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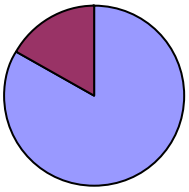
Strategic Asset Management

MANAGING SHORT LIVED EQUIPMENT ASSETS

They may not loom large on the balance sheet but can be a major part of your annual capital cost. And the annual impact is even greater when the maintenance costs of equipment are taken into account. Moreover small asset purchases have a way of sneaking up on you! In this issue, we look at some of the extra care that we need to take to ensure that the costs of short lived assets do not get out of hand, drawing upon the results of a recent study by the Victorian Auditor -General's Office into the management of medical equipment.

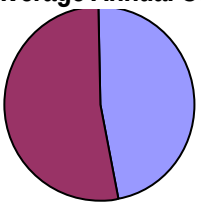
Total Capital Value



Infrastructure $5m
Average Life 45 yrs

Equipment $1m
Average Life 8 yrs

Average Annual Cost



E.g: Less than 20% of TRC but **more than 50%** of Av. Annual Cost

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MANAGING SHORT LIVED EQUIPMENT ASSETS

Available at:
http://www.audit.vic.gov.au/

What lessons can we draw for the management of short term equipment assets from the Victorian Auditor-General's March 2003 report "Managing medical equipment in public hospitals?

Quite a bit, as it happens, thanks to the practice of the AG in including agency responses to the Audit recommendations. These act as a salutary check on the recommendations of the review team. Here we call on **the wisdom of practitioners**. **The lessons here apply generally to all equipment assets.**

Life Expectancy

It is common practice to use manufacturers' estimates in establishing life expectancies for equipment. Limitations of this approach include a desire on the part of manufacturer to create an ongoing market and failure to take into account the conditions of use.

> "[The review team used] Life Expectancy Projection Guidelines developed in 1995 by the American Society for Healthcare Engineering (ASHE), with input from medical device manufactures. As the equipment used and procedures undertaken in Australian hospitals are similar to those in America, the ASHE Guidelines were suitable for determining the life expectancy of equipment items, and in turn, the level of funding required to replace them. All 19 hospitals agreed with the application of the Guidelines for the purpose of the audit given the absence of other industry guidelines"

Practitioner Response (Monash Medical Centre)

Consider the nature of the equipment

*In some cases, it is likely the ASHE may underestimate useful lifetime of certain equipment. For example, general purpose X-ray units are classified with an 8 year life expectancy. In reality, such units, if correctly maintained, owing to their simplicity and basic radiographic use, can continue to function normally over a significantly longer period without any compromise to patient care or operational efficiency. P.31 [*argued that 10 years would be a better estimate—a significant 25% increase in life and a reduction in average annual capital cost]

Consider the use

Similarly, equipment used in a quiet ward in a regional hospital will have a totally different life expectancy to the same equipment used in a busy emergency department in a major metropolitan hospital. Equipment used in a regional hospital operating theatre will have a totally different life expectancy to equipment that is "always on" in a busy metropolitan operating theatre. P.31 [While the operating practices may be similar to those in the USA, the size of our hospitals is not.]

Consider the relative benefits of renewal

Department heads, unit managers etc. are well informed regarding age, condition and performance of their medical equipment. They are also generally well informed about new and emerging technologies. Generally, equipment is not replaced with new technology due to competing priorities for funding, not necessarily due to

Asset Management—the 21st Century Core Competency?
This was the theme title of the 2004 ICOMS last week in Sydney. It makes you think, doesn't it?

Ratings for Assessing Equipment Condition

The major problem with the following rating assessment is that <u>it takes no account of fitness for purpose;</u> or <u>relative need.</u> It assumes that if a piece of equipment exists and is used it should be replaced when unfit. Most of the time this will be true. But the exceptions need to be considered.

Ratings	*Explanation of rating*
1 = Poor	**The equipment should be replaced immediately.** Equipment is unreliable with excessive downtime and spare parts are no longer available or difficult to obtain.
2 = Fair	**The equipment should be replaced in the next 1-3 years.** Equipment is still reliable but is nearing the end of its life with downtime increasing. The equipment has been surpassed by newer technology offering improvements to procedures or treatment.
3 = Good	**The equipment should not be replaced.** Equipment is reliable. Although it may not be the latest technology, it is able to perform procedures and treatment where it is required.
4 = Very good	**The equipment should not be replaced.** Equipment is not new but still at the leading edge of technology and offers many of the latest features. It is reliable with minimal downtime.
5 = Excellent	**The equipment is in as new condition and should not be replaced.** Equipment is brand new, probably the latest technology, under warranty, very reliable and operates to specifications.

Source: Table 3B. 'Managing medical equipment in public hospitals" Auditor General, Victoria, March 2003

Practitioner Response (Secretary, Department of Human Services)

Immediate replacement is not the only option for equipment in poor condition. Where utilisation is low, consideration should also be given to decommissioning the equipment. P. 33

Practitioner Response (CEO, Monash Medical Centre)

Equipment condition is frequently assessed, at minimum, during regular, routine quality assurance testing. Unsafe equipment is not in use. Older equipment may be in use if safe, functional and adequate for the purpose even if not the most technically advanced. P.33

Practitioner Response (Secretary, Department of Human Services)

The decision on replacement of medical equipment should take into account not only the condition but also whether replacement can be justified, taking into account patient safety, staff safety, utilisation, and the costs of maintaining and operating the equipment. P.35

Does the funding mechanism for equipment militate against better asset management?

The answer here is very likely YES! Hospitals were exhorted to produce long term plans for equipment replacement but the hospitals pointed out that such planning was ineffective in the face of one year budgeting and no assurance of future funding.

However, in the absence of good information on the future renewal costs of equipment, it is unlikely that the funding mechanism will change.

A chicken-and-egg situation? How do you deal with this in your organisation?

What happens to the equipment that is replaced?

This issue is not addressed in the report. When more modern equipment is acquired to replace older stock, is the older stock disposed of—or is it handed down the line to another unit, section, or hospital? Does it have a second life as a 'back-up' machine, or 'occasional use' machine? (In other words, does it hang around, adding to the oversupply of outdated equipment?)

(Many years ago, scanning the inventory lists for a fire and emergency department, I noticed that a small town that had no building taller than 2 stories nevertheless had a 'cherry picker', an emergency vehicle designed to be able to access tall buildings. Why? The answer, of course, was that it was 'handed down' when a larger nearby town got an up-to-date replacement. A better option would be to have sold the second hand vehicle to a town that needed it, but the hand-me-down mentality often predominates.)

Finally, beware the free gift!

Infusion pumps are inexpensive compared with the cost of consumables over the equipment lifetime. (Some infusion pump manufacturers give their pumps to hospitals free of charge, knowing they will recoup their costs many times over in consumable supplies. However, technical superiority of the product is often neglected by some hospitals in light of these seemingly fantastic deals, which long-term, often prove very poor value. These types of deals should be treated with suspicion and not excitement!) CEO Monash Medical Centre, p. 65.

... Utilising life cycle costing for equipment choices

The above advice on consumables applies much more broadly. It pays to work out the per unit cost of different machines taking into account consumable as well as capital cost. This is particularly useful for such common office machines as printers and photocopiers.

Subliminal Punctuation
Is the American Public Works Association sending out a subliminal asset management message? I notice that throughout the Program Preview for the 2004 APWA Congress to be held this year in Atlanta, Georgia, Sep 12-15, the following: "a.m.ong other things', "a.m.ounts to..", "a.m.bitious sidewalk repair programs", and the "a.m.azing tale of Tenthill Creek Bridge". A.m.using!

BEYOND BUDGETING

— Impossible in the Public Sector! Or is it? FEEDBACK

Chris Lawson, Beaudesert Shire Council, responded to our challenge and points out the following

Budgets are legally required

- Local Governments in Qld are required by law to produce a budget.
- Since Roads and Bridges are funded from the General Fund, the funding for roads and bridges is annually subject to the foibles of the annual budget bidding war between the competing interests of Council.

Budgets are needed to set the rates

- We still have the legal issue of producing a budget so you can set a rate, and the budget must be balanced or in surplus.
- Water and Sewerage are somewhat different in that they have separate "undertaking" funds i.e. they operate on "separate" balance sheets, and their asset management is approaching "beyond budget" - especially with a renewals annuity aproach.

Ten Year Financial Plans are Budgets

- I have suggested to Council that we have a retained earnings reserve in water as a cash flow buffer to smooth the vagaries of weather -dependent consumption so that pricing can be more predictable. To do this (and this is common for a Qld Strategic Asset Management Plan) we have a 10 year financial plan which we use to model various scenarios of pricing, headworks contributions, rates of development, cash position, renewals, new infrastructure needs, operating costs and the like and consider the risks associated with the various parameters.
- In truth, it is a flexible 10-year budget, with annual rests because of the need to set prices annually. As much as lead times for construction dictate, we adjust our capital program during the year to match growth and anticipated growth. At the moment that is about as much as we can do. And by the way, we have to submit our 10year plan to State Government, so there is another control on our flexibility.

Councillors are in charge

- We continue to model and to challenge Councillors, but in the end they decide on the budget as they must - that's what they were elected to do.

Ed: The points Chris makes are valid ones. But maybe I have an unhealthy share of "Aussie Larrikinism" within my more conservative English make-up, because I can't help thinking that if we all agree on the problems surely, with imagination, we can find a way around the difficulties that budgets currently present. So I continue to invite you to raise your issues and concerns. Let us get them out in the open, so that we can then proceed to' build a better mousetrap'. (and see Stephen's comments next page)

BB: MORE FEEDBACK

Send your thoughts on the Beyond Budgeting Issue to me at

info@amqi.com

Stephen Howe, ex of Boroondara, and now with Latrobe City Council raises a number of hopes and concerns. He writes:

> "On the "Beyond budgets" article, which I found intriguing, I found myself agreeing with many of the problems but not the solutions.

A hope that focusing on outcomes will be sufficient

To me, the solution is a better focus on setting and monitoring outcomes, and acting with personal and corporate integrity and transparency. If we do this, we will be unafraid to underspend, as we will not fear that this will lead to a lower budget next year...especially if we know those above us or alongside us in the food chain act the same way - if we can trust them to raise the budget next year - IF justified - then we will not hoard or deceive.

A concern that budgets promote an adversarial approach

It is the adversarial internal approach that is the problem, and the eternal propensity for people to protect their own bit of turf.

A hope that incentives for underspending can mitigate against some of the worst effects of budgets

I would like to see incentives for underspending - when the outcomes are also still met -, such as cash rewards for individuals or teams. These are often controversial in the public sector due to perceptions that "you're getting paid good money already and that's your job to do that....why should you get more?" (though such attitudes forget that encouraging creativity benefits all).

A concern that without budgets, the public sector would go 'off the rails'

To me, the suggestion that "rolling forecasts (not targets) fed upwards from operating units to build global totals and focus attention beyond the end of the financial year" is fine in a commercial enterprise, but not those regulated by or run by Governments, where we have a contract via taxed fees for service to provide certainty...not just in the outcomes, but also the budget, which is part of the "contract" made with the community paying the tax. The rolling forecasts approach is tantamount to a movable feast.

A concern that budgets are required for accounting standards

I note all the sites using "beyond budgeting" are commercial entities, though some are perhaps regulated (Banks). I wonder what their auditors and regulators are like on the issue and compliance with accounting standards and regulations?"

Renewal Planning

"Saplings planted at the recommendation of Admiral Lord Nelson 200 years ago are to be used to repair his flagship, HMS *Victory*. In 1802, Nelson visited the Forest of Dean and was appalled to find that much of it had been plundered by charcoal burners. So he advised parliament to replant large sections to guarantee a supply of raw material for the Royal Navy in the future. Now, two of those oaks have been felled to restore *Victory* in time for the 200th anniversary of the Battle of Trafalgar in October 2005." *"The Week",* 22 May 2004.

A REALITY CHECK:
Is your maintenance/renewal backlog really real?

Q: How do you know when you have a serious maintenance/renewal backlog?

A: A large proportion of my assets are falling into disuse though being non-functional, are unavailable or unreliable.

Q: Surely I can claim a serious maintenance/renewal backlog if my assets <u>are at risk of</u> falling into disuse, etc – even though it hasn't actually happened yet?

A: Yes, you can make this claim, but it won't hold much water unless you can demonstrate the risk.

Q: 'What if I can show that assets are exceeding their average useful life?

A: If assets are generally exceeding their average useful life but are *not* falling into disuse through being non-functional, are not being unavailable or unreliable – then it is the life estimates that need to be called into question.

Q: What if I can show that we are spending less than some industry average on maintenance?

A: If this is the case, but your assets are ok, then perhaps the 'industry average' does not apply to you?

The evidence that you need is

(1) Good information on the current condition of your assets – <u>*and how the condition impacts performance.*</u>

(2) Evidence of the degradation pattern of your assets – <u>*and how it may be mitigated*</u>

Without this evidence, your organization is at liberty to – and probably will – ignore your claims to extra funding. See the Canadian research below.

CANADIAN RESEARCH

In a recent survey on municipal assets in Canada asset managers rated their assets as between 'good' and 'very good', yet despite this, and despite the fact that they stumbled badly on the answers to questions such as 'what is the condition of your assets?', 'what is the remaining service life?' and 'what do you need to fix first?' - they still claimed to *'know'* that they had large maintenance/renewal backlogs and a need for more funding. How can this be?

Dr Dana Vanier, National Research Council of Canada, conducted the electronic survey which was answered by 67 out of 543 Canadian councils.

You may read the full report at http://irc.nrc-cnrc.gc.ca/uir/miip/docs/MIIPSurvey.pdf

The National Research Centre also has a new document available – The Asset Management Primer. This will be of most interest to students rather than practitioners, although council asset managers would enjoy and benefit from a study of the **Asset Management Strategy of the City of Edmonton**, which forms pp. 54-71 of the document, particularly if they are at the stage of developing their own strategy.

You will find it at http://irc.nrc-cnrc.gc.ca/uir/miip/docs/primer.pdf

In other news from Canada, the province of Ontario, Canada, has created a **Ministry for Public Infrastructure Renewal.**

Infrastructure is defined to include both health and education facilities and a broad interpretation is being taken of the word 'renewal'. The focus would seem not to be strictly on the renewal of ageing infrastructure, although this is discussed, but rather on keeping infrastructure up to date with community requirements. For example, of the five projects itemised on the Ministry's home page, four are for upgrades and one concerns plans to extend a light rail system. "We're looking at how infrastructure can meet new demands and improve the quality of life. It's the local transit systems we ride, the roads we drive on, the hospitals where we are treated, and the schools where our children learn."

You can find out more about the Ontario program for infrastructure renewal at **www.pir.gov.on.ca/**

More Canadian Research

In 2001, *SAM* reported on an infrastructure research program in Canada involving the private sector, universities and the public sector in the development of improved designs and practice to ensure longer living infrastructure. The results have now been formalised in the National Guide to Sustainable Municipal Infrastructure, or the INFRAGUIDE for short. Based on Canadian experience and research, the reports set out the best practices to support sustainable municipal infrastructure decisions and actions in six key areas: 1) municipal roads and sidewalks 2) potable water 3) storm and wastewater 4) decision making and investment planning 5) environmental protocols and 6) transit.

To date, 21 best practices have been published and they are available on line at **http://www.infraguide.gc.ca/bestmunicipal.html**

Nancy Schepers spoke to this infraguide at the recent MAV Asset Management Conference.