

**Issue 5
1995**

Dr Penny Burns'

ASSET MANAGEMENT QUARTERLY

ideas, contacts, good practice

**Edited and Published by
Dr Penny Burns,
"Pegswood",
21 Lynne St,
Brahma Lodge,
SA, 5109.**

Tel/Fax (08) 281 5795

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THE BACK-PAGE COMPETITION HAS RETURNED!

Editorial.

Lately, I have been reading Taoism - admittedly the easy and entertaining way, through the works of Benjamin Hoff, author of "The Tao of Pooh" and "The Te of Piglet". And it struck me that many of our asset management problems we bring upon ourselves by signing off too quickly to a "right" or "wrong" solution and taking too narrow a focus. Take utilisation for example, as Taoist author Huainan-tse might have put it.....

The Tao (Way) of Asset Utilisation.

In a certain country, the road planners said their extensive country roads were underutilised. "This is bad", said the Treasury. *"How do you know?" said the Asset Manager.*

The planners sought to increase the utilisation by encouraging greater traffic flows and they were successful. "This is good" said the Treasury. *"How do you know?" said the Asset Manager.*

The greater traffic flows led to increased pollution, accidents, and congestion. "This is bad" said the EPA, the Road Users Associations, and the Road Accidents board. *"How do you know?" said the Asset Manager.*

The road planners put in bypasses to move traffic away from country towns. This increased traffic flow and reduced accidents and congestion in the townships. "This is good" said the road planners. *"How do you know?" said the Asset Manager.*

The traffic flow away from the country towns reduced trade in the townships, businesses became non-viable and closed down and the local people had to travel farther afield for employment and purchases..... *Well, you get the picture.*

This issue I have confronted my own utilisation dilemma - more white (buff?) space around the words to make them easier to digest - or a leavening of cartoons by Michael Blazewicz? Typically, I have tried for both. Please enjoy.

Penny Burns

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If you are seeking information on a particular topic or wish to be put in touch with someone with experience of that topic then you may ring or fax (08) 281 5795. If I know the answer I will tell you. If not, I will try to find out for you. And, if all else fails, I will print your request, if you wish, as a "letter to the editor" so that others may assist. This service does not only apply to literature or people either. If you have a problem that you can't solve, you are welcome to write saying (a) what the problem is and (b) what you have tried so far and with what results. Again, if I cannot make a suggestion which gets you over your block, we will look for someone who can.

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Asset Valuation Special Feature

Valuation for Activity Based Costing - *The practical valuation method used by the WA Health Department is efficient, consistent, eminently usable and lends itself to cost effective up-dating. (see page 4)*

The Recoverable Amounts Test - *Is it applicable to your assets? The SCGTE guidelines provide a practical out. Robert Williams of the NSW Treasury explains. (see page 9)*

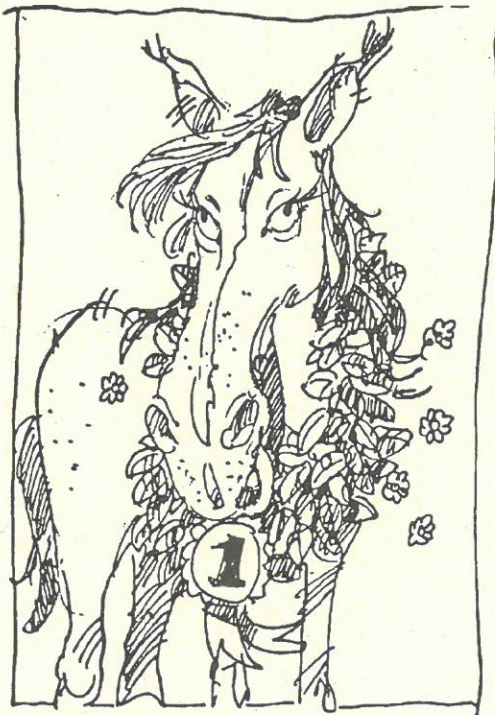
Using your Valuations for Improving Management. *Michael Churchill, Leadenhall Australia, shows how a comparison of Economic Values and Written Down Replacement Costs can indicate areas of management improvement. (see page 5)*

What do We Understand by "Market Value"? *Market value is a concept, not a measurement technique. Understanding this can avoid a lot of the debate over market value versus replacement costing. Malcolm Coleman, General Manager of the Australian Valuation Office, explains. (see pages 6-7)*

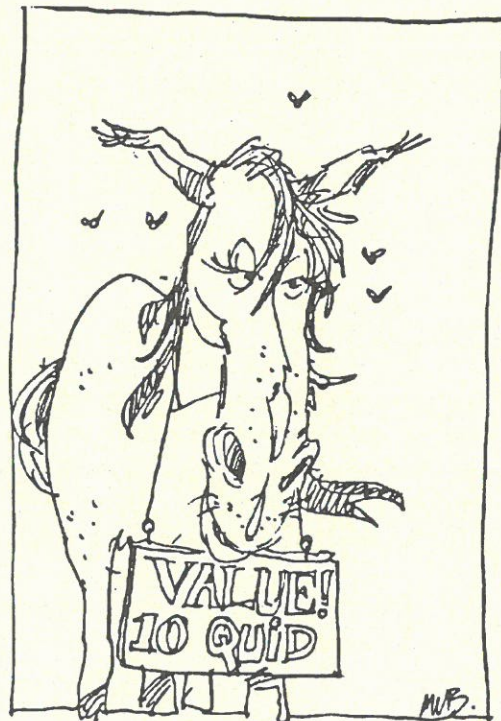
Use it or Lose it! *Are you in danger of losing valuable information? (see page 8)*

Valuing Land under Infrastructure - *Some of the arguments pro and con. (see page 10)*

Value in Alternate Use



At Stud?



At Knackers Yard?

VALUATION FOR ACTIVITY BASED COSTING

Whilst deprival value has now been accepted by many authorities as their general conceptual approach to valuation, there is far less consistency in the actual manner in which the valuation is carried out. Even within the one agency the manner in which valuations are actually carried out can vary considerably. The Health Department of Western Australia, however, is one agency that has adopted a consistent and systematic method of carrying out asset valuations.

The system used by WA Health is to determine a cost per square metre for different hospital functions and, using floor areas, to calculate replacement values. This system is not only consistent but efficient, cost-effective and yields valuable information not generally available with other methods. Initial costs involve updating "as constructed" drawings, which is a valuable asset management exercise even in the absence of their use for valuation. This is a once-off cost. Once done, revaluations are relatively easy, and cheap. (The fact that the valuations can be done in head office without disruption or inconvenience to the hospitals is an added bonus.)

In addition to these cost advantages, this valuation provides information which is particularly useful for activity based costing. Because of this detailed information, WA are in a position to include capital costs in their Casemix calculations. Others, with valuations based on whole of site, are not so fortunate.

How did they do it? Several years ago, after discussion with their Valuer General and Auditor General, the Health Department decided that buildings would be valued on the basis of depreciated replacement capital value, defined as "the current cost to replace an existing asset, less accumulated depreciation for years of service".

To get the current replacement costs, the Health Department grouped facilities of similar cost structures and developed 16 building utilisation categories (BUCs), such as "acute care inpatient nursing facilities", "long term/extended care residential and inpatient nursing facilities" "outpatient service facilities" etc. Small facilities such as nursing posts and community health facilities and district hospitals were addressed as a whole unit, major district

hospitals, regional and metropolitan and major metropolitan hospitals were broken down by building and further broken down by area utilisation. For Teaching hospitals a further breakdown by clinical support category was possible.

Six eminent Perth quantity surveying organisations and one academic were tasked to determine replacement cost values per unit area for each of the 16 categories. Current regional cost indices, which enable conversion of metropolitan costs to realistic country costs, were also determined by each of these groups. This data was analysed to give consistent values for all state health facilities. Where an area of a building (floor or wing) contained more than one BUC and where the smaller BUC consisted of only one or two spaces (eg staff training room or staff toilet attached to a nursing unit), then the BUC applying to the major use was applied to the whole area.

The process adopted for the valuation of buildings involves:

- review and update of 'as constructed' documentation
- categorisation of facilities by nominated rules
- area measurement by nominated rules
- determination of utilisation category square meter costs (\$/m²)
- district allowance adjustment
- RCV determination
- presentation of data in a nominated format
- audit of the process

While the building valuations are carried out centrally using the \$/m² approach, equipment items are valued - again according to strict rules and guidelines - by each hospital, with the information being fed back to the Finance and Assets Branch.

In 1995/96 the department will undertake their first revaluation and will take the opportunity to review the categories established last time to see if improvements can be made.

For further information contact David Cronin in the Finance and Assets Branch, 222 4490

Using Your Valuations for Improving Management

Asset valuations can be expensive -
is the value of the additional information obtained greater than the cost of obtaining it?
Does it genuinely "add value"?

Michael Churchill, Corporate Adviser, Leadenhall Australia Pty Ltd. suggests that an "economic value" can prove a useful reference point when examining written down replacement cost figures.

The economic value of a business can be measured by reference to the market value of the assets or equity where a market exists.

Clearly this captures more than just the value of the assets that the business holds, for it also includes the value of management and staff that are not captured in their salary and related payments. Nevertheless it may be instrumental to compare this economic value with the written down replacement cost.

For example, if:

$$EV < WDRC$$

this may suggest:

- poor management reflecting high operating costs and/or low revenues
- poor investment decisions, reflected in excess capacity or "gilt edged" assets
- a regulatory regime which inhibits achievement of economic value
- inappropriately low accounting depreciation rates
- poor pricing decisions
- unfunded CSOs

In the case where:

$$EV > WDRC$$

this may suggest:

- over-utilisation of engineered capacity
- excessive pricing (potentially through abuse of monopoly position)
- excessively aggressive cash flow projections
- inappropriately high accounting depreciation rates

Where it is possible to calculate EVs - for Government Trading Enterprises - a comparison of the EV/WDRC relationship may provide an extremely productive exercise and can form the basis of a value-based management regime.

(The NSW Government Pricing Tribunal last year undertook an extensive review of the economic value calculations for the 11 NSW electricity distributors as a sign that economic values are a key to pricing policy.)

For further discussion contact Michael on (08) 231 0844

What do we understand by
Market Values?

A conversation with
Malcolm Coleman
 General Manager
 Australian Valuation Office

AMQ: *In the uncertain world of asset valuation, there is one thing that is certain - "market values" are clear, objective and unequivocal, in other words, the truth..... or are they?*

MC: I can see why you may say that. The Australian Institute of Valuers and Land Economists (AIVLE) has adopted the International Assets Valuation Standards Committee's definition of Market Value, which is:

"...the estimated amount for which an asset should exchange on the date of valuation between a willing buyer and a willing seller in an arms-length transaction after proper marketing wherein the parties had each acted knowledgeably, prudently and without compulsion"

But we should not lose sight of the word "estimate" in this definition. For no matter how hard the Accountancy Standards Board, the Australian Securities Commission and various academics and others try, they will not succeed in making the process of valuation an exact science.... If non-current assets are to be accounted for in an entities balance sheet at "market value" then two things must occur. Firstly the market must be identified, and secondly the value of the particular asset in relation to the market must be determined.

AMQ: *What are the major problems in identifying the market?*

MC: Non-current assets can take many forms, but let's look at real property for instance.

- *Some property has a ready market and the real estate columns of the daily newspaper provide numerous examples of this category.*
- *Other properties, however, have limited market potential and because of market conditions, unique features or other factors they attract relatively few potential buyers at a particular time. This is not to suggest they are not capable of being sold, but they may require a longer marketing period than is usual for more readily marketable properties.*
- *Special purpose property, however, due to its specialised nature, has a utility restricted to*

particular uses or users and, as such, is rarely, if ever, sold on the open market except as part of a sale of the business as a "going concern".

Examples typically include oil refineries, power stations, docks, public facilities, churches, etc; and may also include properties located in particular geographical areas for operational or business reasons.

The valuer really must decide which category the property comes into as this will assist in determining the valuation methodology to be used.

AMQ: *What, then, are the the problems of determining the value of the particular asset in relation to the market?*

MC: In the case of market value, the process is dependent on the availability of meaningful data.

Market valuations are generally based on information relating to comparable properties and the process requires a valuer to perform adequate and relevant research, to perform competent analyses, and to draw informed and supportable judgements. During the procedure, the valuer would consider all pertinent market evidence, trends, comparable transactions and other information.

Where market data are limited, or essentially non-existent (as for example with certain specialised properties) the valuer would be expected to make a proper disclosure of the circumstances and should state whether the estimate of value is in any way limited by the inadequacy of the data.

All valuations reflect the valuer's judgement, but reports should disclose whether the valuation is fully supported by market evidence, or whether it is more heavily based upon the valuer's judgement because of the nature of the property and lack of comparable market data.

AMQ: *Market values are sometimes described as "existing use" and sometimes as "alternative use"? Are these both market values and how are they calculated?*

MC: Market Value for Existing Use is a special

application of Market Value and assumes the property of asset could be sold in the market but only for the continuation of the current or existing use. In these circumstances it is unlikely that existing use represents the highest and best use of the property or asset. In these situations the valuation approach generally used is the Depreciated Replacement Cost (DCR) method. DCR is based on an estimate of the current Market Value of the land for its existing use plus the replacement (or reproduction) cost of improvements less due allowances for depreciation and all relevant forms of obsolescence.

would prefer to use the term "highest and best use". The highest and best use concept is an integral part of Market Value Estimates. TIASVC defines it as being:

"The most probable use of an asset which is physically possible, appropriately justified, legally permissible, financially feasible, and which results in the highest value of the asset being valued."

AMQ: Quite an estimating job! Malcolm, thank you very much..

AMQ: I see, that means that depreciated replacement cost (DCR) is used as means of estimating market value when we are looking at existing use.

The Australian Valuation Office in every State Capital is available to provide valuations and valuation advice. Malcolm Coleman is located in the Canberra Office.

Does this mean that "alternative use" is the value estimated by looking at the market?

MC: Rather than referring to "alternative use" I

Will the True Valuation Please Stand Up!

I am indebted to the Australian Valuation Office for the following hypothetical illustration of possible valuation variations!

MONTAGUE ISLAND LIGHTHOUSE

REPRODUCTION	11,500,000
INDEMNITY	3,000,000
DEPRECIATED REPLACEMENT	2,750,000
MARKET - ALTERNATIVE USE	2,500,000
EXISTING USE	1,000,000
RESTRICTED	1,500,000
FORCED SALE	400,000
MORTGAGE	750,000
REPLACEMENT (MODERN EQUIV)	55,000
DEPRIVAL	17,500
NET PRESENT VALUE	NIL

and HISTORICAL COST ---- Eleven hundred guineas!

Use it or Lose it - Do you risk losing valuable valuation

Under accounting standards where assets are revalued, depreciation accumulated since the last revaluation is absorbed in the new estimated of "depreciated replacement" or "market" value. If this new estimate is a site valuation, the current (ie depreciated) value of the asset can be calculated directly without the need to first calculate the total replacement value. However, what may at first sight seem a simplification - since accounting standards do not require the total replacement valuation, only the depreciated value - may turn out to be a problem for managers in general and asset managers in particular.

Only if you have available both the depreciated and total value of assets can the distinction be made between an agency with a large stock of old, and depreciated, assets and an agency with a smaller stock of higher value new assets. Both may have a similar "depreciated" value but the implications for management are vastly different and comparisons between the two are not possible without the more detailed understanding that the total value figures provide.

For example, the agency with the older stock of assets will probably have a higher maintenance: capital stock ratio. It will probably also have a higher operations: capital stock ratio since newer assets tend to be more automated and less labour intensive. Benchmarking comparisons between the two become impossible without the extra information.

While depreciated value is perhaps the best proxy for age and condition of assets, it can not be interpreted without the total value reference point. (It becomes a much better proxy if condition based depreciation methods are used - see seminar page 18).

Another problem for asset managers in the absorption of depreciation into the re-valuation - and the subsequent resetting of accumulated depreciation to zero, is that there is no obvious guide in the accounts as to the future replacement liability.

Also, there is no check on the accuracy of the depreciation allowances. Whether they are overstated because of understatement of economic life or failure to adjust for ongoing renewal, or whether they are understated because of inflation, may never be revealed. The assignment of costs for purpose of cost

allocation or for charging may similarly be without check.

Information may also be lost (or never gained) by the way in which individual values are compiled. This applies particularly to total replacement values. A popular method of valuation is to use "the quantity surveyors approach", or to value the individual elements (floors, walls, doors, electrics, etc) that comprise the total asset. Once the asset has been valued these individual elements serve little further use. An alternative method is the "cost per square metre" approach - which is discussed on page 4 - applied to the various functional areas of a building or facility. Here the end result is the same, but the process calculations also provide valuable information. They tell you, for example, how much space you have allocated to various functions as well as the total cost of each of these functions.

Overcoming some of these problems may require the recording of more information than is required for accounting purposes. *Valuations have more use than simply to complete the requirements of accrual accounting. But if information is not used, it will be lost. All managers, including asset managers, need to ensure that the valuation information they need for management, as distinct from the valuation required for external reporting, is available for their use. You can't afford to simply assume it will be there when needed, or it probably won't be.*

Spot the Asset Management Mistakes !

Accounting problems continue to bedevil managers whether on the side of assets or liabilities. An AMQ reader drew the following news item to my attention. (identifying names have been removed) and asks "When is a Deficit not a Deficit?" - Answer: "When we can borrow to pay for it"!

" A \$900,000 blowout is the Council's budget prediction for this financial year, despite original estimates of a \$6,000 gain. The deficit has been put down to works at the depot, a driveway and roads works for the high school's sporting complex and a property purchase. The three items, totalling nearly \$800,000 were not included in this year's original budget. But the city manager said he was not worried about the blowout because the amount spent on the three major projects could be funded by long-term borrowings. Financing the projects through borrowings would bring the deficit down to about \$200,000. If borrowings were not approved the deficit would be about \$912,500."

THE RECOVERABLE AMOUNT TEST

- The NSW Treasury approach favours commonsense.

In April 1993, the re-issued AAS1010, (Accounting for the Revaluation of Non-current Assets) required, amongst other things, for the assets of the entities to be revalued and shown in the entities accounts. It further stated that the revalued amount must, however, not exceed the "recoverable amount" where this is defined as being "the net amount that is expected to be recovered through the cash flows and outflows arising from continued use and subsequent disposal."

This test has given rise to no end of trouble, not the least because it has equated the value of assets to that subset of service provision that provides a cash return, thus ignoring the vast area of public sector and statutory authority service provision which is non-cash oriented or is subsidised.

Robert Williams, Principal Accounting Policy Analyst, points out that NSW Treasury, in reflecting the Guidelines of the Steering Committee on National Performance Monitoring of Government Trading Enterprises, is making a determined attempt to make

some sense out of what is, potentially, nonsense.

He says: "Where the service potential of an asset is dependent on its ability to generate net cash inflows, an agency's management would not normally replace the service potential embodied in the asset if the net benefits expected to be derived from the cash flows generated by the asset are less than the replacement cost of the service potential. Under the National Performance Guidelines, those assets falling within this category are to be measured at the lower of written-down current cost and recoverable amount.

However, the service potential of an asset is not considered to be dependent on its ability to generate net cash inflows *if an agency is required by the government, ministerial directives or legal/administrative requirements to continue to provide the services which the asset assists the agency to provide.*

Where such a requirement exists, the agency would always replace the service potential embodied in the asset if deprived of it. These assets are to be measured at their written-down current cost and the recoverable amount test need not be applied *even though the agency may be regarded as a profit seeking entity.* [Ed: Robert notes that this particular approach is at variance with the AAS10. Maybe so, but it is a step in the right direction. Now, we need a way to determine whether the net present value of community benefits is sufficient to justify the ministerial directive!]

Robert may be contacted on (02) 228 4001



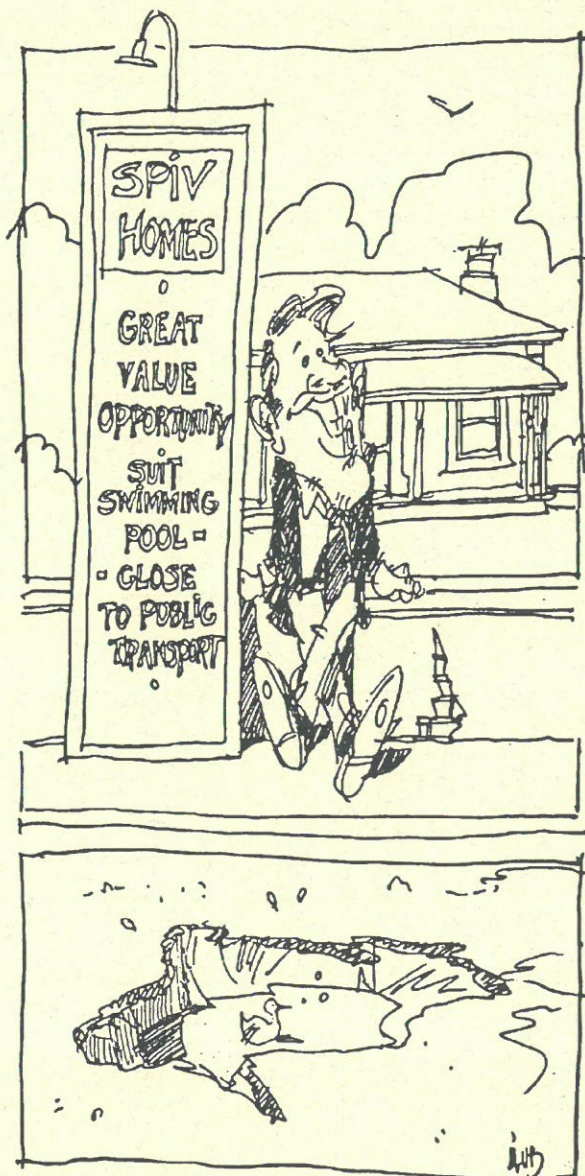
"How much did we get?"

"Do you want the total value - or just the recoverable amount!"

Valuation of Land under Infrastructure.

Do we or don't we? *The Queensland Auditor-General qualified the books of the Brisbane City Council for including for the first time Land under Infrastructure (ie Roads) at a value of \$7.724 billion. "In my opinion, due to the fact that there is no reliable basis of placing a value on the asset and there is no general consensus of view within the accounting profession and local governments which conclusively settles the alternate use issue, I am unable to support the view that land under roads should be recognised in value terms in the State of Financial Position or the Operating Statement."*

On the other hand the view of the NSW Treasury, and the GTE Committee, is that land under infrastructure, as with other assets, should be valued and that it should be valued according to the deprival theory. *As Russell Balding, General Manager, Finance, Roads and Traffic Authority, NSW, points out. "You can't put down a blacktop on thin air and if you have spent \$60 million in acquiring land for the purpose of constructing roads, it looks like particularly bad management if, at the end of the day, that \$60 million is valued at a nominal dollar!"*



Accountability would thus suggest that land under infrastructure should be valued, but at what value?

Malcolm Coleman, General Manager of the Australian Valuation Office, Canberra, is in favour of the nominal dollar approach. Not only does he recognise the incongruity of valuing the land under roads according to the value of neighbouring land (land which would not have that value if the road were not there!) but the real problem its impact.

"The value attributable to land under roads has the potential to swamp local government authorities balance sheets",

he says, pointing out that according to the statistics of the Office of Local Government in Victoria, the inclusion of land under roads for a number of the councils had the effect of increasing their asset values by 300 to 400%. In these councils, land under infrastructure represented almost three quarters of their total asset values.

What do you think? *As asset managers should we, or should we not - value land under infrastructure. If we should, then how should we do it? And what will be the improvement in asset management? Letters to the Editor, AMQ, on this subject are welcome for the next issue (by June 10th please) to Fax # (08) 281 5795*

WHAT DO ASSET MANAGERS DO? - DATA FILTERING
--

Although, as asset managers, we constantly bemoan the lack of information, the reverse is often the case - we have too much, or rather, the wrong kind.

- . We do not want to have operating data on every single asset presented every day - *just the ones that need attention.*
- . We do not need the economic life of every single asset on a regular basis - *just those that are approaching a decision point.*
- . And we do not need to know every asset failure, - *just those that are the result of a particular cause, or which can be addressed by a particular cure.*

In other words, we need a way of filtering all of the data that is available, so that the data does become, indeed, information.

Designing data filters is a matter of understanding the operational boundaries beyond which a selected item of data becomes significant. (cf the work done in establishing self monitoring processes under TQM)

It may not matter if an airconditioning plant occasionally malfunctions, but if it is in a significant area - eg a surgery - or if the malfunctions are related to certain operating or other conditions, then it becomes significant. The Asset Manager has to determine the critical areas and the critical ranges. These are the operational boundaries.

Consider the problem of a housing authority deciding which stock to consider for sale - it may institute a series of gross filters (where simply membership of the class is sufficient to include or exclude the item from consideration) and a set of finer filters (classes of items that may or may not be included in the set depending on their response to key questions).

Examples of gross filters, in this case, might be (automatic exclusions)

- newly acquired stock
- heritage stock not subject to sale
- stock managed for others
- and (automatic inclusions)
- stock of a type in low demand
- stock in an area in low demand or marked for redevelopment

Secondary level finer filters might include maintenance levels, yields, turnover rates, vacancy rates, etc. where the figures would be compared against reference benchmarks to determine whether the asset was included or excluded.

The design of data filters for such decisions as repair or maintenance; sale or retention; maintain or upgrade; extend or replace, et., is part of the work of the practicing asset manager.

Page 13 reports on some data filtering for failure forecasting in underground pipes that may have wider application to other asset types.

For Your Bookshelf

Managing Community Assets in Local Government. By Bill Russell and Graeme McMillan. Montech Pty Ltd. Melbourne 1992

The authors, Professor and Senior Lecturer at the Public Sector Management Institute, respectively, were asked by the City of Wangaratta to develop a model which measured all costs and benefits of holding and using community assets, including the measurement of economic and social costs and benefits in addition to valuations for accounting purposes; a model which could be used as a basis for developing appropriate pricing policies. This book is the result.

To start, the authors classify local government operations and associated assets into three distinct categories, viz

Core - those functions which must be supplied by councils to the community as a whole without restrictions (*public goods*),

Expected - those functions which are not mandatory, but which communities believe should be provided by their councils, and are generally not provided by the private sector (*merit goods*).

Commercial - those functions conducted by councils only for the purpose of earning profits (*private goods*).

The academics amongst you will enjoy the introductory chapters that set out the authors' strategic asset management model, the link between community services, assets and pricing, the pricing of community goods and services, community assets in local government and the chapter on linking revenues, costs and pricing. The latter usefully distinguishes between *universal taxes and revenues* (ie not related to specific usage of council assets or services) such as rates, or grants received from another government, *user pays revenue* for example, fines on overdue library books, access fees to halls, and *market revenue* which is defined as those prices charged for commercial operations. Perhaps of even more benefit, however, is the discussion on what constitutes a cost.

If all of this seems a bit esoteric, do not give up - you will enjoy the six case studies in which the authors apply their theory to actual instances in the Wangaratta Council.

The principles and examples in this book can be usefully read by all asset managers, those at the State, Federal, research and private levels, as much as by those in local government. You may not agree with everything that has been written, but you will probably be stimulated by it.

The book also has a set of useful appendices, including a short bibliography. At 98 pages of main text, the main theme can be absorbed relatively easily.

Recommended. Contact the authors or Montech Pty Ltd at (03) 558 6222 or the Public Sector Management Institute on (03) 650 2500.

Academic Research

The RMIT are currently involved in some productive work in data filtering for failure analysis in underground pipes.

In AMQ issue 3 we reported work being carried out on condition assessment of buildings. Buildings have an advantage over underground pipes when it comes to condition assessment - they are visible. Digging up water and sewer pipes for condition analysis, on the other hand, is an expensive, disruptive and damaging exercise.

Alternatives to visual assessment are therefore keenly sought and a recent workshop organised by the RMIT's Civil Engineering Department to examine statistical methods of condition assessment based on failure analysis was attended by representatives of almost every water authority in the country. *Although aimed particularly at water pipes, the data filtering techniques are applicable in other areas.*

The analysis of the "time to first failure" showed that pipes from different geographical areas nevertheless had rather similar log linear curves. These curves showed a short and steep first section followed by a long section that was relatively flat.

The first section represented failures caused by manufacturing defects. These tended to show up in less than four years. After this failures tended to be caused by corrosion rather than design faults. (It is noted that a similar pattern can be seen in most infrastructure, roads, buildings, etc where initial failures are almost always design failures whereas later failures are predominantly through wear and tear.)

Overseas research has shown that corrosion alone gives rise to smooth decay curves. The corollary is that failures which lie "off the curve" must be considered to be due to causes other than corrosion - for example accidental damage or water hammer effects. It is the task of the data filtering work by the RMIT and their colleagues in Melbourne Water to identify and explain these failures.

This research programme has been undertaken on behalf of the Melbourne Water Corporation under the Exchange Agreement between the Royal Melbourne Institute of Technology and the Ecole Speciale des Travaux Publics [Special Public Works College, (Paris)] by

. Rodolphe Minetti, an engineer with Australian Water Services and a RMIT Master Student, AWS, GPO Box 546, Sydney NSW 2001 (Tel: 02 299 1955, Fax: 02 299 1978)

. Ken Mavin, Associate Professor, Civil Engineering, RMIT. RMIT Civil Engineering Dept, GPO Box 2476V,

Melbourne, Vic. (Fax: 03 639 0138)

. Gary McLay is Manager, Asset/Investment Analysis and Asset Business System, Melbourne Water, 625 Little Collins St, Melbourne, 3000. (Fax: 03 615 4104)

. Dr Daniel Kildea is a Lecturer, Mathematical and Statistical Dept, RMIT. RMIT Mathematical Dept, GPO Box 2476V, Melbourne Vic 3001 (Fax: 03 663 4113)

By combining the failure data with GIS modelling, the team expects to be able to explain a lot of the filtered data by reference to such factors as soil types, whether the pipes are in industrial zones, or other factors that may be geographically explained.

Determining the Economic Consequences of Failure is the next stage of the research. The RMIT are currently conducting a survey examining different economic criteria for replacement.

One reasonably common criterion for action is to set a limit to the number of breaks per pipe length per period. But the location of shut off valves which determine the area cut off from water supply while the break is repaired (the "shut off block") may be a more significant determinant of service interruption. A study of how many - and which - customers (eg a hospital) are in an affected shut off block may be a better indicator of the economic consequences than the costs of repair.

Participants are now considering how to make better use of available data and how to combine what information there is for different areas when the information is of differing degrees of completeness and reliability. The opportunities for data aggregation have increased with council amalgamations.

An issue raised at the workshop, which will be of relevance to all asset managers, is the change in the quality of information that might occur under outsourcing. Where a company is employed on the strength of its ability to maintain a system, there could be a built-in disincentive to correctly report faults which are due to poor repair workmanship, ascribing them instead to other causes.

A follow up workshop is planned for May. For further information,, contact Prof Ken Mavin on (03) 660 2826

The Focussed Asset Manager

(for which Kenneth Blanchard and Spencer Johnson "The One Minute Manager" have had no responsibility whatsoever, but I kind of hope they would have liked to.)

Dr Penny Burns, Editor, Asset Management Quarterly

This is a modified version of the article that appeared in the "Engineering Edge" of Nov 94.

Once there was a bright young man who was looking for an effective asset manager. He wanted to work for one. He wanted to become one. He had searched far and wide and spoken to many people.

He had spoken to finance officers who had told him about valuing assets and keeping good asset registers and the young man could see that a good information base was important but he thought there was more to asset management than that.

He had spoken to maintenance engineers who had emphasized the importance of ensuring that assets were maintained so as to minimise the long term cost. The young man could see that life cycle costing was important, but he thought there was more to asset management than that.

He was beginning to think that he was on the wrong track, when one day he heard of a council, not far away, that was providing excellent service. It kept in touch with the community and introduced new services when required, withdrawing old ones as they were no longer needed and although its rates were not the lowest, they were certainly in the low bracket. The community spoke highly of their council which, they said, was both responsive and responsible.

The young man became excited. Surely here he would find the kind of asset manager that he had been looking for. The young man arranged to see the AM on the following day and arrived promptly at his office. He was greeted in a relaxed manner. "What can I do for you, young man?"

"Well sir, I have spoken to asset managers who have explained to me the importance of asset valuations and having good asset registers, and I have spoken to asset managers who have stressed the importance of minimising the life cycle costs of assets by appropriate maintenance and I can see that they are important but I think that there must be something

more - it's just that I don't know what it is"

The AM smiled, "Your instincts are right, young man, finance and maintenance are extremely important, but without a proper focus neither can be deployed to full advantage." The AM noted the puzzled frown on the young man's face so he said, "If you go on holiday and you have no idea where you want to go or any idea of how to get there, what do you suppose might happen?"

"I guess I would just wander around, doing a bit of this and a bit of that until it was time to go to work again", the young man replied.

"Now, if you had made up your mind to go to a particular place and you had planned how to get there and some of the things that you might do when you were there, do you think you would have a better holiday?"

"Much better, I wouldn't waste my time, I would be able to achieve something."

"Well", said the AM, "it's pretty much the same with asset management. Many asset managers just wander around fixing this, preserving that, cutting the costs on something else, but they don't have a plan and they don't have a clearly defined aim. We have both, and that gives us our focus. It's what makes us successful."

"How does it work" asked the young man

"First of all, we recognise that it's not assets but services that interest our ratepayers, it's not whether we have a state of the art lawnmower, it's whether we keep the grass cut. "

"But they don't want to pay a lot for it!" exclaimed the young man. "No, indeed," replied the asset manager, "That's why we have a plan that enables us to provide our services at the lowest possible cost - and we are always looking for ways to increase the service and reduce the cost even further."

"So focus is knowing what your customers want - and having a plan for providing it at the lowest possible cost?" said the young man, writing it down in his notebook.

"Spot on!" said the AM, "For each of our major assets, we have clearly defined service objectives. For example, the objective for the road network in the town centre is

to maximise access for local traders during working hours. Knowing this helps determine our asset management strategies - for example in the town centre we try to do road servicing of a weekend, or of a night wherever possible."

"But doesn't that cost more?"

"Depends. But how do you measure lost trade? We try to consider their costs as well as ours."

"I see, so the service objectives guide both your maintenance and your financing strategies; they are inter-related. I can see that having this sharp focus on what services your assets are meant to achieve would help a lot. But you mentioned plans, how do you do these?"

"Glad you asked, they are the key to our asset management work here. We prepare detailed ten year forward maintenance and management plans."

"Ten years?" gasped the young man.

"Certainly, how else are we going to manage our long living assets? Each major asset group has its schedule of forward cash flows determined by our best estimate of what will be needed to be done and when in order that we can achieve our service objectives at least cost."

"Doesn't that lead to exaggerated wish lists?" asked the young man, doubtfully.

"Not here. Each schedule is underpinned by an explicit statement of the assumptions that underlie it. We ensure that assumptions in each of the asset strategies is consistent with the group objectives and with each other. When we need to, we call in outside experts. The Asset Strategies are the key to management here and we make sure we get them right, or at least as right as we can manage given natural uncertainties and variations."

"But what if there is not enough money to do everything you want?" persisted the young man.

"That's where the Asset Strategies really become useful. The assumptions tell us the likely consequences of not doing the activities listed so we can use them to determine what gets priority. Before we had these strategies we would cut expenditures on whatever seemed easiest - but that nearly always led to a fall off in service and large expenditures later. We were just reacting. Now we are managing."

"But asset requirements are to some extent unpredictable, what if you said you would do something, but had to do something else?"

The AM smiled. "That was our major concern at first; it was all very well putting down our best guesses and costing them out - which is, after all, what the plans are - but there is always the unexpected. However, accountability in this organisation doesn't mean doing exactly what was on the plan - it means justifying any moves we make away from it! We have learned a lot by looking at where we deviate from the plan and why - and as a result our planning is getting a lot better."

"Still, ten years is a long time, is it really necessary to look forward that far?"

"It gives us action time." The AM said simply. "When you know that you have a large expenditure next year, all you have time to do is to think of how to raise the money, but when you have five or ten years, you have time to do market research on whether the asset services will still be required, and if so, to ask if they can be supplied in some better way."

"Thinking of better ways of doing things seems to be the key to your success as an asset manager" said the young man thoughtfully.

"Yes, and we are fortunate in having available to us several excellent manuals and guidelines". He showed the young man the work of the IMEA and the Total Asset Management Guidelines from NSW. "But this is a developing area. What is good today will be only average tomorrow."

The young man was smart enough to know that "knowing what" is only part of the answer. He also needed to "know who", in particular he needed to know who other asset managers were and what they were doing. This was a new field and he was sure he could benefit from the thoughts of others, if only he could find the right ones. He could go to conferences and workshops where he might meet other asset managers. But he did not have much spare time and travel and attendance cost quite a fair bit. *There had to be something more...*

and there is, of course, it is the networking and information service of the Asset Management Quarterly! Like all good stories, this one has a happy ending. The young man discovered the AMQ and was on his way to asset management success!!

For the New Asset Manager - Total Factor Productivity

Asset Managers can contribute to better TFP results by improving the capital measures

What it is - A measure of efficiency.

Labour productivity relates the total output to one type of input - labour. Capital productivity relates total output to one type of input - capital. Both of these are *partial* indicators. (So too, is rate of return which relates profits to capital) *Total Factor Productivity is an attempt to relate outputs to all of the inputs. If efficiency is increasing, outputs will grow more rapidly than inputs.*

How to measure it - Aggregate Outputs over Aggregate Inputs

The methodology adopted by the Urban Water Research Association of Australia in its Research Report No. 65 "Measurement of Total Factor Productivity in Major Water Utilities: Melbourne Case Study" (Sep 1993)¹ is as follows:

All inputs are measured in constant dollars.

All outputs are measured in physical units (megalitres of water etc), weighted according to cost in a base year.

If outputs, so weighted, rise more rapidly than inputs, total factor productivity has increased.

The big issue, and the area where the asset manager may input into this management tool, is through the provision of *capital input usage* figures. This should be the amount of capital "used up" in production in the period under consideration, ie depreciation (expressed in real terms).

An engineering estimate of actual (condition based) depreciation may be more relevant than an accounting estimate which does not reflect actual operating conditions. In any case, depreciation is the appropriate concept. (In the Melbourne Water

case study, a 4% rate of return is used as the capital usage input. This is the "opportunity cost"

of water - although some may argue that is a rather low figure for a true opportunity cost. But it is inappropriate to use *any* rate of return since what we are trying to measure in the TFP approach is *a rate of return on all assets*. To input a rate of return for one element is assuming what you are trying to measure. It is also likely to overstate the level of capital input and thus understate the real TFP.)

How to use it - As a performance measure

As a performance measure it can be disaggregated and applied to different functional areas within the agency. The UWRA study also makes a distinction between current operations and the productivity of long term capital. Productivity in current operations relates all industry outputs, adjusted for quality of maintenance indicators, to current inputs. The productivity of long-term capital relates all industry outputs, but not maintenance outputs, to the input of long term capital. Total factor productivity relates all industry outputs to all inputs.

Some of the problems involved such as the determination of which weighting to give to the outputs (ie a weighting related to cost in the base year, or to their cost in the current year) and how to adjust for changing quality of outputs, are not strictly the domain of asset managers, but the issue of the measurement of the true level of capital input as a usage figure surely is.

Asset managers may care to read the Melbourne Water Case (approx 50p plus tables) for an overview of the issues involved. Available from Executive Officer, Urban Water Research Association of Australia c/- Melbourne Water, GPO Box 4342, Melbourne 3001. Tel (03) 615 5816; Fax (03) 615 4408.

and the Steering Committee on National Performance Monitoring of Government Trading Enterprises (1992) "Measuring the Total Factor Productivity of Government Trading Enterprises", AGPS, Canberra, available from Government Bookshops.

CONTROVERSY CORNER**Two Major Accounting Boards are to Merge. Will this advantage or disadvantage Asset Managers?**

Professor Terry Bishop, Head of the School of Accounting, Charles Sturt University, Bathurst, has expressed some doubts over the wisdom of the projected merger of the Public Sector Accounting Standards Board (PSAB) and the Australian Accounting Standards Board (AASB).

Speaking at the Estate Management's Canberra Asset Valuation Seminar, Professor Bishop referred to the supposed similarities between the two bodies which gave rise to the efficiency of the merger.

"A cat and a dog have a significant number of similarities but I am yet to see a dog climb a tree or a cat chase a car! Their dissimilarities are more important than their similarities.

Likewise fundamental differences between the public and private sector must be at the forefront in the discussion of accounting issues. These essential differences should not be allowed to be dismissed or discounted by those who approach such issues on the basis of similarities between the two sectors."

He raises an important point, which is especially relevant to the issue of asset valuation. **What are these fundamental differences?** Possibly there are basically three (and no doubt many variations on these three):

1. The public sector has many assets that provide a service for which there is no clear "bottom line" or cash payment.
2. The public sector has many assets - infrastructure assets - which have very long lives because they are essentially not replaced in their entirety, but instead renewed.
3. The public sector does not enjoy the same benefits as the private sector from upside risk thus it tends to slant all of its risk management practices into protecting against downside risk.

Trying to adapt private sector accounting practices to cope with these differences has led to some incredibly heavy handed accounting treatment - perhaps most clearly seen in the area of depreciation. But is the public sector unique in the three characteristics above? Private sector companies also have assets which provide non cash services, services which are provided because the companies like to consider themselves responsible citizens. They may lead to long run profit maximising or they may not. It is hard to tell. And even harder to measure. Private sector companies also have infrastructure type assets and could benefit from work done in the public sector to deal with these, such as condition based depreciation. And of course, companies vary greatly in their exposure to risk and in their attitudes to risk.

So perhaps both private and public sectors can benefit from considering the problems of the other, not as "other's problems" but as "our problems". It is to be hoped that the merger of the two boards will not lead to a wholesale importation of existing private sector practice but a re-examination of that practice. Then we would all benefit. Your comments welcome. Are you for or against the merger? And why - from the aspect of asset management? Comments for next issue are very welcome but need to be received by June 10th. Fax to (08) 281 5795.

Does Your Asset Management have a Split Brain?

*Technical information
on one Side,*



*Accounting
on the Other*

- and a great gulf in between the two?

Then consider the value of the unifying effect and synergies of

**Asset Management Plans and Condition Based
Depreciation**

Seminar June 6th University of Melbourne (see opposite)

CBD is a method of depreciating infrastructure assets, using Asset Management Plans, to provide a more accurate, credible, useful and ultimately cheaper measure of depreciation that reflects the asset's condition and performance. It is gaining increasing application and interest around Australia.

Come and speak with

THOSE WHO ARE USING IT:

Russell Balding, Director of Finance, Road Traffic Authority, NSW.

David Watson, Manager, Assets Assessment Branch, Office of Water Reform, Victoria

THOSE WHO CAN TELL YOU HOW TO USE IT:

Accounting and Auditing Technicalities: *David Hope*, Principal Consultant, Skilmar Systems Pty Ltd and Chairman, Public Sector Accountants Group

Engineering and Practical Technicalities: *Roger Byrne*, Asset Management Consultant, Gutteridge Haskins and Davey, Victoria.

AND THOSE WHO ARE LOOKING AT ITS WIDER APPLICATIONS:

Helen Marsden, Manager, Estate Management Branch, Department of Urban Services, ACT. who will talk about a pilot study examining the application of CBD to the ACT building stock.

and a **PANEL DISCUSSION** to consider potential applications of Asset Management Plans and Condition Based Depreciation for

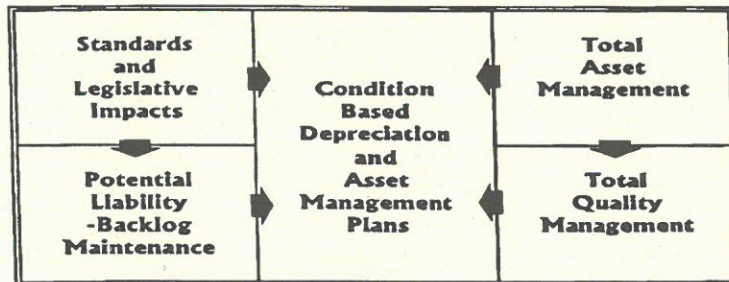
Casemix funding for hospitals

Outsourcing of maintenance and operations, etc.

An Holistic Approach to Better Building Asset Management

*the NCRB Building Asset Management Conference '95
Monday 5th to Wednesday 7th June 1995
at the University of Melbourne*

Recognised Industry leaders present current practice and future directions



Five Interlinked Seminars and a Networking Dinner - Value at \$475!

Standards and Legislative Impacts (Convenor:

Dr Frank Bromilow, Chairman, BAMC SubCommittee)

The Owners Experience/Responsibilities - Cost v Benefit.

Bill Humble (Director Buildings and Grounds, University of Queensland)

Australian Building Codes Board (ACRB) - *Philosophy and Practice. Nominee ABCB.*

The Fire Code Reform Agenda - What/How/When/What Benefits. *Vaughan Beck, Victoria University of Technology*

Potential Liability - Backlog Maintenance (Convenor: Dr Selwyn Tucker, CSIRO Division of Building Construction and Engineering

Management and Credibility Issues in Backlog Maintenance. *Selwyn Tucker, CSIRO*

Measuring Maintenance Backlog Liability. *Frank Bromilow. FJ Bromilow and Associates*

Discussion and Panel Segment

Condition Based Depreciation and Asset Management Plans (Dr Penny Burns, Editor, Asset Management Quarterly)

(see opposite page)

Total Asset Management (Convenor: Mike Hefferan, Director, Asset Management, Department of Administrative Services, Queensland.)

Keynote Address by Barry Nicholls, *Secretary, Department of Planning and Development Victoria and Chairman, National Public Works Council*

Introduction to Service Delivery and Asset Strategic Planning, *Jeff Powys, Public Works Department, NSW.*

Implications for Public Works. *Alan Buckley, Building Management Authority, Western Australia.*

Total Quality Management (Convenor: John Hull, Knight Frank Hooker)

Driving Quality into an Organisation, *Graham Peck, Managing Director, Pacific Quality Services*

The Process of Continued Improvement and What's In It for You. *Norbert Vogel. General Manager Development. Australian Quality Council.*

Driving Quality into Maintenance. *David Pullen, National Manager of Technical Operations, Knight Frank Hooker.*

The Back Page Case Study Competition

This puzzle is in two parts. To each part answer Yes or No, and give your reasons in 25 words or less. (That is a maximum of 52 words per response). Reward for effort will be our usual six bottles of premium SA reds for the person (or persons) who provide the most appropriate and well thought out responses.

In addition, all responses will be eligible for the draw for a personal complete copy of 1994 AMQ or a personal complimentary subscription for 1995. So be in it and win it!

Part (a) The Acme Airline Company has invested 10 million dollars of the company's money into a research project. The purpose was to build a plane that would not be detected by conventional radar; in other words, a radar-blank plane. When the project is 90% completed, another firm begins marketing a plane that cannot be detected by radar. It is apparent that their plane is much faster and more economical than the plane Acme is building. The question is should Acme Airlines invest the last million dollars of its research funds to finish the radar blank plane?

Part (b) The Acme Airline Company is considering a suggestion by its top research scientist. The suggestion is (building upon work already done for another project) to use the last one million dollars of research funds to build a radar blank plane. However, another firm has just begun marketing a plane that cannot be detected by radar. It is apparent that their plane is much faster and more economical than the plane Acme Airlines could build. The question is should Acme Airlines invest the last million dollars of its research funds to build the radar-blank plane?

Don't forget, answers are required to both parts. Yes and No and up to 25 words of explanation for both. Even the busiest asset manager surely can find time for 52 words, so I am hopeful of lots of creative entries! Fax by June 10th to (08) 281 5795

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