THE VALUE TIMES

Infrastructure Australia – 2016 Plan

On 17 February 2016 Infrastructure Australia (IA) released its "*Australian Infrastructure Plan: Priorities and reforms for our nation's future*". This Plan is based on an exhaustive audit into the state of the nation with regard to the needs of the population, environment and economy and the present state of national infrastructure.

The reforms recommended in IA's Plan are informed by four "*headline aspirations*" to achieve a more productive Australia over the coming 15 years and beyond:

- Productive cities, productive regions;
- Efficient infrastructure markets;
- Sustainable and equitable infrastructure; and
- Better decisions and better delivery.

The Plan contains a total of 78 recommendations on government actions in 10 categories:

- Productivity
- Population
- Connectivity
- Regional
- Funding
- Competitive Markets
- Sustainability and Resilience
- Remote and Indigenous
- Governance
- Best Practice.

The Plan includes a Priority List of 91 specific projects or programs that IA believes require government action with varying degrees of urgency.

These initiatives are priorities that have been identified by IA as addressing a strategic infrastructure need, that nevertheless require further development and rigorous analysis to determine the most appropriate option to address that need.

A well-planned national infrastructure initiative is essential for Australia whose recent and forecast population growth is some 1.6% per annum – the highest in the developed nations of the world.

According to IA this population growth will result in increases in capital city populations

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Message from the President:
We always chock our wheels

I shall never forget an experience that I had when working at a mine site in the Californian Desert where I was running a two-day Value Management workshop with the company managers and professional staff.

The desert, as far as the eye can see, is dead flat: you can see for miles in all directions.

On the day after the workshop, whilst I was writing up my report, the manager of the mine invited me out for lunch at the local cafe in a nearby village, just a mile or so from the mine site.

We left the mine site in his company car – a normal sedan - and shortly afterwards arrived at the cafe.

There was a properly sealed bitumen car park that was, of course, dead flat.

As the manager got out of the car, I was amazed to see him go to the front of the car and *chock the wheels*.

"What are you doing?" I asked.

"We always chock our wheels", he replied, "no matter what sort of terrain, or what sort of vehicle".

Once inside the cafe, we continued to discuss the wheel-chocking actions that had given me such a surprise.

The manager explained to me that this was all part of the company's *safety culture*. Chocking one's wheels becomes an automatic activity as soon as one alights any vehicle one is driving.

This means, that when one is actually driving a vehicle in a mine, possibly underground on a steep slope, one is

highly unlikely to forget to chock the wheels. It becomes an auto-response.

I moved on from this area to conduct another Value Management workshop at a mine site close to Salt Lake City.

I noticed that on a huge shopping-centre car park, many of the vehicles had their wheels chocked. I knew straight away that these were all mining company employees following their company culture.

I've since worked with this company on many occasions, in North and South America as well as in the UK and across Australia.

In that time, I've been highly impressed with the 'safety culture' - indeed, I am far more safety-conscious now about any activity that I'm personally involved with.

This includes wearing safety goggles whilst mowing my lawn, always checking out emergency exits in hotels, and carefully listening to airline safety instructions (even though I've heard them hundreds of times and could probably give the announcement myself).

Their safety culture has certainly rubbed off on me.

I've seen first-hand how this safety culture is established and nurtured; making this company's safety record second-to-none in its field; even though mining can be inherently dangerous.

Safety in this company really is everyone's business – and everyone takes it seriously. An unsafe practice will quickly be pounced upon – not by safety inspectors – but by anyone in the company.

Apart from day-to-day practical actions (such as chocking the wheels of vehicles even when parking on level ground) I have learnt much more about safety and, by extension*, the way to establish and change a particular culture in an organisation.*

The most significant of these is the mandated practice of commencing every meeting with a "safety share". Under this rule, no matter what the purpose of the meeting is, or who is attending (Chief Executive, Managers, consultants, contractors, machine operators and so on), the first item on every agenda is the "safety share": a few minutes of open discussion when anyone in the meeting is free and encouraged to 'share' any safety matter with the other people in the meeting.

Every workshop and/or meeting that I have conducted for this company, whether it is in the Catalonia area of Argentina, the remote areas of the Kimberley in WA, or in the CBD's of London, Melbourne and Perth, has commenced in this way.

People share quite openly about safety issues on their sites or projects. An accident here, a breach of procedures there, a near-miss elsewhere: always followed by discussion about how these incidents could have been avoided, and how we can all learn from them.

In this way, the *safety culture* is reinforced and expanded. It is not by accident that the opening page of the company's annual report is a "safety report". They truly want to practice what they preach in terms of safety being their primary concern.

I have witnessed at first-hand how a multinational major mining company can

establish and continually strengthen and extend an important part of its culture.

So what has all this to do with value and value-for-money? Quite a lot, actually.

I have said on many occasions that the practices and techniques of Value Management can only achieve so much – the real game changer is creating a "value culture" just like the "safety culture" that I have just described.

It's about creating **habits**: habits like chocking the wheels whenever alighting from a vehicle or checking the exit routes in a hotel.

Can we develop habits that can help deliver better value-for-money? Absolutely yes! And those habits will be nurtured within what I refer to as a "value culture".

The "value triangle" that I have described in other papers is a great place to begin developing habits.

The triangle embodies three factors – 'useful purpose', 'benefits' and 'important features' (AS 4183-2007).

Get into the **habit** of applying this triangle to everything you're involved with – starting with your next meeting: what's the purpose of the meeting, what benefits are expected and what's most important about it?

You will find that you will transform some meetings by doing this, hence saving time, cost and resources and improving value-for-money, as well as reducing frustration due to inefficient meetings.

Apply the triangle to all procurement activities – as a matter of habit – do not purchase anything without first identifying the three value factors.
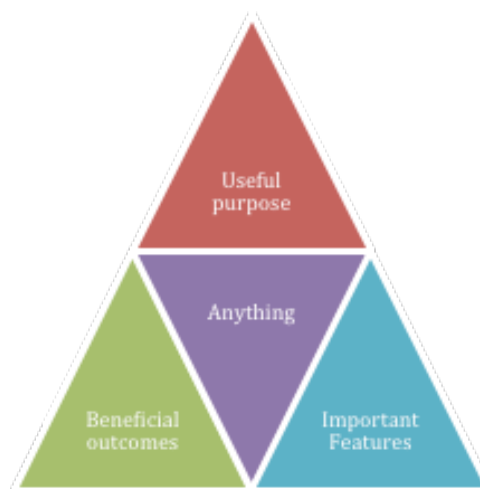
Value Triangle

Just as I found with the safety culture affecting my personal life — wearing goggles when mowing my garden lawn and carefully listening to safety announcements — so the value habits affect all parts of one's life.

Keep asking the question – "what's the purpose of this?"; "what benefits are we expecting from this"; and, "what's most important about this", and you will see how decisions become clear and value-for-money is improved.

Whether buying a car, choosing a holiday destination or selecting a school – the value triangle is always the place to start.

This is easy to say, but it requires a determined effort to develop the habit!

One other habit which is crucial in achieving best value-for-money is to always seek alternative solutions or, if one is in an assessment role, to ask what alternatives have been considered.

I cannot emphasise this strongly enough. Determination of best value-for-money depends fundamentally on comparisons.

Option A produces better value-for-money than Option B, for example. When a claim is made that 'such and such' an entity delivers good value-for-money, then we must ask "compared to what?"

Forming and nurturing good habits will go a long way to establishing a value culture leading to improved value-for-money from products, processes, systems or whatever.

An organisation's culture can always be tracked back to its leadership, which is where the journey must begin.

One role of the IVMA is to show such leadership and to encourage organisational leaders to engender a 'value culture' in their respective institutions, commencing by setting the example with good habits.

I will close this article where I began, with a personal experience from a mining Value Management workshop. The regional manager of the company explained to the group during the "safety share" that one of his habits was to put his mobile phone in his brief case and the brief case in the boot (trunk) of his car before leaving his office.

This is excellent leadership: really setting a great example! Let's do the same with *value*.

**Dr Roy Barton
President**

Facilitator's Casebook

Over 25 years David Baguley has facilitated hundreds of Value Management workshops. In this regular column, David will highlight the versatility of the Value Management process and tools by sharing case studies that demonstrate how 'value for money' can be delivered in different ways.

Case Study No. 1:
Value for Money Refurbishment

Situation:
Major thermal power plant is designed for 25 years but its life can be extended through a half-life refurbishment. Traditionally, power companies engage specialist consultancy organisations to audit the power station plant and make recommendations on plant modifications to extend its life and maintain performance.

Having recently experienced great success in the use of Value Management techniques to review a number of green-field capital works, one organisation decided to use a similar process to analyse options and recommend the best 'value for money' refurbishment activities.

Process:
A multi-discipline team of Designers, Project Managers and senior Operations and Maintenance staff at the power station conducted a key studies workshop to identify areas of focus for the Value Management program. A program of studies was then set-up to complete the review in a timely manner.

A team, comprising Design Specialists, Operations Engineering staff, Plant Operators and experienced Maintenance Fitters and Electricians critically reviewed each area of plant. In many cases, external specialists were added to the team to provide knowledge of the latest industry developments. Independent Value Management facilitators led each workshop to ensure the team carried out a rigorous review and developed practical 'value for money' recommendations.

There were two unique components to the program. First was a site presentation by each team, open to all relevant staff. Having to present recommendations to, and answer questions from their peers in Operations and Maintenance helped to ensure recommendations were well-considered and practical. Secondly, in plant areas where major changes were possible, every effort was made to include an 'opinion leader' from the workforce in the review team. This included union delegates. Technology upgrades often fail because of lack of acceptance by Operations staff so this person would help market any changes.

Outcome:
A program of Value Management workshops, covering all plant areas was conducted over a 6-month period and a comprehensive set of Plant Upgrade recommendations generated. These recommendations had the endorsement of Head Office Designers, Site Operations and Maintenance staff and had satisfied the scrutiny of a wider group of company stakeholders. Management had the confidence to approve funding for a staged refurbishment of the plant that still enabled the system to meet its energy generation commitments.

A few years later, the power station was put on the market and the Plant Specialists who carried out the pre-purchase audit stated in their report that 'the recently completed Plant Upgrade was well-focussed and appeared to deliver a 'value for money' outcome.'

Lesson Learnt:
1. The Value Management process provided a structure that allowed the teams to rigorously analyse Plant deficiencies and identify gaps in achieving expected future performance. Assumptions were challenged and ideas for improvement were openly discussed and evaluated.

2. Not all problems required Capital Funding. In some cases 'operational' solutions were identified.

3. The process of engaging with local Operations staff in a structured way engendered an ownership of the planned program and a commitment to assisting the contractors to carry out the work. In any 'brown-field' operating environment, the support of the operations staff is critical to achieving a successful technical outcome.

4. The requirement to deliver a presentation of recommendations to a broad audience of stakeholders ensured recommendations were well thought out and practical.

5. The timeframe from 'commencement of studies' to 'start of refurbishment work' was significantly shorter than comparable industry practice.

6. Releasing the best people for each workshop required good planning but also a strong management commitment to the project.

7. Following the sale of the power station, the new owners instigated a Value Management review of any plant capital funding proposal prior to submission to the Board for approval.

Case Study No. 2: Functional Review of Organisation Structure

Situation:

When external consultants are engaged to review an organisation, their initial task is to gather information about the current situation so they can develop an understanding of the organisation's key outcomes and identify duplications and inefficiencies. This is usually achieved by interviewing management, staff and clients, observing processes and studying policies and procedures. Depending on the size of the organisation, this can take a significant amount of time and the consultancy budget; especially when different sources provide conflicting information. During this phase the consultants might also collect a list of suggestions for improvement from interviewees.

One Human Resources consultant faced with such an assignment, decided to use a facilitated Value Management workshop to improve the efficiency of the process.

Process:

1. A specialist Value Management facilitator was engaged to run a two-day workshop with a cross-section of management and staff, observed by the HR Consultant. The workshop consisted of the divergent phases of the Value Management work plan –
   a. Share information,
   b. Develop Understanding, and
   c. Generate Ideas.
2. Phase 1 examined the current operations of the organisation – What?

Why? and How? This functional analysis led to a consensus on how the various activities contributed to organisational outputs and strategies.

3. Staff estimated how much of their time was spent on each of the activities and what was the relative value of the outcomes being delivered.
4. The final session involved the staff contributing ideas for improvement.
5. The workshop outputs provided the HR Consultant with a rapid understanding of how the organisation currently operated, where staff resources were concentrated, areas of concern and duplication, ideas for improvement and a consensus on the relative value of the various organisational outcomes.
6. The consultant was also able to observe where there might be organisational and interpersonal tensions.

Outcome:

The HR Consultant completed the information-gathering phase of the project by conducting short interviews with stakeholders to explore gaps, conflicts and ideas that arose in the workshop. Instead of weeks of scheduled interviews and focus groups, these interviews were conducted over a few days and the whole phase was completed in less than a third of the normal time for similar assignments.

A draft set of recommendations was developed to align with the value framework developed in the workshop and based on the consultant's experience from other organisations. The Change Management process included presenting these

recommendations to the workshop participants for feedback before finalising the report for management.

Lesson Learnt:

1. The functional analysis of an organisation is a powerful tool for getting a rapid understanding of the current situation.
   In one organisation, it was discovered that almost 50% of staff time was devoted to continue being a Business Excellence Awardee!
2. The workshop process allows conflicting views between stakeholders to be discussed and resolved, or identified for further investigation.
3. Staff estimates of the amount of time spent on different activities was compared with an in-depth analysis of job sheets and found to be fairly accurate.
4. The workshops became an integral part of the Change Management process with staff becoming aware of inefficiencies and duplications of effort. In fact, the staff actually implemented some changes even before the report was finalised.
5. The value framework developed in the workshop was used to evaluate ideas for improvement and to ensure recommendations delivered 'value for money' outcomes.

David Baguley
Chair, Appointments and
Accreditation Committee, IVMA

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from now until 2061 as follows, with three-quarters of national population growth occurring in just four state capitals:

- Sydney: 80% increase to 8.5 million
- Melbourne: 104% increase to 8.6 million
- Brisbane: 128% to 4.8 million
- Perth: 200% to 5.4 million

This population growth is forecast to generate an 89% increase in demand for public transport between 2011 and 2031.

Between 2011 to 2031 freight movements in Australia are expected to increase as follows: containerised freight by 165%, non-containerised freight by 138%.

However, without action to significantly improve the supply and operation of infrastructure, the cost of congestion in Australia's major cities is forecast to rise from $13.7 billion in 2011 to $53.3 billion in 2031.

It is for the reason of significantly increased demand on infrastructure that IA recommends the government deliver a "National population policy". This policy would "establish a vision for Australia's growing population and identify the necessary options to ensure we fully capitalise on the potential benefits for the economy and community".

Appreciation of the long-term needs of a growing population would inform the development and communication of practical plans for the capital cities, small towns and rural areas including housing and jobs.

In the larger cities IA sees a need for more high-density accommodation but stresses that this must be achieved whilst achieving good living standards including appropriate recreation opportunities.

Beyond the population demands placed on future infrastructure, recent reports by Deloitte Access Economics and the Productivity Commission have identified that natural disasters are currently costing the Australian community 50% more than previously identified and that the cost of social impacts including increases in family violence and mental health problems due to stress, outweighed the economic impacts of having to rebuild infrastructure.

These reports have recommended that more emphasis needs to be placed on ensuring resilience to natural disasters than on the post-disaster recovery phase.

In a similar vein the Climate Council has recently released a report stating that global warming induced, heat-wave related deaths have increased significantly over the past 40 years. As even hotter conditions are predicted for the future, Australia must take urgent steps to improve the preparedness of the health sector and the long-term resilience of communities to minimise the impacts of worsening extreme heat.

IA has identified a nationwide imperative to encourage strategic and integrated planning for the services that infrastructure provides. In particular we need to *"pursue best practice procurement and delivery that sees new infrastructure constructed for the right reasons at the right price".*

Complementary with providing new infrastructure, IA makes the point that constructing small projects and improving the operation of existing infrastructure (particularly with the use of smart technology) can provide significantly improved services at a high benefit-cost ratio.

From a best value-for-money perspective, IA has a number of very specific recommendations with regard to transparency and community involvement initially in strategic planning.

Particular initiatives recommended are:

- *"Linking long-term strategic planning to community engagement processes.*
- *The establishment of a steady culture of long-term infrastructure planning is an opportunity to improve the value of community engagement.*
- *If meaningful engagement occurred at the earlier phase (when long-term infrastructure plans are being developed and reviewed), governments could have raised the community's understanding of the infrastructure challenges and the proposed solutions.*
- *Stakeholders could be provided with a genuine opportunity to provide useful input into the process and, for example, to participate in the discussion about development-offset options and community safeguards.*
- *Earlier and mutually respectful engagement should raise the quality of planning and reduce later opposition to project approval and delivery.*
- *Governments can gain insights into community needs and tailor planning and investment accordingly.*
- *Users gain certainty about the timing of new infrastructure and the service levels it will provide while the community is more informed about the problems*

that need to be addressed and is able to help find acceptable solutions.

- *State and territory governments should initiate an ongoing process of community engagement to discuss present and future infrastructure challenges and potential solutions.*

- *Engaging the community at the strategic stage of infrastructure planning engenders a greater understanding within the community of future challenges and reduces the likelihood of opposition resulting from a lack of genuine consultation."*

In the project or program development phase, IA has specific recommendations to optimise the long-term value-for-money as follows:

- *"Prior to deciding to fund an infrastructure investment, governments should undertake project development studies. This work will materially increase the quality of decision-making through enabling the proponent to understand the problem that needs to be addressed; developing a range of options to address it; identifying the solution that will deliver the greatest benefit; and determining the best approach to deliver the project.*

- *The Australian Government, and state and territory governments should allocate increased funding for project development work for initiatives identified on the Infrastructure."*

On infrastructure investment governance, IA emphasises that rigorous and transparent project governance frameworks are fundamental to ensuring that Australia's infrastructure investments deliver the best outcomes for the community:

- *"To be effective, project decisions must be supported by robust evidence and early community consultation, and be based on an objective assessment of what best meets the needs of the community.*

- *Clear lines of responsibility and accountability ensure that decisions are undertaken in the public interest.*

- *Following project delivery, there are important lessons for governments, community and industry regarding what worked and what did not. This information is best identified by robust post-completion reviews, which evaluate the delivery and operation of a project with the evidence that was used to support its selection."*

"Critically, these processes should be transparent to the public. Making project data and analysis publicly available, including the publication of a project business case, exposes government processes to scrutiny, allowing assumptions to be tested and lessons to be identified and shared. As a result, the quality of analysis is improved and the likelihood of positive project outcomes is increased."

All this sounds very much like the application of the Value Management process that is quality assured through Australian Standard AS 4183. In particular the Standard's strong emphasis on getting all the project or program's stakeholders to define **"Value"** at the commencement of the strategic development or project development process is fundamental to delivering long-term value-for-money in infrastructure investment.

Given the pressures outlined at the beginning of this article, and the inevitable demands on public and private sector borrowing, the sooner that this discipline is mandatory in all infrastructure investments, the sooner the essential benefits will be delivered.

John Bushell
Director, IVMA
Chair, Publications and
Events Committee, IVMA