For Practitioners, Policy Makers and Planners in Public Infrastructure

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AN ASSET RENEWAL FUTURE FUND?

In this issue: Since decision makers seem keener to add new assets than they are to maintain the condition of the current ones, is a dedicated asset renewal future fund the answer? We look at whether this is possible, whether it is desirable, and at the alternatives. pp 2-4

Asset managers are in the decision making business, making or advising on decisions: how can we do this job better? We look at what science has to say on making up your mind (p.5) four issues to bear in mind when looking at and advising on longer term community asset decisions, (p.6) and why investment change is dependent on the *rate of change* in demand growth, and not growth itself (p.7)

And, finally, a re- look at competitive bidding on price and how we can do better. (p.8)

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Editorial:
A Future Fund?

Haves and Have Nots

Between 1985 and 1987 I researched and wrote a number of Parliamentary papers on how much it would cost, and when we would have to pay, to renew all State owned assets in South Australia. In the process I found that asset renewal was set to rise significantly, that organisations did not know much about their asset renewal needs, and that at least one agency had already exceeded its sustainable asset portfolio level.

My message at that time, not unnaturally, was that failing to maintain and renew existing assets in order to acquire new ones, was perhaps not a smart move as we were at risk of losing far more than we gained. Furthermore since communities tend to acquire their more essential assets first, and the less essential later, we risked losing primary assets for the sake of acquiring (fewer) secondary assets. The message was clearly, pay attention to maintaining and renewing what you have.

At this time, the head of an agency responsible for social equality said to me:

> "I understand, and appreciate what you are saying about maintenance, but if we follow your prescription, *the haves will remain haves and the have nots will remain have nots."*

And there you have it, the moral dilemma.

She then asked how engineers took social equality into account when making decisions on infrastructure. At the time, engineers (and economists) mostly used cost benefit analysis and I am afraid to say that social equality did not get much of a look in. I suspect for many decisions, particularly renewal decisions, it is not much better today.

We face the same moral dilemma with a 'future fund'.

How do we know that the community will benefit more from asset renewal than it would from any alternative use of those funds? How do we know, even if one asset is so critical that its renewal should take precedence, that this should apply to all assets in the portfolio? The answer is, of course, that we do not know this. Few of us would argue that renewal is always the best use of funds. So when do we renew and when don't we? How can we tell unless it is case by case and on the merits at the time?

Even if we wished to create such a fund, it would be very difficult to do if we wished to avoid waste, excess and misdirection of funds. Read on >

Consider and enjoy!

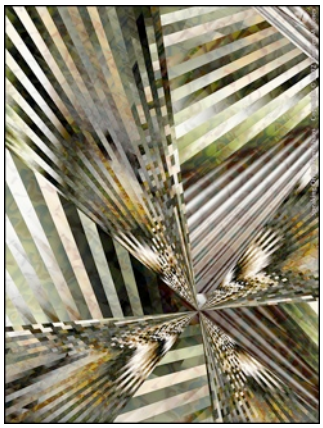
Penny Burns

An Asset Renewal Future Fund
- is it Workable?

This topic was suggested to me by a recent discussion paper produced by the WA Main Roads Board. As part of his preparation the author wrote to me and asked whether I thought that a 'future fund' would be a good idea for asset renewal. This was my response:

> The Federal Government's "Future Fund" is, as you will know, not about 'funding the future' but about providing for costs that have already been incurred but not yet paid - superannuation payouts for Commonwealth public servants. However, I understand the intent of your question is 'should we put aside a dedicated fund for asset renewal?'. I do not think that this is a good idea and these are some of my concerns:
>
> **1. How do we decide the size of the fund?**
>
> Is it to be sized to cover the renewal of all existing assets? If not, then how? If so, then what about those assets that we will choose, in the light of better future knowledge of needs, not to renew?
>
> **2. Who pays for it?**
>
> Every dollar more for one purpose means a dollar less for some other purpose. Where do the funds come from? (See, in SAM 213, the proposal for funding the new Auckland Stadium that had the potential to destroy a major source of the NZ economy, also Ken Hendry's comments to a meeting of the federal treasury). How quickly would we ramp up the fund? This has implications for intergenerational equity.
>
> **3. What would be the rules for withdrawing money from the fund?**
>
> Few assets get replaced 'like for like' so we would need to be continuously interpreting what was additional and what was renewal.
>
> - *If the rules are written too loosely*, then just about anything can qualify and the renewal funds can instead be used to fund upgrade, extension and expansion.
> - *If they are written too tightly*, then a renewal that takes a different form - say the digitisation of public archives to save on the cost of renewing ageing physical infrastructure, would not be able to be funded.
>
> *We could easily be forced into traditional but less efficient means of renewal simply because the funds for these options were easier to obtain.*
>
> **4. Do we know enough about future renewal requirements?** (see next page)
>
> ...
>
> I guess, what it comes down to is that I don't think that we should be putting the emphasis on the *FUNDS*, but rather on *WHAT* we can do, and *WHY* we want to do it. If we do this job well, the funding requirements will be self-evident and persuasive.

Future Fund – the alternative



The purpose of a future fund is to give preference to renewal over new. And the rationale for this is that decision makers do not give enough weight to renewal proposals. Perhaps, rather than presuming to do *their* job for them, we should figure out why we do *our* job - advising on renewal - so badly?

Why do decision makers tend to favour new over renewal?

It is 'common knowledge' that new asset proposals get far more favourable attention in most cases than proposals to renew assets. But why? Arguments that rely on politicians' fascination with ribbon cutting and photo opportunities miss the point and that is that ***nobody puts in a successful proposal for a new asset without arguing a strong case for the benefits that will flow from it.*** Asset renewal proposals, on the other hand, tend to assume that the benefits are already known since the asset already exists. They also assume that these benefits will be recognised as sufficient to justify renewal. *Mistake!*

New proposals are very clear in who the beneficiaries will be, and sure they may overstate their case and no doubt understate the costs, but the arguments are well made. Proposals for asset renewal on the other hand tend to focus on potential losses if the proposal is not carried out and thus focus on losers. This is often seen as negative. *Mistake!*

Finally, new proposals focus on outcomes (what people will get), renewal proposals frequently focus on inputs (what has to be done). *Mistake!*

But the biggest mistake of all is that it rapidly becomes obvious to those that have to make the funding decision that ***WE don't really understand*** *what* ***THEY have to do****.*

It is not just that in many cases we don't have information that 'clearly shows the value of key assets, their decline and the need to bring them up to a serviceable level'; nor that there is often 'at best a weak link between asset management planning, financial planning and projects' nor that 'there is no link between asset depreciation, asset remaining service life and rehabilitation', and that 'there is no report available that clearly shows the current asset renewal needs, the funds needed to address this (the backlog) and no report showing what the situation will be like in the future – say at 5 year intervals based on anticipated funding levels' - all deficiencies which the Main Roads discussion paper referred to on the previous page acknowledges. These don't help of course, but *even were they all present it would not be enough!*

Information which can be derived from a good asset information system is not enough! All that shows is what YOU want. You need to clearly demonstrate how your asset renewal will yield OUTCOMES that decision makers want. **A future fund won't do that. Successful new projects typically have an impressive business case behind them - renewal proposals need to do the same. And it is this part that I would suggest we are not yet doing very well.**

Decision Making
- What science has to say

Asset Management is all about decision making
- making decisions
- advising others on decisions

There are two major mechanisms for decision making - rational thinking (the careful and methodical collection and analysis of data, model building, testing of assumptions, verification of results) and the other is - gut feel. Earlier this year (Issue 212) we published an excerpt from Danny Azavedo's ICOMS paper on "Intuitive Judgement" (or gut feel) which received good feedback.

Here are some highlights from the "New Scientist" . You may want to listen to their podcast (May 4 2007) which you will find at www.newscientist.podcastfeed.ns

Gut instinct, say the scientists, is the method of choice when there is so much information available that you cannot possibly access it all. However, they advise against gut instinct when the issue itself is emotive. Then, they say, you should be as rational as you possibly can. This is the time for lists, data collection and analysis.

We should watch for biases. Three are significant:

Confirmation bias - the tendency to look for information to confirm what we would like to do. Science advises that we would get better decisions if we look for - and then fail to find - information that would *dis*confirm.

Anchoring bias - the tendency to seize on anything as an anchor in situations where you know nothing. The human mind always tries to make links with information it has previously stored - even if the links don't make sense in the context! (see p.7)

Sunk Cost bias - the tendency to stick with a failing program long after evidence says you should quit - e.g. Concorde

Each of us, say the scientists, have an inbuilt tendency to be a **maximiser** or a **satisficer.** Maximisers like to collect ALL the relevant details before they make a decision. Satisficers say 'that's good enough'. Scientists say that satisficers tend to be happier with the decisions that they make.

Can you change your DM approach - probably not say the scientists, but being alert to biases helps. For Asset Managers, the answer may lie in choosing teams where individuals think differently. This will throw up many options - but you still have to decide!

Four issues to consider in

Decision Making for the longer term

A well tuned 'gut instinct' could, no doubt allow for short term focus and media bias and correct for dodgy data and false assumptions - and do it all in a fraction of a second. But to be on the safe side, a little conscious thought may not go amiss.

So, when considering your community infrastructure choices in the face of current population growth (or decline, or stability) what can you do to maximise your chance of getting it right?

1. Official projections (of anything) are model outcomes based on a number of assumptions, not immutable fact. ABS (Australian Bureau of Statistics) statisticians are meticulous about listing these assumptions, however there is often little reasoning given for the choice. If you are making a significant decision (one that has a high cost, financially or socially, if you get it wrong) you need to know these assumptions - and decide whether they apply in your case. See ABS documentation.

2. Most media reporting focuses on the very short term - the choppy waves on the surface of the water - whereas what you need to know are the underlying currents (particularly potential rip tides!) What the media refer to as 'booms' or 'busts' are these surface phenomena. While you will want to avoid being too influenced by these in your search for longer term answers, you must know what they are saying - because the chances are that those to whom you report *will be* influenced. And you will need to ensure that you clearly deal with the media's short term emphasis in order to put your longer term case.

3. **For investment, the rate of growth is more important than the level of growth.** So, for example, if demand is increasing at 1% per annum and your capital budget enables your assets to grow at 1% per annum, you do not need to increase your capital budget, even though demand itself is increasing. But if demand should increase to 1.5% per annum, this **increase in the rate of growth** would indicate that you need to invest more. Similarly if the rate of growth slows, you would need to rethink your levels of infrastructure investment. Unless you are an economist, this may not be an easy concept to understand so see the next page for explanation.

4. Household formation is a better indicator of future community infrastructure need than population growth. (see next page)

Economics may be dismal but it IS important - The LEVEL of Investment in Infrastructure & the RATE of change in demand

Changes in housing numbers are more relevant for infrastructure than population

Community infrastructure decisions are more affected by housing numbers than they are by population numbers - this is because most infrastructure services are delivered to households. And housing demand is determined by the rate of household formation.

Household size

The best way to see this is to recognise that a population of 1.2m, with 10 people to a house requires only 120,000 houses, but living 2 people to a house, the same population requires 600,000 houses. This is the importance of household size to the demand for housing.

Housing demand is determined by household size and population

Household formation increases when population increases *and* when household size declines. Both are happening. But both are slowing down giving rise to a slow down in the rate of growth of new households, and therefore, demand for housing.

Housing demand is slowing down

Over the 25 years to 2001, population increased by 35% and household formation, and the demand for housing, increased by 61%! But because of lower population growth (25% to 2026, cf 35% to 2001) AND a slowing down in decline of household size, household growth is now expected to fall from 61% to only 44% in the period to 2026.

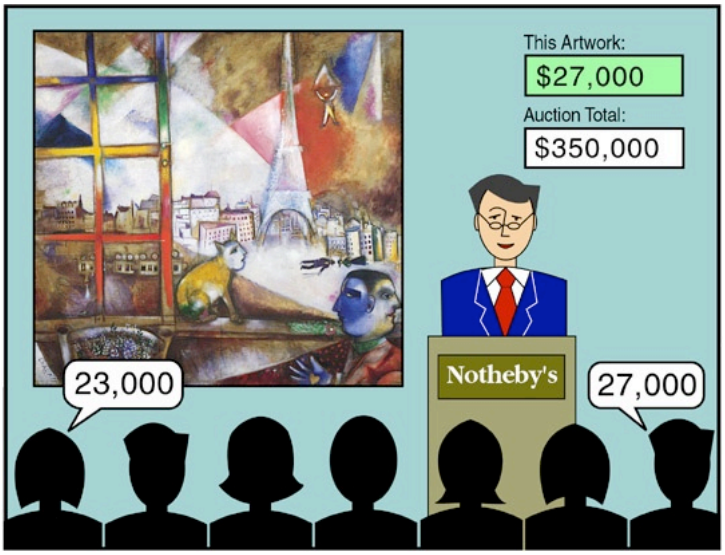
Investment is determined by the rate of growth

Investment represents an increase in the stock of capital. If demand is growing at a **constant rate** (say requiring two new schools a year) then investment is constant at two new schools a year. In other words, a **constant *growth* in demand** means a **constant *level* of investment** - not growth in investment!

It follows that a slow down in growth could require a reduction in the level of investment

If your investment levels were appropriate to the past higher levels of growth, they now need to be reduced.

Because of anchoring - thinking of what was appropriate in the past rather than what is appropriate to the future - many will find this adjustment in thinking difficult to make.



Competitive price bids reward the least informed bidders!

In art auctions it probably does not matter, except to the bidders themselves (who are likely to suffer from what is known as the 'winner's curse') But for decisions on community infrastructure construction and maintenance it may mean getting the lowest quality rather than the highest.

Competitive pressure to get the price down means that quality suffers. Here is the situation. Those who know less put in attractive LOW bids out of ignorance of what the job really requires. Those who **do** know then have an unenviable choice - they can cut corners to meet the price competition or they can price for quality and risk missing out. It then doesn't matter who gets the job, quality falls.

What's the solution?

Bidding is a discovery process. But like any scientific discovery process, it can only tackle one unknown at a time.

- ***If you know and can prescribe the quality***, then hold the quality constant and have competitors bid on price.
- ***However, if you do not know, or cannot prescribe, the quality,*** then hold price constant and have competitors bid on quality.

You conduct a quality bid by deciding how much you wish to, or can afford to, pay. This will normally be a range, ie. about 50-70K. So choose the midpoint, in this case 60K, and ask your competitors to tell you what they can offer you for this price. This is the standard by which you will now compare all of your bidders.

Now, ask two supplementary questions:

1. If the price were to be only 50K, what modifications would you make to your offer? What might be left out or done differently?

2. If the price were to be raised to 70K, what additional benefits could you provide?

This will not only give you information on the marginal benefits of a higher or lower price, it will also give you information that will be useful in assessing how knowledgeable your bidders are in the issue in question. Now you are in a position to assess 'value for money' and you no longer have to accept the lower bid or answer why not to the auditors.