Wanted Good Asset Managers Who Can Tell a Good Story

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ABSTRACT

If you have ever been required to convince decision makers of the need to invest in asset management, chances are that you have been met with demand for further proof. In many cases, these decision makers have varying professional backgrounds across multiple disciplines while the asset managers, with their engineering/operations roots have traditionally approached the 'proof' with technical jargon and complex economic concepts. In other countries, who have long histories in asset management, it is now widely accepted as something that fiscally and socially responsible organizations do. The potential for asset management to improve the investment of public money is enormous, and the key to unlocking these major improvements lies in our communication.

This paper examines the opportunities that would come from maximizing the application of asset management, drawing from experiences in in New Zealand and Australia. The paper reflects on the root causes of the problem of not understanding decision makers and public expectations, which in turn leads to the stumbling blocks of communicating good 'asset management'. Often, our audience is looking for very basic information that demonstrates accountability – information which, strangely, we do not provide. From experience, we have found that bringing in someone from an outside discipline, such as planning, that can act as a translator from the technical to real world concerns can improve the messaging and subsequent decision making outcome. The paper also draws on successful examples applied in countries that have a long history in asset management and shares concepts that others that have successfully used to communicate complex topics, through use of popular media and simple language. These concepts apply equally well in asset management.

INTRODUCTION

If you have ever been required to convince decision makers of the need to invest in asset management, chances are that you have been met with demand for further "proof". In many cases, decision makers have varying professional backgrounds across multiple disciplines ranging from financial to elected government officials. These diverse backgrounds have a direct correlation in how they interpret technical information. For many, the message needs to be put into relatively direct terms that relate clearly to outcomes. Asset managers on the other hand, with their engineering and operations roots, have traditionally approached the "proof" with technical jargon, complex economic concepts and ambiguous terms.

Albert Einstein once said that "if you can't explain it simply, you don't understand it well enough". While this may be true, it does not fully explain the challenges faced in communicating asset management to decision makers. The science of asset management is well established and has been documented in numerous frameworks over the years in publications such as the International Infrastructure Management Manual (IIMM), Publically Available Specification (PAS 55), AASHTO Transportation Asset Management Guide and now the ISO 55000 international standards. The necessary supporting tools for implementing asset management, encompassing inventory / condition data acquisition, management systems / GIS, and advanced decision making techniques, are being widely used. However, asset managers continue to struggle to tell their story to decision makers and the public.

Bridging the language barrier is now more critical than ever as governments grapple with complex decisions around aging infrastructure in the face of stretched resources – and with the public increasingly becoming active participants in the dialogue. *Smartly articulated messaging now also needs to be part of the cornerstones of good asset management.* The potential for asset management to improve the investment of public money is enormous, and the answer to this improvement lies in the way in which we communicate asset management.

This paper reflects on the root causes of the problem of not understanding decision makers and public expectations, which in turn lead to the stumbling blocks of communicating good 'asset management'. It draws on successful examples applied in New Zealand and Australia for communicating asset management.

THE IMPACTS OF POOR COMMUNICATION

Effective communications are important in all aspects of public sector management, but are perhaps even more critical when dealing with initiatives like infrastructure management; initiatives that require a long term vision to fully contemplate the decades of impacts that result from decisions now.

The benefits of asset management are widely documented and generally follow typical well held concepts including:

- Meeting regulatory requirements;
- Making informed decisions on maintenance, rehabilitation and replacement;
- Minimizing life cycle costs;
- Meeting public expectations;
- Improving financial management and planning;
- Understanding and meeting the impacts of demands;
- Improving management of risk of service failures;
- Mitigating environmental impacts;
- Providing a more sustainable use of resources, and
- Identifying and implementing efficiencies;

Poor asset management communications result in infrastructure decisions that effectively negate the benefits listed above.

THE STUMBLING BLOCKS

If these decisions are so important, why is it so difficult to convince legislators, boards, treasuries and executive leadership that asset management principles will help them meet expectations at least cost? Too often asset managers throw up charts and tables that "prove" that preventive maintenance on this road will result in lower long-term costs, and they take for granted that everyone understands that the proposed maintenance means that people's expectations for road safety, ride quality, and mobility, can be met for longer, and at lower cost. This is not only a problem because we forget to communicate the expected outcomes to others; we also forget to communicate it to ourselves.

The following are some of the more common themes that relate to the stumbling blocks of communicating asset management to decision makers and stakeholders.

a) Some Organisations Think that They are Already Doing Asset Management

Many organisations believe they are already 'doing asset management', because they are recording data and making plans about when and where to maintain, replace, and dispose of their infrastructure. They are producing budgets, and they may even know the forecast condition of their assets. The difference is that the ones that are doing asset management know how the forecast condition will affect the quality of service they have promised to their customers. If you think you are already doing it, why do more?

b) Internal and External Stakeholders are Not Clear on How They Influence the Success of Good Asset Management, and How it Influences Theirs

Often we hear asset managers lamenting that 'people don't understand what asset management is', but the bigger problem is that they don't understand what it can do for

them, and how their actions influence outcomes. It's no wonder that there is a lack of understanding, as asset management is complex; it deals with the applied science of physical asset deterioration, the demographics and behavioural science of demand forecasting and customer preferences, the relatively narrow economics of reactive versus preventive works, the science of environmental and health impacts, and often the wider national economics of wellbeing. As a coping mechanism, our behavioural response is to simplify the situation or problem (Simon 1957, 1972; Gigerenzer & Selten 2002). Often we do this by focusing on a limited number of interconnections, or by focusing on individual part of the problem – forming our own silos.

Within a community, this lack of ability to see the connections often results in demands for opposing outcomes: lower price and better service – and then frustration when this does not occur. Similarly, communities may demand improvements that are more likely to result in environmental damage or long term economic costs, despite short-term benefits. Still others in the community may not realise how their actions are adversely affecting the entire system. Industrial plants, for example, may discharge by-products to streams, affecting the quality of water in streams, and in turn requiring a higher degree of municipal water treatment – and in turn increasing water prices.

Within an organisation, this lack of interconnectedness typically results in different departments working independently of each other towards the same goals. To reduce road traffic accident frequency and/or severity, for example, a maintenance department may focus on improving skid resistance or reducing shoulder drop-offs, while an operations department may focus on improving black spots – yet the two teams do not work together to prioritise these initiatives based on relative cost effectiveness. In other organisations, maintenance departments declare themselves independent of asset management teams. "We don't do asset management," they say. Without a shared understanding of how different teams influence outcomes, it is difficult to convince people that there is a need to collaborate.

c) Collaboration is Expensive and Time-Consuming

Genuine collaboration requires significant time and resource investment; it requires understanding your collaborators' drivers, understanding how to engage them, how to present information to them, and how to ask meaningful questions of them. It requires gathering information, analysing it robustly, and being transparent about uncertainties. All of these things take significant energy and time up-front, but can make a large difference to outcomes.

d) We Do Not Report the Outcomes from Good Asset Management or Retrospectively Analyze ("where is the evidence?")

Even if people understand conceptually how a system works, and agree with your intended outcomes, they still want evidence that a proposed change will make them better off than the status quo. Asset managers do a lot of analysis before an investment is made, but very little analysis after the fact that proves the investment had the costs

and benefits we said it would. Without evidence, it is difficult to convince anyone of anything.

e) What is Visible? The Outputs from Capital Investment

Since the outputs from good asset management are not necessarily made visible, people tend not to notice. Capital projects tend to get more attention than other asset management related ones; more of the funding and more of the media attention. More capital investments made sense when our nations were being built. But now our infrastructure is well developed, and the benefits of capital investments are marginal. Oftentimes, operational or behavioural solutions can both save the agency more money and result in better outcomes, than major capital works. Yet the physical size of the capital investment makes a greater impact on public opinion. Politicians in particular aim for major impact and have the power to prioritise a capital project over an operations or maintenance investment.

f) Good Things Take Time: Election Cycles, Memories and Discount Rates

As many infrastructure decisions are influenced by politicians who want to make an impact during their tenure, the relative shortness of election cycles means that politicians favour initiatives with immediate results over those with longer-term benefits. The outcomes from asset management initiatives, however, take longer to materialize.

The election cycle alone is not responsible for this short-term view. Politicians are influenced by people in the community. It is human nature to want "results fast". While we typically use discount rates of 0-10% to evaluate infrastructure investments based on organizations' or nations' opportunity costs, research has found that individuals typically express discount rates of 20-30%, and as high as 470% (Robak, 2013).

We cannot expect to overcome human nature. Without visual and memory aids, we are unlikely to convince people to wait for something better.

g) What is This All About? What are You Showing Me?

Neglecting the important outcomes of good asset management will make our communication more and more difficult as the public and government demand greater transparency. This demand for greater transparency means that more of the stakeholders to whom we are communicating are not asset managers or engineers; many have no science background whatsoever. It is hardly surprising, then, that graphs, which they might not be used to reading at all, containing measures they are not familiar with, are not meaningful to them.

In one meeting in which we asked legislative analysts what information they wanted to see in order to believe the budget the department had put together, they told us: "Don't give us charts." To an engineer, charts are fundamental to justification; they show

historic trends in investment and performance, and that helps us make a more intuitive assessment of how we should invest in the future.

Many people who are signing off on budgets, however, are not engineers, and therefore not familiar with what the data means. If they can't understand the data, and can't understand what we tell them, why should they "trust us"?

h) Tension Between Transparency and Fear

Even if we figure out all the ways of presenting and showing retrospective evidence, we may feel constrained by our own fear. In our work with one transportation organization, we have discovered that a fear of being judged poorly overrode their desire to be transparent. If we report our historical planned maintenance to actual, they said, planned and actual will almost certainly not match up, and legislature will deem us a failure. Legislature, on the other hand, were not willing to make more investments available if the DoT would not even report if they had spent the money where they said they would.

There are many stumbling blocks to communicating asset management. The biggest ones appear to be our own lack of reaching out, lack of evidence, and fear that asset management does not bring the benefits we say it does.

COMMUNICATION TECHNIQUES

To overcome communication barriers between the asset manager and decision makers or stakeholders, there are several proven techniques that can be applied, that from experience working with a wide range of organizations in New Zealand and Australia, can be effective. Some are relatively easy to apply and may seem obvious, but are often overlooked, while others require the asset manager to plan their strategy.

a) Start with the Goal or What You All Can Agree On / Set the Context / Reframing

Everyone can normally agree with the desired outcomes; who doesn't want safe roads and a smooth-flowing economy? One of the most successful ways of communicating with people is to start with the context, or the outcomes we all hope for. Once people agree on the outcomes, we can move into more detail.

A particularly good example of this reframing is in Rachel Smith, who advises mayors on re-election platforms based on reducing congestion (Civil Engineers Australia 2015). Rachel is a transport planner (want to hire her?), but introduces herself as someone who reduces congestion (I'll bet you do now). Rachel has not only re-framed her role and engaged a new, *political* audience, but she also reports her evidence. In her work in one community in the UK, she increased walk-to-school rates from 38% to 92%. She

- Uses language that everyone understands;
- Promotes a goal that everyone agrees with;

- Works *with*, as opposed to against, political spheres of influence; and
- Provides retrospective evidence that is based on simple information that people can understand and verify

A person who won a national speaking contest in New Zealand a few years ago had this advice: "Start with three truths. Say three things that everyone will agree with. That will get them nodding. Then you can move forward with their consent, knowing you have them on board."

In asset management, we need to share basic information that people can relate to. If we show them that a road in their neighbourhood is "red", or in poor condition, they can validate our statement against their own experience, and they will be more prepared to believe the condition of the rest of the network and our forecasts.

b) Validation and Transparency

Consultants are often brought in not to create business cases or analyze the financial and non-financial impacts of asset management plans, but to verify the organization's work. There is something powerful about having work validated by an independent third party.

We have found that to have a good dialogue with stakeholders, existing information must be presented first. This provides stakeholders with a point of reference, which they can agree with or refute. The existing information will typically include current / historical inventory, condition, quantity of physical works, and expenditures, in a way that allows people to make intuitive assessments of what might work.

c) Influence Diagrams

The asset management world is complex, and it is not surprising that members of the public do not understand why we might make a particular decision. However, nor do people working in different teams within the same organisation understand how they influence each others' success. Human cognitive abilities cannot model the complexity of the systems we manage (Forrester 1991). A complex system is one that has a reasonable delay between cause and effect, and many intermediate steps that lead from root cause to end impact. They are so difficult to process that we often make decisions that result in unintended 'side-effects' (Sterman 2006, p.505).

To overcome these unintended side effects, graphical approaches can be used to plot the connections within an organisation, and within a community or nation. This graphical representation helps all stakeholders understand their impact on the whole (Bosch et al. 2007). Detailed graphical representations such as influence diagrams, which map out systems all the way from root cause to end impact, "(a) reduc[e] the risk of missing critical elements, (b) pool the expertise of multiple experts, (c) facilitat[e] external review, and (d) focus attention on uncertainties" (Gregory, Fischhoff & McDaniels 2005,

p.8). What better way to engage our stakeholders than to allow them to dig into the system themselves?

d) Spatial Representation

Spatial representation has been widely proven to be effective in supporting learning in various fields ranging from reading to science, enabling mental simulations and visualizations (Schwartz & Heiser, 2006). People, regardless of age, are inherently drawn to spatial representations by making a cognitive connection to the subject matter and retaining it for longer periods of time.

Massive amounts of business and government information have some reference to location. When these location references are consistently structured to permit their associated data records to be "pinned" to a map, the data are commonly described as geospatial data. Geographic Information System (GIS) are now widely used by most transportation organisations for managing a vast array of infrastructure assets. They have also become powerful analytical tools that can be used for functional planning, design, maintenance operations, research and performance management. While we use them in our own analyses, we use them with our own knowledge and assumptions – which many others do not have. We could use geospatial information better in our communications to others.

For an asset manager, the ability to present analyses results spatially to decision makers simplifies the discussion from many words to a clear visual representation. It provides a bridge across multiple disciplines with a common language when dealing with decision makers and stakeholders, including the public. In doing so, it can be used to persuade and influence. However, when presenting spatial data, one must be cognizant of the level of detail to be included. Presenting too much information, or information presented in a complex manner, result in people becoming disorientated and the message is lost. In many cases, decision makers are seeking a direct connection to a particular issue and the art in communicating this spatially is to keep it simple. For example, one organization wanted to gain a better understanding of pavement rutting in their jurisdiction for government officials in making the case for increased funding. In the end, a simple color code mapping displaying rutting categories was all that was needed.

e) Dashboards

Dashboards are relative simple communication tools that transportation organizations can use to visually display key statistics and performance metrics regarding asset operations and condition. Typical examples include pavement conditions, traffic statistics, program costs, projects, road features condition, customer satisfaction, etc. (see Figure 1). Some of the more advanced dashboards also allow the user to drill down for more information should they desire. The dashboards can be used internally within an organization or be public facing.

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f) Nudging

Nudging theory is a behavioral science concept that considers how the use of positive reinforcement and indirect suggestions can be subtly applied to encourage a desired outcome. The concept was popularized by Thaler and Sustein in their book titled *Nudge – Improving Decisions About Heath, Wealth, and Happiness* (2008). It has been widely applied by governments and organizations in several sectors including public health, financial, safety, environmental and sustainability.

Unlike legislation and regulations that mandate actions, nudging is about applying subtle soft tactics that can drive changes. Nudging examples within the transportation sector include traffic calming through the use of vehicle activated speed message signage, and the use of pavement markings to influence driver behaviour (Avineri, 2014). Nudges can be designed to address complex decision making behavioural issues or can be relatively simple solutions to drive a change.

Within infrastructure asset management, there are only a limited number of published case studies where nudging has been applied, pertaining largely to water conservation and energy. However, when considering the importance of understanding and incorporating user demand within an asset management planning framework, the use of nudging may have potential applications as part of a demand management strategy. Another example where simple nudging is currently being used, but not referred to as such, is how some leading local governments report on the costs of providing infrastructure services to citizens by using readily identifiable benchmarks. The effect is that citizens are able to more readily relate to the true cost of the service and hence, are able to make a discernable connection when engaged by municipalities when defining level of service.

g) Non-Technical Translators

As noted previously, the use of technical jargon, complex economic concepts, and ambiguous terms by asset managers when conveying their message to decision makers and stakeholders constrains effective communication and distorts the intended message. From experience in New Zealand, it has been found that bringing in someone from an outside discipline, such as planning, that can act as a translator from the technical to real world concerns, can improve the messaging and subsequent decision making outcome. Their ability to frame the issue and ensuing discussions using easily understood terminology and relatable references can have a profound impact.

h) Video AM Story Telling

Short video clips have also been used as tools to help communicate asset management to decision makers and stakeholders. They typically fall into categories of analogies, interviews, storey board animations and humour. Below are some of the more effective examples:

- Sustainably Managing Our Assets: City of Ryde Council (New South Wales) uses story boards with plain language to explain what sustainable asset management means linking key principles including governance, levels of service, demand and costs / tax rates (https://www.youtube.com/watch?v=iR_BJKAo0dA);
- IPWEA Sustainable Communities: Critical Insights (Australia) is aimed at elected local government officials with several speakers who explain key asset management concepts including levels of service (https://www.youtube.com/watch?v=XTzXXU5sGeA);
- An Introduction to Asset Management ISO 55000 that uses the human body / personal health as an analogy to asset management (http://www.amcl.com/about-whatis/); and
- America's Crumbling Infrastructure is a satirical presentation that uses plain language and humour to examine the current state of infrastructure management in the United States in terms of governance, condition, demands and challenges (https://www.facebook.com/video.php?v=659479160847763&fref=nf).

In all cases, the technical jargon has been eliminated and the story put within a context that is easily understood, drawing on every day examples that people can readily relate.

i) AM Games and Simulation

One of the main problems with communicating asset management is that it encompasses a very broad range of processes and concepts. Some are simple, some are complex and in many cases when communicating asset management, we assume most people understand more than they know and struggle with explaining concepts like levels of service or describing the impact of decisions.

Explaining asset management through the use of games is one way to introduce the basic concepts and get people aligned in their thinking. Originally developed for the water sector in the Netherlands, *The Management Game Asset Management* was designed to improve the communications between employees by developing a common understanding and aid in the implementation of asset management within organizations Boomen et al, 2012).

There are five players, each representing the management team (i.e. engineering manager, operations, customer service, etc.) and the game leads them through a path of asset management growth to help them understand their roles / responsibilities and bring out the issues being faced, looking to possible solutions in an open and fun way.

Simulation is another effective communication tool that can be used by asset managers when presenting analysis results to decision makers. The ability to conduct and visually present "what-if" analyses demonstrates not only a robustness in the analyses, but also more deeply engages the decision makers. This enables them to directly process the results and stimulates discussion that ultimately can lead to a better understanding and positive outcome.

CASE STUDIES

The following three case studies build on some of the communication techniques presented in the previous section.

a) The Gisborne Experience – New Zealand: Business case on a page

Gisborne District Council prepares Activity Management Plans for all of the Council's core services as part of its Long Term Plan process. Activity management plans are similar to, but broader than traditional asset management plans; they consider either the activities required to manage the service, as well as customer activities and their effects on assets (i.e. the activity of road users and the associated impact on the road asset).

Gisborne District Council's Environment and Policy group had had limited success with previous Activity Management Plans; the plans were prepared by managers who viewed them as merely paperwork that was not relevant to their day-to-day activities. A direct consequence of this was that the group's activities were not clearly documented or understood. Consequently, other groups that were *living* their Activity Management Plans received the largest share of the funding.

In 2014 a new Group Manager moved into the position from the Engineering section. This manager had extensive experience in successfully securing funding through well-articulated Activity Management Plans. He identified a stumbling block in translating that success to the Environment and Policy Section; Municipal Engineers seemed to have a clear understanding of activity management plans, while non-engineers did not.

But why is this? It's probably because the majority of activity management plans sink deeply into the detail of asset/activity management (costs, performance measures, etc.) without clearly articulating the strategic, or tactical nature of the document produced. Why the plan is produced appears to be taken for granted, without providing a summary of what the plan means over the short, medium or long term. The connection between the plan, and the simple question of "Why?" had been overlooked.

In order to get buy-in from non-engineering decision makers and stakeholders, not only does the plan have to answer this question, but it also has to clearly resonate with them. In other words, the Chief Executive needs to see the big picture of where the money is being spent, and when, and what value will be obtained. Simiarly, a member of the public needs to understand the benefit of the public money spent.

In the Gisborne project, the consulting team comprised of an asset manager, an engineer and an environmental planner. The team knew that the Activity Management Plans were part of the great 'competition' between the functions for Council's scarce resources, and that the Activity Management Plan needed to relate to the Council's core values to easily articulate the value. We also saw the value of making the document as visual as possible, particularly for less technical and/or busy people. The 'business case on a page' approach was born.

The team first met with the staff of each section to understand what they did, why they did it, and what legislative requirements (or other 'bottom lines') had to be achieved. From there, staff were asked to think forward over the next 10 years and articulate trends that would likely impact on their work. These trends were summarised, and used to identify projects, or work streams, to address them. The projects and work streams were prioritized in terms of value or importance, and were then assigned a cost to deliver. They were then assigned a position over the 10 year timeframe of the plan, according to when funding was available, the urgency of the matter to be addressed, and the relative value of the project. This exercise was completed seven times over, once for each section, so the entire group had a utopian activity management plan for everything they would like to do and achieve over the next 10 years.

Once these plans were developed, they were submitted to the Community Planning section. The leadership team of the Council examined the 'long list' of projects from each section, and from there, projects were selected to go forward. Those projects that were most clearly defined had the greatest success. A direct result of the approach taken by the Environment and Policy Group in the round of plans was substantially more funding allocated to every section, because all parties involved more clearly understood what the group was doing. An additional benefit is the process achieved the buy-in of all staff, who more clearly understood the value of the projects that were assigned funding and have demonstrated a higher level of buy-in and ownership for them, rather than viewing them as frustrating distractions from their day job. The staff appreciated that the projects they were responsible for were an integral part of the day job, and there is a direct community benefit in them being completed.

The 'business case on a page' approach has enabled all the projects to be incorporated into a single Long Term Plan document, which is the publicly available version of the Council's Activity Management Plan. This document can be downloaded from the Council's website, and is currently subject to public consultation prior to it being ratified.

b) The MacKay Experience – Australia: The connection between future living spaces and infrastructure needs (and cost)

The Mackay region has experienced sustained population and urban growth over several decades. But the growth has fragmented, and infrastructure services have not been efficiently provided. As a result, substantial Council financial subsidy has been required.

MacKay Regional Council recognized that a more sustainable approach to managing growth and development was needed, and so developed a Regional Sustainability Strategy that sought *"To develop a clear, coordinated and unambiguous long term strategy for the sustainable development of the whole Mackay Region."*

The Regional Sustainability Strategy aimed for alignment between Council strategies across the organisation, so that funding for 'growth' and infrastructure' would be

affordable to the Council and taxpayers. Therefore, 'sustainability' in the context of the Regional Sustainability Strategy means aspiring to long term financial sustainability to support growth and levels of service.

The team who prepared the strategy examined the current plans and financial strategy, and concluded that if it continued to operate under the current 'business as usual' model, growth within the region would become unaffordable. Council would need to enter into discussions with the community to negotiate growth patterns, levels of service and rates. The Sustainability Strategy therefore sought to answer the question *'if not business as usual, then what balance of key land use, infrastructure and financial planning strategies is to be pursued?'*

The team examined future demographic scenarios, as they inform the level of likely growth provision that is required into the future. The pressure for growth was overlaid with the environmental characteristics of the region, and areas where growth is unlikely to be feasible or acceptable.

The spatial analysis highlighted a number of pressures facing the region that mean that future urban growth would need to be consolidated in the existing urban area; creating new urban areas was likely to lead to higher costs to developers or the Council and ultimately ratepayers, both in terms of the initial infrastructure provision but also in terms of maintaining levels of service.

The team analyzed market trends for housing and considered whether the market demand was practical into the future, or whether other forms of development should be encouraged (i.e. encouraging a shift in development from detached dwellings on large lots to semi-detached or apartment style development on smaller lots). A similar form of analysis was undertaken for industrial land.

Once the drivers for spatial growth were understood and predicted over a temporal horizon, analysis then turned to the infrastructure levels of service. This divided up the assets managed by type, set a target level of service and then defined an actual level of service. The infrastructure considered in the strategy was:

- Transport: network condition;
- Transport: capacity;
- Stormwater;
- Water services;
- Parks and open space; and
- Community facilities.

Through this assessment, it was concluded that the current levels of service were not necessarily reflecting the expectations of the community and/or were not well understood.

Following this analysis, the team examined the Council's Financial Strategy. *The Financial Strategy was premised on providing a greater percentage of funding for new infrastructure as opposed to maintaining existing levels of service, which contained inherent risk with the potential for a bow-wave of deferred maintenance costs.* This pressure was further underpinned with a progressive withdrawal of state and federal capital funding, which has increased the requirement for the Council to fund its own essential infrastructure from its own revenue base. Coupled with this, community expectations have continued to grow for a high level of service.

Once the analysis was assimilated, the Council undertook a scenario based approach, considering whether to continue along the 'business as usual' path or progress with an alternative approach to providing for population and infrastructure growth. All of these scenarios had identified positive and negative effects, and ultimately a preferred future was identified that sought to balance growth and investment. This has been summarised in the one-page diagram as shown in Figure 2.

c) The 5-Star Experience – Australia: Intuitive Visual Aids

In developing and documenting levels of service for the asset-based services delivered by the Maroochy Shire Council, it quickly became apparent that a number of areas were difficult to define. While there were existing measures, standards, codes and legislation that either prescribe or give clear guidance to services, such as water supply, a great many of Council services were wide open to interpretation. The majority of these 'difficult' services were in the buildings and parks categories. If these services are analysed, it becomes apparent that there are a relatively large number of both tangible and intangible factors which combine to provide the service. For example, the size of a park (tangible) is relevant, but equally, the amount of shade, privacy, amenity, etc., provided is also relevant, together with a number of other intangible elements. These intangible elements are typically the quality of service.

The essential starting point for the efficient management and delivery of asset-based services is the definition and documentation of clear, measurable levels of service. For the Maroochy Shire Council, an assessment framework was defined that considered:

- Quantity – how many, how much;
- Quality – how pleasant, accessible, acceptable, etc;
- Location – where relevant; and
- Time dimension – how often, availability, etc.

For the majority of services, the quantity, location and time dimension components were relatively straight forward (i.e., the number of public toilets provided, the parks or suburbs in which they are situated and the hours they will be either open or locked). The qualitative component was more challenging because the level of cleanliness, accessibility, safety, etc., of each toilet is paramount to the service the public receives, and the cost for Council to provide. All of the relevant elements of quality needed to be identified, weighted and then evaluated in terms of each toilet facility. At the same time,

there was a desire for a simple and low cost method to do this that is not onerous to review as part of routine activities.

The methodology used to evaluate the qualitative component of service levels was a 'star rating' technique. This is essentially borrowed from the accommodation industry, where 5 Star represents a very high standard and 1 Star a very low standard. Most people are familiar with the hotel accommodation star rating system. More recently, similar ratings have been applied to electrical appliances to rate energy usage and white goods to rate water efficiency and a variety of other products and applications. These allow a consumer to choose the most efficient or affordable products.

The quality of the service provided by each public toilet was broken down to a level that could be scored reliably and consistently (see Figure 3). The scoring ranged from1 to 5 and each element was also weighted for its relative value to ensure that the more critical elements dominate the final score with respect to Act & Regulation, community requirements and social standards. Guidelines were defined for each element to be rated and while some elements can easily be scored objectively, some required judgement to be exercised with consistency in ratings being the key.

The outcome from this exercise demonstrated an alternative communication technique that could be used for educating the community in how maintaining a particular level of service comes at a particular cost, which enables the community to consider the relative costs and benefits of reaching a certain level of service prescribed to an asset. The other potential benefit is if the rating system is applied consistently across Councils and municipalities, there is the ability for communities to understand why their facilities could end up providing a higher, or lower level of service than another area. There was however, one unexpected negative consequence encountered when this rating system was proposed to the Council. While local elected officials were initially enthusiastic, because they understood it, the enthusiasm generally waned over time because they do not like telling people that they are going to only receive a 1.5 star, or a 3 star service, instead of 5.

SUMMARY

The potential for asset management to improve the investment of public money is enormous, and the answer to achieving maximum improvement lies in the way in which we communicate asset management. Many of the barriers of communicating asset management are about how **visible and relevant** we make asset management. There are many tools and techniques available for successfully communicating asset management. Most require thought, time and coordination – but this upfront investment will save us millions, and perhaps billions, in the long run. Perhaps we need to start assessing the preventive costs of additional thought, coordination and planning against the reactive costs of repeatedly producing new business cases and trying to convince members of the public that what we are doing is right.

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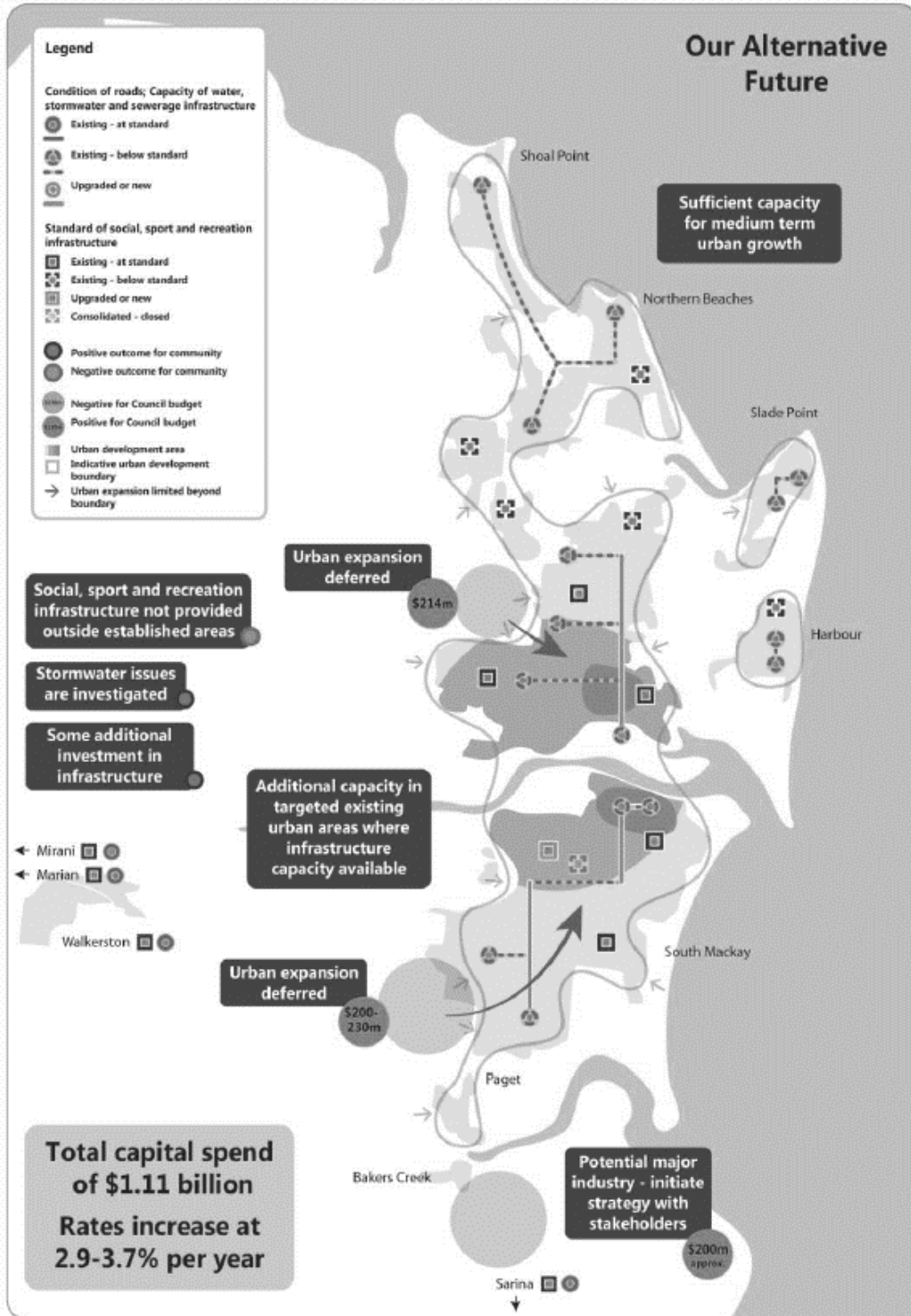
Figure 1: Examples of Dashboards

Figure 2: One Page Summary

Figure 3: Example Maroochy Shire Council 5-Star Rating

Location: River Esplanade Mooloolaba
Charles Clark Park

Assessment Criteria	Importance Multiplier	Rating (1-5)	Score
Access / location	5	2	10
Condition	3	4	12
Water meters / pans per visit per day	4	4	16
Urinal capacity / dimension	4	4	16
Wash basins	2	4	8
Privacy equation	2	3	6
Level of internal finish	3	3	9
Lighting levels / natural and artificial	3	3	9
Disabled access	5	2	10
Cleanliness / cleaning time frames	5	3	15
Ventilation	5	3	15
Landscaping	3	2	6
Maintenance responsiveness / quality	5	2	10
Dimension	3	3	9
CEPTED	3	2	6
Environmental	3	3	9
Location Compatibility Factor	5	4	20
	63		
Total			**186**

Assessed Star Rating   **3.00** (Desired score range - 3.25 to 3.74)