AMQ International

Strategic Asset Management

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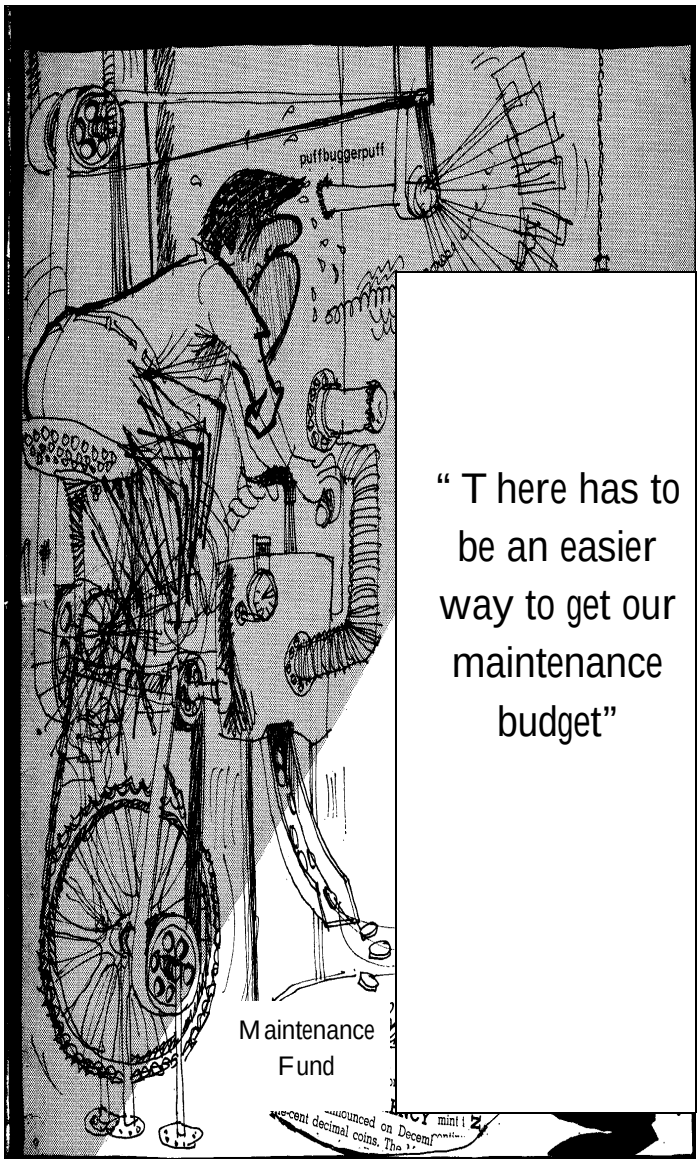
Maintenance Budgets



"There has to be an easier way to get our maintenance budget"

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Make your Maintenance Budget Transparent

You can do this fairly easily by making assorting your maintenance expenditures two ways.

(1) by nature of expenditure
(2) by nature of portfolio

Use Like Categories

A consistent method of breaking down assets into like categories is, according to David Bernard of Playford City Council the secret of being able to bring together information which makes sense for quick exercises and for management in general.

Whether they be high use roads or heritage properties or public toilets, it is important that all information sources (registers, valuations, accounting systems, maintenance systems) are aligned by common asset number and categories and consultants who service the organisation should also report in this way.

Categories are usually based on the asset's use or function – and it usually falls out that the assets in each category are of the same type and scale and share similar problems.

So, whether it is developing an asset strategy, collecting maintenance costs, forecasting renewal needs, or tracking depreciated value, the Playford City Council can now pull together information very quickly by category – and decision-makers are impressed!

It works!

For example, David recently had to comment on whether the council should buy a sports clubroom from a club going broke. He was able to advise that the council already had 53 such clubrooms with a replacement cost of $10m and a depreciated value of half of that, etc. The recommendation was no.

The South Australian Local Government infrastructure study has already caused many asset managers to bring together information for the first time on maintenance costs, renewals, and new investment "by category of asset" and that has been extremely useful. That study used only a few, very basic categories as given in the following matrix – but you would find it very useful, as did Playford City Council, to go further and set up categories for the key asset categories that provide separate services for council.

Sample of a Matrix

—Expand by Subdividing the Major Categories here provided

	Buildings Premium RV$ WDRV$	Buildings Basic RV$ WDRV$	Infrastructure RV$ WDRV$	Parks and Gardens, Recreation RV$ WDRV$		
Routine and Preventative Maintenance	Mtce $					
Corrective Maintenance						
Facilities Management						
Special Problems, eg vandalism						
Asset renewal						
Other calls on the maintenance budget						

Alternatively, Start from Last Year's Budget—and Modify —but do it sensibly

Forget the 2% Rule

In the last issue we looked at the "2%" rule, whereby agencies argue for their maintenance budget on the grounds of some supposed industry standard. Actually whether the industry figure is 2% or 10% is not really the issue, but rather whether 'industry standards' are meaningful. We argued that they definitely were not.

So what do you do?

Relevance and Transparency—the key to getting and keeping your maintenance budget.

The trouble with the 2% (or any %) rule is that it is difficult to argue what would happen to your assets and the services they supply if you were to receive only, say, 1.75%. (And the salami approach to budgeting can have this whittled away to 1% or less in no time!) If you cannot say what will suffer if your budget is reduced, you are at risk.

A simple three-step system

Step 1. Analyse last year's Actual Budget Expenditures
Step 2. Modify by Relating your Needs to Corporate Objectives.
Step 3. Continuously monitor and review (and your next year's budget will prepare itself!)

Step 1. Start by analysing your last year's Actual/ Budget Expenditures

First of all sort your last year's actuals (or budgeted figures where actuals are not available) into

- Those items for which next year's resources can *be extrapolated* from last year's actuals.
- Those items for which next year's resources *are independent* of last year's actuals, and
- Those items which *are independent of maintenance and renewal altogether*!

How do you do this?

Nature of Expenditure

A maintenance budget really covers much more than maintenance. Depending on the agency it could include any or all of the following:

A:
Required expenditure on these items will be closely related to last year's actuals

- Routine and preventative
- Corrective maintenance
- Special Maintenance Issues, eg Vandalism
- Facilities management (energy, cleaning, etc)

(you may wish to modify simple extrapolation by reference to the factors mentioned in the box below)

B
Required expenditure on the following items is NOT related to last year's actuals

- Asset renewal
- Asset modification

These can vary considerably over time. Depreciation is NOT an acceptable measure of need. Depreciation averages renewal over 30 or more years, actual renewal will differ very considerably from the average.

However, simple renewal forecasts based on estimated economic life and an age distribution (or residual life distribution developed from a condition assessment) are not difficult to do. Good justification here could be the difference between a maintenance budget that works and one that does not.

C.
Required Expenditure on the following is not related to maintenance but to Perceptions!

- Anything that doesn't fit neatly into anybody else's budget

[Most maintenance budgets provide a valuable service to their organisations in funding those odd expenditures that come up during the year that no one anticipated. Count up how much of last year's maintenance budget went to these non-maintenance functions. You will not be surprised but your CEO might be. If he/she wishes to retain the organisational flexibility that this provides, then suggest that a similar sum be allocated to "miscellaneous" - in addition to the identified real maintenance functions that you have costed. At the very least you will be putting on notice that not all the budget has been allocated to maintenance of assets.]

Step 2
Modify Your Step 1 Results by Relating Maintenance Need to Corporate Objectives and Changes in the Outside World

OK, Step 1 has got you to the same stage as you were at last year, but maybe that is not good enough, maybe last year's budget wasn't keeping up with the task, in which case you need to justify an increase.

Justifying an increase in your budget

The best way to do this is to identify not "what isn't being done", but rather, "what corporate objectives are not being fulfilled".

E.g. If your budget for controlling vandelism is insufficient, do you have a corporate "image" objective that you can relate this to? Or can you tie it in with comments on a customer satisfaction survey?

Use 'Anecdotes' as illustration only

Where corporate objectives are not being met, it helps to 'illustrate' your argument with anecdotal evidence of the problem. These anecdotes should not take the place of analysis for it is not possible to tell the size of a problem from anecdotal evidence, but they can help to bring the problem into the forefront of awareness. . For example, a gallery may need to move out of the building it is in if it cannot have the exact room air temperatures it needs to exhibit its paintings; or a High Commission office may need to move into a building with more representative presentation foyers and function rooms. This supplements your Step 1 analysis for budget requests.

Is the outside world changing? Document it!

Are there regulatory changes, or major changes in, say, the utility markets, that will result in your costs increasing? If so, give details. The details should include not only the cost impacts of the changes but should also show what you are doing to moderate the increase (say by energy savings programs).

Step 3
Continously Monitor and Review

Maintenance is an ongoing task with new requirements arising all the time. Programs are juggled to fit in new projects, to expand some and delete others. Hence maintenance forecasting is much like business income and expenditure forecasting, something that you do all the time. Do this rigorously and next year's budget will be progressively prepared and you won't have a last minute panic.

What determines the need for maintenance?

- **Size** of the portfolio
- **Complexity** of the portfolio (mostly passive civil structures, or a high percentage of mechanical and electrical components?)
- **Age distribution** of the portfolio (NOT just average age, but the percentage of aged assets in the portfolio since maintenance does not increase linearly with age but more frequently in an exponential fashion with age)
- **Use and Abuse** of the portfolio (eg is it subject to vandalism?)
- **Agency requirements** (is it to be maintained as a premium or icon building, or as a basic office? Is it in regular use or part-time use?)

In addition, maintenance costs may vary with **location** – country areas may cost more than city areas where there is a higher level of competition to contain costs.

Unless your asset portfolio is a match in all of these respects with any other, how you can use a simple "industry" benchmark. The concept is without meaning.

(And I haven't even begun to consider the differences in agencies' charts of accounts!)

Performance Indicators —Some Examples

Here is a set of performance indicators from Devon County Council referring to the provision of school property services. It is part of a co-operative endeavour between a number of councils and shows Devon's ranking (in bold columns).

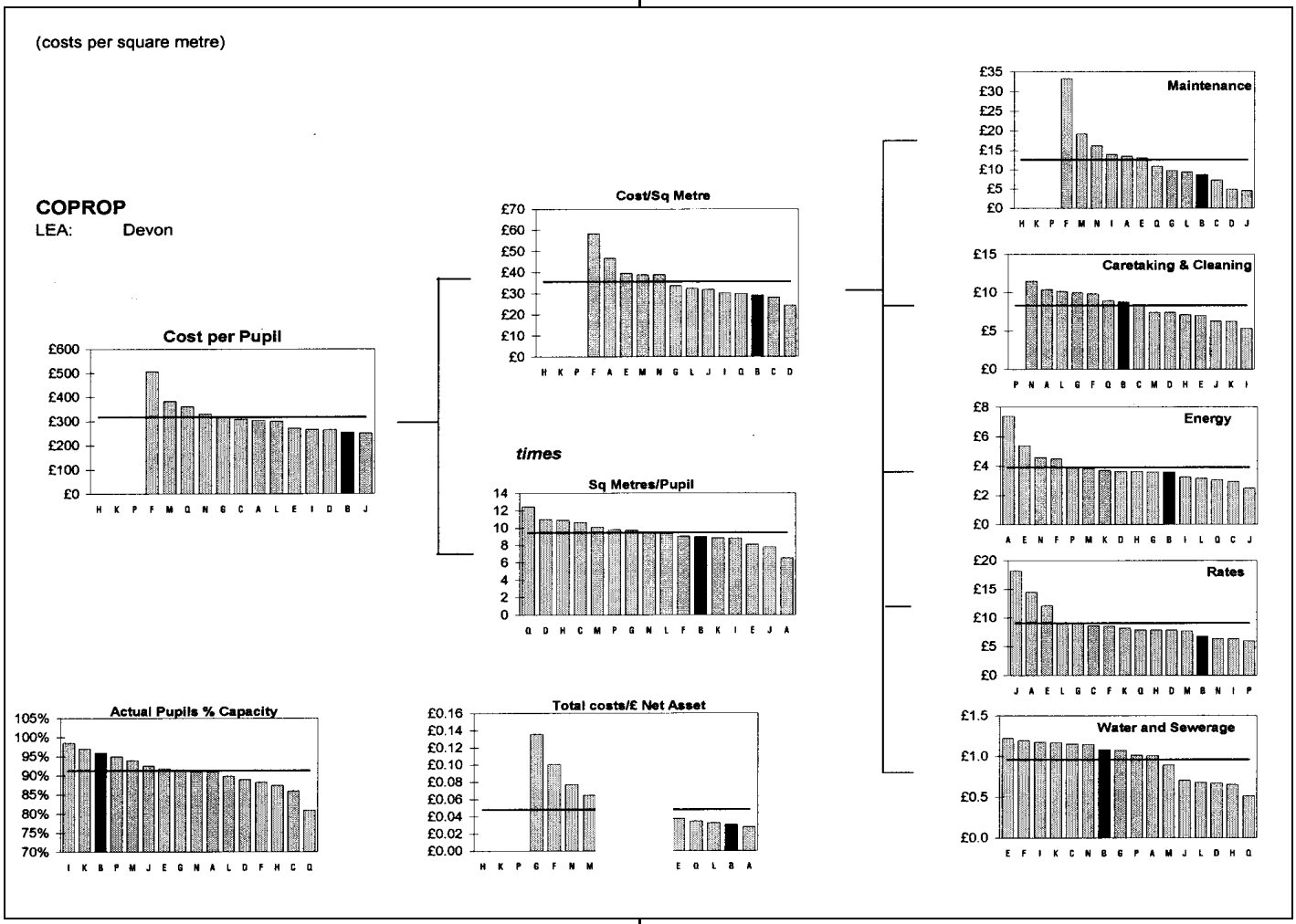
It is good in that it takes a high level goal, eg "cost per pupil" and shows how this is influenced by factors such as the cost per square metre of property and the number of square metres per pupil. It also shows how one factor – namely the relatively high ranking for capacity utilisation is driving the cost per pupil. It is useful to see the relationship of maintenance, energy, etc to the costs per square metre.

In terms of benchmarking, this is ok. But it is an 'after the fact' account. That is, it reports where the costs ended up, but doesn't provide the council with ongoing information to enable them to manage their main goal of "costs per pupil".

However, a good feature is that, should the school boards decide that, at just over 95% utilisation, class sizes are too large and wish to reduce them, this data can be used to estimate the increased cost per pupil of smaller class sizes.

Questions, not answers

Overall, it is important to remember that "indicators indicate"! Indicators do not tell you what needs to be done, but good indicators will help you to ask the right questions



Whose or What Performance?

Stephen Howe, City of Boroondara, Victoria, raises the issue of whether we should separate asset performance from people performance.

"If roads have physically degraded in overall condition and customer satisfaction on road condition has fallen, is it helpful to know that the response time on attending to pot-holes has improved?"

People and Asset Performance are Inter-Related

The way in which an asset is maintained has a great deal to say about its performance. A drainage pit may be sized to cope with a 1 in 5 year flood but if it is not cleaned out regularly, it will fail to do the job it was designed to do.

Suppose we have a corporate objective of flood control, we need a measure of how successful we have been in achieving this objective – this is our strategic performance indicator.

Backing this up we need a range of "human related" performance indicators, e.g.

- measures of cleaning of drainage pits
- measures of dragging the drainage pipes/ channels
- measures that look at the repair needed and undertaken for drainage channels.

Rule should be: Check People Procedures First, *then* Acquire/Modify Assets

If these measures indicate that our people policies are working well and yet we still have flooding problems, then it is likely that we need to re-design or modify our drainage assets.

(To jump to the conclusion that new drainage facilities were required BEFORE checking the usage and maintenance of the current facilities would be unwise and could lead to unnecessary asset expense and no guarantee of solving the flooding problems. For an example of this from the private sector, see the article by the Troubleshooter in Issue 39)

Sources of Performance Indicators

The MAV 1993 Book "A guide to performance indicators in local government" splits indicators into categories of effectiveness, efficiency, workload and customer service.

The National Office of Local Government Guide to Benchmarking splits all benchmarks (related to performance measures) into cost, quality, timing/ timeliness and customer service.

The new International Asset Management Manual splits service levels (performance measures) into Technical/Outcome (with no reference to customer perceptions) related vs Functional/Process related (how the customer relates to the Asset) and sp;lits these into sub categories of Tangibles, Reliability, Responsiveness, Empathy and Assurance.

But before adopting ANY performance measure – be sure you know WHY

These reference sources will be valuable – but only if a selection is made on the basis of how they will help you achieve your overall corporate or strategic goals.

In the past, we have tended to adopt the various measures advocated with little thought as to their ultimate purpose. If we do this we pay lip service to performance measurement, we use up valuable resources – and we make no progress!

Maintenance Budgeting Again – Jeff issues readers a challenge!

Jeff Powys ponders the question of why maintenance budgets are not more like capital budgets – in scope, rigour, *effectiveness*, etc. He reckons that the issues come down to the following – but would welcome a healthy debate with readers on the topic.

1. Maintenance budgeting is at the end of a trail of decisions

Maintenance is driven by earlier decisions, such as the services the organisation intends to deliver, the expectations of asset users, the risks it is prepared to carry and those it wishes to avoid, the replacement strategy for its assets etc. They set the scene for any maintenance that is planned and should be explicitly identified and listed, either as facts or assumptions, in order to provide the estimator with a basis for his/her estimate. Many maintenance estimators overlook this step. The drivers remain implicit and, unfortunately, can be misunderstood or overlooked. If we want management to set aside resources for maintenance, we must at least tell them WHY IT IS NEEDED.

People preparing IT budgets do this. So do people preparing HR budgets. So do people preparing capital budgets (most of the time). And these groups have been pretty successful to judge by the growth of IT and HR sections in the past.

But maintenance budgeters find it difficult, or assume the reasons are known to management.

"In my view", says Jeff, "no maintenance budget should be prepared in the absence of an explicit statement of its purpose and the maintenance drivers".

2. Top Down or Bottom Up?

Top down estimates are based on the judgements or experience of estimators supported by any available past data concerning similar situations. The 2% guideline, or "last year plus x%" are top down methods. Their advantage is that estimates can be developed quickly and will encompass all costs (including overheads and contingencies). The accuracy of the estimate is dependent upon the experience of the estimators and the validity of the data and its relevance to the particular situation.

[The acceptability of the broad "%" top down estimate is critically dependent on the credibility of the estimator. An alternative top down approach is the "matrix" approach on page . This still uses percentages, but they are tied to individual asset groups under specified conditions. This rigour increases acceptability. – Ed.]

The top down approach is useful where the task is predictable and repetitious. However many maintenance problems can be quite different (eg related to different equipment, different age profiles, different usage patterns etc), and in such cases the top-down approach is questionable.

By contrast, bottom up estimates break up the maintenance problem into its elemental parts, which are estimated individually and aggregated to give a total direct cost. Indirect costs such as overheads and contingencies are added to give a total estimate. Bottom up budgets should be, and usually are, more accurate for once-off tasks, but it is critical that all items be included. The bottom up process generally has the advantages associated with participative management – individuals close to the work usually have the best idea of what is needed and its cost, and they tend to own the outcomes.

Bottom up estimates are the common approach for capital projects, particularly at the tender bid stage. The requirement for bottom up budgeting is becoming more prevalent as maintenance budgets are increasingly called upon to upgrade assets to meet new statutes and codes, and to respond to unacceptable risk exposures.

3. The lack of data

In related disciplines, and especially capital works, actual costs are recorded in a form that aids estimating and budget preparation. The budget is probably the most important tool for control of any program, and hence data is vital. Yet many maintenance costs are recorded under Charts of Account that suit the organisation's accountants rather the maintenance manager.

It is vital that the maintenance manager be familiar with their organisation's accounting system, and have a Chart of Accounts that provides useful maintenance budgeting information.

4. Maintaining to a cost or maintaining to a standard?

If management insist on maintaining to a cost, then they should be informed of the implications of their directive. These might be reduced replacement cycles, lower standards, increased risk exposure and so on. Maintaining to a cost allows little scope for contingencies.

Maintenance managers must become better communicators, rather than biting their lip and getting on with the job. "If you can't schmooze, you lose".

5. Lack of rigour

Predicting the scope of maintenance programs is difficult. Problems arise unexpectedly, the extent may be unclear until the work starts etc etc. Hence many maintenance planners say the future workload is unpredictable to a predefined level of accuracy, so give me the same amount as last year, or 2.5% of replacement value or the like. (Translated this means, *just give me a bucket of money and I will do my best*. Management knows this, and is unimpressed!).

NEXT ISSUE

"Managing the Defence Estate"

How the Defence Estate Organisation

- Prioritises its maintenance works
- Uses Life Cycle Costing for Planning and Budgeting
- Keeps costs down with outsourced contracts.

Why should we not apply the same level of effort and rigour to maintenance budgeting that we do to other asset-related control measures? No wonder budgets are treated sceptically by management.

In general, we need to get better data, better Charts of Accounts, better estimating skills etc. Most maintenance managers will groan at the thought but what is the alternative?

And a warning!

As litigation becomes ever more prevalent, maintenance managers will be expected by the courts to identify maintenance needs and argue competently for the resources needed to meet theses needs.