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For Practitioners, Policy Makers and Planners in Public Infrastructure

AMQ INTERNATIONAL
STRATEGIC ASSET MANAGEMENT

LEADING FROM THE FRONT

In the first issue of SAM for 2008 I argued that, *on the contrary*, asset managers need to take a more pro-active stance and lead from the front if they are to retain credibility and provide value. In this issue, I give some examples of how that may be done.

In **Leading from the Front: Road AM**, I look at how the big issues of the day - carbon emissions, fuel shortages, rising interest rates - can be addressed with cost effective am solutions that take the wider view.

And in **For Consideration: Applying AM Principles** Ruth Wallsgrove provides a useful example of an asset management group in a UK water authority that saved their company millions of pounds simply by the application of good AM principles - again in the wider context.

Finally, since many SAM readers may be new to asset management, or wishing to review their practices, in **Re-View: Asset Information** I revisit some of those issues that we were struggling with about 15 years ago, and the first of these is how you can use the combined talents and knowledge of your organisation to determine the most appropriate asset information collection.

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Editorial:

This past week I attended the Corporate Launch of the 10th "Tour Down Under", a series of cycling events through some of the most attractive areas of South Australia. This year was special, not only for the 10th anniversary of the race, but because the "Tour Down Under" has now received ProTour status from the Union Cycliste Internationale (UCI) in Europe, the first outside Europe.

It got me thinking about cycling in general and how much we can do to improve physical, financial and planetary health through increasing the use of bicycles - and reducing the use of the motor car.

I was surprised to find that sales of bicycles have exceeded sales of motor vehicles for the last eight years. And they are not all for children and young people. According the Bicycle Industries Association, for every 4 bicycles sold to children, 7 are sold to adults!

The BIA also reports that states that have invested heavily in bicycle infrastructure, have a larger market share (relative to population) - a pretty positive measure. Why should we, and how could we, increase bicycle usage? And why is this an asset management issue? See pp 3-4.

Pedal power is not the only efficient transport mechanism making a come-back

It was fascinating to see pictures of the MS Beluga SkySails, a merchant tanker fitted with a computerised kite sail that soars far above the decks where the winds are stronger. It is reported that in blustery conditions, the sail saves up to 35% of fuel usage, with about 20% savings overall.

But whilst admiring the cleverness of the new fuel saving device, there is in fact a far simpler solution.

According to the same newspaper reporting, **just a 10% reduction in speed can save 25% of fuel costs.**

And, of course, simple solutions are available to us as well. Perhaps get on the phone instead of in the car? It is not only a matter of reduced mileage, but less congestion, both contribute to fuel and emissions savings. This is where asset managers should be doing the analysis and providing the figures. (Does your AM team include a good statistician?)

Consider, and enjoy

Penny Burns,

Editor

Leading the Way: Bicycles and Road AM

In the last issue, I suggested that asset managers need to do more to tackle the asset issues that arise because of change. Here is just one example.

For a long time we have tended to manage roads primarily for the benefit of the motor car. Other things were secondary. Road surfaces have largely been managed to provide speed and ride comfort. But changes are coming.

What used to be 60Kph zones on our local roads are increasingly becoming 50Kph to increase safety for pedestrians. What difference does this make to our road management? Probably we would say, none. *(But I am guessing that this is based at the present moment on nothing better than gut feel)* However, what if we were to take the local road maximum down to 30Kph and require cars to give way to bicycles? This was a suggestion by a visiting UK expert recently. Predictably it was howled down. But if we were really serious about carbon emissions, fuel usage and public health, switching from motor vehicle to bicycle usage is what we would be doing and this suggestion would be a pretty effective means of bringing about change.

So, perhaps not immediately, but .....?

There can be little doubt that the more that we switch our travel from the car to the bike, the better off we will be on many scores, for example:

Health An effective means of addressing the general obesity problem would be to encourage more people to use bicycles more of the time

Fuel usage Bicycling is the most energy efficient form of transport – on average it uses less energy per distance than walking.

Greenhouse Emissions Moreover, it uses a renewable fuel – your energy – so there are no greenhouse emissions. Using a bicycle instead of a car means a 100% saving on emissions, and no petrol costs.

Congestion Most car trips carry only one person - the same as a bicycle.

How possible is it? According to the Bike Industry Association figures “55% of car trips in Sydney and 62%of car trips in Melbourne are under 5 km, which takes less than fifteen minutes to ride by bicycle.” (Your fleet asset manager should be able to calculate the relevant percentage for your organisation or council.)

Are bike tracks enough?

Providing bike tracks is one part of the solution, but taking steps to ensure those tracks get used is something else again. This takes two things:

(1) knowledge
(2) action

Are your bike lanes used?

KNOWLEDGE

This includes knowing the AM impact of increased cycle use (and reduced MV use)

Monitoring Bicycle Use

Do you know how much your bike lanes are used?
Do you know who uses your bike lanes and when?
Who else could use them but are not? Why not?

What other options are available?

As the population ages and there is increased use of motorised mobility devices that use the footpath, it is time for asset managers to consider such things as incorporating bicycle paths and footpaths. Such shared pedestrian walkways and bike paths are already in existence in Perth and other places. In my own council area, Salisbury City Council, a section of the main street is a joint road/bike/pedestrian access. Cars can use this area but they have to give way to other road users. It works well.

Analysing asset options needs more than engineering, it must include finance, local planning, community services etc. That is the nature of true multi-disciplinary asset management.

TAKING ACTION
LEAD FROM THE FRONT!

Councils can take the lead by encouraging their own staff to use the council bike pool for shorter trips. Painted in the councils corporate colours this would signal the council's intention for a cleaner environment whenever they were out and about. Possibly coupled with visibility vests with the corporate logo.

Reward staff members with recognition for their contribution to a cleaner environment? Encourage them to set their own personal emissions reduction target. Aggregate them into a CO2 savings total and publicise it. If there is a large company in the district, why not set up a competition? Those who can't or choose not to use a bike may seek other means of CO2 reductions.

Make it easier to get to council offices, libraries, etc, by bike than it is by car. Make the nearest general (ie non-handicapped) parking places into bike racks. Generally increase the amount of bike racks there is available. Make it safer to use bikes to travel to school, shops, and other community facilities.

Consider shared footpaths/bikeways. (along with a citizen education campaign on how to use them!)

As community bike usage goes up, track the gains in reduced congestion - and publicise them! And as council bike usage goes up, track the gains in reduced costs of motor vehicle fleet changeover, etc. Publicise the savings to ratepayers.

Remember asset management is about decision making - and gathering and analysing data to inform that decision making. **The more you KNOW, the more you can DO.**

For Consideration: Applying AM Principles

An example of good practice for your consideration by Ruth Wallsgrove.

If we are to apply AM principles to new projects, which ones are relevant? I would suggest that at least the following:

- Project Analysis is based on 'whole of life'
- Decisions are based on good data, rigorous analysis and consideration of the full range of options
- A Focus on Service, that determines the choice of asset configuration options available to meet them
- Recognition that infrastructure assets can outlast the services demanded of them

Ruth Wallsgrove, who has often written in these pages, see www.amqi.com - Contributors' Panel, tells the following story. Lets see how these AM Principles were applied. (The water company concerned is a UK one.) It illustrates the point that solving multiple inter-related problems need be no more difficult than solving each one alone - and will invariably create a better result.

The water company had a problem. Actually it had a series of problems. And the asset manager felt that they probably were connected but was not quite sure how to address them as a group.

Considerations

To start of with there was a broken sludge treatment plant. Should they repair it, hire a new one, buy a new one? If they were to buy a new one, what type of plant would be the best? Discussion around just this one issue had occupied the asset management team for many months, during which time the costs of temporary 'work-arounds' were piling up.

In addition to this specific problem, he was required to produce a 5 year capital works plan. But he felt that this would not be enough, and that he would need to look out over a rather longer timeframe to anticipate corporate and environmental policy changes that might be proposed and to have on hand information that would enable the organisation to know whether the proposed policy changes were or were not sound.

At the time there were four ways in which to dispose of sludge after treatment. It could be put on land; it could be put out to sea, it could be burnt, or it could be converted in a digester. Putting it on the land had the benefit that nutrients could be reabsorbed, although heavy metals were a problem and would have to be dealt with. Putting out to sea or burning had very poor environmental aspects and converting via a digestor was very costly in terms of energy, so that indirectly, the environmental aspects of that were not too good either.

Process Adopted

They decided to think of all the options that they could and then to do whole of life costing on each one of them, develop an equivalent annual costing for each of the options and then compare. Whole of life costing had been in common use for renewal purposes but they had not made much use of it in terms of analysing future options.

At first it seemed far too difficult to get hold of the unit costs that they would need for new plant and new options. But when they started to break these down into the various activities that would be involved - e.g. energy use, transport use, processing, etc. - they found that they could use a lot of their existing information as a good first estimate.

With these 'best guess' unit costs in place, the team then examined sensitivities. What difference they asked would it make if interest rates were x% higher/lower , if fuel prices were y% higher/lower? Whenever questions like this arose during their discussion of different options, or when someone raised a 'what if' question, they adopted the practice of saying 'let's see'. And the question was answered - with respect to ALL options. With their basic life cycle model in place this was not difficult, since it was really a matter of adjusting one or more parameter in the model and re-running.

What they discovered

As they systematically progressed through the options in this way, they found that some of their most costly capital options were also the most costly in terms of ongoing operations and maintenance costs. (This is not uncommon.)

They also discovered that the allowance for operations & maintenance costs included by the construction engineering department were far from adequate. (Also, not at all uncommon.)

Their system of breaking down new project proposals into activities and costing the activities enabled them to develop better estimates.

Armed with detailed EACs for each of the options they were able to develop a good business case to show that the previously preferred new construction project was not in the company's interests. (Original commitment had been based on the 'excitement' factor, the original capital proposal was big, complex and therefore interesting so there were a number of senior staff members who wanted it to happen.)

The upshot was that they saved their company millions of pounds simply through the application of sound AM principles.

Re-View: What information do you need?

The first assets we buy are generally the most basic, the most essential. Later we can get the 'nice-to-haves'. The same is probably true of the questions that we ask ourselves of AM. The ones we ask at the beginning tend to be the most basic, the most essential. With this in mind, I have reviewed the issues that SAM looked at about 15 years ago. Here, with new asset management groups, or those wishing to re-examine their practices, I have selected some of these early issues and brought them up to date.

In the early 1990s British Petroleum in Australia had a keen bunch of forward looking asset managers. They needed to decide what information to collect for their AIS and they wanted to bring the full weight of their own people's experience to bear on the asset management problem, yet at the same time to free them from the constraint of old ways of thinking. What they did is worth considering.

The players: National representatives from a variety of professional backgrounds

Personnel from BP offices all around Australia from a variety of backgrounds - financial, technical, marketing and legal - were invited to Melbourne for the two day session.

The Approach: A role play

The BP officers were formed into three competing consulting teams whose job was to advice on the information requirements of a fictitious company, Allex Breweries. Allex was introduced to them as follows:

> Allex Breweries are a new player in the Australian/New Zealand market and wish to be seen as a 'lean, mean' organisation without the problems often associated with similar organisations with a large, diverse asset base. Allex has 2 major company owned and operated breweries in Australia and a part share (non-operating) in a NZ brewery.
>
> Product distribution occurs through the breweries as well as from many distribution points around the country. The product is distributed to a network of hotels, clubs, sporting venues, etc. both company owned and agency or franchise owned and operated. Allex's asset portfolio consists of some large non-portable, easily identifiable assets through to many minor/personal portable assets.
>
> The industry is subject to rigorous health and safety legislation as well as licensing requirements."

These characteristics, of course, were also the characteristics of the BP organisation.

The Process: Competition

To achieve a further break from the BP mentality, participants were allocated into three equal groups, each representing a different (external) consulting company. The storyline went that each of the consulting companies was an expert in Asset Management and each

had been asked to submit an innovative proposal to Allex Breweries for the outsourcing of the process(es) related to the recording of Allex's assets."

First, the three companies were given a presentation detailing the tender and evaluation parameters and given access to various resources such as a PC, stationery, an expert consultant (me!) and other relevant information (including suggestions from previous interviews as well as Allex's expectations of the outcome. They then went into separate rooms to discuss and put together their proposals before presenting to the Allex Brewery management (the whole group) for evaluation.

Expected outcomes from the afternoon were clear:

1. A statement of requirements for what information people needed to manage the assets.
2. What assets, and at what level, are assets to be recorded.
3. Broad outline of the structure of the asset register(s), process, management of the process.
4. Roles and Services provided by the outsource company and tasks to be undertaken by Allex.
5. Critical success factors.

The means of evaluation were also made clear. The proposals would be judged on the basis of:

1. How clear is the output from 1. above?
2. How clear is the output from 2. above?
3. How innovative, simple, is 3. above?
4. How innovative, simple, is 4. above.
5. How important are the critical success factors?

Results:

The competitive nature of the afternoon seemed to bring out the best in the participants; the discussion was lively and the final presentations were given with flair. The key desirable attributes identified included: commonality of systems, reasonable asset verification processes, confidence in data integrity, efficiency of managed asset processes, clarification of accountability, and, above all, "a workable, practical, user-friendly, dedicated system". However....

In my post session review I noted that the focus had been on the 'doing' aspects of asset management rather than the 'decision making'; that the participants were thinking in terms of narrow asset registers rather than wider asset information systems; dollar values were the focus, rather than other, non-dollar quantification (e.g. condition, utilisation); external requirements (e.g. accounting and tax) dominated internal management requirements; emphasis was on dollars and detail rather than determining operational cut-off filters; and that overall there was a 'supplier' focus rather than an emphasis on bottom line profit enhancement. (*This last I found surprising from a supposedly competitive private organisation*.)

These aspects were taken into account in further development. I found the entire process to be very fruitful and would commend the technique to others, but with consideration given as to how it could avoid the difficulties noted above.