

# THE 3rd AM REVOLUTION

Penny Burns  
revised ed. May 2018

We are on the brink of an exciting new phase in Asset Management - in fact the Third Asset Management Revolution.

To understand *what* this is, *why* it is important, and *where we are going*, it is necessary to understand the first two asset management revolutions, AMR1 ('where we were') and AMR2 ('where we are'). The 3rd AM revolution, AMR3, will take us to *where we need to be* to meet the demands of the new world we are now moving into, the world of the internet of things.

## The First Asset Management Revolution - Understanding the Portfolio

Asset management was first introduced in the late 1980s, early 1990s. Up until this time, the word was 'maintenance' and it focussed on individual asset functionality. 'Asset management' introduced the notion of combining engineering, financial and planning decisions with respect to assets - for the purpose of better services or corporate outcomes. It was centred on the asset portfolio.

Curiously, it all started with concern that we were not spending enough on maintenance!

As early as the 1970s, University facility managers in the USA were voicing concern at the lack of attention paid to maintenance, concerns that resulted in publications such as "The Decaying American Campus (1989)". Then there were the well-documented infrastructure maintenance problems of New York that began in the mid 1970s where, you may remember, stories started to emerge of pieces of the Manhattan Bridge rusting and falling into the water and potholes in New York's cement roads being covered over with metal plates, causing havoc for the city's bus service.

This culminated in a major federal study of infrastructure requirements in the USA, "Fragile Foundations (1988)". The sheer monetary size of the problem caused a stir in government and professional circles, but it did not lead to action, because it wasn't 'action oriented'. The only recommendation to come out of the report was to 'spend more money'. But Governments then - as now - did not want to spend the many billions, now trillions, of dollars, the report suggested. At around the same time, the Australian Federal Government produced "Constructing and Restructuring Australia's Public Infrastructure (1987)" known as the Langmore Report. Few remember those reports today. The US study merged the need to repair existing infrastructure with wish lists for expansion and improvement, but there was no indication of where the extra funds were to be spent, on what, and with what results. Nor was there any indication of how the costs could be managed. The Australian report was similarly vague and general and spoke only of the generalised benefits of infrastructure spending and lacked supporting evidence. Neither was *actionable*.

Meanwhile, in 1986/1987, the South Australian Parliamentary Public Accounts Committee tabled in Parliament eight reports on infrastructure asset renewal. These reports differed from other studies in significant ways. They were not vague and general but specific and detailed. The reports modelled the infrastructure holdings of the major infrastructure owning agencies in the state, with replacement costs and age distributions, and all the figures were supplied. The recommendations were based on analysis of the data and the current financial, engineering and planning management practices of the agencies, which had been examined. Importantly they were not the 'spend more money' type of recommendations, but rather suggested managerial changes that could be made. They called for better management information - and

detailed the type of information required and provided tools for using the data once collected in the form of the, now universal, life cycle cost and renewal models.

It is hard now, in 2018, to imagine the situation that applied back 30 years ago. It was not only agencies with buried assets that did not know where their assets were. Many councils found they had been maintaining assets that weren't theirs - and failing to maintain assets that were, simply because they didn't know. The key questions that everyone was asking then were "What do we have?" "Where is it?" "What condition is it in?" "How old is it?" "What is its economic life?" "What is its value?" i.e. basic questions.

The First Asset Management Revolution was thus a revolution in data.

*"The Way We Were"*, written in 1999 looks at this first stage of Asset Management and the major changes that were made in the last decade of the last century. and you can find at [www.TalkingInfrastructure.com](http://www.TalkingInfrastructure.com)

## **The Second Asset Management Revolution - Strategic Asset Management**

The first AM Revolution was driven from the top - by the Auditors-General calling for asset registers as well as by the interest of CEOs who gathered in large numbers at information breakfasts to hear what was possible for better management of their agencies. It was also given great impetus by a change in the public sector accounting practices - the move from cash to accrual accounting. The first move in this direction was Exposure Draft 50 for local government, issued in 1989. Because local government engineers were quick to realise how the requirement of their agencies to document all their assets could be deployed to assist the introduction of asset management, it is often thought that the move to accrual accounting preceded asset management. It was, in fact, the reverse. Accrual accounting was adopted by the Public Sector Standards Board only after recognising its importance in achieving the goals of asset management.

The first AM revolution was led by *external effects* such as the requirement for asset registers, and the introduction of accrual accounting. The second AM Revolution, by contrast, the move to *strategic asset management*, i.e. going beyond merely reporting data, to using it to improve organisational performance, *was almost entirely internal* and generated by practitioners themselves. It coincided with the establishment of asset management groups and associations. Because of gradual takeup it is difficult to put a date on the beginning of AMR2, but personally we place it around the turn of this century, from about 2000 on, although some may have started a little earlier, and of course, many much later.

Another difference is that the first AM revolution, although driven by external administrative requirements, was supported by an increasing internal recognition of the problems of deferred maintenance and the increasing need for infrastructure renewal - that is, a *physical* requirement. The second AM revolution was driven internally by the recognition of opportunity to do better, but it was supported by, a major external and *administrative* change. This was the government push to outsourcing, corporitisation, and privatisation. Back in the mid 1980s, all major infrastructure assets were both owned and managed by the public sector and the notion was 'stewardship'. One would often hear the term 'good stewardship' being applied to the management of assets. But stewardship implies 'taking care of the asset'. Throughout the 1990s and into the 21st century we have seen a movement away from 'stewardship', which is a passive approach, to a more active 'managerial' approach. We have also seen a move to private sector ownership and management. These two movements are not unrelated.

The Second AM Revolution is where we are now.

## Key Words

The key words that have dominated Strategic Asset Management over the last several decades have been “Efficiency”, “Sustainability”, “Risk Management” and “Growth”.

Since infrastructure has, traditionally, been large, centralised and expensive, containing costs through managing efficiencies has been essential. The notion of efficiency has driven our data collection and analysis and the development of the key AM tool - the life cycle cost model.

Sustainability was originally used with reference to environmental sustainability where the focus was to avoid degradation of the environment. It was easily transposed to asset management for we had the tools to address it. Life Cycle Costing Models enabled agencies to ensure the continuing functioning of their asset portfolios, i.e. avoiding degradation.

But to ensure that we did not ensure the functionality of today’s portfolios at the expense of greater damage later, practitioners developed more and more rigorous tools of risk management. Measures of efficiency, sustainability and risk management are now enshrined in the ISO 55,000 series.

The history of Asset Management has been one of addition and continuous improvement, that is, of growth.

All of these measures - efficiency, sustainability, risk and growth - draw on information that can be gleaned from the Asset Information System. That is, they relate to our existing configurations of assets. The next AM revolution is going to require the most serious mind shift yet. It is going to take us beyond our current portfolios in size, shape, ownership and responsibility, and in the role played by infrastructure.

## The Nature of these Changes

Before considering the next revolution, notice that maintenance did not cease to exist after we introduced asset management. On the contrary, maintenance has continued to develop, to refine and develop its tools and is today even more relevant than it was, and this is because of its importance to asset management.

Similarly, with the move to Strategic AM, the need for data collection (i.e. the focus of AMR1) did not cease. It, too, has become even more important. As strategists realised the relevance of data to their performance, the quality of data collection has improved.

Whatever is coming next - in the third AM revolution - we can be confident that maintenance, data collection and strategic management of existing portfolios will continue to be important and will, in fact, grow in importance.

A new revolution does not displace what precedes it, it changes and amplifies it.

With that reassurance, let us consider what the 3rd Asset Management Revolution needs to accomplish.

## The 3rd AM Revolution - Infrastructure Decision Making

As we move into a digital future, it is to be expected that our physical infrastructure will change, both in terms of what will be required of it, and in terms of what it will be able to do, albeit probably in a very different form. Future infrastructure will need to respond to major changes in the environment (e.g. greater climatic variation, sea level rises, more storms, typhoons, fires and floods) and in demographics (e.g. population movements, ageing, and changes in ethnic and religious composition). Cyber terrorism is likely to be a major determinant of future infrastructure design.

The key factor in this future scenario is uncertainty and unpredictability. Whereas we used to aim at physical longevity in our assets in order to capture the efficiency benefits, we now have to consider not what is necessarily 'efficient' but rather what is 'effective', i.e. what gets the job done. Here are some of the challenges we will face in this third AM revolution.

- **Future orientation.** As asset managers we have often prided ourselves on being future oriented because our life cycle cost models extend for the next ten, twenty or more years. But these models only show us how to sustain what we have. They are not designed to determine new infrastructure decisions when those decisions have to take account of radical change.
- **Complexity.** Then again, our current tools have enabled us to deal with cost efficiency but, increasingly the demand, going forward, is for tools to manage effectiveness. This is, inevitably, going to mean an increase in the number of players. When maintenance was the focus, it was sufficient for decisions to be made by engineers alone. As we moved into asset management, we had to include the requirements of accountants and then of planners. But social and environmental effectiveness are going to greatly widen the necessary pool of players.
- **Adaptability.** 'Sustainability' has, in practice, been interpreted as longevity and our life cycle cost models have enabled us to make the right decisions. But now we need to consider the ability of our infrastructure to adapt to changes not yet foreseen (and thus not built into our models). This means asking different questions. If we wish to avoid adding to the great pile of 'stranded assets' already in existence, we need to ask ourselves questions such as - "What assets should we absolutely NOT build if we want our infrastructure to be future friendly". (the subject of a Talking Infrastructure workshop to be held in Sydney mid November.)
- **Uncertainty** The key to future success is going to be the ability to manage under uncertainty. Our probabilistic risk management tools will not suffice here. Scenario development, once left to planners and futurologists, is now going to become part of the asset managers toolbox for coping with the future.

Tackling these issues is what makes the 3rd AM Revolution so very exciting. At the moment, most of the tools that we will eventually use are still to be developed. The information required for these tools is yet to be discovered.

When asset management was introduced just over 30 years ago, it was leading maintenance practitioners who took up the challenge; when strategic asset management developed about 20 years ago, it was leading AMR1 practitioners who saw the possibilities. It will now be leading AMR2 practitioners, strategic asset managers, along with an increasing number of other disciplines currently new to this field (such as behavioural economists) that will recognise and address the new challenges now arising.

We will continue to need the talents of strategic asset managers but we will be increasingly asking more of them to meet the AMR3 challenges. To this end, the Talking Infrastructure Association has been formed as a free, community oriented, association to help practitioners think through and make the changes that will be required.

## References

**1986 August- 1987 April** South Australia. Parliamentary Public Accounts Committee. Housing Asset Replacement (44th report), Electricity Supply Replacement (46th report), Hospitals Asset Replacement (47th report), Transport Asset Replacement (50th report), Water Supply and Sewerage Disposal Asset Replacement (51st report), Schools and

Colleges Asset Replacement (52nd report), Summary Report on Asset Replacement (53rd report)

**1987 November** Constructing and restructuring Australia's public infrastructure. Report of the House of Representatives Standing Committee on Transport, Communications and Infrastructure, November 1987. (the Langmore Report)

**1988 June** The decaying American campus : a ticking time bomb, prepared by Sean C. Rush and Sandra L. Johnson for APPA, Association of Higher Education ; foreword by Harvey H. Kaiser.

**1988** Fragile foundations: A report on America's public works, national council on public works improvement. (Washington D.C.: U.S. Government Printing Office, 1988)

**1999, December 31** "The Way We Were", *Strategic Asset Management* # 26, [SAM 026](#)