

*Is this the way you wish to fund your renewal?*



## “Donation boxes on the Golden Gate Bridge encourage tourists to fund bridge maintenance”

November 2002.

Golden Gate Bridge officials are hoping the hordes of visitors who meander across the landmark span's footpath to view Pacific Ocean sunsets or videotape San Francisco's skyline next year will be inspired to generosity.

The agency that operates the bridge is preparing to install voluntary donation boxes for pedestrians this spring as one of several paths to climb out from an expected \$236 million shortfall over the next five years.

### **Demand falling, costs rising**

Fewer drivers are crossing the 1.2-mile suspension span in the sour economy, and the Golden Gate Bridge, Highway and Transportation District still doesn't know whether the federal government will defray the \$388 million cost of retrofitting the span against an earthquake.

### **What are the options?**

Some district officials have objected to the donation boxes, labelling it as 'panhandling', but although the toll for motorists rose \$2 this year, it isn't raising enough money to balance the budget. Hence the public appeal.

Motorists don't want to pay any more; pedestrians don't want to pay at all; the Federal Government has increasing demands on its grant list, and the bridge authority doesn't have the options of subsidies through sales tax as some other authorities do, so at this stage there appear to be few options.

### **What lessons are to be learnt from this?**

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*What lessons may be drawn from this for all of our many readers who have ageing bridges?*

## **How did the Bridge Authority get itself into this situation?**

### **No long term strategy!**

Perhaps the first thing to note is that the Authority has no long-term management strategy for the bridge; never has had. It has a five-year funding strategy.

For over ten years, the Golden Gate Bridge toll remained a constant \$3. During that time, Bay Area inflation eroded the buying power of those dollars by 3.4 percent annually, while fuel, insurance, and other non-directly controllable expenses increased by an average of 5.5 percent annually. Labor costs increased approximately 5.3 percent annually and the federal government's funding of key capital projects, such as the seismic retrofit, decreased substantially. Now 65 years old, the Bridge requires more significant rehabilitation to maintain structural integrity than in previous years. These factors, combined with the current economic recession, security challenges and an overall drop in travel, accelerated the need for local funds.

### **A funding or a management issue?**

During the evening commute on October 17, 1989, the Loma Prieta Earthquake jarred the Bay Area with a force measuring 7.1 on the Richter scale. The Golden Gate Bridge withstood, undamaged, the most devastating quake to strike the Bay Area since 1906. During this time of myriad traffic problems, extra bus and ferry trips were added to help smooth the commute as a flood of 30,000 to 40,000 drivers were diverted from the East Bay to Highway 101 and the Golden Gate Bridge due to the failure of the San Francisco/Oakland Bay Bridge. On October 27, 1989, an all-time record of 162,414 vehicles crossed the Bridge north and southbound.

There are no references to studies that show that the ability to withstand earthquake damage has seriously deteriorated, or will deteriorate. While I admit that this is likely, the absence of references is a concern to those being asked to provide extra funding.

### **A bridge deficit or a transport deficit?**

Currently, 50 percent of bus and ferry operations are funded by Bridge tolls, with another 30 percent coming from transit fares, and the remainder being met by federal and state subsidies. While many Bay Area counties have enacted local sales taxes to support public transit, Marin and Sonoma counties have not. Further, the Golden Gate Bridge District does not have the authority to levy taxes. Therefore, the use of surplus Bridge toll revenue has been the only local means available to support financial shortfalls of the operation of the District's bus and ferry services.

### **But are donations as a source of revenue really a worry?**

They are commonly accepted in museums. Extending the idea that all who benefit should pay, perhaps royalties could be charged to tourist companies, postcard makers, and others who use the bridge icon – including me!

## Myths of Asset Management Planning in Local Government

Sean D'Souza, New Zealand, presents the following four 'myths' as a challenge to the asset management fraternity. Each of these myths has been posted to the discussion forums at [www.amqi.com/forums/](http://www.amqi.com/forums/) to make it easy for you to add your own comments. *I have to admit that I have felt impelled to add a few of my own! So join the debate over the Christmas/holiday lull! Ed.*

### **Myth No 1: There will be no "renewal phase" - as assets are not visibly crumbling around our ears.**

Many infrastructure networks have not yet shown signs of the deterioration forecast by various studies. These studies were often done with limited data and have therefore tended to be conservative (some have said pessimistic) and based on a linear deterioration rate. The Victorian Local Government Infrastructure Study for example, made renewal forecasts on the basis of *full replacement* costs. This is a conservative assumption, as assets are usually never fully replaced.

What we do know is this:

- Infrastructure networks cannot have infinite life without intervention - they must deteriorate.
- Assets deteriorate more rapidly as they approach the end of their physical life.

Forecasts have therefore given a worst case scenario, based on best available data. However, many networks may fail quite rapidly in the short to medium term.

**Reality: We are not knowledgeable enough (yet) to know when renewal is required.**

### **Myth No 2 : Asset management is not new to councils: It has been a function for the last 200 years.**

The asset lifecycle is summarised below.

Plan   Design   Create   Maintain   Renew   Maintain   Dispose

In the last 20 years, councils have been principally concerned with the Create   Maintain part of this cycle, but the renewal phase has is not yet an observable reality. In this environment, AM planning has been typically been viewed "nice to do" rather than a "must do".

**Reality: Lifecycle planning has played second fiddle to creation.**

### Myth 3 : AM planning saves money.

Initial AM strategies typically require short-term investment in staff, data collection or system purchases. The corporate benefit in this investment, in the short-term, is *in reduction in organisation risk* not reduction in cost. In addition, it is difficult to argue to the community that asset management saves money when managers are forecasting increased costs over the long-term due to lifecycle renewal. In New Zealand, there were other observable factors that exacerbated this:

- Asset components were previously not identified – after asset managers had systematically identified inventories, it was discovered that many “non-core” assets were discovered.
- Assets that were underground were often grossly underestimated - One urban council, after having completed comprehensive data capture, discovered that its drainage network was 50 % greater than previously assumed.
- Effective lives of assets were not well understood - Councils could not accurately forecast lives based on their modes of failure. Initial estimates were therefore necessarily conservative.

The upside for all this not-so-good news, was that councils had reduced their risk, by *knowing more clearly what the future holds*. In the long term, sound planning will save money once issues of identification are addressed. Just don't expect to see in the next year's statement of financial performance!

**Reality : AM planning decreases organisational risk, but increases short-term costs.**

### Myth 4: Councils need more funds not better planning.

The Australian Bureau of Statistics forecasts an aging population, as “baby boomers” increasingly eyeing retirement. Two significant outcomes are likely to be:

- Higher health costs.
- A smaller overall earning income stream of the population as a whole.

Pressure on public funds is likely to be *greater than ever* before, as higher profile portfolios - like health and defence - occupy the national purse.

Moreover, unless there is a mind-shift in society as a whole, higher rates suddenly become acceptable, then pressures on existing funds will intensify. A more pragmatic approach for asset managers to admit:

*We are providing services that the community cannot afford. We are living beyond our means.*

**Reality: Don't bank on getting more funds in the years to come.**

**Your responses?** Join Sean and me at [www.amqi.com/forums/](http://www.amqi.com/forums/)

## Reader Feedback

*One of the nice things about editing SAM is receiving thoughtful responses to the fortnightly issues. Here are a selection of interesting ones from 2002.. All writers are also members of the Community. Are you?*

Response to Issue 83 "Data maintenance is boring"

### **Reduce the task, make it more meaningful—Collect "Fit for Purpose" Data**

#### **Performance as a filter**

This issue had some excellent in-sights into what a performance model is : I like the idea of it being a filter. When I do presentations for clients, I tend to call it an assistance tool. For example - instead of having to work out priorities on 4000 road segments, we only need to look at 300 odd. It helps us to make rational decisions and to defend the outcomes of actions. "No AMS or PMS in the world is ever going to be a black box that will spit the answers when you press a button" - Unfortunately a lot of people still think it is.

#### **Fit for Purpose Data**

The users of PMS are spending a fortune on ensuring accurate data. But the more important thing is to have "fit for purpose data". We are ignoring the fact that any level of super accuracy on data that is not fit for purpose renders the data useless. I am encouraging a lot of clients to invest in the development of a fit for purpose method before doing anything with a PMS. Its working phenomenally well.

Fit for purpose data is the heart of a performance model. This is because the data attributes (what type of data do we collect) and measurement method (how we measure the quantity and express it) is linked to specific work activities. The linkage is based on organisational rules for doing work. Work activities are linked to costs.

e.g. council X does reseals because of cracking and binder condition - so they will collect cracking and binder condition. They reseal only when cracking is between 5 - 15% of surface area or binder condition is poor for at least 30% of area. So they will measure cracking condition in bins of <5% , 5-15% and >15% as each bin attracts a different treatment.

A model based on this means - fit for purpose data drives organisationally appropriate work, which determines total cost. Once these rules are in the model, the optimisation is accurate and outputs better - i.e. the filter is more meaningful.

#### **How much data do you need to collect—and re-collect?**

A lot of organisations feel that all the data has to be collected again periodically. Some organisations collect a third of the data each year - making it a three year cycle. Neither of these systems have a scientific process. Again there is a fit for purpose data collection cycle model as explained below.

Once you have fit for purpose data - work out your three data bins - good, fair and poor or maybe four data bins - good, fair 1, fair 2 and poor - whatever the case is. I have a proprietary process of doing this with field staff that almost everyone involved then takes ownership of.

## Simplify the task

Once you have done this and the model works - you can be pretty sure that that the least chances of data movement based on nominal deterioration are in the good bin and poor bin - on an annual basis, unless of course the asset is renewed. The greatest movement is in the fair bins. Strategically select sections to collect data only in these bins (partial data collection - saves cost and time). As far as the model is concerned, it does not care what the exact measurement is as long as it knows what bin it falls into. Fit for purpose data measurement definitions would mean - model knows what work is driven in each bin. Each bin is specific - good means - no work is required , poor means major work is optimal and fair means intermediate work is optimal.

**Ashay Prabhu**

*Issue 84 looked at "Infrastructure Depreciation: an alternative to straight line" and provoked the following response*

### Recording Valuation and Depreciation

I look forward to seeing the "how to" edition on CBD. It has got my creative juices going. I think it should work this way:

1. Use the balance sheet only for recording the current replacement value (CRV). For ongoing ownership this is all that is needed to enable benchmarking and forward planning. If assets or networks are ever held for sale they will be subject to a rigorous analysis of market worth at the time, which may result in market values that bear no resemblance to CRV anyway;
2. Record the current asset or network condition as a note to accompany the CRV. This would enable year-to-year comparisons, and would provide a helpful - though not automatic - mechanism for cross checking whether the assumptions about the renewal annuity approach are really working.
3. If an asset (or a whole network, in the case of privatizations) is added or disposed, the effect is shown on the balance sheet, with the renewal annuity adjusted on a pro-rata basis until the next asset management plan is developed, but only if the addition/disposal was unexpected in the current asset management plan;
4. If the actual spend is less than the predicted annuity (or more correctly the predicted yearly amount gained from the Asset Management Plan that supports the annuity) on retained assets, and if this represents a loss of future economic benefit or reduction in service level, then the amount not spent should be added on to the following years annuity due to the commitment ? if still genuine - to meet the Asset Management Plan. The CRV will not change in most circumstances (though the sale price may).

What do you think?

*Stephen Howe, Asset Manager, City of Boroondara*

*Response to Issue 96 "A Week of Discoveries"*

*In Issue 96, I had quoted an argument by Peter Bernstein in "Against the Gods" that the reason why the Arabs did not develop probability theory, despite having the tools to do so, was because they lacked the vision – they didn't see their future as manageable so they didn't try to manage it. I received the following interesting extension of the argument.*

***As a Profession, Asset Managers must  
Communicate – or die!***

"I really enjoyed the latest SAM. Thanks.

There is another reason the Arabs did not develop productivity theory – and it is very relevant to what you are doing!

Let us assume that there was an Arab who realised that it was not just a question of appeasing the gods. He could see that out of a pack of cards you could only draw 1/52 and then 1/51 etc. This knowledge would give him a real edge in placing his bets. He would start getting rich because he could tell when to bet and when not to.

Is he going to tell the others about this knowledge and lose his edge? Not likely! So the information developed by this individual stays with him - and dies with him. Nobody is able to build on the knowledge because it is not communicated.

It is only in an environment where people are able and prepared to communicate the small advances they make in human knowledge that major advances can be made.

Thank you for providing a place where this communication can take place.

David Grugeon,

- Please take advantage of this 'communication space';
- Join the Virtual Asset Management Community at [www.amqi.com](http://www.amqi.com)
  - Contribute your thoughts, ideas, suggestions for improvements
    - Help the asset management profession survive and thrive!

## About to buy a new AIS?

*Or want to find out what's wrong with your current system,  
and how to fix it?*

Then you should be reading

**Norm Eason's "Maintenance and Asset Management Systems"** *currently being serialized,  
pre-publication, on the Members Page of the Virtual Asset Management Community.*

This is not a 'techie' book—although AIS technicians will find it invaluable.  
It is designed for managers to get the system that works for them.

Members of the Virtual Asset Management Community can download the weekly, easy-to-read, segments from their members profile page.

If you are not a member of the Community—join today, it's free, it's easy, it's available at [www.amqi.com](http://www.amqi.com) Click on "Members Profiles" and follow the instructions.

This week's segment, Chapter 4 "Objectives Of Maintenance and Asset Management Systems" looks at

- Vendor Strategy—and how it affects you
- Computer Strategy—fitting the AIS within the corporation
- Organisational Culture—Whether, when and how to change
- Data Storage—Your (changing) requirements are linked to your business

Find out why Norm says:

**Do not be tempted to change your culture in order to use a vendor's system.**

If a change in culture is indeed seen to be appropriate, then seriously investigate the cost and time involved. If corporately agreed, then

- **IMPLEMENT THE CHANGE IN CULTURE SEPARATELY AND**
- **BEFORE THE IMPLEMENTATION (OR THE ORDERING) OF THE INFORMATION SYSTEM.**