AMQ International

Strategic Asset Management

Issue 7, April 9, 1999

Service Levels – A simple, multi-use, framework from NZ

Service levels – are we getting it right?

When Dean Taylor, Asset Policy Advisor with the Wanganui District Council in New Zealand, conducted a series of meetings in rural locations in order to determine what users wanted from Wanganui's rural roads, the results were instructive and led to the development of new analytical tools.

Mismatch

Analysis of written responses after the meetings showed that the road sections of most concern to users *DID NOT MATCH* the road sections that would have been programmed for priority attention by using traditional road board standards. That meant that the work the Council was doing was NOT the highest priority work in the *eyes of the customers.*

Not one of the top three road priorities that the standards would have suggested for road widening were considered as too narrow by the users. although narrow roads was a problem for them in other areas. Given funding limitations it is possible that council funds could have been exhausted before they got round to the roads of main interest to users.

Designing a new Service Level Framework

So Wanganui set about creating a service level framework that would take account of both user requirements and professional standards. This required matching standards with needs. The ideas behind this framework could be applied to any asset and any service that councils, or others, provide.

(cont. overpage)

Researched and written by Dr Penny Burns, AMQ International.
Published fortnightly. Subscription, Comment, or Inquiries to

AMQ Intenational
PO Box 75 Salisbury South Australia
Tel 618 8258 4342 Fax 618 8281 5795
Email: sam@amqi.com

Inherited Standards

Traditionally road service levels have been determined at a maintenance level and from standards inherited from previous administrations. This does not always meet user needs, nor does it give the service provider the ability to plan strategically.

Contracting Out

The move to contracting out maintenance has provided an opportunity to better define what is required in output terms, but in many cases there has been simply a redefinition of past practice.

New Framework needed

Dean Taylor and the Wanganui District Council are designing a framework that is largely determined by traffic volume but also recognises other user factors and especially geometry and land use criteria.

Key factors in framework

The key factors in this framework are

- Number of vehicles per day
- Number of lanes
- Whether sealed or not
- Speed value
- Quality of roadmarking
- Response time

Speed value is important because it combines a number of elements that are less easy to define such as visibility and geometry.

Service levels

At the moment they have a 6 level framework. These levels range from a sealed two lane road with > 500 vehicles per day, speed value of 80+ kilometres and some roadmarking (level 6) to a one lane unsealed road, <30 vehicles per day and a speed value of 50k (level 1).

Designate and Match

The process being used by Wanganui is to create a framework and then place each road section within the framework. Where it doesn't fit, says Dean, decisions will be taken as to whether the framework needs to be adjusted.

It may be that the number of levels increases from six to eight or more, or the road needs to be modified up or down the scale. To modify the road upwards will require some capital works in most cases and to modify down will need to be assessed on a case by case basis. This could also require some capital works input but most probably be simply a case of altering maintenance practice over a period of time.

USES FOR THE FRAMEWORK

User understanding

Many uses become evident when the roads groups are plotted on a map in separate colour bands. For example each road that is designated can easily be compared with other road sections of the same designation and users can more easily understand the rationale for the standard of the particular road that they are concerned about.

Strategic planning

It can also be used far more as a strategic planning tool whereby projected changes in land use traffic composition and/or volume or other trends can be identified in terms of the required modifications to the roading network. This requires only simple map based presentation.

User Driven planning.

It is important, says Dean, not to forget the objective to make the new regime more user driven and flexible. To this end the structure can be used to enable groups of users, particularly residents on a defined road section, to buy a higher standard of service through a special rates scheme. This instance would simply create another parameter to the heirarchy, and anybody would be able to clearly see the underlying service level for the road section and the modified level.

Maintenance contract management.

Maintenance contract specifications, which typically have been designed from the service providers perspective for administrative convenience, can then be designed to reflect the different service levels specified. Cost bands can be derived for each of these levels for financial planning purposes.

ANALYTICAL TOOLS

Rural Road Service Level Matrix

Dean Taylor has produced a number of tools in the process of developing his framework . He has a Rural Road Service Level Matrix with a range of criteria (and associated weighting). This takes into account the number and nature of complaints; the road heirarchy , eg arterial, collector, etc; susceptability to accidents, land use, topography, vehicle volume, lane width, whether sealed or unsealed, the roughness, the pavement depth and the annualised cost.

Survey Instrument

There is also the survey forms that were introduced and distributed for return at the rural roads meetings.

Further Information

Dean Taylor, whose work was shortlisted for the first Asset Management Competitions in 1996, is a leading player in asset management in New Zealand . He is also an enthusiast for the cause and is willing to share his work and ideas with others.

Contact: **Dean Taylor** 64 -(0)6- 349 0539
or by email. **deant@wanganui.govt.nz**

More on Service Levels!

see also

- "SMART Value Management" on page 54 which is, in effect, looking at how to define what customers want from a building, and
- Ashay Prabhu's comment in the Forecasting Renewal debate about adequacy of funding being determined by service levels. The service level debate gets into everything!
- *And it is fundamental to improving asset management plans.*

IN NEXT ISSUE

SURVEY ON SERVICE LEVELS

Next Issue SAM issues its first SURVEY - an inquiry into practices in determining required service levels. The survey looks at what people are currently doing in determing service levels and is a search for best practice.

Take part. It is important.

Asset Management Plans

Part 1: The First Plan is Unique!

It is said the first vacuum cleaner invented occupied an entire room. Had the inventor tried, first off, for today's sleek modern and condensed design, the chances are we would still be using brooms! The prototype is inevitably rough, needing further attention. Its function is both to demonstrate that the idea "works" and to suggest where to go next.

This is also the role of the First Asset Management Plan. It is different in both qualitative and quantitative terms from what will follow – designedly so! *Resist the temptation to 'polish', this is not the function of a 'first plan'.*

First Plan Documents the Current Situation

The second and subsequent plans look at changing the future but for that it is imperative to know where you are starting from. That is the role of the First Asset Management Plan: to document where you are now.

It involves four (4) activities:

- Chunking
- Dimensioning
- Recording
- Stating

Chunking

You need to group your assets together in large 'chunks' to make it easy to get your head around the issues affecting them. If you are a council, this may lead to *asset groups* such as buildings, roads, drains, parks and gardens etc.

These are broad groupings. Five to seven (5-7) asset groups is a good number (because studies have shown that this is the normal range that we can manage to keep in our heads at one time). If each section of council is preparing its own asset management plan, say one for roads, one for parks and gardens, then again, the same rule applies – 'chunk' these assets into no more than 5-7 groups.

Dimensioning

Here is where you put some starting numbers on the groups, e.g.

- Size of group (number, value of buildings)
- Cost (maintenance, operations)
- Revenues
- Age profiles (but only if you already have them*)
- Condition statements (but only if you already have them*)

The first plan is needed for guidance

The "first plan" documents where you are now and what information you have now, to identify what needs to be done next. This is not the time to do detailed studies. Even if you choose to get some consultants to gather the detailed information you are lacking, you should still do the 'first plan' yourselves - *before* calling in the consultants! In this case the first plan may be done only months before the second and subsequent plans, but will provide ta guide for further development.

Recording

A non-judgemental statement of *current policy and practice.* Just record it, don't analyse it, modify it, or develop it. If you don't have a policy, this is not the time to invent one, just record what's what. If policy and practice conflict, write that down.

Stating

This is the place to state the issues, from problems with funding, confict of objectives, lack of knowing what direction to move in, whatever the issue is, write it down! Issues are basically an absence of workable policy so recording policy and practices and stating issues go together.

First write them down and then sort them into some order. In other words, 'chunk' the issues. This can be done in several ways - according to asset, or according to the nature of the issue.

Avoid chunking according to 'whose responsibility it is to find a solution' - not only does it lead to unproductive blame laying, it ignores the possibility of an 'engineering' problem having a 'finance' solution - and vice versa. So state the issues but don't pre-empt the solutions.

The first plan is not the place to *find* solutions. It's job is to document the status quo.

New Zealand Experience

In New Zealand, all councils had to go through the exercise of preparing their 'first plan' about 3 years ago. I asked Warwick Busch, of Worley-GHD, the leading asset management consulting company in New Zealand, what the benefits had been and what lessons had been learnt. He says:

Benefits

"The most important thing that has come out of the work that has been done in New Zealand is an understanding of the big picture, seeing asset management *in the context of the business.*

Previously, maintenance engineers would be allocated money and the idea was to spend it. *They did not think about the revenue side of the equation.* For their part, management would determine service delivery objectives and not understand the impact that they were having on costs. They would continue to allocate maintenance budgets according to the 'what is left over' principle.

The Asset Management Plans have been instrumental in changing this. The plans are a framework for understanding the heirarchy of planning in the organisation, so that duplication, waste and inefficiency can be identified and eliminated."

Lessons learnt

"The most important thing with a First Plan is to document the status quo. Don't try to change it until you know what you are doing. Don't worry about the words, first of all put down the costs, what you are spending now on capital, on maintenance, on operations. What are the issues? Discussion of costs and issues will make the words easy".

Where we are now- Confidence

"The best thing that New Zealanders have got from the asset management plans is confidence! They now understand what it is that they are doing, **they feel they have more control and that they can do something, whereas before they felt that they were being done to and had no say.** Decisions were ad hoc. Nobody from management to maintenance supervisor understood the connections. Now they understand the linkages from financial planning to asset management planning."

Contact: Warwick Busch, Worley-GHD
64 (0) 9 - 379 1200

We are already underfunded !

So why waste time on renewal forecasting?

comments from the Discussion Forum

Ashay Prabhu, Civic Constructions, Tasmania, responded to a comment on the website to the effect that "We are under-funded already, so why should we spend more resources in forecasting if we are not going to get any more money anyway?" Ashay wrote:

"How does an agency define underfunding? Is it a level of funding below an expected level of funding, this being the asset manager's estimate to maintain a certain *service level*?

If so, has the agency determined through analysis **what this level of service is?** Is it a condition of the network to be achieved each year or is it a safety standard to be achieved each year or is it something else? Then again if the expected level of service is low, then does the funding reduce? What is its impact in the long run?

Secondly, if asset renewal forecasting is a waste of time and resources -**how do we justify the current strategic and tactical maintenance and renewal plans,** i.e. how does the agency demonstrate to stakeholders that the taxes are being spent at the right spot at the right time. And, vice versa, if more funding is not available can an agency, without doing such analysis, demonstrate that the asset is going to be a time bomb at a certain stage where it will be impossible to catch up?

Case Study Offer!

And he offers to provide some case studies to illustrate his points. **So tune into the debate, read the comments, add your own - before the topic finishes on April 23rd.**

www.amqi.com

SMART Value Management

Value Engineering assumes that the Service Levels are already determined.

"While traditional value engineering has often been successful when applied during detailed design, it ahs been less so during the very early stages of the design process. The techniques of value engineering are based on the fundamental assumption that a building possesses an objective set of functions which are easily identifiable and which remain constant over time. It is also presumed that the client is represented by a single decision-maker or coherent group of decision makers. However, during the briefing and concept stages of building projects these assumptions are rarely valid. Different user groups within the client organisation often have different perceptions of what the function of the building should be."

Understanding What Services and Service Levels the User Requires

The simple, multi-attribute rating technique (SMART) as devised by Edwards et al 1988). While the approach has its roots in decision analysis, it is primarily concerned with decision structuring rather than decision making. SMART value management draws on simple decision modelling techniques to facilitate dialogue and debate among the various project stakeholders. It makes no pretence at identifying optimal solutions to design problems. The approach merely creates a learning environment within which stakeholders can reach a shared understanding."

"Value Management and Post-Occupancy Evaluation: closing the loop" Stuart D. Green and G.W. Moss in *Facilities*, vol 16, no 12, Jan/Feb 1998: pp34-39.

Competitive *price* bids favour *least informed* bidders

- If you ***know*** and ***can prescribe*** **t**he quality then hold this quality constant and have the competition ***bid on price*****.**

- However, if you ***do not know,*** or ***cannot prescribe*** **t**he quality in advance then hold the price constant and have the competition ***bid on quality*****.**

Why? Because competitive bidding is a discovery mechanism!

Like any discovery mechanism, the secret of success is to ***have only one variable.*** If you do not know or cannot prescribe the quality AND you bid on price, there are ***two variables*** – quality, and price - ***and the bids are uninterpretable.***

It is easy to promise the earth when you are in opposition – but you have to moderate those promises when brought up short with the realities of government. For the same reason it is easy for those who know less to put in the attractive LOW bids. Those who know more are then caught with having to contend with their ignorant opposition by undercutting their true costs and cutting corners or losing the bid. Either way the client misses out.

Solution?

Choose your price and ask bidders to tell you what they can offer for this price. Tell them also to state what they would leave out if the bid price was 10% less and what they would add if it were 10% more. This gives you the best chance of (a) assessing the capability of your bidders (b) getting the best quality inputs and (c) determining the optimal value-for-money price

Complaints, Feedback, or Information?

What's in a word?

The receptionist spoke politely to the caller who had rung in to say that one of the street lights had failed. "Thankyou", she said, "We will deal with your complaint as soon as we can". To which the caller replied, rather hurt, "I was <u>not</u> complaining! I just thought you would like to know!" *Next time this caller may be reluctant to pass on information.*

We discussed this point at the ALGENZ asset management workshop. Someone suggested the switchboard should say "feedback". But that sounded somewhat patronising, as if the agency had actually done something worthy of having information fed back!

The best suggestion came from someone who said we should say, warmly, "Thank you for the *information*. We want to provide you the best service possible but with the storm last week we have had over "x" calls so please be patient if it takes us a day or so."

Information should go both ways. He added, that whenever they gave a sound reason for a slight delay, they could actually go for a week before attending to the issue, if necessary, without losing customer support.

Customer information is free, timely and , if handled properly, *improves rather than diminishes customer perceptions of service quality.*

GLOSSARY
Value Analysis, Value Engineering and Value Management:

Value analysis is defined in Building Standards Glossary as "a ***systematic analysis*** directed at identifying the functions of systems, equipments, facilities, procedures and supplies for the purpose of ***achieving the essential functions*** for the lowest cost consistent with needed purpose, performance, reliability and maintainability. *Value engineering* is "the application of value analysis to building or civil works projects, usually by a ***multidisciplinary team***, to achieve the required function of elements of a facility and the entire facility at the lowest overall cost for a specified level of quality." *Value management* is "the comprehensive application of value analysis ***to both financial and technical management*** activities."

Discussion:

The first VM study in which I took part (there are no passive 'observers' in a VM study) was to consider a bank's investment in an industrial park development. The project was looking rather marginal at this stage and it was hoped that the VM would discover some new opportunities. The Value Manager asked what assumptions had been made. The banks finance officer reported that the interest rate would be 'x%' and the cost of the project would be 'y'. We then assessed the probability of the assumptions being wrong and the consequences if they were.

"What about the interest rate?" asked the Value Manager, "Are we likely to get this rate?" "No way!", replied the same finance representative. "That is a good 2 percentage points too low!"

Bearing in mind that this was a marginal project to start with, an increase of two percentage points in the interest rate would knock it out of the ball park. Why had the Finance Officer - who had been a member of the project team since the beginning - not adopted a more relevant figure from the start? Difficult to know, but at a guess probably because the boss wanted the project to go ahead and he did not want to be the one to knock it on the head! It happens a lot, I used to think more often in government than the private sector, but apparently not.

Later, when asked whether project costs would change, the Finance Rep said "Definitely! When we started we thought that the project would fall into a construction trough and that we would benefit from low trade rates, but we have deferred it so many times now that the trough has passed. Trade rates are now much higher."

The Value Manager, simply by *systematically* asking the right questions in *a setting where all participants are equal*, had brought out two features that could have been brought out before, but were not.

Later, a number of technical suggestions were made by participants who had been part of the previous project development group and clearly they were ideas that they had held for some time. Why had the ideas not surfaced before? Largely because there is a 'heirarchy' in such teams and participants were reluctant to challenge the right of the lead architect. In the atmosphere of the VM study where all professions are 'on wood' to produce insightful ideas, they surfaced (or,

A few selected references

- Effective Value Mangaement - "Getting the Recommendations implemented" *Asset Management Quarterly,* No 1, March 1994, p.15
- Connaughton, J.N. and Green, S.D. (1996) *Value Management in Construction: A Client's Guide;* Special Publication 129, CIRIA, London
- Green, S.D. (1992) *A SMART Methodology for Value Management,* Occasional Paper no 53, Chartered Institute of Building, Ascot
- Kellly, J,P. and Male, S.P. (1993) *Value Management in Design and Construction: the Economic Management of Construction Projects,* Spon, London.
- "The Value Times" newsletter of the Institute of Value Management Australia Inc.
- **The Australian Centre for Value Management** provides training in VM.
  Tel: 61 (0) 2 9209 4143