AMQ International

Strategic Asset Management

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# USE MATTERS


Our case study in this issue is very close to home for me. I live in the Salisbury area and use the Salisbury Level Crossing many times each week. I find it congested, inconvenient, tiresome—but until the accident towards the end of 2002, I had not found it dangerous. As it turned out, it was. But mainly for the way it was being used rather than for any fault inherent in the assets themselves.

In this issue we therefore take a closer look at how users use our assets.—and the implications of that use for our role as asset managers.



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**CASE STUDY:**

***What is a case study if not an opportunity to learn from the experience of others? Looked at this way, we are surrounded by case studies.***

# HOW IS YOUR ASSET USED?

## Lessons from the Salisbury Level Crossing Accident, 2002

### What Happened

**Passenger train collides with a car and a bus carrying school children. 4 people die**

**Sydney Morning Herald, 26th October 2002**

"At least four people died when the Ghan interstate train and a bus carrying school children collided at "the worst level crossing in Australia", police confirmed last night.

The bus was queued in a line of traffic at Salisbury, north of Adelaide, having crossed the railway line.

But in an adjacent lane, a car travelling in the same direction was stopped, its rear partly still on the track when The Ghan approached.

With details sketchy last night, witnesses said the train struck the car, which then rammed the bus, spinning it 180 degrees. Children moved to the middle of the bus to escape the impact but witnesses said the force of the crash was so severe that people were thrown from the bus.

A group of schoolchildren pedestrians waiting near the crossing were believed to be among the dead and injured. At least three children were thought to be among the dead.

### Why did it happen?

- **The condition and the operation of the track, rolling stock and signals were not at fault**

***From the Official Report by Vince Graham, Graham Management Services. January 2003.***

"The level crossing at Salisbury was protected by boom gates, warning lights and bells and all appear to have been operating normally at the time of the accident."

"Evidence available suggests the braking system on train 5AL8 was operating normally and the train driver sighted the obstructed level crossing at the earliest opportunity and applied the train's emergency braking system."

**Why did it happen?**

- **It was the way the crossing was being used - queuing across the intersection**

*From the report:*

"Heavy peak period road traffic on Park Terrace created a queue back of traffic from the Salisbury Highway/Park Terrace intersection onto the rail level crossing causing the level crossing to be obstructed."

**Could it have been prevented?**

**(1) Was the problem known?**
**No…..**

"The extent of peak hour traffic congestion in the vicinity of the Park Terrace level crossing was understood by both state and local authorities. There was, however, no evidence available to road or rail authorities that the level crossing was a potential "black spot". Accident and incident records from TransAdelaide and ARTC do not suggest this level crossing was a high risk location. (from the report:)

**But perhaps it should have been…….**

**"**Post accident police enforcement has resulted in many motorists being fined for queuing on the Park Terrace level crossing. This strongly suggests that, pre accident, road traffic queuing onto the Park Terrace level crossing was a frequent occurrence. Therefore the significant risk factor that led to the accident on 24 October 2002 had pre-existed, undetected, for some time". (from the report)

**(2) Why was the problem 'undetected'?**

**Some possibilities:**

- It had been happening for a long time with no ill-consequences so it wasn't 'seen' as important
- With rail, road, and local government all involved, responsibility for detection may have 'fallen between stools'
- Recognition of a problem implies a responsibility for correcting it!
- No easy solution presented itself so it was subconsciously passed to the "too hard" basket
- No-one was looking!
- Your guess.

**And the conclusions of the report?**

**"The road transport infrastructure in the vicinity of the Salisbury level crossing, coupled with driver behaviour, continues to pose risks of further level crossing Collisions"**

## Do you know how YOUR ASSETS are being used
### By your people?
### By the public?

You won't go far wrong if you remember that

- People do what is convenient (rather than what is right)
- A corollary, *given the way that courts have interpreted accidents in the recent past, is that*

Idiocy on the part of the user is no excuse! - some responsibility for user behaviour WILL accrue to the asset owner

*Thus the asset manager needs to do more than simply maintain the condition and functionality of the asset.* In other words, if your 'Do not queue over this intersection' signs are being ignored to the danger of the public doing the ignoring, or to the asset, or to the wider community, *then YOU have a responsibility to do more!* (Hey, who said that life was fair?)

However, it is not only the public who can mis-use your assets. Your own people can be the greatest offenders! We all do what is most convenient. (e.g. have you ever dragged a vacuum cleaner around by its hose? The manual says don't but it is the easiest way to move it from spot to spot, so everyone does it. )

USERS affect not only your risk liability but also your choice of asset, asset design, maintenance, cleaning—just about everything!

Your options are two: (1) modify the asset (to cope with the behaviour or to change it) or (2) modify the behaviour directly. (or both)

In our practical techniques section in this issue (pp 643-644) we look at how you can anticipate user behaviour, but here are some of my favourite examples as to why it matters.

#### BY CHANGING BEHAVIOUR, YOU CAN CHANGE THE COST OF THE ASSET

**EXAMPLE :** Ferry terminal. Three mornings a week when the ferry arrived there was major congestion and a lack of paved space for trucks as they waited to collect their loads. The asset solution was to pave more space. An alternative suggestion was to change the behaviour—instead of trucks picking up designated loads, they would operate just as taxis do and take the next load to be delivered. The trucks would move quicker, save time—and the extra paved area would not be necessary!

#### KNOWING USER BEHAVIOUR MEANS LOWER ASSET COSTS

**EXAMPLE:** A state tourist bureau took out an expensive Sydney CBD lease. Subsequently a study of how its asset (and service) was used showed over 75% of its business was done by phone, email or mail and of the walk-in traffic, most made an appointment to visit. Attracting passers-by was actually negligible! It changed its lease arrangements (at a cost!)

#### MODIFYING USER BEHAVIOUR MEANS LOWER ASSET CARE COSTS

**EXAMPLE:** A men's urinal. Customers were continuously missing the spot resulting in extensive cleaning costs—so they painted a target on the floor of the urinal!

# USE MATTERS. Part 2.
## Using Scenario Planning to Anticipate Future Use

How did you go with the Christmas Challenge? Scenario Planning is a systematic, structured, yet creative way of anticipating the range of possible futures—and presenting them so that they are meaningful to decision-makers.

It can be applied at the 'big-picture" level as in the Christmas Challenge, but it can be equally applied to everyday asset decision-making. Let us take the Community Reserve/ Barbeque example discussed in previous issues (SAM # and SAM # ) and see how this could be developed within a scenario planning framework.

What shall we use as the two axes? 'Community cost' and 'Community satisfaction" would be a good start.

Community cost includes costs to the provider, costs to the user, costs to the 'innocent bystander' (or in our example of a barbeque set up in a residential reserve, the costs to the residents who surround the reserve)

### Community Cost

**Low** → **High**

| | | | | | | |
|---|---|---|---|---|---|---|
| Reserve Trees Mown grass Waste bins Playground, *mowing, tree mainte-nance, playground maintenance* | Barbeque set up on the edge of the reserve, + *annualised capital costs and recurrent cleaning costs* | Barbeque located in centre of reserve thus requiring paved walking areas + *capital and annualised costs for paving* | Paved seating areas for the barbeque + *annualised capital costs for seating* | Shelter Shed to house the seating area and the barbeque + *annualised costs for shelter shed* | Hoons attracted, litter, bottles smashed, a danger to children +community costs in distress, concern, and clean-up + council costs in correction | Risk to children falling on the broken glass +*extra clean up costs for council, costs of monitoring , and insurance* |

### Community Satisfaction

Community satisfaction has a lot to do with how the facility is used. **List therefore, possible uses.**

(1) use for ball games or kite flying or simply running around —a safe area, off road, for children to play
(2) Playground used by parents and young children mostly from within the local area
(3) A place to picnic, gather as a small or family group (4) ?

**And list the mis-uses**

Most proposals for new assets/services focus only on the benefits to be achieved and discount the disadvantages, inconveniences or difficulties for others. When it goes out for public comment and sections of the community respond in the negative, the tendency is then to go on the defensive and to dismiss the objectors as selfish, or cranks. To develop a balanced assessment, the positives and the negatives are both required, with probabilities of the likelihood.

Below are some suggestions of how such a scenario framework might develop:

In the **"Simple & Quiet"** scenario, the reserve is used mostly by locals who respect the needs of others, bring their children to play in the playground or on the lawns, stay an hour or so, then go home. Satisfaction is high, costs relatively low.

In the **"High Maintenance Life"** scenario, the reserve is used by people who make a heavy demand on the barbeque, seating and shelter facilities and enjoy their time there. Costs are high and Satisfaction is high too.

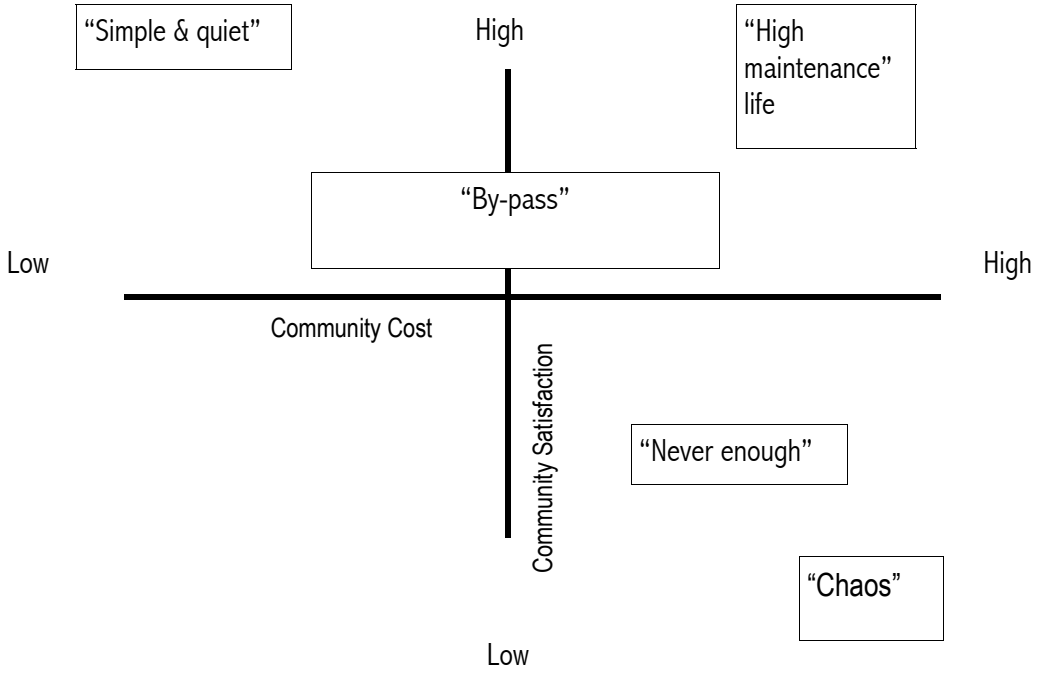
In the **"Never Enough"** scenario the reserve attracts people from further away who then want to have toilet facilities and resent the fact that there are not shops nearbye. Demand is high but satisfaction is not.

In the **"By-Pass Scenario"** people come to picnic and barbeque on the reserve but they bring their own barbeques ("After all, dear, you can never be sure with these public barbeques, how clean they are!" ) They sit on the grass under the trees around their barbeques. They are satisfied with their experience but they do not use the facilities provided. Satisfaction is good, but the costs incurred do not contribute. By-pass satisfaction levels can be achieved with low or high costs.

In the **"Chaos Scenario"** the sheltered barbeque area attracts late night revellers who disturb the rest of those whose houses surround the reserve, who leave rubbish strewn around and broken bottles in the grass that the locals then have to pick up themselves in order to ensure that the grounds are safe for children. Council is informed and posts signs advising on appropriate use of the facilities. The signs then have to be monitored. Eventually a child is injured and council is sued. Satisfaction extremely low, but costs are high.

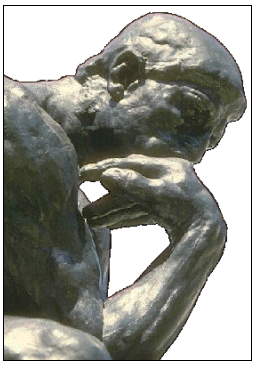
**Steps in creating your own scenarios:**

1. Visualise how the asset may be used (and mis-used)
2. Calculate the costs of different situations
3. Create your own scenarios and assign probabilities
4. Using 'stories' to illustrate the scenarios helps to make the situations more meaningful



**IDEAS AND OBSERVATIONS:**

# What do we really know about Asset Management?



**FOR THINKERS**

George Cairns, speaking at the FMA Conference in the Barossa last year, asked whether facilities management really had a theoretical basis. 'Not merely the turning of someone's good idea, or some organization's best practice that happened to work successfully in one context, into a generalised 'theory' for application by others, or by all', but a theory grounded in understanding. He argued that organisational theory and studies in organisational behaviour relegate physical structure to a minor role only as a determinant of outcomes and suggested that the reason for this is the famous Elton Mayo Hawthorn experiments conducted within the Western Electric Company in the 1920s. 'Mayo's studies reported that social factors are far more important determinants of employee satisfaction and productivity than physical factors… This key 'finding' came as a great surprise to the research team… who had anticipated that changes to the physical environment would be positively correlated with changes in employee performance. Whilst changes to the physical environment did show an impact on performance, there was no positive correlation and no consistent relationship. Studies of changes to lighting levels for a production group showed that any change produced increases in output immediately afterwards, even when the change was to bring lighting levels down to near darkness.' Subsequent studies, he suggested, are easily challenged on academic grounds as indeed the Hawthorne studies themselves have been challenged. So what do we really know?

This led him to ask 'if good design is of little or no importance, why is there such support for new workplace concepts from the design professionals and from some sectors of industry?' He doesn't answer the question and perhaps it is unanswerable.

But the same could be said of asset management. In facilities management, the study of the workplace, interest has focussed on the impact of facilities on workers – i.e. the impact of one input on another input. Human resources, as an input, are enormously variable, which makes this analysis very difficult as is shown in the second half of Cairn's paper that concerns two fascinating concepts, Foucault's 'heterotopian workplaces' (the ability of workplaces to be many different, even conflicting, things at the same time) and Rothernberg's concept of Janusian thinking (or the ability of people to hold two contradictory viewpoints simultaneously. The illustrations are persuasive and one ends up recognising the 'existence of multiple realities' that are culturally and socially determined, that constantly change, and to a large extent are unpredictable. In asset management we focus on assets and (some) human resources, i.e. two inputs on the level of output. But is the situation really so different?

Many of the 'theories' promulgated – even in academic treatises – are highly biased towards the proposition (variously put) that not enough money is being spent on assets. Depending on the writer, this could be not enough is being spent on maintenance, or on renewal, or on new capital to expand productive opportunities. In the 1980s statistical studies tried to show that the more a government invested in public infrastructure the greater was the level of private productivity. The 'findings' were eagerly seized upon by both public sector providers and private sector recipients. But where were the fundamental theoretical underpinnings?

I believe in the benefits of asset management or I would not have devoted 20 years of my life to it. But belief is not the same as proof. Perhaps proof doesn't – and maybe cannot – exist?

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"Why does Facilities Management Need Philosophy?", George Cairns, University of Strathclyde Graduate School of Business, Glasgow, UK, Paper presented to FMA Conference, Adelaide, 2003

## WE'VE BEEN GOOGLED!

That's right. You can now have the power of the Google search engine to find information in the Resources Library at **www.amqi.com**

## DECEMBER DIALOGUE

Amongst the interesting additions to the discussion forums at **www.amqi.com/forums** is the following

### ASSET OR 'LEVEL OF SERVICE'

**Andrew Llewellyn writes:**

As part of improving asset management at Rockhampton City Council we are in process of developing an asset hierarchy and reporting framework.

The intended outcome is to have a defined framework/structure for depreciation and valuation values, strategic planning and levels of service.

So far we have been giving consideration to a framework based on either Asset Type (e.g. building) or Asset Function/Service Provision (e.g. library & information services).

Initially my thoughts were that Asset Function/Service Provision was the most appropriate method as 'Service Delivery' is the central focus of AM however this appears to be much more difficult method and using Asset Type does have merit with regard to assets within that category would have similar lifecycle characteristics

Any comments or suggestions?