

**Dr Penny Burns'**

# **ASSET MANAGEMENT QUARTERLY**

**ideas and networking guide**

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Editorial Review Panel: Roger Byrne, GHD, Melbourne and Tom Crow, TW Crow Associates, Sydney.

## *The Engineer in Asset Management*

**Engineers who have traditionally focussed on new construction are finding much scope for their skills and expertise in THE MANAGEMENT OF EXISTING ASSETS.**

### Technical

- ◇ Assembling data about historic performance of assets in a way that can be used for planning and decision making
- ◇ Identifying key am drivers (eg congestions, availability, reliability, etc.)
- ◇ Identifying critical assets and developing maintenance and management strategies
- ◇ Developing improved methods of inspection, condition assessment, and residual life of significant elements. (*cf p.25 on economic lives*)
- ◇ Developing mechanisms to link asset condition monitoring into future planning
- ◇ Prolonging the *economic* (not simply the *physical*) life with properly engineered rehabilitation and not just band-aid measures
- ◇ Developing realistic programs for timely replacement- some assets may be replaced early and others late so as to smooth resource inputs where this is cost effective
- ◇ Forecasting deterioration of an asset's ability to meet service goals
- ◇ Improving techniques for measuring the impact of tradeoffs between maintenance and replacement, including criticality analysis and risk management

### Managerial

- ◇ Managing the demand for assets through better utilisation, risk management, alternatives to asset use and more accurate service demand forecasting
- ◇ Identifying key service quality drivers (eg road roughness, waiting times)
- ◇ Developing Long Range Asset Management Plans
- ◇ Re-assessing and agreeing reasonable standards of (*using techniques such as "demand gap analysis" described in AMQ2, p 3*)
- ◇ ensuring best technology with respect to prime cost and life cycle cost is developed and available for Australian conditions<sup>2</sup>
- ◇ Ensuring new assets are built for appropriate durability so that life cycle costs and the eventual impact of their replacement cost is minimised.

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<sup>1</sup> My thanks to Roger Vass and Steve Brown, whose addresses to the Infrastructure Replacement Seminar (see editorial) inspired this, and to John Howard, Chief Engineer at Devonport City Council who helped me refine it.

<sup>2</sup> An introduction to the "big picture" use of life cycle costing for understanding asset management is currently in production as a Special Issue of the AMQ and will be issued shortly.

**Financial**

- ◊ Being aware of financial reporting and accounting procedures
- ◊ Encouraging the adoption of more realistic and appropriate financial policies, especially with respect to condition related rather than straight line depreciation and valuation
- ◊ Developing Valuation techniques that lend themselves to activity based costing (see AMQ5, p.4)
- ◊ Committing resources and starting the initial steps of planning inspection, assessment and monitoring the infrastructure even for those whose performance currently seems satisfactory

**Customer Orientation and Communications**

- ◊ Minimising disruption to service or to the locality. (Night work to avoid disruption to trade need not necessarily cost more, cf AMQ1 p8)
- ◊ Developing methods of communicating information about asset management to decision makers and the community.

Developing personal communication skills

**Just for fun - Try your hand at the  
"ABC of Engineer's Asset Management Involvement"**

A = Acquisitions, availability, alternatives to construction	N =
B = Benefit Cost Analysis	O = Operations
C = Condition Assessment	P = Post completion reviews, performance, planning
D = Disposal, Down-time, data collection, demand management	Q = Quality Control
E = Environmental Compliance, estimating asset lives	R = Refurbishment, rehabilitation, reliability, registers, residual life analysis, and risk management
F = Fieldwork, Forecasting Deterioration	S = Strategic asset management, service criteria
G =	T = Technical analysis, terotechnology
H =	U = Utilisation
I = Inspection, identification of key drivers	V = Valuation, engineering based and Value Management
J = Judgement	W =
K =	X =
L = Lives, Life extension, life cycle models	Y =
M = Maintenance; monitoring	Z =

Can you fill in the blanks?

## © *Asset Management Comparisons - Australia, United States, United Kingdom*

Dr Seek's JLL Advisory research shows a greater level of outsourcing of asset and property functions in the United States than in Australia or the United Kingdom.

Dr Seek makes the distinction between 'Portfolio-wide or Strategic Asset Management' and 'Asset Management in a more limited sense, reporting to portfolio management and responsible for a major asset or group of assets of a particular type or in a geographic area. Both of these are *strategic*. Then there is property management which is *operational* (responsible for maintenance, tenant relationships, security, income and cost administration)

### **In Australia, Dr Seek says,**

- Asset management is undertaken in-house by institutions and fund managers and is considered to be core business.
- Smaller funds are starting to seriously consider outsourcing the property asset management function to specialists.
- Functions of portfolio and asset managers are often combined, depending on the size of the property portfolio.
- In the larger organisations office property management tends to be undertaken in-house for either the whole or a part of the office portfolio. There is a preference to manage "trophy" assets in-house.
- Smaller fund managers rely heavily on outsourced property management.

Function	Australia	United States	United Kingdom
Portfolio/Strategic Asset management	In-house, limited outsourcing	Outsourced to asset consultants who also advise on appointment of asset managers	Usually in-house
Asset Management	In-house	Outsourced to realty advisors	Either in-house or outsourced
Property Management	Mixture of in-house & outsourced	Outsourced to management firms	Either in-house or outsourced

### **© Strategic Management.**

Speaking with Dr Seek after his session, he emphasised the importance of separating asset and property management. If this is not done, he says, day to day property management issues tend to crowd out strategic management. Some organisations choose to overlap some aspects of asset and property management, even though the functions are largely separate. It is important to view both holistically, good property management can add value to the asset, but the decision making and processes involved in strategic management and operational management need to be separated for full effectiveness. *For a copy of the full report contact JLL Advisory in your State.*

FOR ANOTHER VIEW ON INTERNATIONAL PROPERTY MANAGEMENT COMPARISONS, you may care to see the Report to the Chairman, Subcommittee on Water Resources, Transportation, Public buildings and Economic Development, Senate Committee on Environment and Public Works, entitled "Real Property Management - Reforms in Four Countries Promote Competition." Published Sep 1994 by the US General Accounting Office. Probably most easily available through your library. The 4 countries are Australia, Canada, UK and Sweden. *Thanks to Helen Marsden, Manager, Estate Management, ACT, for drawing this to our attention.*

© J L W Advisory.  
*'Changing Approach to Asset Management'*

JLW Advisory's commissioned "leading edge" research in Asset Management and Benchmarking was presented to the BOMA Conference in Adelaide last month by Dr Ngee Huat Seek and David Dickinson. In his plenary address, Dr Seek emphasised the strategic nature of asset management and considered the impacts that have led to a change in focus for asset management in recent years. Material added in *italics* only confirms the general direction that Dr Seek is indicating.

<ul style="list-style-type: none"> <li>• A Severe property downturn at the close of the 1980s forced many organisations to reduce their exposure to property and downsize their property divisions. This downturn provided an initial catalyst for change which has gathered momentum since. Changes have included:</li> </ul>	<ul style="list-style-type: none"> <li>• Cost constraints forced organisations to review their approach to managing property assets and how services were provided and priced. It also encouraged governments to pursue the sale of assets. Many areas of government have been growing more slowly and in some cases office property needs have contracted.</li> </ul>
<ul style="list-style-type: none"> <li>• Increased pressure to justify the role of property in investment portfolios leading to the need for greater rigour and new technical skills.</li> </ul>	<ul style="list-style-type: none"> <li>• There has been greater scrutiny of balance sheets. Property makes up 15% to 20% of total assets and underutilised or undervalued property became an obvious area to improve corporate performance.</li> </ul>
<ul style="list-style-type: none"> <li>• Shift in focus for maximising investment performance away from the creation of new assets towards more proactive approaches for enhancing existing asset performance.</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Recognition of the ongoing costs of assets and the need to renew and refurbish have shifted attention away from the creation of new to the extension of life of existing assets. Adding to this is the restriction in global borrowing limits which has limited capital expansion.</i></li> </ul>
<ul style="list-style-type: none"> <li>• The need to view property as a tradeable commodity rather than as a long term investment.</li> </ul>	<ul style="list-style-type: none"> <li>• Captive tenants have become more sophisticated especially as the property down-turn revealed opportunities to improve their accommodation. <i>Decentralisation in some government departments has also led to the recognition of accommodation and property services as of limited duration rather than permanent.</i></li> </ul>
<ul style="list-style-type: none"> <li>• An expansion in the universe of property investment and ownership products.</li> </ul>	<ul style="list-style-type: none"> <li>• A changing core business environment of some corporate and government users as a result of competition or technology had direct implications for their property portfolios <i>and the outsourcing of areas no longer considered core.</i></li> </ul>
<ul style="list-style-type: none"> <li>• A rising competitive environment for investment funds is forcing fund managers to focus more on marginal improvements in performance.</li> </ul>	<ul style="list-style-type: none"> <li>• Ditto for Corporate Real Estate and Government.</li> </ul>

## *Constructability - What is it?*

Constructability is thinking through the construction issues up front, while the project is being designed, rather than after. The Construction Industry Institute's task force on constructability has established twelve over-riding principles aimed at stimulating thought about constructability and how it can be applied to a particular project. These have been documented in the CII's Constructability File while the CII's Executive Summary on Constructability provides an overview to the subject plus a number of case studies illustrating constructability actions and benefits.

Asset Managers will be interested in this work for what they can learn for their own applications and also for what they may be able to contribute, by way of ensuring that the initial construction decisions take account of later operations and maintenance. For, as **Valerie Francis**, the research engineer on the Constructability task force, says "It is no good reducing project costs if decisions made impact adversely on the maintenance or operations of the final project."

*One example* of the actions, and the benefits derived from constructability, is the design and construction of the 7,300 square metre facility housing the National Customer Service Centre for Australis Media Limited.

### **Actions taken:**

- special care was taken to ensure that all materials, processes, etc, selected for construction were readily available within the required time periods
- an achievable project delivery strategy was developed to minimise design, approval and construction time, balancing time and cost constraints
- simplicity of detailing, repetitive planning modules, constant attention to contractors ability to procure and construct economically, and of site prefabrication were key objectives of the design
- early commitment to the production of steel shop drawings
- all weather access was ensured through the provision of appropriate hard core surface and predetermined late installation of strategically located precast wall panels
- early commitment to the lift contract enabled early use of lifts by construction personnel

### **Benefits**

- project was completed in less than nine months compared with 12-15 months for an equivalent project delivered under normal design approval and construction procedures
- within budget with an enhanced level of incorporated fitout
- with savings on the project in excess of \$1.1m of which approximately half was attributable to the adoption of constructability procedures.

### **Want to know more?**

The Construction Industry Institute, Australia conducts seminars on Constructability and is progressively publishing additional information on the subject. For further information about the CII or its publications, or to be placed on the mailing list, please contact the CII office. Telephone (08) 302 2042 or Fax: (08) 302 2252.

## *Developing Winning Teams*

**Tony Sidwell**, of CII Australia, says "We began by asking ourselves if there was one aspect of the building and construction process that was important to builders and clients; that was relevant to project performance regardless of the type of project; and that would have significant impact upon project time, cost and quality outcomes, what would we choose? Our research suggested that a critical factor to project success was the human dynamics of project management. How could we develop winning teams?" That was the genesis of the *Construction Industry Institute's Study on Benchmarking Winning Teams in Construction and Engineering*.

**Asset Managers will be interested to see what they can learn from this study.** The following selected recommendations have been abridged and modified slightly to adapt to a program rather than a project approach, suitable for ongoing asset management. *The full report, including the questionnaires, visit reports and methodology is worth reading. It is available for a fee from the CII, 08-302-2042.*

**Cohesiveness** Alignment meetings ensure client requirements/user needs are communicated to the team and that there is a buy-in of agreed objectives.

**Customer Focus** More intangible client/user requirements should be conveyed to all team members directly via interaction with users or indirectly via project managers.

**Internallisation** Ensure that client expectations are transmitted all the way down the line. Re-brief in the event of changes to end user requirements and expectations.

**Goal Orientation** Formalised team goal setting exercises, either independently or as part of alignment meetings ensure that the team is client focused and provide a framework to set priorities, understand required tasks and understand roles in delivery.

**Team Mix** Team selection process should attempt balance within the team of content, process and control expertise and technical and financial abilities. This may include the use of personality/cognitive style frameworks.

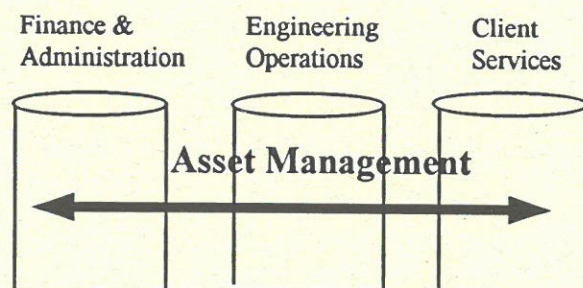
**Team Culture** Specialist teams to suit different tasks should give priority to group orientated management skills in the selection of team leaders.

**Conflict Management** Include conflict management training in either team leadership training or team building exercises.

**Decision Making** As far as practically possible implement consensus as the fundamental team decision making principle.

*Note: KPMG's Leading Edge Research Project in Human Resource Requirements in Asset Management was not received in time for this issue but will be reviewed in the next issue.*

### Asset Management Cuts Across Functional Silos



## *Benchmarking in Asset Management*

Don Wolody, JLL Advisory, in his BOMA workshop on benchmarking made the following useful distinction between Strategic Planning and Benchmarking.

Strategic Planning	Benchmarking
Starts with the Business Environment	Starts with Existing Practice
Competitive Analysis	CSF/s/KPAs (Model)
SWOT/CSF's	Data Gathering
Strategies	Benchmarks/Performance Gaps
Objectives	Benchmarking Processes to Best Practice
Action Plan / Implement	Action Plan / Implement
"Outwards In" approach	"Inwards Out" approach

Don stresses that these are not substitutes, Strategic Planning is abstract and tells you "where to go"; Benchmarking is practical and tells you the "best way to go".

◎ **Utilisation Best Practice:** Retail facility managers break down their property finely - by aisle - to see what use is being made of it.

Ask: Is It  
Relevant to  
Me?

It is easy enough to get carried away with improved practices and try so much that everybody loses heart. Don advises a simple two way test to decide which practices to pursue. What is its operational significance for you? High or Low? What is your ability to gain advantage from this practice? High or Low? If low on both scores then IGNORE, if high on both scores, FOCUS. If its operational significance is high but your current ability to gain some advantage from it is low, then MONITOR it, and if its operational significance is low but you have a high ability to gain advantage, then this is the time you EXPERIMENT. And remember.....

### **BREAKTHROUGH THINKING COMES FROM LOOKING AT PRACTICES IN A COMPLETELY DIFFERENT INDUSTRY!**

*[AMQ agrees completely - that is why you have access here to technical, financial and management practices across many industries]*

Like Charity, Don believes that benchmarking should start at home. Do your own internal benchmarking before looking for an outside partner. Segregate data by facility type for closer one to one matching and keep the end user firmly in mind - in other words for commitment to the exercise look for immediate gains. "Pinchmarking" - ie "see it, pinch it" is tempting, but superficial - first look to see why it works!

#### **When choosing a partner, look for one which**

- has benchmarked internally
- has complimentary strengths and weaknesses
- has a common measurement and business language
  - a partner with high level expertise
- and remember it is a two way process, learn from each other.

The Government has led the way in benchmarking, probably because of the ability to choose partners without the fear of competitive information going astray - but other potential partners are out there, for example Telstra used AT&T and British Telecom. And asset managers in other fields of endeavour face the same problems - and may have tackled them quite imaginatively - see "Breakthrough" above.

## AMQ Feature Article

### Accounting for Infrastructure Assets.\*

R D Duncan, Director Finance and Administration

North Shore City

#### Introduction

The restructuring of local government and the provisions of the Local Government Amendment Act 1989 laid the foundation for a new regime of financial accountability within the local government sector. The traditional year end financial reports of local authorities were based on cash accounting, were not user friendly and did not provide much in the way of relevant information on the financial condition of the entity. Local authorities are now however as aware as any organisation of such matters as the concepts of accrual accounting, capital expenditure and depreciation.

One of the remaining unresolved accounting issues for local authorities is that of how best to account for Infrastructural Assets. One of the first hurdles, that of getting these assets onto the Balance Sheet in the first instance, has now been largely overcome. It is surprising that there was, at least initially, some resistance to this. There now appears to be awareness of the distinct advantages of having such assets properly accounted for, being

- the recognition of the scale of public investment in infrastructural assets;
- the implications for proper management of the investment;
- the valuation process requiring the need to identify the existence, location and condition of the assets; and
- the assistance it provides in planning for the future.

Councils were first faced with long and costly exercises in valuing their infrastructure. Now I understand that in 1994, 84 out of 86 Councils have valued their infrastructure. There is now general acceptance that these particular assets have a value, and that that value should be recognised in assessing the financial position of a local authority. *The primary focus is now on defining an acceptable accounting method by which the annual consumption of these assets can be most fairly recognised in the Operating Statement.*

There is widespread acceptance that the Operating Statement should contain such a *consumption charge*. The debate is now centred on whether that charge should be computed on the basis of traditional "Depreciation Accounting" principles or the emerging "Maintenance Accounting", or what we at North Shore City have defined and adopted as "Renewal Accounting" principles. I will address both these methods and their respective advantages and disadvantages shortly, and for the purpose of discussion, I will use the "Renewal Accounting" term rather than "Maintenance Accounting" as it is the one which we use at North Shore City.

\*This is a modified version of Roger Duncan's address to the AIC Conference on Managing Infrastructure Assets 13/14 March 1995, Wellington, New Zealand.

Before going further I should give you a few brief details about North Shore City. The City was formed at the time of amalgamation in 1989 and covers approximately 12,500 hectares and in terms of population is New Zealand's fourth largest city with a population of about 160,000. It has approximately 60,000 ratepayers.

### Definitions

I assume you are all familiar with the definition of Infrastructural Assets and that they include assets such as roads and water and sewerage reticulation systems.

Infrastructural Assets can be deemed to have some or all of the following attributes:

- they are large networks or assets constructed, created, acquired and/or developed over several generations
- they have very long or indefinite useful economic lives
- they have a high initial cost and a value which is difficult to determine,
- they provide a benefit and/or a social service rather than a commercial service, ie the assets are used by or for the community as a whole, servicing all the city's residents and visitors and provide a sustained standard of living.
- the assets are not usually capable of subdivision for ready disposal because of legal or other restrictions, and consequently are not readily disposable within the commercial marketplace,
- the assets are not normally depleted as their service capacity is fully maintained in perpetuity, ie they are expected to have an indefinite life if adequately maintained, although portions of the network or asset will be replaced or enhanced from time to time,
- it is unlikely that entire systems would be replaced, but parts of the system will be renovated or replaced.

### Depreciation v Renewal Accounting

As indicated previously, two methods are being proposed as providing a means of recognising, in the Operating Statement, the annual consumption or usage of Infrastructural Assets.

*Conventional Depreciation Accounting* treats Infrastructural Assets in the same manner as other fixed assets and is the method required by SSAP 28, although I acknowledge that this particular standard is still under review by the Society of Accountants. The historic cost or valuation of the asset is subject to an annual depreciation charge and the value increased by any capital additions, upgrades, renewals, renovations or other means of enhancement.

One of the advantages of this method is the simplicity with which it can be implemented.

A basic flaw with the depreciation accounting regime however is its inherent implication that infrastructural assets have limited lives. This is a direct contradiction of the premise that the service capacity of these assets is fully maintained in perpetuity.

In the case of infrastructural assets which have very long lives, an annual depreciation charge is not the most appropriate means of *assessing how well the assets are being managed*. For instance, depreciation cannot be relied on to provide an accurate portrayal of the organisation's requirement for renewal, reconstruction or replacement expenditure.

Furthermore, the depreciation charged to the operating statement has only as much credibility as the depreciation rates applied, which in turn are based on the estimated economic lives of the assets. Some of the difficulties arise in initially estimating the length of those lives and addressing the impact of any consequent changes in technology in maintaining them.

Depreciation may provide a reasonable accounting estimate for many assets but it is not adequate for management and accountability purposes as regards infrastructural assets. Such assets do not normally wear out evenly over a given period.

**Renewal Accounting** focuses on an annual maintenance, renewal and reconstruction charge that serves to keep the infrastructural asset network systems operating efficiently and effectively in perpetuity. (I shall, for convenience, from now on refer to this merely as a maintenance charge).

The underlying principle of the method is that infrastructural assets are treated as having an indeterminate life, ie they will always be there. It is considered that such assets should be maintained and renewed through regular planned expenditure programmes. Under the Renewal Accounting policy the Operating Statement is charged each year with a maintenance provision for each type of infrastructural asset. The provision is the estimate of the amount of expenditure that is required annually to ensure the assets will be maintained at operating standards set by Council and based on Asset Management Plans. Actual maintenance expenditure incurred is then written off against the provision. In the Statement of Financial Position, Infrastructural Assets are valued at estimated depreciated replacement cost less the cumulative unspent maintenance provision.

The main arguments in support of the renewal accounting regime include the following:

- it overcomes the arbitrary nature of depreciation rates.
- it reflects the fact that technology advances are changing the effective life of infrastructural assets,
- it ensures that the accounts record periodic shortfalls in maintenance expenditure, thus enabling these shortfalls to be addressed and funded in order to maintain the service potential of the assets.
- it focuses attention more clearly on maintenance works requirements compared with revenue constraints. The primary issue is the need to manage assets.
- in an accounting regime based on annual maintenance provisions, depreciation of infrastructural assets could be double counting costs. The concern under a depreciation regime is that a Council might be charging for depreciation while at the same time expending sufficient on maintenance to effectively extend the life of the asset indefinitely.

Operating expenses typically include expenditure on refurbishment and replacement of components of infrastructural assets. Such refurbishment and replacement is progressive so that in a well managed business the service level of the infrastructural assets is maintained. An accounting depreciation charge notionally provides the income needed to cover replacement of the same components.

When both maintenance and a depreciation charge are included in the Operating Statement there can therefore be an element of double-counting.

Opponents of the renewal accounting method claim it has three major disadvantages as follows:

*Continued on page 20...*

## Asset Management Dialogue

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## Asset Management Dialogue

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## Asset Management Dialogue

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**Enter Your Name and Agency  
Now**

***see next page***

**FAX TO (08) 281 5795**

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 Up to five names may be recorded for each subscription -  
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Agency full names.....  
 Address to which the Quarterly is delivered

Name.....  
 Title.....  
 Branch.....  
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Circle up to three topics from the list below that you would particularly like to have a dialogue with somebody on, or add your own subjects.

- |                       |                   |                                 |
|-----------------------|-------------------|---------------------------------|
| Asset registers       | Renewals          | Condition Assessment            |
| Asset valuation       | Economic Lives    | Benchmarking                    |
| Depreciation          | Decay Rates       | Best Practice                   |
| Maintenance planning  | Forecasting       | Organising for asset management |
| Funding               | Demand Analysis   | Strategic asset management      |
| Asset Acquisition     | Demand management | .....                           |
| Asset Disposal        | Asset performance | .....                           |
| Accounting for Assets | Utilisation       | .....                           |

**The "Inside Page" Case Study Competition**

**How has the AMQ (or the AMD) helped you?**

The AMQ is designed with the intention of raising awareness in asset management, assisting the practical asset manager and policy maker, and extending information networks. Through its pages, contact listings and referral service, the AMQ is designed to serve you, the asset manager.

The subject of the competition this issue is to **describe how the AMQ, AMD, or the Referral service has helped you in your asset management.**

AIC Conferences have offered a free ticket to their Asset Management Conference on Asset Management (February 28 and 29), Sydney as the special prize for this competition - **worth \$1595** (and potentially much more in ideas, contacts, etc.)

The winner will be notified by telephone mid December (an early Christmas present) and will be announced in the next issue of the Quarterly out mid January. **Entries due in as soon as possible and by December 8th at the latest.**

**Win a  
 Free Ticket to AIC  
 Asset Management  
 Conf  
 Sydney, Feb 27-28  
 1996.  
 see page 27 for  
 details of  
 conference**

## ⊙ *Raising Asset Management Awareness*

### ⊙ *Queensland - Information Sharing Forums*

A Treasury Special Interest Group on Infrastructure Asset Valuation has been formed in Queensland by Engineers and Accountants representing local and state government bodies seeking guidance on the treatment of the issues arising from the requirement of accounting for assets and asset management. The group, which started in 1994, meets about once a quarter for about two hours. The format is usually a presentation followed by group discussion. The group have considered issues related to the indexing of asset values, the treatment of interest and finance costs during construction, and the briefing requirements of valuers amongst other things. Their next meeting is on November 7th, 2-4pm, at which AMQ Editor, Dr Penny Burns, will be speaking on Condition Based Depreciation, Asset Management Plans and generally what is happening in asset management around Australia. *For further details please contact Perry Finn, Water Commercial, DPI, on (07) 3224 2173.*

*Ed: If there are other Asset Management Groups operating that would like to spread the good word through the AMQ, please contact the editor.*

### ⊙ *Western Australia - Government Initiatives*

**Alan Piper** of the Building Management Authority, speaking at an IIR Seminar on Asset Management, 1 & 2 August 1995, described how WA was working to raise asset management awareness in service delivery agencies. He indicated six initiatives that the Government had taken in this regard:

*New processes established* - the Government announced its Strategic Asset Management Framework in July 1994 and the establishment of a new Project Initiation Process in May 1995.

*Performance Agreements* - the responsibility for effective asset management has been included in Chief Executive Officers performance agreements.

*Capital Funding Requirements* - compliance with the Project Initiation Process is required before capital funding will be considered.

*Audit* - the Auditor General includes asset management in a risk based approach to the examination of public sector performance.

*Seminars* - awareness raising seminars have been undertaken for Chief Executive Officers and facilities management staff within service delivery agencies.

*Publications* - "Strategic Asset Management" and "Project Initiation Process" have been published.

Contact: Alan Piper on (09) 222 5555, Fax #: (09) 222 5799

- The expensing of refurbishment expenditure which may extend the life of the asset still leaves only the historic cost in the balance sheet. This is not necessarily the case however, as current accounting standards encourage the periodic revaluation of such assets. For instance, at North Shore City, our policy is to have triennial valuations of our Infrastructural Assets.
- Large renewal or renovation expenditure in any one year may cause a temporary high demand for funds thus resulting in unacceptable variations in rates revenue. In practice, the provision for future maintenance would be utilised to ensure an even annual spread of such charges.
- The development, implementation and ongoing monitoring and review of Asset Management Plans, which are the critical element of this method, introduces technical factors with such a degree of complexity that such a regime will be too difficult to administer. This reasoning is refuted on the grounds that unless a Council understands all the critical factors impacting on its infrastructural asset networks it cannot hope to assess its performance on managing those assets.

Renewal accounting focuses on the concept of service life or service potential rather than physical life - age is not necessarily important; it is how long the asset is going to provide the current level of service which is important.

### **Practice in North Shore City**

As previously indicated renewal accounting requires that all upgrading, reconstruction, renewal and renovation works which do not increase the capacity of the assets are to be expensed to the Operating Statement. It was necessary to define precisely the nature of expenditure to be capitalised and the nature of the expenditure to be expensed to the Operating Statement. Only those projects which fulfil the capital expenditure criteria (ie increase capacity) are included in the Capital Expenditure Statement. All other expenditure is included in the Operating Statement.

The provision for maintenance does not meet the definition of a liability because there is no existing obligation to an external party. This is overcome by offsetting any accumulated provision against the asset in the Balance Sheet as a reduction in service potential and hence value. The combination in the Operating Statement of any actual maintenance expenditure together with the increase in the provision would equal the average annual expense occurring as a result of the loss in service potential. The Balance Sheet asset value in turn reflects the actual service potential.

With regard to the provision it is either deferred maintenance or a future maintenance requirement. If it is deferred then a conscious decision can be made to reschedule the maintenance to the future or to accept a reduction in the standard of assets provided to the community.

### **Funding Issues**

At North Shore City we have determined that all actual major maintenance expenditure will be funded from operating income or rates.

The major problem we are facing is to either increase the level of annual major maintenance spending to the required level or to at least fund the provision. I believe that most, if not all, local authorities find themselves in the same situation as North Shore City. This will require an increase in rates but I believe it would be irresponsible for today's ratepayers and today's politicians to ignore the potential problems of tomorrow.

### Asset Management Plans

*The key to management is an Asset Management Plan.* Such a plan will enable determinations to be made regarding the timing of maintenance expenditure to ensure that proper service potential is maintained in perpetuity. The finalisation of comprehensive Asset Management Plans is a matter of priority for the following main reasons:

- they will enable the local authority to assess more accurately how well it is managing its infrastructural assets,
- they will facilitate the local authority in its long term strategic planning for these assets,
- they will help determine more accurately the nature and extent of the required annual expenditure on infrastructural assets and the nature and dollar value of any provision that may be required.

*The renewal accounting approach should only be used in the context of an asset management plan.*

### Conclusion

For infrastructural assets of substantial value there must be an expense item going through the Operating Statement that reflects the loss in service potential of infrastructural assets and/or the cost of arresting such loss if maintenance is undertaken. The charge for loss in service potential, ie the provision for deferred major maintenance, should only be necessary where, between maintenance points, there is a significant but temporary drop in service potential. In reality this is always likely to occur because it is not economically sensible to perform all maintenance on an annual basis.

*Note: Roger Duncan will be speaking on this topic at the AIC Conference on Asset Management to be held in Sydney, 27th and 28th February 1996 at the Menzies Hotel. (For details of this conference, see page 27 and for a chance to win a free ticket, see page 18) Come and meet him and hear first hand about developments in New Zealand.*

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## The Balanced Scorecard

**Question:** In the last issue of the AMQ, (p.10) Australia Post referred to their use of the 'balanced scorecard' in determining the performance of their asset management business. What is this, and how does it work?

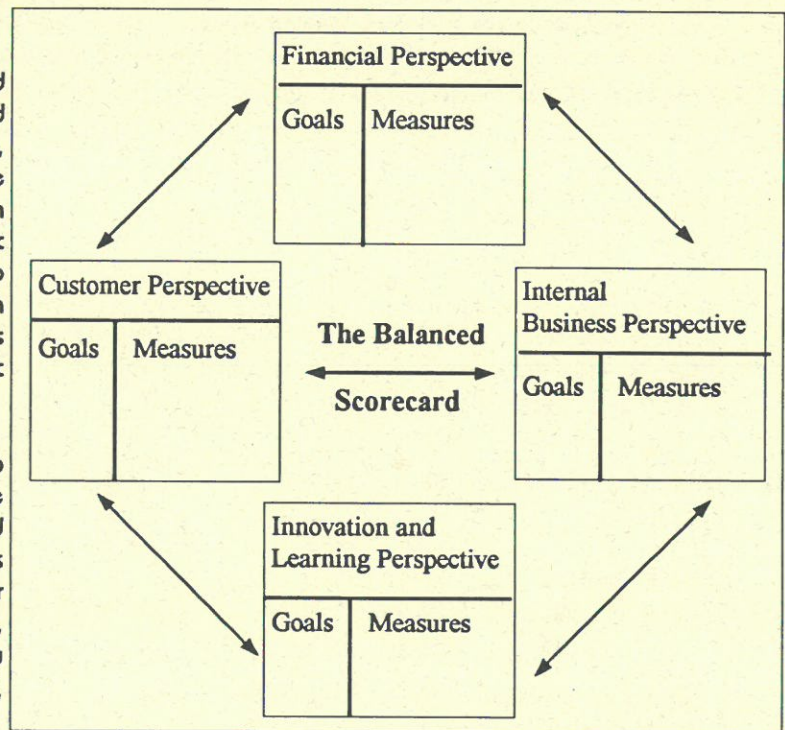
**Answer:** No single measure can provide a clear performance target or focus attention on the critical areas of the business. Managers want a balanced presentation of both financial and operational measures. To serve this need, Kaplan and Norton<sup>1</sup> devised the "balanced scorecard" - a set of measures that give top managers a fast but comprehensive view of the business. The balanced scorecard includes financial measures that tell the results of actions already taken. And it complements the financial measures with operational measures on customer satisfaction, internal processes, and the organisation's innovation and improvement activities -operational measures that are the drivers of future financial performance.

The balanced scorecard allows managers to look at the business from four important perspectives. (see diagram). It provides answers to four basic questions:

- How do customers see us? (customer perspective)
- What must we excel at? (Internal perspective)
- Can we continue to improve and create value? (innovation and learning perspective)
- How do we look to shareholders?  
(financial perspective)

**Customer Service.** 'To put the balanced scorecard to work, companies should articulate goals for time, quality, performance and service, and cost (the basic concerns of customers) and then translate these goals into specific measures.' Asset managers will need to carefully define their customers, both external and internal. (note "quality" does not necessarily mean "high quality" but rather "fitness for purpose")

**What must we excel at? What must you do to meet your customers' expectations?** The internal measures for the balanced scorecard stem from the business processes that have the greatest impact on customer satisfaction - factors that affect cycle time, quality, employee skills, and productivity for example.' (also core competencies, critical technologies)



**Innovation and Learning Perspective.** Skill development and continuous improvement follow from the customer perspective and the areas in which the company must excel in order to win business.

**Financial Perspective** - are your activities contributing to the bottom line? In many organisations the answer is "I don't know" or "I think so, but I can't prove it" This is also true of asset management business centres or branches. If asset management is to be recognised as a key and critical element in your organisation's success strategy, the benefits (financial and otherwise) of asset management activities need to be measured and promoted within the organisation.

**The Balanced scorecard puts strategy - not control - at the centre. It keeps companies looking - and moving - forwards instead of backwards.**

<sup>1</sup> Robert S. Kaplan and David P. Norton, "The Balanced Scorecard - Measures that Drive Performance" Harvard Business Review, January-February 1992 pp 71-79

## Interpreting Performance Indicators

Everyone's talking performance indicators these days. But do we know how to interpret them when we get them? Paul Walsh, Senior Lecturer at the Graduate School of Business, University of Sydney, teaches the design of performance indicators in his one and two day workshops "Managing Performance Indicators".

### Graphical Dyslexial

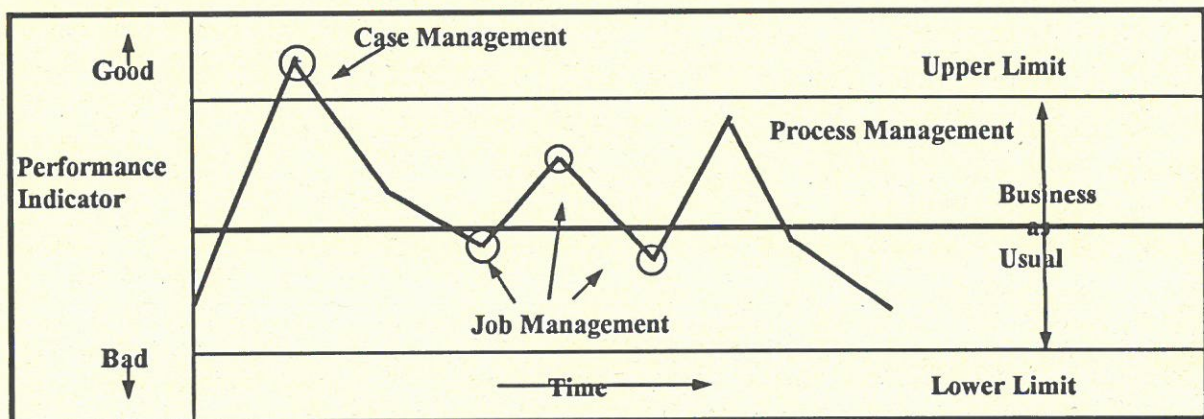
An inability to read performance graphs, Paul says, is common in many organisations. Spreadsheets and graphics packages provide us with the capability of readily displaying data in x-y plots or bar charts, and in splendid colour. But, pinned to a notice board they are just so much wallpaper, pretty patterns without meaning.

Business performance will always vary month to month, week to week and day to day. Not two products or services are exactly alike and no two jobs have exactly the same characteristics. If the reasons why performance varies over reporting periods are known, that's a bonus. For management, there's a more fundamental issue - despite the inevitable variation, *is the business being managed better or worse or is the status quo just being maintained?*

For variation within a 'normal range', then it is 'business as usual, the status quo'. The greater the natural variation in the business, the greater this range will be. Instances that fall outside this range need special management on a case by case basis. Reducing the range - and moving the entire range in a favourable direction - is what Paul calls process management. Within the range you manage the jobs themselves.

The following is an example of a useful performance chart.

Notice that it includes:



- the range of fluctuation that would be considered normal
- the target to which we are aspiring, or, at the very least, an indication of what constitutes an improvement, ie a move up or a move down

At the Graduate School of Business, Paul advises organisations to take a process view of their business, expressing the business as a set of core, key and sub-processes which link work and information flows across functional units. Management decide *what outcomes are required and what processes must be measured to achieve corporate goals*. The most critical question in performance measurement is *what processes does the organisation need to measure?* - the nature of each indicator then follows.

Many organisations look around for things they *can* measure, without focusing on what the information will reveal. This has given performance measurement a bad name and can easily lead to building a monster that no one will use or support. If you need help in doing your performance measurement better, or would just like extra information, contact Dr Paul Walsh at the Graduate School of Business, University of Sydney on (02) 550 8621 or by fax on (02) 550 8603.

## *Performance Indicators - KPOs and KPDs*

In his **BOMA** presentation on Benchmarking, **David Dickinson, JLL Advisory**, defined these as:

- **Key Performance Outcomes (KPO)** measure the performance of the end product and are commonly used for cost and financial reporting.
- **Key Performance Drivers (KPD)** contribute to the overall outcome but are measures of parts of the production or service delivery process.

"A KPO is effectively a **lagging** indicator of overall performance while a KPD can be more effectively used as a **leading** indicator."

For example in a hotel, customer satisfaction surveys provide a KPO. However if customer satisfaction is to be improved the processes which influence satisfaction need to be examined and measured. These might be room service, registration, or house-keeping. KPDs such as room service response time, registration cycle time and the standard of housekeeping would need to be developed.

As a result, KPOs tend to reflect the interest of senior management and stakeholders while KPDs tend to be much more operational in focus and application"

The BOMA index is an **OUTCOME** indicator. Like other outcome indicators, It tells us what outcomes are different but not **why** they are different. Peer group and property market benchmarks are **averages**. Dissatisfaction found with these aggregate, averaged, property indicators by the JLL research is a useful guide for the broadscale Government benchmarking exercises now being considered. The criticisms included:

- infrequency of reporting (annual figures too few and too late)
- need for additional data
- difficulties in interpretation
- aggregate figures meant it was difficult to compare like with like.

### **Property and Facilities Maintenance Conference,**

**29&30 November 1995, Sheraton Wentworth, Sydney. (IIR Conferences)**

- Strategic Planning for Facilities. Graham O'Loughlin, Coopers and Lybrand
- Asset management, Life Cycle Costing.. Graham Lowe, Asset Services
- Computer Aided FM.. Duncan Waddell, Corporate Management Resources Pty Ltd
- Cutting Costs .. Vincent Perrott, Chester Corporation Pty Ltd
- Benchmarking against the Best.. Peter Quinlivan, Colliers Jardine
- Environmental Risk Management, Derek Low, Robert Baker, Axis Environmental Cons
- Outsourcing Your Facilities Management.. John Keegan and Paul Anderson, Westpac
- Reducing the Cost of Maintenance inhouse. Graham Howell, Aust Inst Sport  
and other speakers, plus two workshops

(1) Drafting and Managing Property Maintenance Contracts and Maintenance Plans

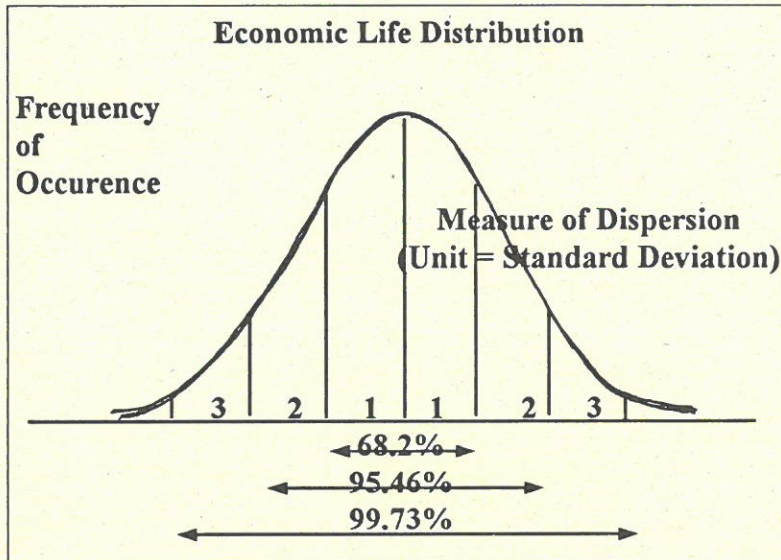
(2) Using and Implementing Computer Maintenance and Management Systems

.....for further information and registration, fax IIR on (02) 9959 4684

*For the New Asset Manager - Economic Lives*

Many mistakes are made interpreting economic lives. Frequently one will see comments to the effect that there is a "backlog" of replacement because assets have exceeded their life estimates. If only it were that easy!

The quoted "economic life" for any class of assets is the modal value of the life distribution for that asset, in other words the age at which most of the assets in that class are expected to become uneconomic. With a normal distribution (mode = median) as given below any asset has a 50% chance of failing at or before its life estimate, and a 50% chance of failing after.



Within this distribution, those assets to the right of "A" may be considered to be "oldies but goodies", whilst those on the left may be those that do not quite come "up to scratch". How do you know, when looking at your assets, which subset they fall into?

What you can't do is to assume that everything should be replaced by its economic life. *If you do this you will be wasting one half of your service potential!* Age alone is not an indicator of replacement need. Age will

indicate the *probability* of replacement need (ie, it increases as we move to the right of the diagram) but, to determine replacement requirements, age needs to be combined with (1) a condition assessment and (2) a needs assessment.

Estimating economic life requires estimating not only physical asset deterioration but also the rate of change of technology and changing market conditions. This is not easy to do and the tendency of most estimators is to err on the shorter end of the spectrum. For very long lived assets, there can be a range of as much as 30 years between possible estimates (ie from 70 to 100 or 80 to 110 years). Better maintenance and maintenance management practices and life extension techniques now being practiced can result in actual economic lives being longer than the estimates made many years ago.

Add to this tendency to err on the short side of economic life in estimates, the fact that when assets fail - either physically or economically - there is a good chance that the failure will be recognised and the asset replaced, and you find that, contrary to popular belief, there is probably not an enormous "time bomb" of backlog maintenance out there equivalent to assets that have outlasted their class average economic life.

Only condition and needs assessment will tell you what the size of your replacement problem is. For this purpose the concept of the normal distribution is very useful. It can be used to determine what sampling proportions you consider for your asset assessments. For example, you may wish to sample 100% of the assets that have exceeded the class average estimate by one standard deviation, 50% of those assets between the class average and the first SD to the right, and 25% of those assets between the class average and the first SD to the left. The results of these sample condition and needs assessments can then be used to determine replacement requirements and backlogs.

## Conferences! Conferences! Conferences!

This coming quarter appears to be a bonanza for asset management seminars. One of the following may suit your requirements.

### "Capital charging in the Health Sector - Asset or Liability?"

The Commonwealth Department of Human Services and Health are presenting this conference at the Airport Hilton, Sydney on 9th and 10th November 1995. The intention of the two days is to examine the potential of capital charging in the Health Sector. Amongst the topics to be discussed are Capital Charging Experiences, A Regulatory Framework, Performing Better, and Private Sector Viewpoints.

*International speakers include: Professor David Mayston from the Department of Economics and Related Studies, University of York (UK) who will speak on experiences of capital charging in both the UK and the Northern Territory, and Alan Lodge, CEO, Wairarapa Electricity (NZ) who will look at the broader perspective of capital charging.*

Sydney

### "Applying Accounting Standards"

The 16th Annual Conference of the Local Government Accountants Association of Queensland, Inc, will be held at the Ramada Hotel, Surfers Paradise from 8th to 10th November. Wednesday 8th is devoted to asset issues. The speakers are:

- Jim Kropp, President, ASCPA, "Asset Recognition and Measurement";
- Dr Penny Burns, AMQ, "Condition Based Depreciation"
- David Hope, Skilmar Systems, "Asset Management from a Wider Viewpoint"
- Russell Balding, NSW Roads, "Asset Valuation and Asset Management"
- Aneurin Hughes, Qld DPI, "Financial Planning for Water & Sewerage Infrastructure Assets."

*For further information contact the Conference Co-Ordinator Kerry Dobinson, Pine Rivers Shire, Tel (07) 205 0555 or by fax on (07) 205 4658.*

Gold Coast

### "Distribution 2000"

The 3rd International Electricity Distribution Conference will be held in **Brisbane** from Tuesday 14th to Friday 17th November. Asset Management sessions will run throughout Wednesday and Thursday, covering reliability planning, risk management, network operations, best practice, asset utilisation, integration of information systems and Innovations in Asset Management. *For further information, contact the Distribution 2000 Conference Secretariat, on (03) 9646 4122*

Brisbane

### "Managing and Accounting for Assets"

The SA Local Government Financial Management and Asset Accounting Groups are jointly sponsoring this session to be held on 27th November in **Adelaide**. The day will focus on several topical issues: John Howard, City of Devonport, "Integrated Asset Management Case Study"; Roger Byrne, GHD, "Asset Management Information Systems"

Bob Lineham, City of Christchurch, New Zealand, "To Fund or not to Fund: that is the question!"; Tony Tamlin, Australian Valuation Office, "Valuation of Roads: the final solution"; Richard Noble, MITS, "Integrated Asset Management Software Demonstration (Hansen-MITS) and a joint effort from David Hope of Skilmar Systems and Dr Penny Burns "Condition Based Depreciation: Practical Perspectives". *For information on place, cost, time, etc., contact Peter Graves, Local Government on (08) 232 4990 or (after October 23rd only), Peter Fairlie-Jones, City of Salisbury, on (08) 259 1340.*

Adelaide

## STRATEGIC ASSET MANAGEMENT & MAINTENANCE IN THE PUBLIC SECTOR

Menzies Hotel  
27- 28 February 1996.  
AIC Conferences



**for registration contact Telephone: (02) 210 5777 Fax: (02) 221 7773**

**Innovative asset management- achieving excellence in results.** Roger Byrne, National Director, Asset Management Group, Gutteridge and Davey.

**Commercialisation- managing the changing role of asset management and maintenance.** Prospect Electricity

**Achieving best practice asset management through continuous improvement.** Suzanne Williamson, National Manager Property, Air Services Australia.

**The impact of strategic asset management on local government authorities.** Geoff Burton, Asset Infrastructure Systems Manager, South Sydney Council.

**Demand management - Integral strategic asset management.** Neville Binning, Road User Strategies Engineer, Main Roads, Western Australia.

**Demand Gap Analysis - match your assets to your needs.** Sigrid Pfaffle, Principal, BDA Business Direction Analysis and Pamela Upton, Principal Adviser, Policy Division, South Australia Department for Building Management.

**Strategic risk management: Importance and application to asset management.** Dr Dale Cooper, Director, Broadleaf Capital International.

**Parliament House: Strategic management of a complex maintenance and asset replacement program.** Adrian Guilfoyle, Chief Engineer, joint House Department, Parliament House, Canberra.

**The MITS/ HANSEN asset infrastructure system.** Reg Leonard, Director, Business Consultancy, MITS-HANSEN.

**Valuation as a tool in asset management.** Geoff Hayter, director, Consultancy, Colliers Jardine and David Bernard, Senior Project Manager, Asset Intelligence Team, Colliers Jardine.

**Infrastructure Assets - Integrating asset and financial management.** Roger Duncan, Director, Finance and Administration, North Shore City, New Zealand.

**International trends in asset management.** Michael Avery, Senior Associate, Booze Allen and Hamilton.

**Impact of tendering and outsourcing on asset management.** Cheryl Kidston, Manager, Strategic and Business Planning City of Melbourne.

**Contracting out maintenance as part of the strategic plan.** Ron Keen, Contract Service Manager, Yarra Valley Water.

**Using asset management plans in your outsourcing contract.** Dr Penny Burns, Editor, Asset Management Quarterly.

**Leveraging your asset management outsourcing contract- links to economic development.** Bob Hogarth, Principal, Robert R Hogarth Consulting.

**Outsourcing discussion.** Facilitated by Bob Hogarth.

**GUEST EDITORIAL.****"THE ROLE OF ENGINEERS IN INFRASTRUCTURE"\***by **DR JACK WYNHOVEN,****CHAIRMAN, VICTORIA DIVISION, INSTITUTION OF ENGINEERS, AUSTRALIA**

In the mid 1980's the word "infrastructure" was considered boring and no political party had it on their list of priorities. The lobbying of the AFCC - Australian Federation of Construction Contractors - drawing attention to the deterioration of our infrastructure has changed all that.

The Community today is much more demanding and better informed. It expects, and is given, far more information about the issues that effect the quality and cost of life. This is to be applauded. However, it does put greater onus on all professions for greater transparency and efficiency.

The traditional role of an engineer working in a government authority providing the community with infrastructure that the engineer believed the community needed, has disappeared. The engineer must now justify his role on the team by demonstrating the capacity to be part of the total delivery process. If not, the role will be that of designing and constructing a project that is nominated and dominated by others.

The "Compleat" engineer must be able to communicate, debate, modify and adapt the needs and benefits of the infrastructure project being proposed. This requires an understanding of the economic, social, cultural and political processes in the community. They are perceived to be skills in which traditionally, entrants to engineering schools are not strong.

Engineering schools are extensively revising their curriculum to provide more choice for engineers. We have seen an explosion in further education for graduates. Some of these programs are excellent and relevant, but the individual needs to exercise selectivity. The first step must be to have a career plan and a vision for the future, then to work towards it.

The major areas that need addressing as our infrastructure ages are quality, safety, and refurbishment. Public safety versus costs is the subject of risk analysis and management. Refurbishment is an asset management option. The engineer must have the technical skills to evaluate the complex performance of the infrastructure but that is not enough. In order for engineers to prosper and be relevant in the new delivery process, their undisputed technical skills must be enhanced by planning, management and political awareness and an appreciation of financial issues.

\*An abbreviated version of Dr Wynhoven's address to the Institution of Engineers Australia (Victorian Division) Seminar on "Infrastructure Replacement in Established Urban Areas", Melbourne, 29 August 1995.