

Trends and Innovations Part One



What's a trend? My definition: The early signs of a general move to a new position (which may be defined as either 'good' or 'bad') By this definition, not all agencies will be involved, but will be expected to become involved.

What's an innovation? My definition: A separately identifiable element of a trend, or a 'stand alone' good idea worth considering by others (unlike trends, the word *innovation* always carries *positive connotations!*)

Part One covers North America (America and Canada); the UK and NZ

Part Two: Australia—A new maturity; and Asia—From Help to Self Help

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The American Giant Awakens

Problems with deteriorating infrastructure were first recognised and documented in the United States with the publication of such works as “Crumbling Academe” by Harvey Kaiser in the early ‘80s and the establishment of a major study by the federal government “Fragile Foundations” (1987) that was the origin of the infrastructure Report Cards discussed in the last issue of SAM. But it is only recently, with EPA concern and discussion in the Senate about the cost of renewing ageing water and wastewater systems that the USA has begun to take a serious interest in asset management. Consulting companies are now rapidly gearing up to meet the expected demand.

Trend 1: Data, Systems and Beyond

Asset Management = Data Systems

Commentary in the USA (including the American Public Works Association’s own report on AM has always tended to equate asset management with asset management *information collection and data systems*. This is understandable given the current lack of good information and it is probably being driven by the same conflicting factors that influenced the acquisition of data systems in Australia in the 1990s – namely the desire of engineers to ‘prove’ their need for larger budgets and the hope of management that such systems will enable them to avoid increasing the budgets!

Systems are Big Business

With their expertise in IT and their large-scale markets, development of asset IT systems is becoming big business now in the USA. Large consulting companies are linking up with IT providers to provide a suite of ready made solutions, a combination of (mostly large scale and generic) software, such as AIS and GIS systems with standardised consulting processes, or ‘products’. But it is not the public works users that are driving the specifications for and implementation of these systems and products, but rather the IT sections. I recall a similar trend in Australia back in the late 1980s. Many expensive systems were developed that did not meet user needs.

Microsoft in the FM Business

No better indication that Asset Management (and Facility Management) systems are being seen as big business is the move by Microsoft into the specialised applications business with the joint development of an FM system that is completely integrated with all of the Windows applications.

But the first signs of AM as Organisational Change

At the same time, however, we are starting to see agencies that have decided to go beyond the quick ‘data systems fix’ approach, and tackle organisational change to embed an asset management thinking approach that will help them manage and prioritise now, rather than to wait until data collection and systems have produced their outputs in some years time. (In this regard, also see the Canadian approach on page 576) This approach appears to be driven by smaller, more flexible, consulting organisations, that are tailoring solutions to agency needs – and often with an Australian or New Zealand involvement.

What's next?

At the 2003 American Public Works Congress where a number of papers were presented on asset management, papers on the *prioritisation of maintenance and renewal* were the best attended and were the most keenly questioned, which is a good indication of where the real need is. I suspect, however, that the 'systems' approach will dominate for the next few years but with slow and steady gains being made by the 'organisational change' approach. With more Australian and New Zealand talent in the field it is likely that we will see a steady encroachment of the more advanced 'business integration' models now being applied in their home markets, where asset management has moved beyond the purely technical.

Trend 2 – “An Australian Voice”

The parlous situation in water and wastewater has generated considerable debate in the Senate, during the course of which the Senate publicly recognised the lead that Australia and New Zealand had taken in asset management. This has led leading engineering consultancies in the water and wastewater business to either appoint a 'down-under' to head up their asset management team or to seek a partnership arrangement with asset management companies in Australia. In the last year a number of key personnel have made the move to the US market and the trend has quickened in recent months.

What's next?

I think that this trend also will grow. Unfortunately, the size of the US market is such that it could easily see the decimation of leading asset management talent in Australia and New Zealand unless active steps are taken to train more asset managers .

Footnote:

In many ways, the problems now facing the Americans – changing accounting requirements, tightening budgets, awareness of ageing infrastructure, need for data and analysis as well as for practical and immediate capital budgeting – is where Australia and New Zealand was 15 years ago.

Australia and New Zealand then had the advantage of developing asset management *while there was still planning time*. There was time to collect and analyse data (and this was encouraged by the demands of accrual accounting introduced in the early 90s)

However, in the USA, while accrual accounting is now being introduced, much of the time for planning may now have passed; costly upgrade and renewal may now be inevitable (c.f. Proposal 53 reported in SAM Issue 122).

Innovation: Beyond Guidelines—Developing a “Learning Environment”

America has some excellent guidelines but by and large they are not being implemented. There are a number of reasons for this – but prime amongst them is the fact that the guidelines state what *should* be done, but not *how it can be done*. The Wastewater Environmental Research Foundation has therefore requested that, for its members, what is needed is not guidelines but a 'learning environment'. A learning environment encompasses guidelines, training, informal exchange, community support, research and development, and specialist tools and database in an integrated network. We will discuss this innovation further in a future issue of SAM.

Canada the Pragmatic

Although the Canadians share a common border with the Americans, their approach to asset management could not be more different. As in most other things (see footnote), the Canadian approach to asset management is practical and pragmatic. Here the emphasis is on management attitudes and selected 'big picture' data to guide strategic directions NOW rather than large scale technical data to guide operations some years down the track. Some years ago the National Research Council of Canada began a collaborative data collection exercise with a group of Canadian councils but this rapidly morphed into a group 'management' exercise, focusing on what information was needed and how it should be used—I.e. it changed from the theoretical and academic to the practical. The Canadian approach is best exemplified in the following introduction to "**Ahead of the Wave - A guide to sustainable asset management for Canadian Communities.**" This is accessible through the www.amqi.com Resource library and is well worth reading. (Just enter SAM124 in the keyword search to find all references in this issue of SAM)

Trend—Direction setting information first

This is the introduction to "Ahead of the Wave". This is worth reading even if you don't read the guide that it introduces (although that is strongly recommended too!).

Ahead of the Wave

"A few years ago the Operations Manager of a major municipality in Ontario initiated a process to develop a strategy for managing existing water and wastewater infrastructure in the community. Until that time staff had focussed on operational requirements and meeting the demands of developing new infrastructure to support growth in the community. While attention was given to system failures on an emergency basis, the Manager recognized that municipal assets were ageing and needed a specific management strategy to keep them operational.

A multi-year "asset management" program was initiated with a traditional approach including detailed data gathering activities and the development of analytical tools to identify system needs and capital works programs to upgrade the existing infrastructure. However, a year into the program a major failure occurred in the system with damaging results in the community. The manager recognized that there was a more immediate response needed than the time it was taking to develop the new approach to the management of the system.

A strategic shift in the asset management program took place when the Manager proclaimed the need for results in advance of the availability of detailed information and sophisticated decision-making processes from the study. An immediate characterization of the condition of the system assets was needed so that a strategy, including an understanding of the investment needed, could be brought forward to mitigate the possibility of an even greater failure than the one just faced.

The Manager likened this situation to the helpless feeling of a swimmer in the undertow of a massive wave... where treading water accomplishes little. An immediate intervention was needed to get ahead of this wave.

The result was a new strategy, focused on developing an immediate understanding of the overall condition of the assets based upon limited available data and from which reasonable recommendations could be made. With a new approach, characterized by a “top-down” thinking process, the condition of the infrastructure was assessed at a macro level. An average annual investment was determined from this information to sustain the municipal assets over time. The concept of sustainability was incorporated into the strategic planning activities by considering the full, life-cycle demands of the assets at this high level. It became evident that this process did not circumvent, but rather complemented and enhanced the traditional asset management practices.”

Reg Andres, P.Eng
Vice President, RV Anderson Associates Limited

Footnote:

When ‘renewals accounting’ was first introduced in the UK in the mid 1980s to cope with the needs of infrastructure where assets are renewed piecemeal rather than fully depreciated and then replaced, the system applied was seriously flawed in that it assumed that current maintenance could be assumed to be equivalent to depreciation as assets were continuously sustained (thus assuming what needed to be proved!). Australian accountants rejected the system outright - and the term is still anathema to them today – but the practical Canadians recognised the value of the approach, fixed the flaw, and used it! Practical!

In Canada, consultants are encouraged to apply innovative techniques to their client’s problems because those clients do not claim ownership of the intellectual property that they develop. Canadians recognise that most agencies are not in the business of marketing much, if any, of the models and systems that consultants develop in the course of their work for them and that their consultants will put more effort (beyond that paid for in the consultancy) into innovative work if they can retain IP. Practical!

Innovation: Collaborative Research—Best Practice

In an earlier issue we reported on a \$Can 12.5m+ collaborative research project that had been initiated by the Canadian Government to investigate ways to (a) maintain existing infrastructure in good condition for longer and (b) ensure that new assets had a longer lives and lower life cycle costs.

The results of that project are now becoming available. Of particular interest will be the “best practice” guides. These are available in the following areas: municipal roads (5) potable water (5), storm and waste water (5), decision making and investment planning (5), environmental protocols (1) and transit (2); More best practice guides are in preparation and you can access useful executive summaries of the published guides.

The study is supported by the National Research Council of Canada (equivalent of the Australian CSIRO), the Federation of Canadian Municipalities (many of the individual councils are also members in their own right) the National Council on the Environment and the Economy,, professional bodies, academics, etc. Links to the National Guide can be found by keying in SAM124 in the keyword search function of www.amqi.com on the **Resources** Library page.

UK – Asset Management as a Control Function

Trend: Recognition of Asset Management Plans as a Management Tool

When Asset Management Plans were first introduced (in the Water Industry in the mid-80s when water was being privatised) they were intended as a control device. The regulator needed information on which to base price increases on which the profits of the privatised industry depended. So plans, naturally, were designed to secure a favourable pricing outcome—rather than as a tool for management.

More recently, when asset management was 'applied' to local government in England, it was developed as a centrally directed control device in 1998 and then 'rolled out' across the country. It was both quick and effective. (In 1996 asset management was unknown in local government, by 2000 it was well established.) Within a few years all councils had asset management plans for their schools and were well on their way to asset management plans more generally. Websites have been developed to answer questions that arise and to exchange best practice information. An examination of these websites reveal that the questions are largely procedural, seeking explanation of what is required by the administrators.

However, gradually we are seeing signs that **agencies are recognising the benefits of asset management planning for its own sake in achieving corporate objectives**, rather than as an administrative requirement.

Nowhere is this clearer than in the case of British Waterways, a great success story for asset management in the UK. (See SAM, Issue 66, July 13, 2001 showing how the Board undertook asset management planning to ensure the safety of the canal system in the UK—and it led on to a complete revitalisation of the system both physically and socially.

By 2002, British Waterways had moved from a stage of knowing very little about their assets, doing almost no pro-active maintenance, and making the headline 6 o'clock news rather more often than they would have liked, to a stage of innovative private-public partnerships based on their asset knowledge! (see SAM 102, November 29th, 2002)

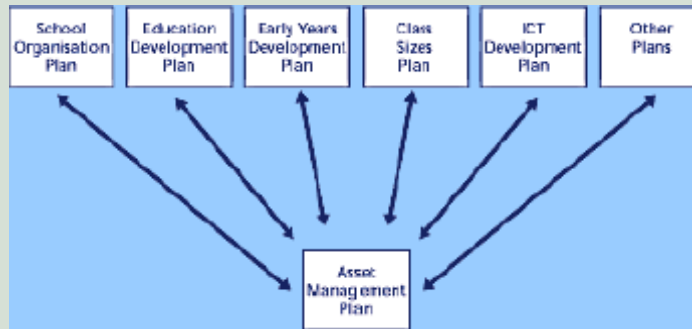
In 2003, it is reported that transporting goods by canal has again become economic—and is moving thousands of tons of traffic off the roads (and off the increasingly inefficient rail system).

Asset management planning is also being adopted by the 'infracos' (or infrastructure companies) that were set up to manage sections of the British Underground.

From a focus on compliance, has come a greater recognition of the value of planning itself. (Thus lending some weight to those who argue, 'first change the practice, and attitude change will follow'!)

Innovation 1: The Asset Management Plan as the central or 'umbrella' plan

There has been a great deal of restructuring and change in recent years from compulsory competitive tendering to 'best value'. This has generated plans of all sorts. The Asset Management Plan is seen as the key or 'umbrella' plan that holds them all together (see diagram in Innovation 2). See *SAM Issue 29, Feb 11, 2000*, for a discussion of the AM approach in UK schools.



Innovation 2: Encouragement for Quality in Asset Management Plans

All schools are required to have asset management plans and they are assessed by an independent assessing team. Those plans judged to be unsatisfactory bring upon the local educational authorities two penalties: (1) Their funding is capped (that is, they are limited in how much revenue they can raise as well as limited in the grants allocated—in a climate of expansion this is a serious penalty); (2) They have reduced autonomy in decision making with all major decisions having to get clearance from the central office. The reward for good asset management is increasing funding and increased autonomy. (How did the central Department of Education and Employment in the UK assess the plans? See "*Appraising Asset Management Plans*" *SAM Issue 29, Feb 11 2000*)

Councils are also required to have plans; those plans assessed to be 'good' earn the councils ten thousand pounds (about \$25,000 Aust), a 'satisfactory' plan earns five thousand plan. (An unsatisfactory one earns nothing). Of interest, the UK makes a clear distinction between the Asset Management Strategy (the direction setting document) which also earns 10,000 for 'good' and 5,000 for 'satisfactory'.

Footnote:

Education, Health and Police are some of the functions of councils in the UK. Each of these functions is controlled by policy determined by central government and funding is provided in separate 'buckets' determined by the relevant central agency. Over the last few years there have been moves towards a 'single pot' approach that would enable councils to have a general sum to be allocated as their community requires but it is taking some time to implement. Such a system would have the effect of limiting or even removing the effectiveness and control of these AMP incentives

New Zealand - From 'Efficiency' to 'Effectiveness'

Trend - From 'efficiency' to 'effectiveness'

New Zealand has long been regarded as a trend-setter. Its enthusiastic adoption of commercialisation and privatisation that removed a lot of entrenched inefficiencies has been widely copied. (There are, in fact, a number of countries in Europe running what they call 'the New Zealand model')

In Asset Management New Zealand has also been held up as a leader, largely because it was thought to have mandated asset management plans. In fact, it did not. What it required of councils was that they produce ten year cash flow projections. As this is a hard thing to do without an asset management plan, it led to all councils regarding asset management plans as essential—and to the Auditor General encouraging them.

But the plans that were produced were sectional, not corporate; there were asset management plans for water, for roads, and (later) for other assets; but there was not a similar focus on a corporate asset management strategy that linked these plans together.

Asset Management Plans were driven by a need to establish the financials. In the corporatisation atmosphere of the times, the main thrust was on 'efficiency'.

With the new local government act (see SAM, Issue 116, June 13, 2003 " 'Best Practice' is no longer good enough in New Zealand") the emphasis is changing to effectiveness. This is the result of a move towards an 'outcomes focus' where the community must be seen to be driving the agenda—and not the council service suppliers.

Innovation: Outcomes Focus

The outcomes focus is the logical outcome of recognising that the purpose of asset management is to meet the corporate objectives for service delivery. New Zealand has taken this one step further to ensure that the corporate objectives are determined by the people rather than by council staff, or even by councillors. No longer is it sufficient for councillors to believe that they 'know' what the community want. It must be tested. Community consultation is now essential. In fact, "Community Plans" are now required of all councils and will be audited. It will be these community plans that drive asset acquisitions and dispositions and set the required service levels.

Next issue

Trends and Innovations: Part Two

- Australia—A new maturity (benchmarking and performance monitoring)
- Asia—From help to self-help