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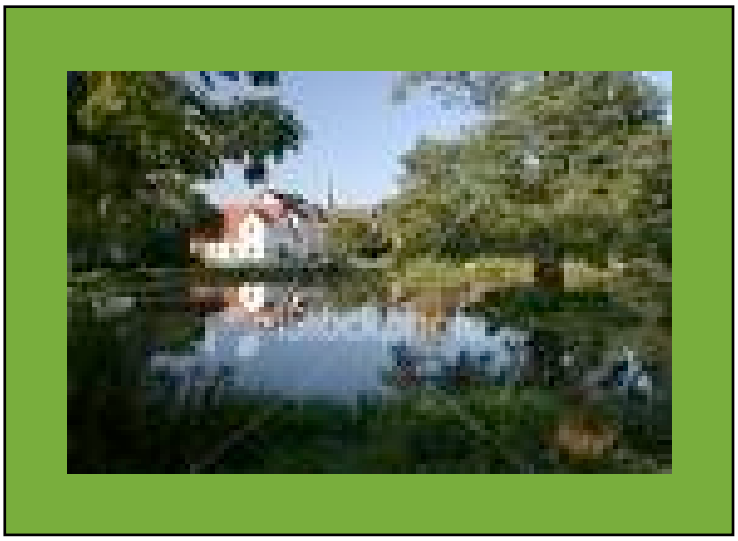


Valuation and Community Value

Following on from our discussion of value, valuation and performance, Ken Harlow, who has his own excellent asset management site at http://www.bcportals.com/am/, sent his take on this subject. Ken looks at 'community value' and he gives a set of 4 quick check list questions to see if you are on track. (See his article on pp 3-4)

But understanding what the community wants is a difficulty in itself. And this puzzle must be solved before translating wants into assets and service levels. And before tracking, monitoring and measuring.

In this issue we provide some practical help to get the 'right' job done! Ashay Prabhu talks service levels,pp 5-7 and Jeff Roorda gives an insight into how star ratings may be used for roads, pp7-8.

Consider and enjoy!

Penny

Editor: Dr Penny Burns, *AMQ International*
PO Box 75 Salisbury South Australia 5108
Telephone 61 (0) 8 8281 5795
Email: amqi@amqi.com Website www.amqi.com

Editorial: How do we determine community value?

In **"For Consideration"** this week, Ken Harlow, (Brown and Caldwell, USA) suggests we need to look wider than merely replacement cost as our estimate of value when it comes to infrastructure assets. He makes a good case for using 'Community Value' (see next page), but how exactly do we determine community value?

We could guess,

that is make our own assumptions, this is what we do most of the time and as we seldom write them down (and sometimes are not even aware of them), we are not able later - and nor is anybody else - to check whether they are OK or need changing.

We could go out for community consultation,

but as anybody who followed our 3? part series at the beginning of last year (Issues *-**) knows, this is time consuming, costly, and may or may not get us the answers we need. After all, the community often has little training in looking into their future needs as compared with their current wants.

We could do surveys.

But like community consultation in general, many of us feel that we are being 'surveyed to death'. We view surveys as something to be filled in as quickly as possible and thus the answers are often rather suspect. Good surveys are those that have just a few questions, clearly stated, and where the survey provides instant feedback. Such surveys are best carried out on line. Problem here is to get enough responses within a reasonable time frame to be able to carry out good assessment. Ken Harlow has got some extremely good responses to a couple of the surveys that he has run looking at.... (see write-ups in SAM * and **) by contacting his wide database of people interested in water issues. There is the difficulty that these tend to be mostly suppliers and academics rather than users, but access to users is also not without its difficulties.

Market research

is a much beloved technique of the business schools but, in practice, it seems many firms that do it, fail (and some spectacularly - such as the new shape of the coke bottle) whereas many who do not do it, win big time! In any case, for infrastructure, what is the market?

Following our discussion of value, valuation and performance in the last issue, Ken Harlow sent me this short article - which is definitely worth some thought and consideration

For Consideration:

CONCRETE, STEEL…AND DECISIONS!

Ken Harlow, Director of Management Services, Brown and Caldwell

By now we have all heard the "standard" purpose of asset management many times, more or less in these words:

"To deliver the service levels customers require at the lowest whole-of-life cost of asset ownership."

This suggests that our efforts should be aimed at understanding our community's needs, defining them in terms of service levels, and focusing our efforts on economical delivery of those service levels.

Laudable goals, of course. But there are other ways of looking at asset management, appealing perhaps to different people although ultimately leading to the same place. Here is one of my favorites:

"To maximize the community value of community infrastructure."

This sounds quite a bit different and does, in fact, suggest some things not apparent from the standard definition. The phrase "maximize the community value," in particular, is not at all abstract and needs to be taken quite literally. Consider:

1. For water and sewer agencies, the infrastructure is basic and drives both our costs and the levels of service we provide. This is unusual in the broader context of industries in general and leads to the concept of "asset management" as being a rational way of managing the public water and sewer businesses as opposed to many other businesses.

2. We often speak of community infrastructure "investment" as defined by replacement cost, typically $8 to $15 thousand or more for each water service or sewer lateral. A very large investment indeed! We need to remember that anybody (our community, for instance) making an investment requires…a return on that investment! In other words, our community expects that the benefits from their investment will be greater than the costs.

3. The physical form of our community's infrastructure investment, and the way it is run day-to-day, are determined *solely* by asset decisions and their implementation. In fact, the infrastructure is nothing more than a reflection of all the asset decisions that have

gone into it. Therefore, the *only* way we can maximize the value of the infrastructure is to make sure that each new asset decision contributes real community value.

So when we say that we want "to maximize the community value of community infrastructure," what we're really saying is that we want the community benefits of each and every asset decision to exceed, by as much as possible, the associated costs.

Looked at in this way, the similarities of management's fundamental roles in the private and public sectors, and the differences, become clear:

Private Sector, Management's Role	Public Utility, Management's Role
Make decisions that will maximize the financial value of the company to its owners.	Make decisions that will maximize the triple-bottom-line value of the infrastructure to the community.

This is a novel but sound way of looking at our duties as utility managers. We are confronted with innumerable opportunities to spend our community's money. How do we choose? The table above suggests a broad framework for the decisions we need to make. And asset management supplies the tools we need to proceed.

Will asset management help you bring value to your community? Here's a pop "yes/no" quiz:

1. I understand the kinds of asset decisions that drive the quality of services my utility provides, and the cost of those services. (*Hint*: Think "acquire assets," "operate assets," "maintain assets," "rehabilitate assets," and "replace assets.")

2. My utility has well-defined methodologies to address each kind of decision on a whole-of-life basis taking into account *all* the impacts on the community. These methodologies involve considering not only the costs of each decision but the benefits as well.

3. To support these decisions, we have reliable and accessible data on our service levels, service level goals, and the condition, performance, and criticality of our assets.

4. Overall, I feel comfortable that our asset decisions bring the highest possible value to the community we serve.

Did you answer "yes" to all four questions? If so…congratulations! You are already practising world-class asset management!

Interested? Bookmark Ken Harlow's Asset Management Page:
http://www.bcwaternews.com/AssetMgt/

But wait!:

before you dash off a hasty YES! YES! YES! YES! to the above questions

What methodology are you using? And how exactly does it take into account ALL the impacts on the community? I asked Ashay Prabhu and Jeff Roorda to explain their systems - service levels and star ratings, respectively.

MEASURE AND TRACK COMMUNITY VALUE .... WITH SERVICE LEVELS

Ashay Prabhu (ACEAM, Australia)

I have been applying this paradigm of 'maximising community benefits' in terms **of service level ratings** for last several years and local governments in particular have found this quite exciting. Many are well down the track of optimized corporate decision making using multi-criteria analyses. On some sites we have converted this to star ratings, depending on type of infrastructure.

Community Value

When we say we want to "maximize the community value of community infrastructure," we must look not at individual decisions but at **groups of asset decisions**.

The key is **service level**. Most asset analyses assume that current asset stocks are optimal in numbers and location. This is most often not correct - and in any case, can never just be assumed.

Three checks when measuring level of service:

1. If we provide a new asset, where will it be placed and what shape, size, functionality and capacity will it be.
2. Once it is provided, what will be the intervention point at which maintenance will be undertaken, so it is kept above an acceptable standard.
3. At what point (physical condition, obsolescence, functionality, capacity, social degradation threshold or environmental non-compliance rating) will it be upgraded, renewed, expanded or disposed?

Service level is measured in a number of ways:

1. Asset standards – objective, physical condition, capacity, functionality, capacity, safety standards, legislative compliance, accessibility, hours of operation and recurrent maintenance frequency etc.
2. Social – intangible (can be made objective) but key criteria in terms of social benefits for infrastructure like buildings, parks and facilities is lot easier than in case of roads (although has been done).
3. Environmental – tangible and intangible, again can be incredibly complex or may be kept simple and objective.

Note: that when measured objectively, distinction is necessary between poor level of service and acceptable level of service. For example, an aquatic centre open 3 hrs only each day for 4 days a week may be a perfectly acceptable in the context of an organisation that predominantly has users in a mining town who only visit between 7pm and 10pm each night. Lot of organisations tend to attribute 'poor' with 'lower rating value' or 'low utilisation' or 'low condition score' etc. This is not necessarily appropriate.

Now the process:
Once the criteria is set and ratings are assigned, an optimised decision making analysis can be applied in the following sense:

1. Categorise the objective decision criteria from item 3 into
   a. Non-discretionary, which can be modelled to determine optimal decisions.
      i. How to spend my funds (see SAM #215 and # 216)
      ii. Where to spend my funds – which assets and which programs (groups of assets)
   b. Discretionary, which are multi-criteria and mostly intangible.

2. Model the future to ensure that each non-discretionary decision is 'value based' or 'optimised' i.e. all objective and little 'subjectivity'. Group these non-discretionary decisions into 'work programs'. (*Note:* Ashay provided a number of very interesting screen shots to illustrate this modelling and those aspects below that we did not have the space to be able to show you. Please contact Ashay directly for these illustrations on ashay.prabhu@aceam.com or go to his website for further information.

3. Lump both – discretionary and non-discretionary into a multi-criteria optimization tool. Using a multi-criteria analysis tool, model the benefit (objective number), for all programs across the organisation.

4. This provides a hierarchy of programs from most beneficial to least beneficial.

So what is the outcome:
1. Rational decision making , where discretionary and non-discretionary are both handled in the same bucket
2. If a discretionary program is cut, the impact in the future can be easily modelled. The suitability of this decision can therefore be challenged if service level falls below acceptable.

3. If a non-discretionary program needs to move up to the top of hierarchy, some discretionary may have to give. Again refer item 2. A balance is stuck e.g, we will only do $8M worth of road repairs as it still keeps our head above water (future prediction) and still allows us to build a new cycle-way for inner CBD and proceed with the political promise of a new swing in the outdoor park.
4. Overall, the organisation has the tools and framework to test the scenarios and make a corporate decision on 'holistic frameworks'.

Is it all that simple:

1. Intuitively every organisation does it all the time, we call it trade-offs. Politicians trade off, members trade off and even citizens are willing to trade off.
2. Trick is in defining the SL criteria that defines **how to measure trade-offs**, as trade-offs increase/decrease or balance expectations and therefore the benefits and therefore the levels of service.

One more thought:

If anyone thinks that asking the community would give me all the relevant criteria – think again !!! The community needs to be first informed and 'non-personal'. Its not about your park Mr Edwards or about the community centre that your poker club wants Mrs Williams, or about your cricket oval Mr Parthasarthy Sivaramakrishna Mangalmoorthy, it is about a whole of community. So the community needs to be supported with a tool and mechanism that captures their patterns of useage, discontent, content, likes , dislikes, social trends etc etc. Most of it is NOT rocket science and one does not need onerous data collection (trap that most fall into).

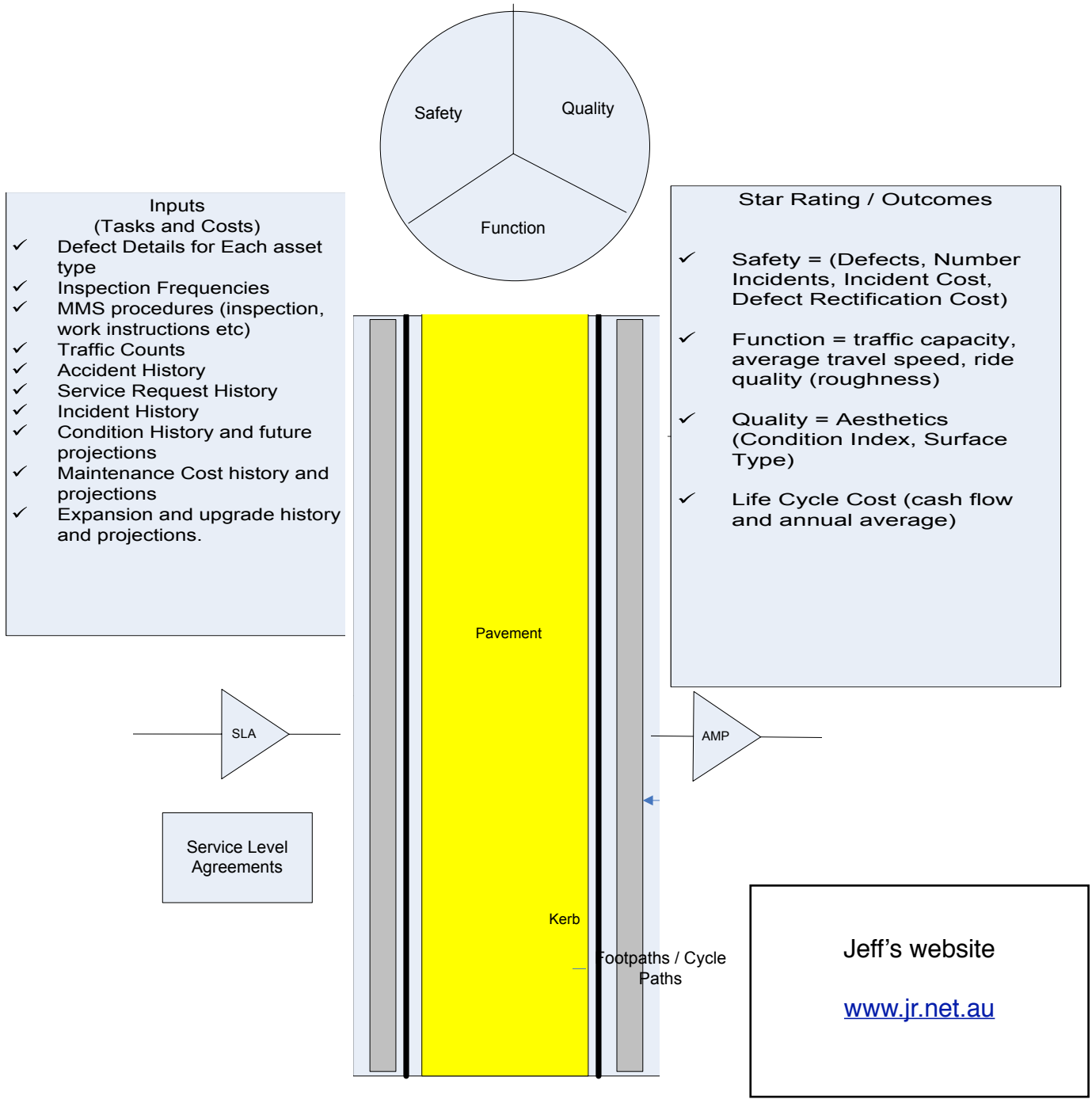
So before asking the community, use the knowledge that is driving in your trucks, in your utes, in your sparky's and plumber's heads who are in constant touch with the users. Once the framework exists, moving forward with the community is very simple.

http://www.aceam.com/

MEASURE AND TRACK COMMUNITY VALUE .... WITH STAR RATINGS

Jeff Roorda, Principal, JRa Associates, Australia

There is still much work to be done in the use of Star Ratings for Roads, a particularly difficult task. Here is an approach that melds star ratings with engineering condition analysis.



Star Ratings Describe Transport Service Output Standards Which Determines Inputs and Costs for each Service Level. Even though they are not the same, there is a correlation between road hierarchy and star rating.

eg

- 5 Star – Very High Safety, High Speed, Very High Inspections, High Signs and Marking, Smooth, Excellent roadside services, Most Expensive.
- 4 Star – Main Road, Moderate to High Speed, Few Defects, High Inspections.
- 3 Star – Can drive safely at speed limit – there will be a range of possible life cycle cost scenarios depending on intervention levels and cash flows.
- 2 Star – Less Frequent Inspections, geometry and defects will limit speed.
- 1 Star – 4 wheel drive track – no access after rain. Badly deteriorated sealed road, extensive potholes requiring very slow speed to avoid vehicle damage.

Note
Cost optimisation can be applied to any star rating level to minimise life cycle cost for that service level / star rating.