

Issue 42, Aug 11 2000

Presenting the BIG Picture	121
Designed for Limited Resources—Use what you already have	122
The BIG Pictures	123
Constructing the BIG Pictures	126
Using the BIG Pictures	128

Baseline Asset Management:-
Part 1 of 2 Parts
Essential Information for
Communication with Decision Makers

**Advisory Panel
for this Issue**

Ross Waugh,
Waugh Consultants Ltd,
New Zealand

Ami Sudjiman-Spinks
Strategic Facility
Services PL
Canberra, ACT

Stephen Howe
City of Booroondara
Victoria

David Bernard
Playford City Council,
South Australia

Mark Neasbey
Australian Centre for
Value Management
Canberra ACT

Presenting the BIG Picture

When communicating with decision makers (CEO, Chairman of the Board, Councillors) don't get bogged down in operational detail! Draw the BIG PICTURE. How?

Baseline Asset Management is a communication technique that will help you get the big messages across upwards to key decision makers, out to your external stakeholders, and sideways to your fellow officers.

In this issue we show you how to develop 3 Big Pictures that will set the scene for your asset management work.

Paradox:
BIG Decisions need LESS information
than SMALL Decisions

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

Baseline Asset Management

Designed for limited resources

The ideas here were developed in response to the need of small councils to avoid wasting the very limited financial and technical resources that they have, but are equally applicable to organisations with less limited resources. Richer organisations who are not currently using the BIG PICTURE approach, could find that they would gain a better overall understanding of the issues and could easily double their efficiency while generating more rapport with senior management and key decision makers—simply by providing some quite simple pictures.

Using data and information already at hand

Most of the data that you need is probably sitting in your last revaluation exercise, unused.

Packaging your information

The mistake we nearly all make is giving *too much* data and detail. It is not for nothing that senior executive ask for a “one pager” because

***When Making BIG Decisions
Detailed Data
Gets in the Way!***

This is good news for those without detailed data, for even if we *have* detail, we must package it in large packages to make sense at a strategic level.

In the flush of enthusiasm of construction of detailed asset registers, this packaging aspect has too often been forgotten, with the result that a lot of money has been spent but little strategic level information is being produced.*

**If you suspect that this is the situation you are in and would like to make better use of the information you have, email me at penny@amqi.com. Ed*

Expansion

In the pictures that follow, you will readily see the opportunity to expand and elaborate. Do it for your own analysis and decision making, but don't confuse this useful detail for your practical purposes with the simplicity of communication needed for others—particularly others on whose decisions you must rely or whose goodwill you wish to encourage.

Even for your own analysis, you will benefit from being able to see the structure of the problem before delving into the detail.

A few BIG pictures, together with some well chosen anecdotes to make the pictures ‘come alive’ for your audience will likely have them *wanting* to know more. So by all means have such detailed back up as you have ready to hand, or a proposal to get the detail you need.

The Asset Managers Responsibility

The first responsibility of the Asset Manager is to provide senior management with the information needed to enable them to ask and answer the questions:

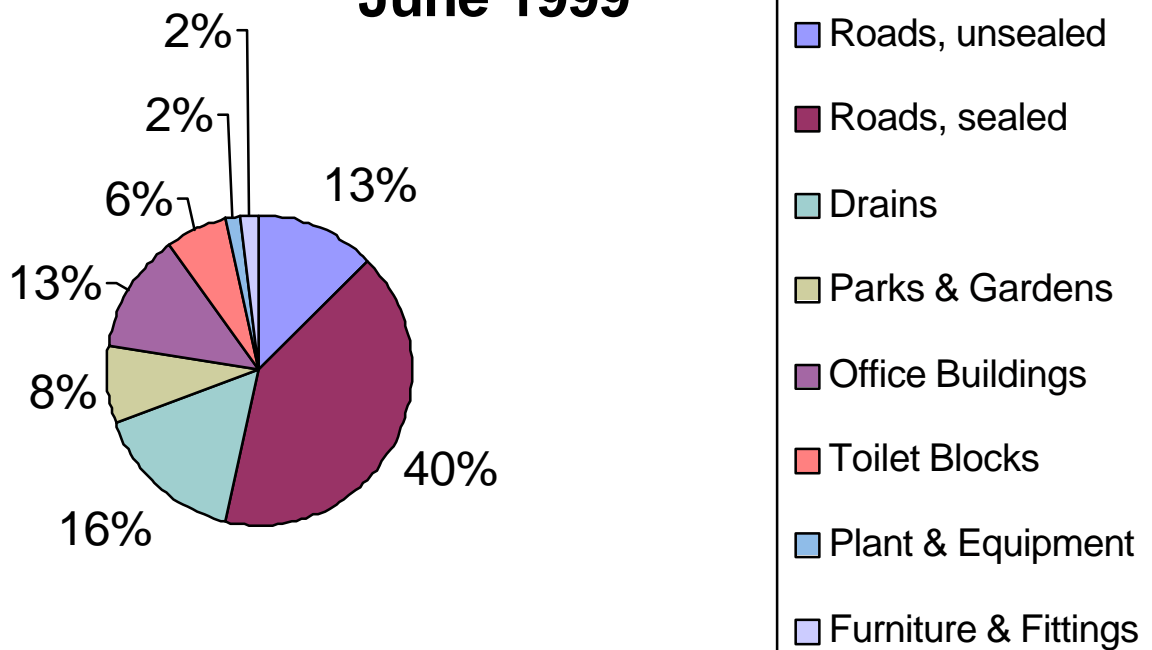
- Are our long term revenue and expenditure projections ‘in sync’? *and*
- Are our assets meeting current and future service needs?

In this issue we look at three (very simple) BIG Pictures and how to construct and use them to answer the first question.

In the next issue, we complete the set with the Last BIG Picture (more demanding) and 4 basic principles to guide decision making. We will also look at some other communication techniques you can use which, while on the face of it are very simple, have to be used to be appreciated.

BIG Picture 1: WHAT ASSETS HAVE WE GOT?

Assets, Total Replacement Value, as at June 1999



Total Replacement Value

What assets do we have and how much would it cost to replace them? This is what the first BIG Picture tells us. Why do we want to know this?

Because

- (1) Total Replacement Value is the quickest way for anybody to get an overview of the total asset portfolio, and the proportion of different asset groups within it.
- (2) The alternative, looking at "written down" values as appear in the balance sheet, tends to understate the importance of older assets which are much depreciated. Since these assets are likely to be the first to need renewal, and at much higher costs than recorded in the balance sheet, the written-down figures are not useful for forward planning.

In our BIG Picture 1, the value of sealed roads for this council is much greater than the value of unsealed roads. This does not mean that there are more sealed roads, rather that each length of seal costs more than an equivalent length of gravel.

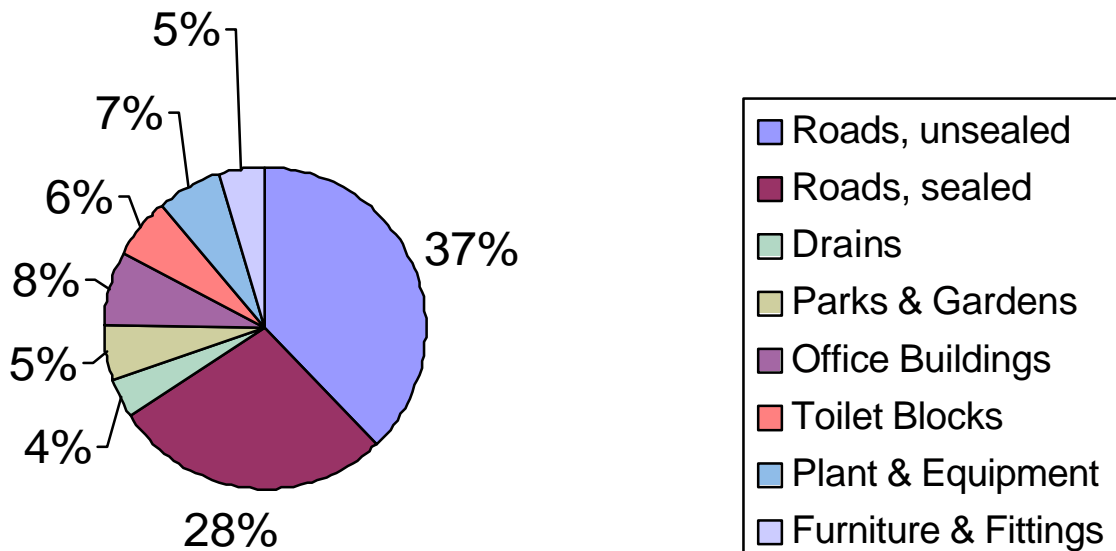
You could increase the information value of the first picture by adding to each of the pie segments, a quantity figure. But avoid too much detail or you negate the overview quality of this communication.

Compare BIG Picture 1 with BIG Picture 2 over the page.

What we find is that the size of the asset group within the total portfolio is not the only thing that determines its importance in the annual cost of sustaining the asset base.

Big Picture 2: HOW MUCH DO OUR ASSETS COST?

Contribution to Average Annual Asset Consumption Cost of



Average Annual Asset Consumption (AAAC)

This is what your asset portfolio is costing you each year, *on average*, to sustain. AAAC is the annualised cost of asset renewal. If an asset has a life of 10 years, then “on average” it will use up one tenth of its service potential each year. It is similar in concept to depreciation.

AAAC is based on the useful life of an asset. For a “composite” asset (which includes infrastructure) it is the weighted average useful life of the various components of the asset. So that for roads, say, one could take the value attributable to road seal and divide by the life of the seal and the value attributable to the pavement or sub-structure and divide by the life of the pavement, and add the two to get a composite AAAC for BIG Picture 2.

Surprise!

When we calculate the average annual cost of each asset group in this way we find that it is not necessarily the largest ticket items that contribute most to annual costs.

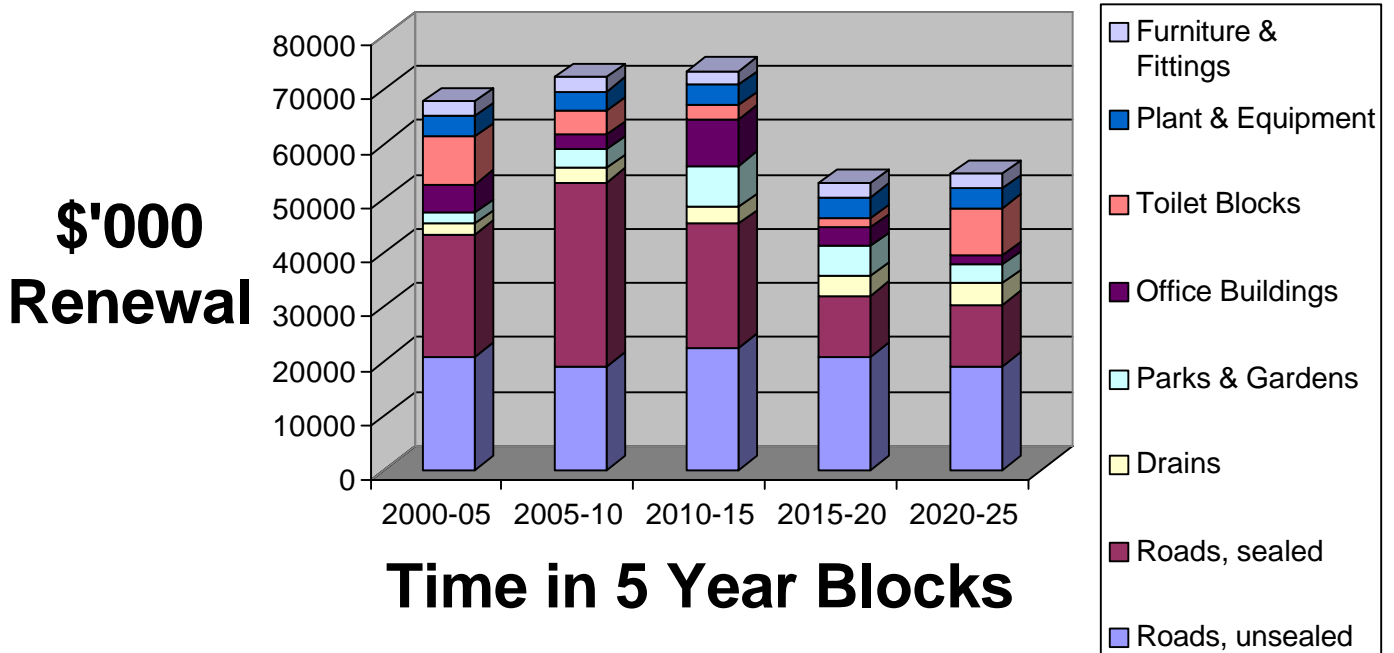
For example, compare the cost of maintaining unsealed roads. Unsealed roads represent only 13% of the total asset portfolio of this council—but the cost of maintaining these assets accounts for a whopping 37% of the overall annual asset cost.

This is because the gravel coating needs to be replaced much more frequently than the seal on a sealed road.

Anything that is done to shorten the life of an asset (such as requiring a higher standard of service) increases the average annual asset consumption cost—and brings forward the time of asset renewal. Conversely anything that is done to lengthen the life of the asset reduces the AAAC and puts off the costs of asset renewal.

BIG Picture 3: WHEN WILL NEED TO SPEND MONEY TO SUSTAIN OUR ASSETS?

Renewal Falling Due 2000-2025



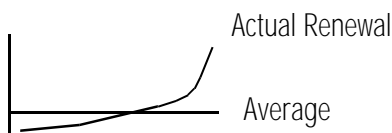
So our second big picture, looking at average annual asset consumption rounds out the image of the portfolio that we get from our first big picture, yet

AAAC is still only PART of the story

Assets do not wear out at a nice even rate over time. This is why you should

Avoid Simplistic Rules such as "Renewal Spending should equal Depreciation"

Depreciation is an average. In the early years of an assets life, there is little or no need for renewal expenditure. In the later years, renewal increases.



Using a Renewal = Depreciation rule would have you spending too much when your assets are young and too little when they are old

So it is very important to understand the future timing of your renewal and this is what BIG Picture 3 tells you.

However, like all of the other BIG pictures, this is only a tool. It doesn't say you HAVE to renew at this time. In many cases you won't be able to afford to.

The point of the BIG picture analysis is to let you know where you stand, so that senior management can make decisions in a reasoned way.

You may decide to rationalise, change standards, change services, extend life by increasing maintenance, and by these means reduce and defer costs.

Or you may decide to raise revenues. Or both.

Constructing your BIG Pictures

-with minimum effort!

Easiest Way: Use Data from Your Last Revaluation

There is much more information in your revaluations than you are probably using!

I am indebted to **Barry Maloney of Maloney Field Services (MFS)** for providing me a copy of the detail of one of their council valuations.

MFS take a systematic approach to revaluations. They determine what asset units to record (eg road lengths) and then for each asset unit they record the size, capacity or number (as appropriate). So, for example, for a road length they would record how wide it was or what the total area was.

Now they can apply engineering unit rates to determine the replacement value of the road unit. This gives the TRV (Total replacement value). However, for the balance sheet the important figure is the "written down" value. While this figure, of itself, is not that terribly useful to asset managers, the work that the valuer does in order to obtain it, is exceedingly valuable. And it is this information that is probably sitting around unused.

To get the written down value, the valuer records or estimates:

- remaining life
- total replacement value, and
- economic or total useful life

This is all the data you need for BIG Picture Construction

The valuer may estimate the remaining life of each asset by subtracting the age of the asset from the total useful life or, if age data does not exist (and sometimes, even if it does) by assessing the condition of the asset. Note: For buildings, the valuer will give you what you ask for. If you only ask for a 'market value' (equivalent to a 'written down' value) that's all you will get. So ask also for a total replacement value.

If you have recent revaluation data (say within the last three years) access the disc (the data is probably on an excel chart or spreadsheet) and aggregate the data for individual asset units into the categories that you want to use. (And then you can modify it for acquisitions and deletions since the revaluation date.)

Tip: Go back to the original data provided by the valuer, not some summary of it that may have been done for other purposes (eg financial). If you don't understand it, ring the valuer. They are usually delighted when people actually want to USE their hard work!

But what if you don't have revaluation data?

Don't despair, you can do it yourself. It will take a bit longer but not that long. **Ross Waugh of our Advisory Panel** writes " I went through the baseline asset management exercise with a small authority client about a year ago. All data was in a simple Map Info GIS, and with the simple addition of a few fields, and the use of the GIS group to select functionality we were very quickly able to populate the following data:

- **Age** (installation date or year)
- **Condition** – simple top down (1-5) assessment from field service staff (rural water supply mainly)
- **Performance** – simple top down (1-5) assessment based on basic network models and staff comments
- **Risk** – top down consequence of failure (1-3) assessment based on discussions between asset managers, field staff and consultant and the use of a simple matrix.

This data was able to be collated/inputted very simply and quickly, without much hassle, and used very limited resources (total 2 days consulting time and 1-2 weeks total staff time). I believe that the addition of the performance and risk assessments, simple as they were, really added to the data you have mentioned in the baseline article. These items, combined with age, condition and valuation data have provided a very good platform for my client to understand and manage their assets, and inform their decision makers, at an appropriate level of sophistication and effort for the assets being managed."

Constructing the BIG Pictures More Clues

If you don't have a good quality valuation process such as that carried out by Maloney's then you will need to develop the same sort of data. For this, consider

Unit rates (for replacement values)

If your own engineers cannot provide, the best source is a professional consulting engineer working in your area (for infrastructure networks such as roads, drains, sewers, etc). For facilities you may get good information from the original builders, contractors or designers and also from the design application process.

Economic or Useful lives

What lives are others in your industry or regional area using? Or try developing reasonable assumptions from your accounting records (depreciation rates are better than nothing although they may not reflect the real economic lives), tax records (ditto), other people and on the ground experience. The point is start with something *then refine later*.

Residual lives

these are best developed from condition analysis (see following) but can also be developed by subtracting age from the economic life estimate. Age can be estimated from acquisition data if available, or from a knowledge of the style of the asset (assets of the same style tend to date from the same timespan and this is useful for building styles), or from a knowledge of general expansion and development (eg if you know when a subdivision was commenced, you can date the infrastructure in it).

Condition

If you have had any condition assessments made, you can use these, or, in their absence, gather a feel for condition by

- Speaking to your field personnel (as Ross Waugh suggests) and/or
- Use customer requests/complaints data

- Or Insurance claims data
- Or Community satisfaction studies or perhaps public comments on the annual budget or annual plan

This should give you some idea both of the condition of assets and what the ratepayers want done as a priority. It will not be as good as actual condition audits, and the customer is not always right, but if there have been a lot of complaints about flooding in a particular ward and the trend is worsening, you can be fairly certain that a) there is a problem and b) the community do want something done about it.

But be careful!

The focus of the BIG picture analysis is to understand how the useful lives of your assets may be affected by the standards desired by your ratepayers and to assess residual life. It is easy to fall into the trap of thinking 'short term' (ie current budget) when analysing complaints data.

Getting from condition to residual life.

Whatever the current condition of a road, say, the residual life will depend on the likely future use. So if we are looking at a heavily trafficked road, we would expect a shorter residual life from any given condition, than we would if looking at a quite backwater road of the same basic construction. **Trevor Mace**, Professional Consulting Engineer in South Australia, recommends inserting in the valuation spreadsheet a field for the standard of road that we are considering. Different standards can be given different economic lives, affecting the residual life. This provides a much more rigorous forward renewal projection. (Similar adjustments can be made for subsets of other assets that may have different lives because of different standards being aimed at or because they are used differently. Developing these subsets is a way of managing your assets!)

Using the BIG Pictures Who?

1. Key Decision Makers (e.g. Chairman of the Board, Councillors, etc.)

What we can do in the future is shaped, in part, by what we have done in the past. And both the opportunities and the difficulties that will present themselves in the future are, in part, those we set in motion today.

Understanding this 'past-present-future' link is essential to avoid decisions that will later be regretted.

Such as decisions to *simultaneously* increase expenditures (because it is popular) and reduce rate revenues (because it is popular)!

Few Boards or Councils fully understand the necessity to apportion capital spending between renewal and new acquisitions. Still less do they appreciate the consequences of *not* renewing (declining service levels, waste of past investments) and of acquiring *new* assets (increased operating, maintenance and renewal costs).

In large part this is because they have never had the necessary information presented to them clearly across the board. Nearly always they are presented with piecemeal projects to approve and are not provided a background context in which they can assess the consequences of their own actions. This is what the BIG pictures are designed to correct.

2. Ratepayers, customers, clients

However decision makers are only human and they respond to their constituents. So it is important to get the big messages about matching future expenditures and revenues out to the ratepayer or client base as well. Time and time again it has been demonstrated that people are sensible - when they understand! Some of the more enlightened councils and boards are now communicating costs of service to their constituents. It is, however, important to ensure that you present the costs as an upper boundary - and explain that management is taking action to reduce them (with their help!)

3. Your Fellow Staff Members

The key to effective management is a 'shared vision.' How can we expect the organisation to pursue common corporate goals if the asset management staff know what the BIG Picture analysis is showing—but no-one else does? The Big Pictures are simple enough for communication at all levels.

Next Issue: The 4th BIG Picture, The Essential Matching Principles, A SAM "mind map" and simple but effective means of communication, A resurgence of interest in life cycle costing and the August Web Contribution Award.

Strategic Asset Management is \$220 (incl 10% GST) for 26 issues with complimentary binder and quarterly cumulative indexing.
To Subscribe, complete the following and post to Strategic Asset Management, PO Box 75, Salisbury, SA, 5108
Or Fax to Strategic Asset Management, Fax # (08) 8281 5795

Name _____

Position _____

Company _____

Address _____

Phone _____ Fax _____

Email _____

Signature _____