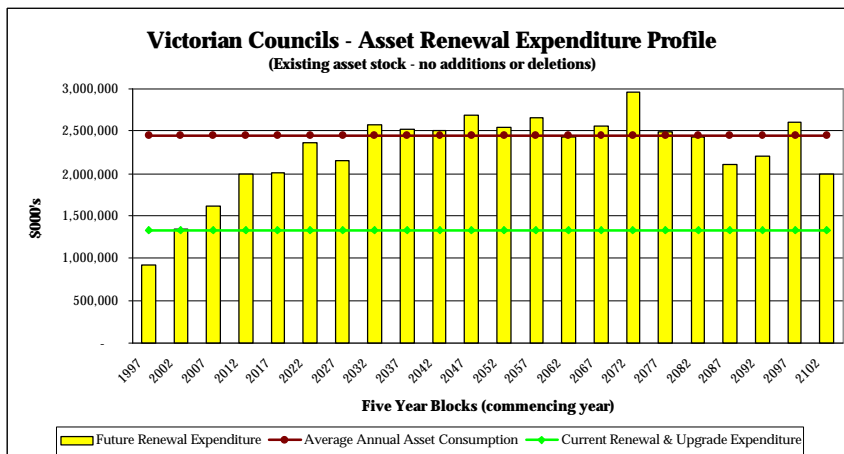


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***Weblink*: Facing the Renewal Challenge:
 Renewal Set to Double within Ten Years
 for Victorian Councils**

The Victorian Infrastructure Study "Facing the Renewal Challenge" has shown that, overall, Victorian Councils have *less than 10 years* before renewal costs double. For some councils the cost acceleration is even sooner. This is the work that provides the background to the *Weblink* discussion "Forecasting Asset Renewal" which was introduced in SAM Issue 2.



The chart above indicates the rough order of magnitude of asset renewal expenditure *for existing assets only* and given the default assumptions spelt out below. By 2012 (only some 13 years away now) Victorian Councils are looking at renewal spending increasing by *over 100%*. If they continue to add to their asset stocks, the actual renewal picture by 2012 will be even higher.

**The successor to AMQ International and the Asset Management Quarterly, first published in March 1994.*

*Researched and written by Dr Penny Burns, AMQ International.
 Published fortnightly. \$A200 p.a. Subscriptions, Comment, Inquiries to*

“Infrastructure Assets are being consumed at the rate of approximately 2% per annum”

Renewal Projection

In the figure on page 17, the total amount of projected infrastructure renewal for all Victorian councils combined is shown in five year blocks, determined by adding together the renewal profiles derived for each asset and sub-asset category for each council. The *lower* horizontal line represents the *current level of capital expenditure* on renewal and the *upper* horizontal line is the *long term average level of capital expenditure* that will be required if all of the infrastructure assets are to be sustained indefinitely.

The rate of asset consumption

It was important to establish a broad measure of asset consumption and the study calculated a long-term average of asset consumption based on how quickly assets were being “consumed”. If an asset has an expected economic life of 50 years, it is being “consumed” at an average rate of 2% per annum. Similarly an asset with an expected economic life of 40 years is being consumed at an average rate of 2.5% per annum. (Note: The use of average rates of decay is a modelling assumption. Many factors, not the least of which are asset usage and maintenance and renewal regimes, play a significant role in how an asset declines in value and it is not intended to suggest that asset decay is linear – it is not. Victoria’s infrastructure asset base of \$A23.3 billion was being used up, or consumed, at an average rate of \$A488 million per annum, or an annual average overall of *just over 2% per annum*.

2% is a long-term average. This amount does not necessarily have to be spent now. It may be less, it may be more. But it will be 2% overall.

Default Assumptions

Every modelling exercise requires certain assumptions to be made. The forecast above has used the following default assumptions

- All existing assets are to be renewed
- Only existing assets are included (assets yet to be acquired represent additional renewal costs)
- Assets will be renewed at same standard (upgrading is an additional cost)
- Economic lives remain unchanged at current assumed levels
- Real costs of renewal will not change over forecast period (ie no miracle technology or breakthrough assumed)
- Maintenance and management practices continue as now

Default assumptions relate to the status quo. Basically they are ‘minimum change’ assumptions. If effort is applied to changing the current status, if, for example, maintenance and management practices are improved, the forecasts can be changed.

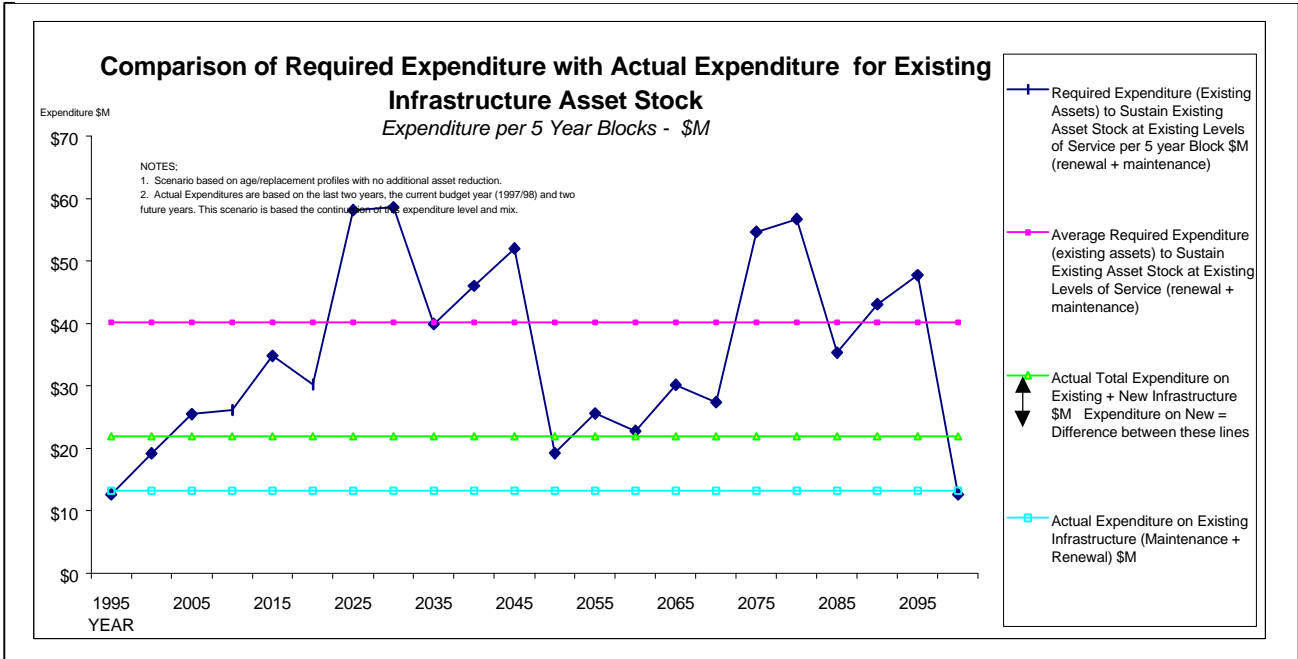
Growth- replacement funding link broken

In the past, councils have paid for assets needing renewal from the increased revenues that have come by way of population growth. Growth has now slowed at the same time as renewal demands has increased and this funding source is no longer sufficient.

Period to period fluctuations

Renewal is a lumpy thing. The actual time pattern of renewal varies from council to council depending on age profile, usage, and asset mix amongst other things. Here is an example of a council that faces serious ‘near-term’ increases in its renewal costs. Its renewal costs sharply accelerate over the next three five year periods before settling into a fluctuating pattern.

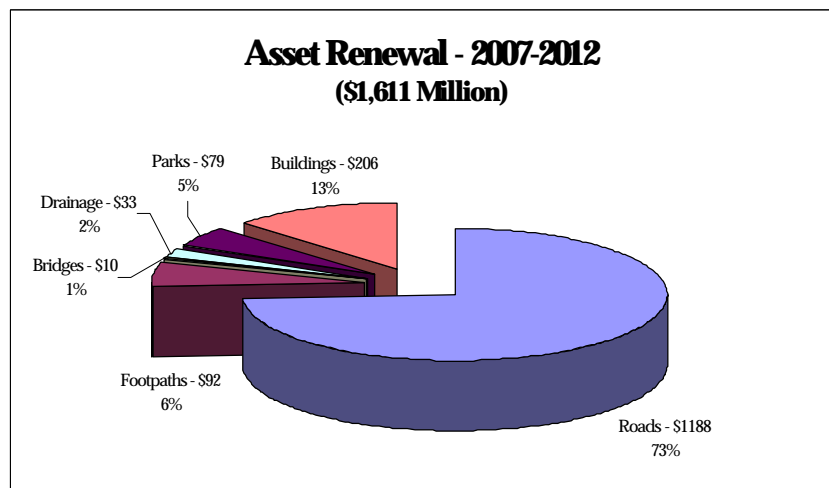
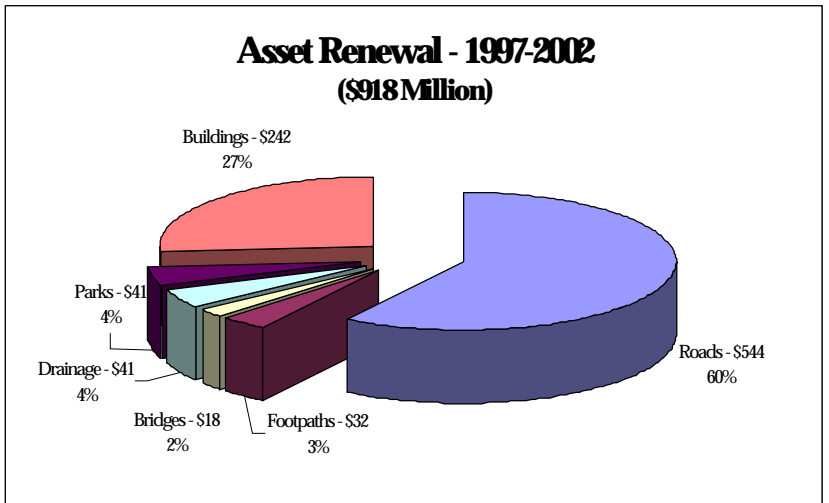
Example of Council facing rapidly accelerating renewal
 (Top horizontal line represents average long term renewal, Zig zag line actual forecast renewal)



Why Asset Renewal Needs a Corporate/Strategic Overview

The study showed that there were large fluctuations between asset groups in terms of their need for renewal. To manage the switch of funding between one group and another as it is needed requires corporate or strategic management. Consider, for example the following two charts.

Over the ten years, the need for building renewal has fallen in real terms both absolutely and as a proportion of total renewal whereas road renewal has increased. Funding practices which apply even cuts (or increases) 'across the board' would misallocate renewal resources.



What can be done to contain costs?

- Better information can assist in determining which assets to retain, which to modify, which to upgrade and which to dispose of. (but see our series on AIS on 'using' information, pp 23)
- Rationalisation or changing the asset mix. (The Victorian study looked only at infrastructure assets. If councils sell infrastructure assets, which tend to have long lives and therefore low depreciation rates, and re-invest in shorter living assets, the asset base may remain constant, but the average cost of those assets increases! There is anecdotal evidence to suggest that land is being sold to fund new assets; if so, the renewal requirements will increase.)
- Re-examine standards. Lower standards (say of road roughness) have correspondingly lower costs. Both maintenance and renewal (rehabilitation) costs are generally reduced if lower standards are adopted.
- Utilisation. Getting more out of assets

may enable rationalisation. Similarly extending asset lives cost effectively reduces the level of new acquisitions – and, more especially, postpones the time of renewal and thereby gives more scope for either technological improvements or demand changes which may mean that renewal costs are less severe.

- Better Benefit-Cost Analysis. Many projects are justified on the 'wish and a prayer' principle with project analysis, if it is done at all, carried out after the decision to acquire has been taken and used to rationalize rather than analyze the wisdom of the decision.

Join our panel of experienced practitioners. Ask your questions. Contribute your suggestions and observations.

(More information on this study is available as a background paper which may be downloaded from the www.amqi.com website.)

Measuring Performance Property Management across UK Councils

This project on measuring performance in the management of local authority property relates primarily to non-school and non-housing assets. The objectives are to obtain information on the current forms and methods of asset management (including performance indicators), highlight good practice in asset management and develop guidance for local authorities (parallel to DfEE guidance) in designing and operating asset management plans. There will also be recommendations for a central framework of universal and comparable measures of performance.

The survey will look at, *inter alia*, property data held, organisational responsibilities, performance indicators, capital programming and the use made of asset rents.

The project is being carried out for the Local Government Research Unit of the Department of the Environment, Transport and the Regions by DTZ Pieda Consulting. Project completion is expected by the end of May 1999. Contact: is David Purdy, Tel: 44 (0)171 890 4122

Note: Further information will be forthcoming in SAM once the report is available.

AIS – What to do before you choose

Unless it is *usable* and *used*, the data in your Asset Information System are just so many black marks on white paper – or their electronic equivalent. It may have been expensively gained but it is *not information*. In this five part series we look at mistakes that have been made – and how you can avoid them in setting up your own database.

Part 3:

What has your Asset Register Done FOR YOU lately?

In the last issue I referred to the agency that was so busy putting data in that it did not have time to write the programs that would enable it to get information out! This is an extreme case of something which is, however, very common.

Are you Serving your AIS, or is it Serving You?

Mostly agencies are ‘serving’ their AIS, rather than it serving them. Ask yourself: do you have an AIS section? If so, what is it doing? Collecting information? Inputting information? Perhaps preparing reports for others to use? How many people are engaged in this activity? (in full time equivalents).

Now ask yourself how many are actually using the data *to make decisions?* (Again, in full time equivalents)? Calculated correctly, this figure should ring alarm bells!

Some time ago I analyzed a major asset information system. This was the biggest property information system in Australia at the time and over \$2m had been spent in data collection and handling – in 1984-5 dollars! What was it intended *to do?* Was it doing it? The answers are still instructive today.

What do you want your AIS to do?

The AIS examined had these stated objectives:

1. “To play a major role in providing the information necessary to prepare a maintenance budget related to the actual work which needs to be done in the coming year.
2. Record the magnitude and timing of those future maintenance/replacement liabilities which are automatically incurred whenever a new asset is acquired.
3. Periodically, produce a list of properties requiring inspection to determine what maintenance is needed.
4. Report the actual cost of maintaining individual assets compared with their value, as a guide to implementing a consistent asset replacement policy.
5. Act as a location register for moveable assets.
6. Report comparative costs for maintaining similar properties/systems etc. in different districts.
7. Contain data concerning physical attributes of the asset, type of construction etc to assist in assessing the performance of different designs and materials.
8. Report all of the above information for assets as a whole, but also analyse into at least the following categories: - mechanical systems; electrical systems; site-work, building work.
9. Include provision for potential interfacing with other departmental systems.”

As you can see, these all seem to be quite sensible functions.

Why did a major AIS (with millions of dollars spent on collecting and recording data) fail to achieve ANY of its desired outcomes and to meet only ONE of 9 objectives?

Desired outcomes

- A. "More realistic budgeting of maintenance costs
- B. Tighter control over maintenance costs
- C. A programme of maintenance work prioritised according to real need
- D. A realistic policy for asset replacement which should reduce overall expenditure in the long term
- E. Better knowledge by designers of the performance of materials and systems thus assisting the Department to design and specify more reliable budgets for the future
- F. A useful and more comprehensive data base of Government assets, [so that utilisation could be improved]"

The results

How many outcomes were achieved for the departments expenditure of in excess of \$2 million? Answer: Not one! And of the previous list of 9 objectives, only one. Why?

The reasons

Analysis revealed three principal reasons:

1. The difference between a "register" and an "inventory".

A register is a 'record of acts and occurrences' whilst an inventory is 'detailed, descriptive list of articles. What the department really wanted was a register, but what they got was an inventory! An inventory is only the first stage of a register. The physical attributes are all very well and good but not useful for decision making unless they are matched by financial and operations data (the 'acts and occurrences').

In the list of 9 objectives, 4 of them failed to be achieved because to achieve them required data on upcoming maintenance costs, actual maintenance costs, and costs not merely by asset but by asset component. 3 of them failed to be achieved for the want of life cycle data and condition analysis. 2 failed to be achieved because they required information on component age and maintenance and replacement history. And 1 failed to be achieved for all of the above. (A test: which are which? A clue: the only objective to be achieved was #8, keeping track of relocatable buildings, and this was because this task only requires inventory information.)

Desired Outcomes A-C failed for lack of costs: Desired Outcomes D-E - those related to life cycle analysis - failed through not having the age profiles, economic lives and disaggregated component data required for LCC, and lack of information on service delivery requirements. Outcome F failed because there was no process for using the information.

2. No AIS can suffice by itself

Even a register (with a record of 'acts and occurrences', eg maintenance history and costs, life cycle analysis, condition, etc) *needs to be supplemented with non-asset information in order to achieve certain outcomes.*

For example, take 'maintenance budgets prioritised for real need' - asset condition is not enough, the asphalt in the schoolyard may be abysmal but if the school is about to close (or to expand by building another building on part of the yard) there is no 'real need'. The AIS needs supplementation *by demand analysis - and by understanding strategic directions.*

AIS Information must be used - Even the sharpest axe will not cut wood if there is no axeman!

3. No one was USING the information.

The third reason for non-achievement is that there was no- one whose job it was to USE the information provided.

The information in the AIS did not fit within the normal bureaucratic processes. The best example of this was the desire to use the 'more comprehensive data base' to enable properties being underutilised by one department to be re-allocated to another department in greater need. Sounds good but wait!

If a department needed more space the normal process was to put up a case to the Minister. If the Minister approved, the green light was given for a 'purpose built' building – no one wanted anyone else's 'cast-offs'. Nor did the Department underutilising the property give it up without a fight!

No agency had the decision making role to say who got what, so the decision making processes did not enable any use to be made of any information that recorded underutilisation.

Lessons to be learnt?

Do not assume that *simply having data* will do anything at all for your strategic asset management. It won't.

To be useful, data *must be used* and this means (1) ensuring that your AIS records *all* of the asset information that you will need to make decisions; (2) making sure that the *non-asset information* required to work with the AIS information is also available; and (3) ensuring that there is an analyst and decision-maker ready to *act on the information provided*.

Next Issue: To integrate or not to integrate?

All Electronic Asset Management Manual for Brisbane City Council

The Brisbane City Council is getting ready to launch its electronic Total Asset Management (TAM) framework.

The Framework is housed on the Council's Intranet. Some of the distinguishing features of the electronic format are:

1. The ability to link directly into other internally maintained corporate policies and procedures such as Program Planning, Tendering and Procurement and Risk Management.
2. Its user-friendly menu structure, which is similar to that of Windows Explorer, has the ability to drill down through 5 levels and is developed into four key processes and ten guidelines.

This means that no matter where you are in the Brisbane City Council, if you have an interest in asset management, you can access the framework and proceed through a step by step process to find exactly the information that is required. Hyperlinks make finding the information stored in its 1600+ pages simple for everyone.

The all electronic TAM framework at the Brisbane City Council has been developed in conjunction with the Australian Centre for Value Management. For more information on the BCC TAM Framework contact Sunil Madan, Strategic Asset Manager, City Assets on 07 3403 6630 or Mark Neasbey, Australian Centre of Value Management on 0411 464 259 or 61 (0) 2 9209 4143.

GLOSSARY

Post Implementation Review (Post Completion Review)

Did the project meet the objectives laid down for it? If not, why not? A post implementation review is a structured approach evaluating actual performance against intended performance with the objective of improving the agency's systems for future projects. It follows that the aim of a PIR is to make changes to the system. Sometimes called Post Completion Review (PCR) or a Post Project Evaluation (PPE). (or when evaluating the performance of a new or improved facility, a Post Occupancy Evaluation (POE))

Discussion

The Benefits of PIRs include:

- focus on service delivery and customer satisfaction or performance
- improved project briefing
- improved 'follow through'

Post Implementation Reviews commonly suffer from

- Inadequate briefing and management of the evaluation itself
- An undisciplined approach
- Invalid or unreliable data collection
- An exclusive focus on negative aspects
- Unavailability of participants, and
- A focus on project rather than system (this focus readily becomes a 'witch hunt')

But mostly they suffer from the fact that the performance objectives were never clearly stated in the first place! In four major projects analysed by the SA Audit Commission in 1994, only one had even attempted a post implementation review. None of the projects

had clearly stated objectives against which performance could be evaluated.

Often, reviews degenerate into asking (a) did it come in within time and budget and/or (b) are the users happy with it? While useful questions, they are nowhere near sufficient. In one of the examples referred to above, the project was proudly claimed to have 'come within budget' – when examined, the project had come in 20% *under* budget! What *should* have been examined was what was going wrong with the budgeting processes!

To avoid 'witch hunts' and to ensure that the lessons learnt feed back into future systems improvements, PIRs need to be 'scheduled in' to the unit's responsibilities. BHP-Steel has been recognised as a world leader in post implementation review. Twelve months after final commissioning a systematic review is carried out examining the extent to which the project has met the key performance indicators (KPIs) claimed in its original justification. If the full benefits are not being achieved, corrective actions are identified.

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