

Blind spots thwart infrastructure investment

More money won't address the shortfall of good infrastructure projects. While better planning and governance arrangements will help, it's a mind-set shift that's required. Australia's infrastructure community is overlooking opportunities for better infrastructure outcomes because of the assumptions they carry. With humility and courage to challenge existing mind-sets, it will become possible to create lower risk, lower cost infrastructure that delights customers and investors alike.

New investment in infrastructure should be a good thing. If done well, it's an engine for growth, fuelling economic activity and lifting productivity. Indeed, the Business Council of Australia observed that a third of economic activity can be generated by capital projects [1].

Despite the potential economic benefits, governments don't have the funds to pay for the infrastructure we need. Nor, perhaps, should they. Private sector investment is required. But this fact has been so laboured that one might be forgiven for thinking that greater investment of private sector capital, skills and technology will in itself solve our infrastructure 'problem'.

Fortunately, Australia's recently released national infrastructure plan [2] clarifies things a little. It highlights a range of impediments to achieving productive infrastructure networks. Better integrated planning, decision making, performance benchmarking and governance are just some of the key areas for improvement. Nonetheless, the infrastructure dialogue seems to remain anchored around finance. And while innovative funding models like value capture are a useful tool in the arsenal [3], they still won't deliver good projects.

There's no shortage of finance

Let's be clear – there is no shortage of private capital for good projects. Investors have consistently stated that the greatest barrier to more private involvement is a

lack of attractive, investment-ready projects.

What makes a project bankable? From an investor's perspective, a project needs to generate reliable returns, enrich their portfolio, hedge against inflation, and allow large sums of money to be put to work [4,5]. Risk, and particularly uncertainty, make investors extremely wary. It's why brownfield assets can be more attractive as their risks are better known. It's a key argument in favour of asset recycling [6], selling brownfield assets to provide the funds for governments to develop greenfield projects.

Private investors have other reasons to be wary. The Grattan Institute's analysis of transport projects reveals that many create little public value [7]. Too much money has been spent on the wrong projects in the wrong places. It's the consequence of 'pork barrelling', poor planning and questionable business cases.

It's clear that we need to do much better in creating projects worthy of public and private investment.

Are we answering the wrong question?

How can the infrastructure community get unstuck and deliver better outcomes? It seems this question is being substituted by a narrower one: How do we secure more private finance? Given this question has resisted effective resolution, we might be well served to ask another: What are we

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The institutions that discern our infrastructure problems and shape solutions are operating with out-dated mind-sets.

missing? **What is the root cause of the persistent lack of good projects** that investors would be clambering to finance?

It's hard to find evidence of this latter question being candidly addressed.

Mind-sets hide the key to progress

"Australia is good at infrastructure planning and encouraging innovation" [8] is a sentiment often repeated. This is despite Infrastructure Australia's findings to the contrary. The Australian Bureau of Statistics also reports that infrastructure sectors perform poorly in innovation relative to other sectors [9].

I suggest this statement is one of many assumptions that are impeding progress. Analysis of much of the literature, plus direct first-hand experience, indicates outdated mind-sets in the institutions shaping our infrastructure. Over the past decade, most studies and advice [2,10] expose problems like those listed in the table below (under 'Current Situation'). Tactical responses are offered such as those identified under 'Corrective responses'. While eminently logical, they ignore the deeper causes of our problems. The mind-sets that determine how problems are interpreted and addressed are revealed in statements like those in the bottom left-hand quadrant of the table.

Such **mind-sets are pervasive, inhibiting and invalid**. They also demonstrate an important lack of appreciation – that the

approaches these mind-sets engender often **generate the very disinterest and opposition that's unwanted**.

Design is a blind spot

A further crippling assumption is made about design. Virtually every enquiry, report and piece of advice ignores the contribution that design can make. People will talk of strategic planning, and then jump to project evaluation and selection, missing the critical linking task of design. It signals **a belief that design is a lower order, commodity task** of translating a plan into drawings, quantities and costs. It also reflects a very passive relationship with planning and design, rather than an active, collaborative and creative one filled with possibility.

This fundamentally ignores the potential to bring about valuable outcomes through a deliberate design process. **Design is most powerful when exhibited as an attitude and approach**, not just a task.

Imagine creating low risk, low cost projects delivering services that people want to pay for and which financiers love – by design. And why just talk about risk allocation when we can also achieve risk elimination? Sound fanciful? Do you believe (or assume) it's not possible, and hence not worth pursuing?

Today, human-centred design is unlocking high value goods and services. It's not just occurring with fast moving consumer

Mind-sets shape behaviours. Do mind-sets need to change to underpin more useful behaviours?

Current situation ►	Corrective responses
<ul style="list-style-type: none"> – Inability to secure scale of finance needed – Uncoordinated, patchy project pipeline – Excessive project politicisation – Stakeholder opposition is common – Lack of network performance data – Poor governance and transparency 	<ul style="list-style-type: none"> – New funding mechanisms (asset recycling, value capture) – Infrastructure performance framework – Greater investment in long-term, strategic infrastructure planning – Streamlining regulatory requirements
Behaviour shaping mind-sets ▲	More useful frames of reference ▲
<p>"Our role (in the public sector) is to deliver on government policies and project commitments (not to question them)."</p> <p>"Don't go out too early. Get the project scoped up first."</p> <p>"Opposition is inevitable. We just need to work with communities to explain the benefits."</p>	<p>"Our role is to continually improve services and outcomes that create public value."</p> <p>"People want us to lead inclusively."</p> <p>"Well-formed projects are created <i>with</i> stakeholders."</p> <p>"Problem solving is designing, not fixing."</p>

products, but also in public services associated with tax and health [11].

Through experience I know that intentional design [12,13] can achieve breakthroughs in infrastructure with substantial, sustainable public and private benefits. For example, in the space of 3 days Rio Tinto was helped to re-design their iron ore export facility, creating a far lower risk solution that could save more than 10% of the \$1.4billion capital cost. A similar approach helped Western Power co-design new routes for their high voltage power lines, taking months off their schedule, millions off their cost, eliminating the regulatory EIA hurdle, and rebuilding trust with an offside community [12].

Infrastructure assets can be intentionally designed to:

- attract patronage because people love using them;
- achieve a lower total cost of ownership because they are designed with commercial parameters in mind;
- alleviate community risk and time delays because stakeholders helped shape them; and
- build political capital because the development and delivery experience is so radically better.

When coupled with the idea of markets for infrastructure services (not assets) that Garry Bowditch advocates [14], it's easy to see how a vibrant infrastructure development sector could emerge.

The point is that **major opportunities to shape and deliver superior projects with lower cost and risk are being systemically overlooked**. It's the case with new projects and the invigoration of existing assets. The aggregate value, being the difference between current waste and the value that can be created, is literally enormous. Lower risk projects with both capital and operating cost savings in the order of 10-20% or more are not out of the question [15].

How will the infrastructure community respond?

This paper challenges some deep seated, perpetuated beliefs. The natural reaction may be to dismiss the challenge because of the internal conflict and discomfort it causes. Will fixed mind-sets win the day?

Investors, directors and senior public servants have an interest, fiduciary and public duty to suspend judgement and test the proposition. Experience reveals that **learning-by-doing is the most powerful course** – prototyping an intentional, design approach to problem resolution and high value asset creation. It would be an important investment in the next generation of political, bureaucratic and business leadership that Bowditch believes is so essential [14]. And it might just be a major turning point in Australia's infrastructure future.

In summary

Australia's infrastructure community is captured in a narrative and mind-set that's impeding the delivery of better infrastructure outcomes. Better approaches are being overlooked as effort goes into solving the wrong problems. The real work is not creating things that are financially or technically possible. It's working on what's humanly possible – unlocking mind-sets that impede the creation of high value infrastructure.

Design must be embraced as an attitude and approach to shaping projects and their enabling environment to achieve superior, bankable and sustainable returns

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