastructure solutions that not only rely on building more but also drive efficiency through all aspects of the infrastructure lifecycle. This includes better prioritisation of infrastructure investment decisions, being smarter on how we enhance the utilisation of current infrastructure and ensuring we efficiently draw on all resources to fund infrastructure solutions.

Australia's high standard of living will only be sustained if we can ensure we are a Global investment destination of choice for value added competitive industries. To achieve this it is crucial we improve our national productivity, driving better infrastructure solutions is one essential factor that will help achieve this.

Infrastructure is the ultimate enabler, underpinning our economic and social development. Infrastructure enables the efficient movement of people and goods (transport), it enables the knowledge economy (telecommunications), it enables the proliferation of energy and water (power and utilities) and it enables the social ecosystem for a healthier and more educated society (health, education, justice etc.). The impact of infrastructure on our most basic measure of productivity, GDP, is significant and forecast to grow.

We have some significant work to do if we are to at a minimum maintain our living standards. Research by the World Economic Forum in 2015 assessed the quality of Australia's infrastructure at 35th out of 144 countries. They ranked us 32nd on railroad infrastructure, 38th on port infrastructure and a

lowly 43rd for quality of roads. If we don't improve our infrastructure and productivity we won't remain the world's 12th largest economy, with our median wealth amongst the highest in the world.

The path to progress

According to Infrastructure Partnerships Australia, Australia's current infrastructure deficit sits around \$770 billion.¹ However, this only tells part of the story. *"Whilst building more infrastructure to address critical backlog will address some of the productivity issues, driving efficiency through all aspects of the infrastructure lifecycle will result in greater incremental improvements"*, comments Paul Foxlee.

There are a number of levers Governments can use to ensure infrastructure is effectively developed, managed and funded to ensure it drives better productivity outcomes. These levers include:

1. Prioritisation of infrastructure investment decisions based on societal welfare and real economic impacts

In the context of fiscal and resource limitations as to what infrastructure can be delivered it is important that investment decisions are taken that have the greatest economic return, as well as ensuring that investment is delivered in the most efficient and effective way as possible.

¹ Infrastructure Partnerships Australia response to Productivity Commission's Review of Default Superannuation Funds in Modern Awards, April 2012.

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"The current approach used by Governments to appraise and prioritise projects is generally not on the basis of the economic value they add, but on other factors. For example the benefit to cost analysis adopted typically on transport projects focuses largely on the value of any investment to transport users – primarily measured in direct benefits such as improved journey time, less congestion, improved safety and a reductions in environmental externalities"; comments Stan Stavros.

While most large projects also estimate aspects of 'wider economic benefits' as effectively an add-on to the conventional measurement of benefits, these methodologies do not capture all the benefits to the economy and the evaluation of projects has generally continued to be centred on conventional benefits.

"There is a significant opportunity to strengthen our approach by measuring real economy impacts of infrastructure projects and prioritising projects – with a focus on broader productivity impacts"; comments Stavros. This could work side by side with the current appraisal approach to provide a more robust consideration of the value created by competing investments. At a time when the public policy debate is centred on the need for competitive regions and cities, there is strong evidence to suggest a deeper focus is required on infrastructure assessment frameworks that consider the role of investment programs and projects to unlock labour markets, drive more efficient supply chains and transform land use to support more productive jobs.

"This broad lens will deepen our understanding of the transformative role that infrastructure can have on an economy and society. Infrastructure Australia, and the various State infrastructure bodies, set up to bring independence to the prioritisation of infrastructure projects have a critical role in ensuring projects are appraised appropriately"; comments Stavros.

2. Technology is key

One of the most significant realities we need to embrace is that technology is a factor that can help us drive efficiency, competitiveness and productivity. Upon taking leadership, Prime Minister Malcolm Turnbull's acceptance speech addressed the importance of embracing technology that makes us more efficient.

In the context of infrastructure, technology is impacting and will increasingly impact both supply and demand.

"Technology changes everything. It has the potential to enhance the productivity of our current infrastructure leading to a lower long term investment requirement, it impacts what infrastructure we will require for the future and will impact all our funding and regulatory frameworks"; comments Foxlee.

A selection of examples demonstrating how technology impacts infrastructure includes:

- **Embedding technology into infrastructure assets:** GE is working with a major US railway company to install sensors on tracks and locomotives to aid the flow of rail traffic. Initial results indicate an annual saving of \$200m from increased capacity on the existing infrastructure.
- **System integration of infrastructure assets:** The Austrian road administration authority has developed and deployed an intelligent transport management system across 2,175km of motorways. The adoption of smart highways and the internet of everything to get real time data has enabled the authority to clear traffic jams before they happen, enhance safety and improve road utilisation resulting in lower investment in new or expanded roads.
- **Disruptive technology innovation applied to infrastructure assets:** The adoption of solar and development of solar batteries for energy storage has the potential to radically reshape the power sector and the related infrastructure investment requirements. Furthermore, traditional regulatory models that assume services provided by infrastructure are static and uneconomic to duplicate will need to change to account for the impact of disruptive technology.
- **Technology impacting how people use infrastructure:** responding to the demands of employees a large number of organisations are now redefining the traditional office through offering flexible work practices such as telecommuting (collaborative technology), remote work and flexitime. A key outcomes of employee's use of collaborative technologies has been reduced travel and consequential reduction in use of transport infrastructure, carbon emissions and travel costs whilst increasing employee productivity and work-life balance.
- **Technology impacting how businesses use infrastructure:** Patrick Ports in Brisbane has adopted sensor and navigation technology making driverless container handling machines a reality. In addition to significant safety improvements and reduced maintenance expenditure, the driverless cranes have increased capacity at the container terminal therefore delaying additional infrastructure development.

Technology has the potential to drive a radical shift in planning, building, maintaining, funding and regulatory approaches to infrastructure and ultimately drive productivity improvements. Government, businesses and communities need to embrace and adopt to the rapidly changing environment.

3. Efficiently drawing on all resources to fund infrastructure

The New South Wales (NSW) experience is also proving that asset recycling is a powerful strategy for funding massive infrastructure transformation. Last year, Foxlee spoke to NSW Premier Mike Baird exclusively about his Rebuilding NSW infrastructure plan and asset recycling initiative, which will provide \$20 billion in funding to deliver road, rail and social infrastructure in regional and metropolitan NSW.

Premier Baird commented that: *"We had nothing near the funds we needed to address the infrastructure backlog we inherited. So we had to take a new approach. We looked at the balance sheet and asked ourselves, can we turn our old assets into new assets? The overall narrative for the Rebuilding NSW plan is that if we do this on a large scale we have the capacity to make a real dent in the infrastructure we all need. The \$20 billion program is a once-in-a-generation opportunity to get ahead of the infrastructure curve"*

The key to the success of asset recycling, he explained, is creating a tangible benefit. *"The taxpayers understand this is not a standalone fiscal measure; this is about the capacity to fund the infrastructure that makes a difference to their lives"*

KPMG believes this is an initiative that all Australian states should seriously consider. *"The impact of the NSW asset recycling approach compared to other States infrastructure investment approach will only be known in hindsight. Whilst the outcome of the NSW construction stimulus will be observable over the next five years, the greater and arguably more important outcome of improved productivity will only be known in 10 to 20 years"*, comments Foxlee.

What can governments do?

To start unlocking the potential infrastructure productivity improvements governments can take a number of practical steps including:

Clearer narrative underpinning project outcomes:

Placing a deeper focus on the range of outcomes to be enabled by a project at the strategic assessment phase will ensure project solutions are more robust and aligned with the public policy settings. Focussing more heavily on the key drivers for a project at the very early stages of project development will ensure a strong foundation before moving into business cases.

Better Business cases: By succinctly defining and understanding the problems Government are trying to solve, as well as the identification and assessment of the suite of solutions more robust business cases can be developed. For example, instead of building a new road the same outcome and a more cost effective solution could be extensive light sequencing to increase road productivity.

Embracing Technology: Embedding technology in current infrastructure and/or to manage a suite of infrastructure assets can drive efficiency and cost improvements. For example, transport management systems, are used to effectively manage traffic flow across a road network which drives productivity by reducing congestion and increasing safety.

Adopting Innovation: Innovation across all facets of infrastructure provides an opportunity to improve outcomes and productivity. For example adopting infrastructure payment mechanisms that better reflect a fairer funding paradigm e.g. greater user pays and outcomes based payments; introducing greater competition to the delivery of public services to increase performance and drive efficiencies and increasing the volume of Government infrastructure asset recycling to enable Australia to develop the infrastructure required to ensure future productivity and competitiveness.

There's no way we can increase national productivity without rethinking our approach to infrastructure – but if we get it right, we have a powerful equation for growth.

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