IVMA
INSTITUTE OF VALUE MANAGEMENT AUSTRALIA
Ensuring better value for money

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President's Message

Bang for the Buck

"The return on investment in global health is tremendous, and the biggest bang for the buck comes from vaccines. Vaccines are among the most successful and cost-effective health investments in history."
Dr Seth Berkley (A specialist in infectious disease epidemiology)

I expect that most, if not all readers of Value Times, will concur with the sentiments of Dr Berkley, in arguing that "vaccines are among the most successful and cost-effective health investments in history".

I remember, for example in my childhood, seeing kids who were severely affected by polio. Thankfully, I never see this nowadays. But this article is not about vaccinations - they just happen to be outstanding examples of a society getting "the biggest bang for the buck". It's the "bang for the buck" that I'm writing about.

We've probably all heard and even used the phrase "bang for the buck". Usually, in context, it's meaning is quite clear and will match one or more of the Internet definitions that I'm listing below:

- "Value for money" (Google Dictionary).
- "Value for what one pays" (Dictionary.com).
- "If you get more bang for your buck, you get a better result for the amount of effort or money that you have put into something." (Cambridge Dictionary).

Wikipedia gives further insight:

"Bang for the buck is an idiom meaning the worth of one's money or exertion. The phrase originated from the slang usage of the words "bang" which means "excitement" and "buck" which means "money". Variations of the term include "bang for your buck," "bang for one's buck," "more bang for the buck," "bigger bang for the buck," and mixings of these. "More bang for the buck" was preceded by "more bounce to the ounce", an advertising slogan used in 1950 to market the carbonated soft drink Pepsi. The phrase "bigger bang for the buck" was notably used by U.S. President Dwight D. Eisenhower's Secretary of Defence, Charles Erwin Wilson, in 1954. He used it to describe the New Look policy of depending on nuclear weapons, rather than a large

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Alan Butler Retires from Professional Practice

It is with very mixed feelings that I share with members the news that my long-time friend and professional colleague, Alan Butler, has decided to retire from professional practice in Value Management. Mixed feelings, because I am saddened at his retirement whilst at the same time being delighted that he will have much more time to spend with his family and surf life-saving.

Alan and I have worked together in Value Management for close to 30 years. I first met Alan during his tenure at the Product Evaluation Unit (PEU) at NSW Department of Public Works when I was invited to demonstrate Value Management practice on NSW Government projects.

Alan Butler

At that time, VM was very much in experimental mode. I was Associate Professor in Construction Management and Economics, University of Canberra, and, working with Alan and Ted Smithies (also from the PEU) supported strongly by Deputy Director General, Ron Eagle, we formed a team that produced Value Management guidelines and practice notes for NSW Government projects.

We also formed the National Centre for Value Management (NCVM), a joint venture between the Department of Public Works and the University of Canberra. Over the next few years, the team at PEU grew and included Ross Prestipino, Mark Neasbey and Chris Laird.

Together, we conducted many Value Management studies and developed training and familiarisation programs in which several hundred people participated. We also assisted other agencies to adopt and implement Value Management practice.

Since those early days, Alan and I have conducted a very large number of Value Management studies on major projects in Australia, New Zealand, Singapore, Malaysia, Hong Kong and Argentina.

Working together, we developed a "process/content" split approach, where Alan would primarily focus on the content of the study while I would primarily focus on the VM facilitation process. There was, of course, considerable overlap.

Alan has astonishing ability – literally unique – in being able to spot and analyse detail (of anything) and to "courageously" ask deep, probing questions. His ability to do this has helped clients arrive at decisions that have resulted in huge improvements in "value for money".

In 1994, Alan left the PEU and we established a private company, ACVM which continues in practice to this day comprising the old PEU team of Alan, David Gunning (Business Manager), Ross Prestipino and Chris Laird, together with Mark Neasbey and myself. We've remained a group of mates all these years!

> **Alan has served the IVMA with distinction**

Alan has also served the IVMA with distinction. In each of my terms as President, Alan has served as secretary and, metaphorically speaking, has carried the Institute on his shoulders.

I have been privileged to represent the Institute at various conferences and forums and to chair the Board and share my thoughts and vision, but it is Alan who has borne the workload. Thankfully, Alan is not retiring from his role in the IVMA, only from day-to-day professional practice.

On behalf of the IVMA Board and all members, I wish Alan well in his retirement from professional practice and look forward to his continuing involvement with the Institute.

Dr Roy Barton, FIVMA
President, Institute of Value Management Australia (IVMA)

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regular army, to keep the Soviet Union in check. Today, the phrase is used to mean a greater worth for the money used."

The key thing to notice here is that we are dealing with two separate components - "the bang" and "the buck". They are entirely different notions. Here's "the bang" and here's "the buck". There might be arguments about the actual make-up of "bang" and "buck", but I doubt that there is *any* argument at all against them being separate.

So where am I going with this line of thought? It's to do with our use of the phrase "value for money". As we have seen, "bang for buck" is used as a synonym for "value for money", and when this is done, there seems to be no problem whatsoever in separating the "bang" from the "buck".

But as soon as the phrase "value for money" is used, the "value" and the "money" frequently lose their separateness and morph into one. A visit to virtually any local supermarket will demonstrate this as one sees sign after sign such as "This week's special - "only $5" – "Great Value".

The English language allows us to abbreviate in this way, but the word "value" is particularly problematic when doing so. Consider for a moment, the following examples of using the word "value"

- "Items on this shelf are of no value".
- "Value for your most valued this Mothers' Day."
- "I really value your opinion."
- "Where's the value in that?"
- "That's of no value to me".
- "From face value to the bigger picture."
- "Closing Down Sale – Great Value".

In some of these instances, "value for money" is clearly implied, whereas in others, there is no hint of money forming part of the intended meaning. Note that there is no such confusion of meaning when one uses the phrase "bang for the buck".

I expect that in virtually all procurement documentation, the term "value" will be found – often as an abbreviation for "value for money", but sometimes, as in the examples above, meaning something entirely different.

One former student of a course that ran in Value Management wrote to me saying that she had carried out an internet search of the word 'value' and found more than 500 definitions of 'value' and its derivatives! Consequently, there is often ambiguity and sometimes downright confusion when the word "value" is used in project and contract documentation. There is no need for such confusion if we keep "value" separate from "money", as we do in saying "bang" for the "buck".

As the IVMA, our primary purpose is to help everyone achieve "best value for money" – in Dr Seth Berkley's language, "best bang for the buck". We also have the mandate to "apply and protect the Australian Standard on Value Management".

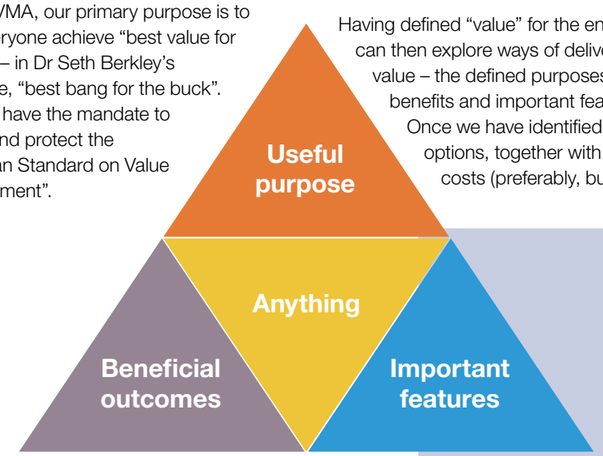
When writing the Australian Standard on Value Management, the Standards committee carefully considered this matter of separating "value" from "money" (the committee didn't actually refer to "bang for the buck"!). The definitions of "value and "value for money" in the Australian Standard were crafted to establish a common language with common meaning.

We capture the essence of "value" (as defined in the Australian Standard) in what I now call the "Value Triangle" which contains three sets of factors: the useful purpose(s) of an entity, the benefits that accrue as a result of fulfilling that purpose(s) and, features of the entity that are particularly important. The Value Triangle is shown in the following diagram.

The Value Triangle

I use this Value Triangle at the commencement of every Value Management exercise, working with groups of stakeholders and project team members to clearly define "value" of a particular entity from multiple perspectives.

Having defined "value" for the entity, we can then explore ways of delivering that value – the defined purposes, benefits and important features. Once we have identified potential options, together with their costs (preferably, but not



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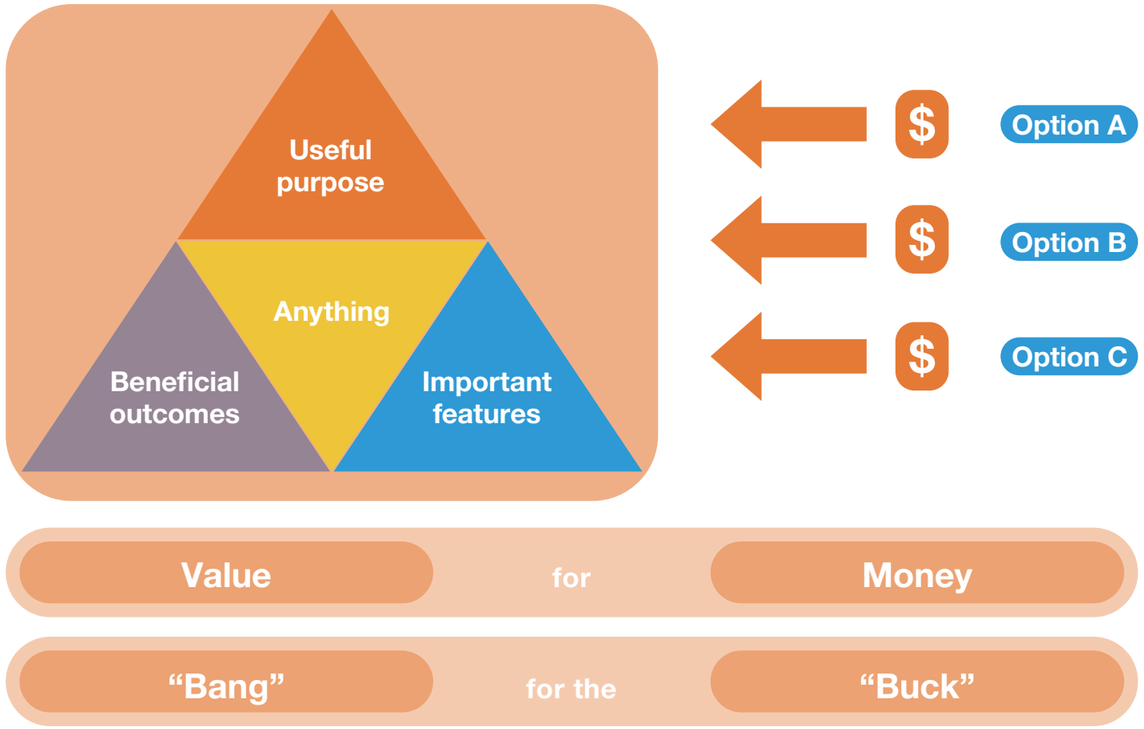

essentially, total, life cycle costs), we can then make comparisons and select the option that offers best "value for money", or best "bang for the buck". This is shown in the above diagram:

Value for Money

Such exercises are made so much clearer by keeping "value" separate from "money". We first define "value" (the "bang") and then go on to consider "money" (the "buck").

In the last (Spring 2017) Value Times article "Nothing New Under the Sun", I referred to Daniel Bernoulli's famous quotation (1738) *"The value of an item must not be based on its price but rather on the utility which it yields"*. Bernoulli clearly appreciated the separation of the utility - the usefulness or "value" of the entity - and its price or "money". Clearly, he was of the view that "value" is to be kept separate from "money".

There's no need for any confusion around value-related terms. If we mean "value for money", then it's best to say so – make it quite explicit. And in Value Management practice, always keep "value" separate from "money" - by all means use the phrase "bang for the buck", just to make things perfectly clear!

Dr Roy Barton, FIVMA
President, Institute of Value Management Australia (IVMA)

Oranges: Some Thoughts on Value and Value for Money

TOM IS OFFERED SOME ORANGES

Tom is a young environmental engineer, single, and recently sent to work in the country. It is the first time he has lived away from his parents' suburban home, so he is eager to learn some of his parents' skills, now that he has to keep house for himself.

One day, Tom spots a roadside stall at the citrus orchard offering a bag of 5 fresh oranges for $5.00. Before committing to purchase, Tom wants to know whether the offer represents "*value for money*"?

In the town where Tom is now working, oranges generally cost about $2.00 each (in the large supermarket) so Tom concludes that the roadside stall's oranges (at a unit price of $1.00) represent better *value for money* than the supermarket prices that generally apply.

In this simple example, Tom is considering the benefit or 'value' he will gain for his money from the roadside stall, compared with what is available in the town's supermarket.

Option	Value/Quantity	Cost	Value for Money measure
roadside stall	5 oranges	$5.00	an orange for $1.00
supermarket	1 orange	$2.00	an orange for $2.00

Tom concludes that the **roadside stall's** offer of 5 oranges for $5.00 **represents better value for money** because he can get oranges at a lower unit cost than is available in the supermarket

Oranges: Some Thoughts On Value And Value For Money

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ANOTHER OPPORTUNITY

Tom spots another opportunity at the town's local greengrocer selling a bag of 10 oranges (of similar size and quality to those available at the supermarket) for $7.00, so Tom now has three options.

Option	Value/Quantity	Cost	Value for Money measure
roadside stall	5 oranges	$5.00	an orange for $1.00
supermarket	1 orange	$2.00	an orange for $2.00
greengrocer	10 oranges	$7.00	an orange for $0.70

Tom concludes that his new option with **the greengrocer's offer represents even better value for money**, because he can get his oranges at a lower unit cost than at either the supermarket or the roadside stall.

LIMITED DEMAND

Tom then realises that he really needs only three oranges.

The roadside stall will meet his requirement for $5.00 (from a bag of 5 oranges). At the town's supermarket, his three oranges will cost him $6.00 ($2.00 each) and the greengrocer will supply his need for $7.00 (from a bag of 10 oranges).

Option	Value/Quantity	Cost	Value for Money measure
roadside stall	5 oranges provided but only 3 oranges required	$ 5.00	the required 3 oranges for $5.00
supermarket	1 orange	$ 2.00	the required 3 oranges for $6.00
greengrocer	10 oranges provided but only 3 oranges required	$ 7.00	the required 3 oranges for $7.00

Tom now realises that buying the 3 required oranges from the roadside stall for $5.00 is better than what would be required elsewhere, so **the roadside stall now offers best value for money.**

Tom realises however that there might be environmental costs, too. The roadside stall option means that 2 oranges will be surplus to needs (and he must either find an alternative use or arrange disposal of them.) There will be no surplus oranges if he buys from the town's supermarket but, for the greengrocer option, he will have to find an alternate use for 7 surplus oranges or arrange for their disposal.

His environmental interest makes him quite uncomfortable about wasting perfectly good oranges, so both the options with surpluses have their detractions (effectively a negative value component for Tom). Perhaps the supermarket oranges might not be so bad after all!

RATIONED CAPITAL

Tom then realises that he has another three weeks until his next salary payment and that he has to conserve his housekeeping money to last right through. He can only afford $5.00 for oranges (and of course, the limited availability of cash is a common real-life situation, even for governments).

Given Tom's funding limit of $5.00, neither the supermarket ($6.00 cost) nor the greengrocer ($7.00 cost) is affordable. **He can only afford oranges from the roadside stall.**

DIFFERENT SCOPES

Tom's mind then started on another tack. What if he was right in thinking that the oranges at the roadside stall out of town are a bit smaller than those offered by the supermarket and the greengrocer in town? How would this affect his assessment of *value for money*?

Tom thought he could use the shiny bright oranges as a table decoration. For this use, a small size difference would not detract from the table's appearance (and even more so with the additional oranges), so he figured his previous assessment of *value for money* would still stand.

But then Tom thought he might later squeeze the oranges for juice, and for that purpose (all other things being equal) the smaller oranges would mean less juice, and he remembered that the volume of an orange relates to the cube of its diameter.

Tom thought the oranges at the roadside stall might be up to 15 per cent smaller in diameter than those offered in town, so they would have only 60 per cent of the volume and therefore (all other things being equal) only 60 per cent of the juice.

Tom remembered his Mum saying he should have the juice of 3 oranges to keep colds at bay, so presumably that meant the juice from 3 regular-sized oranges.

Option	Value/Quantity	Cost	Value for Money measure
roadside stall	5 oranges (15% smaller)	$5.00	the required 3 units of juice for $5.00 (5 x 60% = 3)
supermarket	3 oranges (regular size)	$6.00	the required 3 units of juice for $6.00
greengrocer	10 oranges (regular size)	$7.00	the required 3 units of juice for $7.00 (plus disposal of 7 oranges)

Tom concludes that **the roadside stall offers best value for money** because he would get the n**ecessary** amount of orange juice at a lower cost than would apply for either of the other options.

Oranges: Some Thoughts On Value And Value For Money

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OTHER ISSUES

In Tom's thinking to date, he has not considered:

- any lesser or additional costs due to differences in: harvesting costs (but option prices would include these), transport costs (probably trivial difference in this case), and processing costs for juice;
- any differences in: juice quality such as sweetness, sugar levels, colour, pulp, seeds/ pips (or lack of them), skin thickness, etc, juice quantity (from differing thicknesses of pith and the juiciness/ dryness of the oranges' pulp)
  - freshness, and
  - taste; or
  - greenhouse gas impacts or emissions taxes.

Quite clearly, if Tom considered any of these attributes to be important, he would need to include each (or all) of the attributes he identified in his assessment of the value of each of his options and hence in the *value for money* that they represented.

AS 4183 - 2007

The Australian Standard on Value Management provides guidance on many of the *value for money* issues.

The Standard defines:

Entity as *that product, process, service, system or organisation (or part thereof) to which Value Management is applied;*

- Essential function as *what an entity must do;*
- Total cost as *all appropriate costs of the entity;*
- Value as *an attribute of an entity determined by the entity's perceived usefulness, benefits and importance;*
- Value for money as *a measure for comparing alternatives based on the relationship between value and total cost; and*
- Value Management as *a structured and analytical process which follows a prescribed Work Plan to achieve best value or, where appropriate, best value for money.*

The Standard provides explanation and definition of terms frequently used by those charged with managing value and value assessments.

The Standard advises that *value for money* may be expressed generically as the relationship between:

$$\frac{\text{a measure of the value of the entity}}{\text{a measure of the total cost of the entity}}$$

The Standard also notes that *value for money* may be improved by any of the following:

- increasing value while reducing cost;
- increasing value without changing cost
- maintaining value while reducing cost;
- reducing value slightly while substantially reducing cost; and
- substantially increasing value while increasing cost slightly.

LESSONS LEARNED

1. It is essential that we have an understanding of the functions both required and desired in the entity or situation being studied if we are to focus on those functions and to avoid other 'niceties' that nearly always add cost to a project or program but may not add commensurate value.

   It is valid to consider high-priority 'wants' (desired functions) as well as 'needs' (required functions) and it will be normal for desired functions to be prioritised and weighted in determining any value they may contribute to the entity or situation.
2. Analysis can only determine best *value for money* from the options available for consideration. Accordingly, a vital part of the Value Management process is determining a wide range of options that may be considered and compared in pursuit of an outcome that represents best *value for money.*
3. Consequent on any value for money assessment, either to further develop that assessment or to reflect the differing or later developing stages of a project or program, further additional assessments will usually be appropriate.
4. Because different people approach situations from differing perspectives and will ascribe differing levels of importance to the functions and influences associated with the situation, it is important to appreciate that different people are likely to have differing perceptions of value.

In a similar way, a person's perceptions of the relative importance of functions are likely to change over time and as aspects of the environment surrounding the entity or situation also change.

Brian Farmer
FIVMA

An opportunity for Better Value for Money?

This article was first published in the Sydney Morning Herald on 29 November 2017

(Note that the IVMA made a public submission to the Productivity Commission's 2014 Public Infrastructure Inquiry mentioned in the article)

Worse than worst case: Keen pollies, poor planning blow billions on infrastructure by Michael Pascoe

The sad reality of our major road infrastructure projects is that most of them run wildly over budget, wasting billions of dollars through poor planning and funding decisions. A sadder reality is that governments appear unable to learn from past mistakes.

Tucked away in the Productivity Commission's (PC's) five-yearly review last month were the sorts of figures that would have heads rolling in a rational world – a wild disconnect between what politicians announce and what we end up paying.

As previously reported, the PC reckons there's $20 billion a year to be picked up by using our road transport system more efficiently. And there are billions of dollars to be saved by not repeating East West Link/ WestConnex/West Gate Tunnel mistakes.

My colleague Ross Gittins reckons the first of the commission's five-yearly reports will go down as one for the ages, a major step in our economic thinking, a shift from bald economic rationalism to economics that are focussed on the benefit for people.

The Australian Financial Review's Laura Tingle made observations on the potential political impact, the PC providing a philosophy that would enable the coalition to play in the same arena as Labor - if it has the nous to use it.

But while the PC can point the way to a better future, it relies on governments to actually do something about it, to adopt the proffered policy and act on it.

For example, take the report's section on "better functioning towns and cities" to improve the public infrastructure. Aside from the big GDP-enhancer already mentioned, the PC's recommendations include:

"It is essential that governments ensure that proposed projects are subject to benefit-cost evaluations, and that these as well as evaluations of alternative proposals for meeting objectives are available for public scrutiny before decisions are made.

Sydney's WestConnex project has cost estimates significantly lower than experience would indicate, the Productivity Commission warns. "The institutional and governance recommendations of the Productivity Commission's 2014 Public Infrastructure Inquiry remain valid and should be implemented by all governments as a priority. The 2014 Report has a dedicated chapter on how to do it."

Yes, there's the PC again raging between the lines, having tried to tell governments three years ago how to stop blowing billions with nowt to show for it.

The econocrats might have had in mind Peter Martin's fine reporting in July on the NSW Government's strange preferencing of road over rail for improved Wollongong transport, but there are plenty of case studies.

There are several other recommendations that add up to keeping politicians away from big things that they'd like to cut

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ribbons for and being very rational about what's worth funding, how it's funded, comparing alternatives, relating charges to spending and giving the users of infrastructure a clear say.

"Just to spell that out, the average cost blowout for major projects over the past 15 years has been 26 per cent. That's astounding."

"The potential benefits from better decision-making are substantial," says the report. "The Grattan Institute suggests that, over the past 15 years, approximately 30 per cent of transport infrastructure projects valued over $20 million were announced before a funding commitment had been made. These projects accounted for about three quarters of the total value of cost overruns.

"Overall, governments spent $28 billion more on transport infrastructure than announced. Based on current levels of investment, a 10 per cent reduction in the cost of delivering infrastructure would amount to an annual saving of approximately $2.9 billion."

Instead, Victoria's East West Link predictably gets a mention: *"The example of the East West Link, which involved substantial waste of taxpayer funds, further highlights the problems that arise from unilateral decision-making regardless of costs or benefits. Governments should not lock in contracts to bind future governments unless there are considerable savings in doing so, that are assured to offset any risks. And conversely, governments should not cancel a project without devising an exit strategy that minimises resulting costs."*

The PC report acknowledges there have been some efforts made by governments to be less stupid and irresponsible since its 2014 report, but the jury remains out on the effectiveness of the initiatives.

"Despite these changes, there have been continuing instances of poor, very costly, decisions. Observers have noted that the current WestConnex (Sydney) and West Gate Tunnel (Melbourne) projects have cost estimates significantly lower than experience would indicate."

Worse than the 'worst case' scenarios

"The difference in cost estimates between the median and 'worst case' scenarios for both WestConnex and West Gate Tunnel projects was 6 per cent whereas the average actual difference across all projects completed in the past 15 years was 26 per cent. Providing reliable cost estimates is crucial in the project selection process.

"On corridor preservation, the Australian Logistics Council has expressed concern about the degree of urban encroachment on transport corridors and thus on future freight supply capacity. Overall, there has been little change in infrastructure planning, management and governance arrangements, and hence the underlying concerns raised in relation to the quality of infrastructure decisions in the 2014 report remain."

Just to spell that out, the average cost blowout for major projects over the past 15 years has been 26 per cent. That's astounding. But, magically, the NSW and Victorian governments now pretend the worst case cost overrun for their banner projects is a mere six per cent.

For WestConnex alone, given the lack of planning for evolving issues, 26 per cent might end up being optimistic.