

**AMQ International's
STRATEGIC ASSET MANAGEMENT.
ISSUE 400, September 22, 2014, THE LAST**

In the beginning...

Where do we go now?

The Beginning

SAM is now at an end. Yet we are only at the beginning of the next stage of our asset management - and this is true for all of us, no matter where we are now.

Where do we go now and what should we focus on? Our contributors to this issue make their suggestions. How we follow through on these suggestions is in many cases not apparent. It doesn't matter. Our first task is to decide what we want to focus on; to decide what we believe to be so important that it deserves our time and attention. For, with focus, anything can be achieved.

It is important to remember the words of Margaret Mead, American cultural anthropologist

**“Never doubt that a small group of thoughtful,
committed, citizens can change the world.
Indeed, it is the only thing that ever has.”**

In every jurisdiction it has been a small group of thoughtful, committed citizens, who have led the charge for asset management. And it will be the same for each improvement.

My wish for you is that you should have the good fortune to be part of such a group.

All the very best,
And enjoy!

Penny

WHAT SHOULD BE FOCUSING ON NOW

Past Contributors to SAM give us their views.

I wish to open this collection of ideas with those of two very special people, Ruth Wallsgrove and Leo Gohier. Each has not only contributed to these pages on numerous occasions but they have been my 'go-to' people when I have needed to talk over a knotty problem. They are colleagues and friends. My sincere thanks to them both.

Ruth Wallsgrove, AMCL, London, England

Ruth is presently engaged in designing education courses for asset managers in industry and for delivering these courses world wide for AMCL. She looks at the topic of



Loyalty

What's the *value* of a good asset manager?

I work with a lot of would-be and don't-know-it-yet-but asset managers, and we often look at what you need to be a good one. Usually we agree adjectives such as thoughtful, objective, experienced with assets, good at communicating (how's that for a mix!) But how about the value: loyalty?

I think it is very hard to get most people to care about more than their bit, whether it's an engineer or an ops manager. I'm glad they love 'their' design or 'their' assets – but we really need more.

We need those who have a long term commitment to their organisational objectives (and 'line of sight'). A commitment to delivering what the users (operations) and customers really need. Not just to one asset or site, or one type of task (eg project), but to the assets overall and across their 'life'.

Who is it that really cares that the asset just constructed actually works, and goes on working? Or about the 'total cost of ownership'? And gets down and dirty with projects, operations, procurement, finance to ensure the assets deliver, day after day? (Not just go on to the next new thing...)

That's loyalty for you!

Leo Gohier, IDX, Hamilton, Canada

Leo established the City of Hamilton with its lead position in asset management many years ago, and although now officially 'retired', he uses the high level of trust he has developed over the years to continue to set new directions. His message is:



A multiple focus is now required - we need socio-techno-economic policies

The next decade or two will prove very challenging in terms of service and asset management on a number of fronts. There is a need to develop reasonable and customer-centric levels of service to better reflect expected rates of asset deterioration and the demand for new services balanced against an ageing and culturally-diverse population. More realistic expectations need to be negotiated through improved public dialogue between service recipients and service providers, combined with focused risk management and not just risk avoidance. On the technology front, there is an increasing need to further develop condition assessment tools as well as “re-“ technologies: rebuild, rehabilitate, restore, in-situ replacement, etc. There is a need to incorporate lifecycle costs in the use of these technologies, and not just short-term purchasing or capital cost savings. Finally, on the climate change front, designing new infrastructure is the easy part; dealing with existing infrastructure, which obviously cannot all be replaced, is the more difficult part and there will need to be adjustments to operating practices, as well as adjustments to expectations, insurance and legal practices, etc. In summary, socio-techno-economic policies are required to meet the pending crisis in a balanced and sustainable manner.



Stewart Burn, formerly CSIRO, Victoria, Australia

The CSIRO were amongst the very earliest of those taking a system wide modelling approach to the problems of asset management. In conversation today I still hear the names of its earliest initiators, like Professor Frank Bromilow and Dr Selwyn Tucker mentioned with reverence. Stewart thus draws on an exceptional lineage for his ideas on:

The future of our cities

Australia's cities are growing with over 90% of the population predicted to live in our cities by 2050, yet we are not investing enough in new infrastructure or maintaining our existing infrastructure to a sufficient level to support this growth. Our task now is to supply the necessary services and its associated infrastructure to meet these

future issues in our cities in an affordable manner for all, for example through resilient decentralised solutions and a changed asset management paradigm.

Resilience is an emerging issue for cities and their communities. We need to know how cities cope with disturbances such as rapid population growth and decline, energy shortages, climate change (temperature rise), extreme events (i.e. natural disasters and epidemics), and economic shocks. Detroit and many European cities, especially in Eastern Europe, have to cope with issues of ageing infrastructure and declining populations. Loss of prime agricultural land to urban development and consequent rising food prices, is yet another urban problem which raises a number of questions regarding the characteristics of cities that are able absorb disturbance and to reshape and transition when faced with significant challenges.. For example

1. What is an operational definition of resilience for urban systems, useful for urban planners and policy makers?
2. How do we assess and measure the resilience of Australian and/or international cities, (eg. what is the systems description, what data is needed, what surrogates are there for resilience)
3. What are the communities expectations? What types of system pressures should be considered in a standardised type of scenario/resilience analysis?
4. Is it possible to assess resilience using modelling tools and what types of models should be developed? What data would we need. What type of model? What is the best way to report the results?

New methods for designing, building and managing assets will play a critical role in managing this change. Will we recognise this before it is too late?

Alan Butler, Australian Centre for Value Management, Sydney, Australia

Alan contributed to the very first issue of the newsletter, back in March 1994. In fact the asset management movement in the New South Wales government arose out of the creative and enthusiastic work of the Value Management team in NSW Public Works, Alan Butler and Ted Smithies.

The first time I met with them, in 1987, the conversation flowed easily and for hours. The second time, within ten minutes of my arrival, there was a deputation from the room next door to ask us to 'keep the laughter down'.

Here, Alan draws on his long experience to argue, why:



Asset Management must refocus on “why” rather than “what & how”

Many have forgotten that the capital cost of assets pail when we sum the costs of the living asset over its expected life – not only its maintenance and upkeep, but more importantly, the operating costs of delivering the business or functions it was planned to accommodate in spite all the inefficiencies that increasingly become part of the asset solution.

The old adage that the capital cost of a large building, like a hospital is spent every 18 – 24 months of its life on operating the business from within in the asset needs to be better understood in the strategic decision-making and procurement processes. More and more the ribbon cutting event has become the priority rather than focusing on appropriateness, strategic alignment with need and value for money over the longer term.

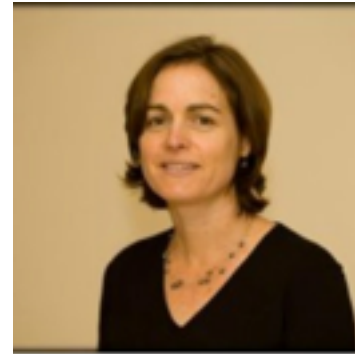
Four factors appear to be growing as concerns for the future of effective asset management and they involve both the Public Sector and the Private Sector:

- (i) **depletion of core skills** and the resultant dumbing down of the asset portfolio “clients” who need to be responsible for effective briefing and critical review of solutions being delivered on their behalf - *the asset client must remain an informed client*;
- (ii) **the politicising of the public service** where whole agencies are wrapped up in the short term priorities of the incumbent colour of government at the expense of strategic, portfolio-wide context - *impartial advice, without fear or favour must exist*;
- (iii) **changing the procurement models** that place specialist consultants in a position of technical influence where smaller solutions or non-build solutions are not in their commercial interest to present to the engaging “client” – *no matter whether the arrangement is called an Alliance, Strategic partnership, Design & Construct, the “non-asset” or smaller solution must always be sought and tabled for real consideration*;
- (ii) **not understanding what “value for money” means for each client** – these words are written everywhere including White Papers, policy, business cases and project briefs with very little understanding or ability to explain, measure or demonstrate what levels are sought and achieved – *AS4183:2007 the Australian Standard for Value Management and the Institute of Value Management Australia Limited represent both the process and the professionals to solve this conundrum*.

My deep concern is that a growing attitude of acceptance of *Political-expedience, short-termism and cheapness* has turned the tide and we are currently seeing attitudes towards asset creation and investment in assets that we will live to rue.

Melinda Hodkiewicz, Professor, University of Western Australia, Perth

As you will know from previous issues of SAM I have often pondered what Academics can do better than Practitioners in such a practical field as asset management. And who better than Melinda, the most practical of all academics in this field, to provide the answer - Rigorously research claims made for asset management.



This is such an important issue that I think it warrants especially drawing your attention to it.

Time to prove we are worth it!

Melinda says it is time to ante up and provide the evidence to support our claims for asset management. I agree.

Proponents of asset management (AM) suggest that it can provide “improved financial performance (improved services, outputs, return on investment and reduced costs), improved safety performance, reduced environmental impact and improved ability to demonstrate socially responsible and ethical business practices” (ISO 2012). However these claims have yet to be demonstrated using systematic empirical methods. The Quality Management (QM) community faced a similar situation in the 1980s when there was much enthusiasm from its disciples but lack of evidence that QM, and in the 1990s ISO 9001 certification, delivered organisational and financial benefits.

Drawing from literature from the QM sector we can identify lessons for asset managers. We need to

- 1) identify the factors that characterise AM practice,
- 2) measure the cost of AM,
- 3) demonstrate that AM practice delivers AM and organisational outcomes, and
- 4) determine if ISO 55001 certification delivers improved organisational performance.

The benefits of developing a rigorous, evidence-based approach to addressing these questions will provide a strong foundation for the AM discipline. This is a necessary step in a wider acceptance of AM by the business and government communities.

**Ian Greenwood, Infrastructure Asset Management
Consultant, Auckland, New Zealand**

Ian has submitted some of the most 'out of the box' contributions we have published. Consider his suggestion that now that cars can, and do, address ride comfort so well, we can rethink the necessity for road infrastructure to do the same thing more expensively! Here he argues that, with the needs of some of the poorest countries in mind, we should:



Make AM simpler and more accessible!

If we accept that the poorest 40 percent of the world's population accounts for 5 percent of global income, while the richest 20 percent accounts for three-quarters of world income, then I believe the challenge for asset management is not about how to make AM more complex or make minor tweaks such that those in the developed nations can enjoy one more decimal point of reliability or a barely noticeable changes in service levels. Rather the challenge is how do we instigate sustainable AM in nations where the ratio of people to income is some 30 times less than that from where the leading advice comes from (IIMM, PAS55, ISO55000 have all been led from developed nations). For that we must look to document and foster the simple easy-wins that the developed world first latched onto several decades ago, and work to create practical approaches and guidance that can reduce the economic burden of infrastructure and facilitate the sustainable management of it for the poorest nations.

I believe we should be searching for 'sustainability through simplicity' to ensure that AM can benefit more of those who currently do without, as there is nothing like better infrastructure to help address the hardships of poverty.



**Peter Way, Chairman of IPWEA NAMS-Au,
Brisbane, Queensland, Australia**

Peter has been the guiding hand of the work of IPWEA in asset management now for about ten years. He is passionately involved in asset management so it is no surprise that he has chosen as his topic for this contribution -

Speak out!

It is perhaps a sad reflection that despite the many tools and resources out there, we continue to see sub-optimal decision making about how to sustainably provide the services that our communities expect. Is that the fault of the asset managers? Or is it more a reflection on some of our political processes that see decisions being made for short-term political gain rather than for the longer-term benefit of society as a whole?

We as asset managers have some unique opportunities through the knowledge we have about how the assets are performing, their condition, etc., and the demands that we see developing for future services, to assist in educating all the relevant stakeholders with a view to better decision making. I think documentation like the soon to be released Level of Service Practice Note to be published by IPWEA will be a welcome further tool in helping us meet this challenge. For more see www.ipwea.org/practicenotes

I do not pretend that this is easy, but surely we have a responsibility to speak out. I am not necessarily preaching revolution, but simply suggesting that asset managers should look to speak their minds whenever they see their political masters moving in a questionable direction.

Ashay Prabhu, CEO Assetic Strategic Asset Management, Melbourne, Australia

I first met Ashay when he was a shy young Engineering Graduate and an Award Winner in the first Asset Management Competitions. Later, we worked together to establish the Asia Pacific Institute for Good Asset Management, now under the aegis of EAROPH. He took an early lead in putting service at the forefront of asset management. His topic today is:



Stop measuring the gap, start plugging it!

In the mid nineties, it was all about renewal gap, albeit with rudimentary assumptions. We made the noise, created the traction and got the stakeholders and politicians and mayors to listen. But the dreaded renewal gap scared the decision makers and many a times I wondered if any of the gaps were at all meaningful without the underlying science and data.

We have now emerged into an era where service planning has taken the forefront and renewal gaps make sense - because finally we can link the gap to the service level we want to provide, not a simple straight line, all pipes last 100 years type analysis. We can even model criticalities and hierarchies into the way we prioritise renewal and hence the renewal gaps are a lot more realistic.

Since the early nineties, The first decade decade was about developing the art of the renewal gap. The second decade was finessing the science of the renewal gap. The next

decade is about the economics of plugging the renewal gap - its no good just predicting the gap - we MUST plug the gap.

Today, we can use software tools that model future renewals and carry out optimisation analysis, allowing users not just to predict the gaps and do mandatory asset accounting but to develop strategies to plug the gap without spending any more on capital and maintenance. It is now possible to make great gains in future renewal gaps by spending in the right way now. We just have to do it.



Ashley Bishop - Benalla Rural City Council, Victoria, Australia

I met Ashley when I gave an address to the Municipal Association of Victoria a few years ago and we have been corresponding ever since. Today, he has chosen as his subject:

Asset Managers are the best Asset you have

The development of asset management over the last decade or so has seen the introduction of new ideas, concepts, procedures, understandings, discourse, confusion and revelation or basically a new technology. It is the people in this field that I think are particularly special. My experience is with local government in Victoria and whenever there is an Asset Management forum the participants are quite happy to share knowledge, procedures and experience; to discuss openly what problems they have and concerns and they demonstrate how much they care and try to do the best they can with all the limitations placed on them.

The robust discussions that develop and the willingness to help each other out is perhaps a thing not seen too much nowadays. It is this openness that will develop the body of knowledge, fine tune the application and advance the technology. These are the people who will make the technology of Asset Management work; they will use, criticise, adapt, improve, complain and discuss the edicts, tomes and dictates that get produced.

I for one enjoy, doing, talking, reading and thinking about Asset Management and I think many others feel the same, let's keep it that way!

Greg Kane, Sydney Water

If there were an award for the number of asset managers per square metre of Head Office, Sydney Water would no doubt win. And taking a leading role in this has been Greg. He has chosen as his topic:



Four areas for development

Friends and colleagues

I have worked in all areas of the asset life cycle and in more recent years worked in strategic asset management overseeing the linkages between the various parts of asset management; and in customer servicing strategies. It is already clear to many that operations and maintenance engagement is essential in planning and in the 'asset creation' processes. And we have done much work in getting our delivery processes and our operations and maintenance and reliability engineering better.

My experience now suggests four major areas we should be looking at now.

1. **Looking to the future:** to paint a picture of potential futures and pathways to those; to provide context for short to medium term asset decision-making. Many of our assets are in the second half of their life; and the operating environment is different: climate variation, business models and competition, congested cities and changing customer demands.
2. **Integration of drivers:** Work initiated by different drivers (growth, renewals, reliability, safety etc) provide opportunities to get synergies to optimise the total system; and/or to advance or delay work from the different drivers to integrate the planning, design and delivery to get a more efficient overall cost.
3. **Systems engineering:** taking systemic views rather than asset, equipment views – this is particularly so in our 'infrastructure systems' where the parts make up the integrated 'whole' but we can make decisions to take more risk or to drive the individual elements harder.
4. **Focusing on customer** and servicing in our decision making. We all know that assets are there only to provide services; and while we manage them well, it is very enlightening to our decision making to closely consider the (type and level of) service we are offering or providing, and describe it in terms other than asset terms.

Martin Kerr, Weir Minerals, Sydney Australia



I met Martin a few years ago when we were doing some video interviews for the Asset Management Council. He is one of those immediately likeable people who really know their business. He also struck me as someone who thinks deeply and is not loathe to create a new approach if it is needed, which is illustrated here in his choice of subject:

An "Asset Earned Value" score

You get what you measure...

I think the world has moved forward for the most part recognising the importance of good Asset Management and in particular Strategic Asset Management. Strategy looks at what we should do today to ensure there is value and sustainability tomorrow, so why not get “All” asset stakeholders on the entire journey? The first step is awareness!

The world of infrastructure investment plays to the political cycle and I don’t think we are learning from yesterday’s mistakes just yet. By putting simple but mandatory performance measures against assets (both public and private) we will have a trusted measure that will continually assess performance against a business case for the entire life of the asset. I think an holistic “Asset Earned Value” score could be developed and agreed upon.

This isn’t to say that there hasn’t been very good work by many people in establishing performance measures, but I think for the average person on the street knowing what an Asset’s score is will undoubtedly become a simple way for them to “get it”. In them “getting it” will see the Asset Management Community grow and mature which is a foundation stone for Strategic Infrastructure Asset Management now and into the future.

I cannot think of any person on earth who is not an asset stakeholder...

Dr Linda Newton, Defence Construction, Ottawa, Canada

Engineer, Lecturer in Infrastructure Management and a thoughtful person to have in a scenario planning workshop! Linda was one of the contributors to our set of future scenarios for Asset Management, that we crafted in London a few years ago. Her topic today is:



Keep Thinking - Don’t give way to mindless acceptance!

What should we now be doing - or doing more of - to improve asset management? That is the question posed to me by Penny. My initial response: use the great tools that have been developed to manage those assets. We now have standards, guidelines, manuals, and software – all the tools we need set targets, develop benchmarks etc. There is no excuse for not knowing what to do or how to do it. BUT ...there is a tendency, when given targets and checklists, to become lazy and manage the target rather than the asset. So what should we be doing? Assets don’t manage themselves, individuals manage them.

The challenge for now and the future is to avoid laziness, to keep thinking and to continually ask questions. What is this asset? What’s its purpose? Does what I am doing make sense? Does the target make sense? Do I need a target? And most importantly – *am I still managing the asset?*

Gordon Sparks, Professor of Civil Engineering, University of Saskatchewan, Canada, with his own long time consulting company, Vemax.



Most people you meet whilst on a public lecture tour say nice things to you, however Gordon took exception to something I had said and let me know it. We discussed the issue for quite some time and out of that unlikely beginning formed a friendship which is still running many years later. His topic today is:

Communicate to engage stakeholders

If I had to identify the “Critical Success Factor” that I think needs “Focus” now, it would be:

“Effectively targeting and engaging all stakeholders related to the challenges and opportunities related to managing, and financing, the infrastructure that supports/ determines the competitiveness of our economy and the quality of life for our citizens.”

We have had some – albeit small scale, but incredibly successful “Town Hall Meetings” with the full range of residents in attendance. In one case, 10% of the Town’s population showed – up to an evening “Town Hall” meeting and actively participated in a 3 hour discussion about the Town’s infrastructure and came to essentially a unanimous decision on the strategy to implement going forward – which included a 15% increase in property taxes!. The approach was based upon providing “The Basic Facts” in a manner that all stakeholders could understand – (not a simple task) and solicit their input. The meeting was “Chaired” by the Mayor and the “Basic Facts” that were presented to the participants included; 1) what infrastructure assets the Town owned, 2) when these assets were built, 3) current condition, 4) estimated remaining useful life, 5) likely maintenance, repair and rehabilitation required going forward, and the associated costs, and 6) various levels of service as a function of various potential strategies going forward and the associated costs. In short, the participants were provided with the information required for them to collectively make an informed decision about the level of service they, as citizens and taxpayers, desired along with the costs associated with providing the various levels of service.

We all need to move to the point of having credible infrastructure information in place with trained and experienced individuals who can effectively communicate this information to all stakeholders.

**Tahlia Griffin, Managing Director, TBG Consulting,
Melbourne Australia**



Tahlia Griffin is one of our younger asset managers who will be leading the field in years to come. Her choice of topic is:

**Not just cheaper, smarter! The goal of today's Asset
Manager**

As asset management evolved over the years so too have we! The awareness and acceptance of its principles and benefits are well and truly recognised. What we see now though is the squeeze. Pressure to cut costs! What does this mean for asset management? Is it the first to go? Do organisations put it on the back burner for another day because it's not just targeting the 'now' it's concerning the future? What effect will this have in the long run? Organisations need to be making asset management a priority, don't put it off, just do it smarter! Target the key areas and use well known tools and methods to prioritise where funds should be spent. Once you understand your commitments allocate what you can afford but don't ignore it! It won't go away!! Asset management is more critical than ever with less capital availability! By applying prioritisation techniques organisations will at least have confidence in the future and know with some sense of security that the assets will be in a position to service our future generations. We have this responsibility, and even though the powers put pressure on us to cut costs lets be smart about what we do! Lets use our knowledge and apply asset management to benefit the present and also the future!

**Richard Edwards, Director of AMCL and President of the
Institute of Asset Management, London, England**

Richard has taken a lead role in the development of Asset Management not only in the UK but across the world where his company is instrumental in the design and conduct of AM training. For example, AMCL were responsible for the recent update of the AMC training course. His choice of topic is:



It all comes down to the quality of your people

I write this as I am slowly weaning myself back to work after a few weeks of paternal leave helping my wife look after our new twins and our 21 month old! These sort of events remind you what is really important in life – people! My reflections on the development of Asset Management over the last 20 years actually brings me to the same conclusion.

As an Asset Management community, we have established management system standards, 'how to' guides, case studies and there are a number of Asset Management qualifications and training opportunities out there.

However, in my experience, most organisations looking to improve their Asset Management capabilities address the people challenge far too late in the process. Organisations appear to very willing to commit very significant expenditure on consultancy support, process reengineering, reorganisation and IT projects but not on the development of their people. This severely constrains the ability of those organisations to adopt and embrace the very Asset Management improvements they are looking to achieve.

In my view, investment in developing the Asset Management capabilities of people represents the best return on investment of any Asset Management improvement initiative. Perhaps the reason this is not seen as a priority in many organisations is a reflection of the need for the leadership team in these organisations to get some Asset Management education?



Kerry Hudson
Asset Management Consultant at SA Power Networks
(formerly ETSA Utilities) Adelaide, South Australia

Kerry can remember what things were like when asset management was starting - do look up his stories on the LinkedIn Asset Management History Project Forum. Today his focus is:

Data Governance

We all invest significantly in data and information, and yet how many of our organisations are geared to deal with the ongoing data quality issues that emerge after the initial enthusiasm which drove our data capture programs has died down. In this I mean:

- a) identify data owners, stewards, custodians
- b) create processes for data updates - engage with stakeholders
- c) have a budget for data work
- d) ensure high-level (CEO and Exec leadership) buy-in to data governance - make it a Corporate Policy
- e) have a set of data governance principles that all owners sign off on
- f) have a set of KPIs for data
- g) Create a data governance framework and set of operational guidelines for data governance.
- h) ensure stakeholders understand the difference between governance and management.

Food for thought?

Jo Parker, Watershed Associates Ltd, Luton, England

Jo Parker is one of the most courageous and resourceful people you could meet anywhere. Any engineer who can build a bridge with minimal equipment in the middle of nowhere whilst wearing a burka, is someone I want to listen to! Her message today concerns those developing countries with which she had a lot of experience and her advice is:



To spread AM to developing countries, first understand their world.

Asset Management is now an established concept for most of the developed world with standards to work to and plenty of case studies, performance assessment tools and frameworks to assist. However, much of the developing world does not understand the concepts, do not know the benefits and have no idea where to start. In some cases that first step for them can be incredibly difficult when all your resources are spent fire fighting and patching up ageing and failing infrastructure.

We need to work hard to spread the word and encourage active asset management to be introduced in the towns and cities of the developing world. We need people who not only understand asset management principals but also the issues developing countries face who can work with the utilities, transport agencies and local authorities. We need to educate the facilitators - the funding agencies and aid agencies. We need to learn how the facilities set up in emergencies can be best managed and where they become permanent fixtures, how their assets can be adapted for longer term use.

**Graham Carpenter, Chartered Accountant and Company Director
Chair Construction Skills Queensland Australia**



Graham Carpenter was Comptroller-General in Victoria when we first met and a member of the Australian Accounting Standards Committee that made the critical decision to adopt accrual accounting for the Public Sector. He argued strongly for the use of replacement costing instead of historical costs that were favoured by most other accountants at the time and he was the first to create a State Balance Sheet. Today he argues that we need to

Increase respect for Asset Managers!

Whilst there have been significant developments over the past 25 years much remains to be done. We now can build upon stronger accounting and reporting systems – better information generally on fair value of assets and related consumption of the service potential – improved accounting standards (and for government the wholesale adoption of accrual accounting) – productivity improvements including those from competition policy and improved planning related to assets including ongoing maintenance.

The future for Asset Management in a strategic sense is now to ensure that decision makers utilise this improved quality of information.

The key decision makers need to ensure that investment decisions are based on disciplined assessment processes and quality information. This should include maintenance plans. Management of existing assets is critical especially when considering enhancing existing infrastructure as an option.

Whilst there will be other issues to be addressed including impact of changing business needs and technology the primary issue is to ensure that the hard work put in by those who develop Strategic Asset Plans is respected and fully utilised in the processes of decision making.

David Hope, Skilmar Systems Pty Ltd, Adelaide, South Australia

David Hope is a long time colleague. We have worked together for over 15 years, on projects such as the local government infrastructure study in Victoria “Facing the Renewal Challenge” and the subsequent local government infrastructure study in South Australia “A Wealth of Opportunities” His message concerns:



Governance

Excellent asset management needs excellence in governance. Excellence in governance means that boards, councils and senior management have a deep understanding that:

- Assets exist to provide services
- Service standards are negotiated with customers
- Assets that are simple to design, produce and maintain, are what is required to enhance the sustainability of service provision

- Asset management needs to be embedded in organisations in the same way that finance, human resources and IT services are
- An effective maintenance program is critical to ensuring that the organisation's capabilities to deliver services is sustainable

How will this be achieved? Two ways – getting the right people onto boards, councils and into senior management and through education and the raising of awareness.

Getting the right people will require a combination of careful specification of the requirements and careful recruiting. This is more difficult to achieve at the political level but raising awareness in the broad community on how politicians can be effective in delivering services is a potential way forward.

Key players and activities in education and raising awareness will be provided by:

- Peer to peer pressure – those who understand should help others to the same understanding.
- Excellent asset managers contributing to professional bodies, conferences, seminars and educational institutions.
- Those in governance seeking out best practice in asset management.



**Dr. R. (Rob) Schoenmaker, Assistant Professor
Asset Management, Delft University of Technology,
Amsterdam, Holland**

Rob is a researcher at the Delft University of Technology, Amsterdam, the most advanced research institute in asset management today - and he has a good sense of humour that comes out in his writing. Today, however, he is more serious as he addresses:

Performance-based maintenance contracting - Create a coherent academic and practitioner basis for continual exchange of practice

There is no public infrastructure asset owner or manager that manages its assets completely independent from others. A great challenge lies in improving the way the asset managers manage their infrastructure assets together with their supply chain. Public asset managers have already come a long way and consider performance-based maintenance contracting (PBMC) a powerful means to support a streamlined delivery asset management services. Yet the use of PBMC is consistently misunderstood and oversimplified. Correct use of the principles of PBMC requires a clear line-of-sight from the organisational objectives to the contract parameters,

together with clearly defined roles, responsibilities, decision making processes and not the least an informed and knowledgeable asset manager.

We need to build competence of the public asset managers and their supply chain to improve their knowledge about the benefits and pitfalls PBMC.

We can do so by creating a coherent academic and practitioner basis for continual exchange of practice in PBMC fostering reduced the total cost of ownership of the infrastructure assets and improved effectiveness of the supply chain.

**Dr Neville Binning, Principal, EDAB Consulting Pty Ltd,
Perth, Australia**

Neville was there at the very beginning - I mentioned his PhD in Asset Management (as far as I know the first person to take up a PhD in Asset Management) in the very first issue of AMQ (the forerunner to SAM) back in March 1994. I became one of his supervisors and as luck would have it, I just happened to be in Perth for another purpose but with an evening free when he was awarded his degree - a fortunate and delightful evening. Here he advises:



Each generation of Asset Managers must begin again to improve knowledge

*“We shall not cease from exploration
And the end of all our exploring
Will be to arrive where we started
And know the place for the first time.”*

As identified by T. S. Eliot (Four Quartets - Little Gidding):

We have learned much over the past 30 years, but our task is not yet done. Every generation of asset managers begins again – but more aware of what lies ahead – determined to learn more – and to apply what we learn as we go – in ways that are useful – to be mindful of the complexities of the infrastructure systems within which the assets we seek to manage exist. To properly appreciate the interaction between the infrastructure systems of nature and those we create – the so called ‘built environment’. Also, to properly appreciate that there always exist ‘hard’ and ‘soft’ infrastructure – and that these are highly interdependent. And to ‘know’ that it is really only the ‘soft’ infrastructure of knowledge we ever truly manage – the asset management body of knowledge coupled with continuous professional development.



Ype Wijnia Risk Management Consultant, Netherlands

I first met Ype at a conference in London. Ruth Wallsgrove had heard him speak in the first of multiple sessions and told me not to miss the repeat. I didn't. And I listened to Ype present the following year, and the next, and realised that what made him so impressive was he always sought to improve, nothing for him was ever final, nothing was ever 'good enough'.

When I first started working in this area in 1985, I looked for what was common across all the State Infrastructure portfolios (e.g. health, highways, housing). Each manager stressed that their own portfolio was unique. Yet it was only when we look past the differences to what is common that it has been possible to develop the models out of which today's asset management has developed. So I commend Ype's thoughts to you all. He recommends:

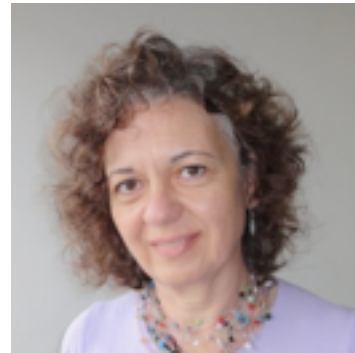
Make decisions on the basis of services and value - not technical complexity

Even with an international standard on asset management in place, asset managers today still seem to think their assets are unique and decision making on those assets is an almost religious exercise, not to be undertaken by the uninitiated. In a way, they have a point. Every single asset has its own stories to tell (if only we were able to listen) and uninformed decision making like negotiating the laws of physics can result in disasters.

Yet, they could not be wrong more at the same time. Their opinion is based on how the assets work, and not on the services and values they deliver. If this outside-in view is taken, it becomes clear that a sewage pipe is really no different from an airplane. Both exist to provide a transmission service with a very high reliability, both their customers are upset if the service is out, and they both can cause fatalities if they fail. So why would those assets need a different approach in decision making? Yet, because an airplane is technically much more complex than a pipe, we allow that to happen.

My hope is that, some day, we are able to jump this fence and *judge expenditures in different infrastructure sectors on the value for money they provide*. That way, it might become apparent that a third fire extinguishing system on airplanes is not an efficient way of limiting the number of fatalities in the world, whereas investments in sewage systems are. Requiring airplane operators to make the investment anyway would in that respect just be pouring money down the drain. It is just unfortunate that the sewage system would not be able to make any benefits from this proverbial inflow of cash.

Helena Alegre, Chair of the Strategic Asset Management Specialist Group - International Water Association, Portugal



Sometimes you can have an influence without knowing it. I am grateful to Helena for bringing this to my attention.

Infrastructure Assets ARE different - they have indefinite lives

Burns et al (1999) made the splash! I guess Penny is not aware of the impact of this publication on the work we have been developing under the umbrella AWARE-P (www.aware-p.pt). [Ed: I wasn't!]

Penny called my attention to “obvious” facts: Infrastructure are not replaced as a whole but rather are renewed piecemeal by the replacement of individual components whilst maintaining the **function of the system as a whole**. Infrastructure assets **have indefinite lives**. These apparently simple statements conflict with the asset by asset, life cycle, traditional AM approach. In networks, a function (or level of service) cannot be allocated to individual assets, given the system behaviour. In infrastructures with assets of different ages and durations, a traditional life cycle approach is not applicable. Penny forced us looking for novel approaches grounded on the above key underlying statements. And we are satisfied with the solutions we found. Granted this year with two major European Awards, PIA 2014 (category Planning) (iwa-pia.org/pia_award_eu.html) and Mulheim Water Award 2014 (muelheim-water-award.co), AWARE-P is an ecosystem of infrastructure asset management methods, software tool, guidance materials and implementation cases that embeds these concepts and challenges. It counts with a fast growing community of users and supporters. Our next challenge is to continue advocating, disseminating, improving and implementing worldwide this approach.

Where to now? The AWARE-P IAM approach aims at a long term balance of performance, risk and cost. It is driven by the need of adequate service provision during a long term time window of analysis, where we start from existing infrastructures, manage them infrastructure in order to ensure service meets targets all over, while maintaining or increasing their value for the next generation. The framework provided is objective-driven and based on continuous improvement principles, while fitting the key principles of ISO 55000

Burns, P., D. Hope, et al. (1999). "Managing infrastructure for the next generation." Automation in Construction 8(6): 689.



Ross Waugh, Director, Waugh Infrastructure Management Limited, Canterbury & West Coast, New Zealand

Ross maintains a first rate asset management website at <http://waughinfrastructure.com/> with the most up to date information on local government asset management, especially in New Zealand but also internationally) Here he advises:

Stop trying to complicate things! Simplicity has its own value.

'Everything should be made as simple as possible, but not simpler.' Albert Einstein

This quote from Albert Einstein has been one I have had a focus on for a few years now. I try to apply it to infrastructure asset management, and it has guided the work I have done in the past few years.

We have the tools and techniques with infrastructure asset management that have been developed over the past 20 years, but too often I think, we get bogged down in complicated analysis and the detail that accompanies the analysis

For many asset custodians and authorities they are either just starting their journey in infrastructure asset management, or they can only sustain practice as a core level of practice. Keeping it as simple as possible, but not simpler is a good guiding principle in this situation.

Keeping It simple also helps with communication, which is something we can always do better, to our communities, to our governance, to our management and to our colleagues.

Communication of the assumptions, risks, issues, costs and trends associated with infrastructure asset management is vital, and making sure the simple 'big picture' is communicated in a manner that can be understood, debated, and decided remains a key challenge for us all.

It sounds simple, but like Albert Einstein's quote, it can be a lot more of a challenge than it first seems.

Ralph Godau, Dr
Experienced Asset Management Practitioner,
Melbourne, Australia



I came across Ralph's work, and then Ralph himself, whilst examining his PhD thesis. He applies systems engineering thinking to asset management. Today his topic is:

Add value today whilst caring for the future

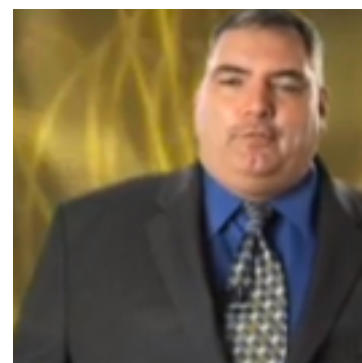
"I have had the fortunate opportunity to have worked in various senior asset management roles across a number of industries. This included natural gas distribution and transmission, academia, regulatory, local government and passenger railway environments. What I have learnt is that the nature of asset management really doesn't differ that much, how it applies, varies considerably. This is in the context of both accountability and responsibility. The growing use of asset management maturity models (e.g. PAS 55), which has now seen the development of the new ISO 5500 series of international standards, is now seeing a greater sharing of knowledge across the different sectors and an exciting stage in which asset management is now embedding into the corporate fabric across the globe.

The work now is to ensure that asset management is seen to add value today while caring for the future."

Any feedback appreciated.

Joel Leonard, Regional Vice President for International at Association for Facilities Engineering, Greensboro/Winston-Salem, North Carolina

Asking Joel what he is passionate about is simply asking for trouble! He is passionate about everything connected with better maintenance. While almost everyone exceeded my suggested word limit of 100-200 words, Joel's response was the longest. But it is so potentially useful that I have left the bulk intact. I was especially taken with Joel's reference to nano technology. From the first day I heard of nano technology, many years ago now, I have been dreaming of the ability to restore bridges economically with minimal disruption. Maybe one day it will happen. Today Joel looks at what we can do to spread the benefits of technology everywhere. He calls his approach:



How do we Fix It Forward?

So much has happened over the years with the advancement and adoption of technology but so much more needs to occur to maintain the society and culture that is functional and prosperous. It also brings me great sadness to see that economic downturns that caused great pains in North America and Europe has now reached the shores of Australia and that many people are suffering many anxious moments and many companies are making the tough decisions of not performing maintenance best practices because of the economic duress.

Also what is interesting are benefits that the economic crisis is generating is more plentiful. But there are now opportunities: More skilled labor is available at reasonable rates. More workers are becoming less entitled and more flexible and more willing to do what is needed regardless of the status of the function in order meet their family responsibilities.

Some suggestions to gain the path to prosperity.

How many Makerspaces or better yet Fixer spaces are being set up throughout Australia and NZ? Many of these collaborative centers have been havens for hobbyists and craftspeople and can have serious impacts on society as a whole. In New Zealand, Richard Fortune's team has been building MakerCrate, shipping containers with prestocked equipment like 3d printers, design software , tool kits, sewing machines, etc. Makercrate.org.

[If you don't know what a maker crate is, well, I didn't either. So I went to their website and discovered this: Take a shipping container and turn it into a digital fabrication lab. The idea is to set up a space that can be used as a vehicle to promote personal fabrication using tools such as 3d printers, 3d scanners and laser cutters. But also as a learning tool for people keen to explore electronics and to develop their own products, tools or prototypes -all under a budget of 15,000USD. The plans will be shared via the Makercrate Wiki to encourage adoption, stimulate feedback and also help others build their very own purpose specific Makercrate.]

These are sold and shipped around the world, loaded on flat bed trucks and shared at various skill deserts to help advance the knowledge and skill levels. What if more of these were stocked with vibration systems, infrared camera, a mini oil analysis Lab? Perhaps supported by online courses? Even addressing K-12.

How can 3d printing and nanotechnologies help build stronger lest wasteful building? Perhaps with sensors built into the buildings inner systems that can provide intelligence for asset management professionals. In Italy

I witnessed the destruction of 600 year old frescoes and challenged the scientists and engineers to develop some solutions. Now so pleased to learn that nano- science has created nano coatings that can preserve and protect exterior surfaces to avoid future

damage. Also with 3d printing technologies many of the historic structures can be restored to former glory as well.

How can Drones be better utilized? Unmanned vehicles. can provide more operational insight into the bridges, roofs, pipes and other areas difficult areas of our facilities? Some of that technology is being used but is it being used to optimal levels?

It is so exciting time to be alive to see the opportunities before us and the potential if more continue to mentor each other and break down the silos, stigmas and stereotypes that inhibit our performance.

Gregory Punshon, Director, Consulto Pty Ltd (ex Gosford Council), NSW, Australia



This is another contribution I found very difficult to condense - but worthwhile to leave as a whole. We will all be familiar with the problems - but perhaps not with the suggestions that Gregory makes for dealing with them! His topic is

Governance.

You can't unveil improvement in asset management. Neither can you cut a ribbon on it, nor fix a plaque to it.

Persuading elected representatives with no experience in the management of infrastructure that improving asset management practice is both necessary and deserving of significant expenditure is difficult. Senior administrative and engineering public servants together manage the education of representatives and carry the debate when budget transfers away from high-profile activities are necessary.

We have seen the rise of the career public servant and a shifting of emphasis to a more entrepreneurial public service. There are many benefits associated with these changes, including increases in flexibility, reductions in financial burden and and increased appetite for appropriate risk-taking. Conversely there is tremendous encouragement for career public servants to focus on their income.

A neglected asset won't fail tomorrow.

When a career is promoted by delivering short-term "wins" and where there is small risk that inadequate expenditure will have a negative consequence during a career, and where elected representatives are "looking for risk-takers" to "shake things up" you have an opportunity for disaster.

Within Local Government in NSW a General Manager can increase personal income by \$400,000 per annum by moving to progressively larger and more affluent Councils. To do this an applicant must impress the elected officials with previous accomplishments and future plans. Returning a surplus that can be invested in community projects is a winning strategy for "impressing" as it can be directly linked to re-election campaigns.

Thus we have a situation where councillors are encouraged to pay handsomely for public servants whom are focused on short term gains, and a situation where public servants are significantly rewarded for delivering short-term gains. Asset Management Improvement, Quality Systems, Corporate Risk Management do not thrive in these environments; they may be viewed as cost centres and have funding significantly reduced with little short-term impact.

A system of governance is necessary to counteract the short-term focus that is generated by allowing public representatives with no expertise in infrastructure, risk or management of complex organisations to hire senior public servants. This will reduce the chance of long-term issues such as asset management, public and organisational risk and quality being neglected.

This can include:

(1) **direct and rigorous external assessment** of the implementation of Resourcing Strategies and Asset Management Plans to ensure they both meet the needs of good governance and are being implemented and resourced appropriately.

(2) **management of the recruitment**, and more importantly review process for senior executives by experienced professionals managed by a suitable agency, such as the Office of Local Government for Councils in NSW.

Mark Buckerfield, Governing Council - Member at Women's and Children's Hospital Network

Mark has been around! I first met him years ago when he was the Asset Manager for my local council, Salisbury in South Australia. Since then he has lent his expertise to some of the most troubled councils in the State. Today, in reflective mood, Mark questions the way that we tackle:

Asset Valuations



The majority of Local Governments are now funding their depreciation, to amortise the cost of infrastructure over its useful lives. But are we doing it right? For many local governments the application of revaluations sees the value of assets continue to rise,

increasing the depreciation charged to rate payers. This extra cash often helps fund asset replacement as Council's strive to meet their 'Asset Sustainability Ratio'.

But is it right? For all assets where the cost is known why isn't the historic cost basis always used rather having the option for periodic revaluations? If the users of an asset have had to pay interest on any loans used to fund the asset, as well as paying back the capital cost through depreciation, then why do we allow for a revaluation increment to add an extra burden on the current users?

I think this is an important issue because it has not been resolved, there are inconsistencies in the application of the accounting standards and for asset rich organisations the operating impact is material. If we are serious about the principles of intergenerational equity let's get this aspect right, we can't change the past but we can mould the future.



Ross McPherson, Asset & Facilities Management Consultant, Brisbane, Australia

Ross is another of our extremely experienced asset managers with a history of over 20 years in the field. Today he argues that what is needed is:

A national (and rational) debate

It is becoming increasingly clear to me that as a nation we are not raising enough revenue through taxes, rates and charges to fully fund government expenditure in all areas including health, education and infrastructure. We are constantly seeing protest for increased salaries and services for health and education which I agree is needed. We are also seeing an ever increasing demand on aged services as our population ages and we live longer. Along with this the assets we built post war are starting to reach the end of their service life. The thing that concerns me is that no one seems to have a clear handle on what these expenditures are, or should be, and what the gap is. We have made attempts to address this in the Infrastructure area by using depreciation figures as an indicative estimate however these don't paint the real picture where there are peaks and troughs in our future spend, or dare I say "brick walls".

- We need a national (and rational) debate on cost of services, avoiding short term measures such as asset sales that only put off the necessary decision making.
- We, as a nation need, to understand what the real costs are likely to be to sustain all our services.
- We need to address the likely gap between revenue and expenditure and have a long term plan that transcends government electoral cycles.
- We need to get the balance right (which is where the politicians should be focussing their energies).

**John Comrie, Director at JAC Comrie Pty Ltd,
Adelaide, South Australia**

John never misses an opportunity to help others understand the lessons and importance of asset management. I remember watching him, when as an early possessor of a modern calculator in the Engineering and Water Supply Department in 1984 that could quickly calculate net present values, he was the 'go-to' person for engineers wanting to present a Cost-Benefit study. As he (oh so slowly) did the requested calculations he would educate his captive audience in matters of life cycle analysis and other relevant matters. He continues to educate today. His topic here is:



Matching service levels with income over time

Asset managers need to ensure that service levels upon which asset management plans are based are consistent with expected income over time. People may prefer higher levels of service but service levels need to be based on what can be afforded. Yes, asset management plans should also be based on minimising whole of life costs associated with assets but such costs can be significantly influenced by the service levels that are sought to be achieved and maintained (e.g. a bridge/road with lower load/speed limits may have lower whole of life costs).

It is not essential, though, that asset management outlays in any given year (or period of years) match income for the same period.

Annual income may be relatively constant over time (and this may be equitable on intergenerational grounds). Asset management outlays may nevertheless appropriately be higher and lower in some periods than others. Peaks in asset management outlay needs in these circumstances should be able to be accommodated by running down accumulated funds or raising borrowings.

Organisations are often reluctant to make greater use of debt even though in doing so they could reduce whole of life asset costs or provide higher levels of service with the same income levels.



**Anna Robak,
Principal, Infrastructure Asset Management at Opus
International Consultants Limited, Auckland, New
Zealand**

And who better to close this issue with than Anna, my most recent PhD student who is set to lead the development of asset management for the next generation.

The asset management game

The public is demanding greater transparency and lower costs, yet the impact of lower investments on community wellbeing is complex and obscured by time delays. Asset owners recognise the need to engage their customers, yet asset managers struggle to explain what asset management is and to demonstrate its value. Nothing engages and educates quite like a game.

In her book *Reality is Broken*, Jane McGonigal makes the case that massive multiplayer online games and crowdsourcing challenges have an almost unlimited capacity to bring great minds together and to solve problems. Their motivational and collaborative power are unparalleled.

With an asset management game, we could simulate complex problems, understand customer and other stakeholders' behaviours, and show the general public the internal workings of 'asset management'. Such a game world would be the ideal place to pool our data and knowledge. And, oh yeah, isn't it possible we inspire the next generation of asset managers?

Who's in?

Who's in, indeed! I hope that at least one of the ideas in these pages will inspire you to be one of Margaret Meads '**small group of committed individuals**' who make things happen.

And so, it is **Good Bye from SAM**

but please join me in November for the first of our weekly blogs!