Benefits and Drivers of Good Asset Management Practice

Infrastructure and society

All modern societies are underpinned by a vast network of transport, water supply, waste treatment and disposal, energy, and telecommunications infrastructure.

These networks are made up of physical assets, such as pipes, roads, bridges, buildings, and equipment that enable services to be provided to our communities.

This infrastructure supports the fabric of modern living and is often taken for granted until something fails or no longer provides the expected service.

For these reasons, good management skills must be applied to ensure our infrastructure networks are resilient and provide an affordable and sustainable service.

Over the last few decades there has been growing concern about how well our essential infrastructure assets are being managed.

Some significant global catalysts have highlighted the need for improved asset management practices, such as:

- concern about the ability to finance ageing infrastructure,
- significant network failures highlighting community dependence, and
- challenges associated with climate change.

Improving and maintaining good asset management practices will provide better accountability, sustainability, financial efficiency and risk management and better match levels of service with customer requirements.

Affordability, ageing infrastructure, changing climates, and increasing community expectations present huge challenges for infrastructure managers.

Around the world we continue to see significant changes and challenges in the discipline of infrastructure asset management.

More than ever, our communities are ‘demanding’ or ‘expecting’ more from infrastructure, Stretching the available resources.

It is important that we apply good stewardship principles because balancing the levels of investment across competing priorities in a changing world is not easy.

Good asset management is about ensuring infrastructure assets and services that the community value is delivered efficiently today – whilst providing certainty for the generations of tomorrow.

Asset Management Benefits

Asset management can meet these challenges through cost-effective, targeted, sustainable asset management strategies and investment decisions.

Good asset management provides better:

- accountability;
- sustainability;
- risk management;
- service management; and
- financial efficiency.

The International Infrastructure Management Manual (IIMM) outlines five benefits of asset management.

Strong governance, enhanced customer service and accountability by:

- demonstrating to owners, customers, and stakeholders that services are being delivered effectively and efficiently;
- providing a transparent and auditable basis for making service/risk/price trade-off decisions;
- improving accountability for use of resources through performance and financial indicators; and
- providing the ability to benchmark results against similar organizations.

More effective and sustainable decisions by:

- having a robust information evidence base to support decisions;
- considering all viable options (including demand management and resilience) and all aspects of decisions;
- recognizing and planning for the impact of climate change; and
- ensuring all lifecycle costs are included in decision processes, so that the emphasis is on sustainable efficiencies, not unsustainable short-term considerations.

Enhanced customer service through:

- improved understanding of service requirements and options;
- improved performance and control of service delivery to the required standard;
- a more holistic approach to asset management within the organization, through multi-disciplinary management teams.

Effective risk management by:

- demonstrating compliance with legal and regulatory requirements;
- understanding the risks related to asset management and service delivery and applying a framework to prioritize risk mitigation;
- applying business continuity practices; and
- addressing the inter-relationships between different networks.

Improved financial efficiency by:

- improved decision-making recognizing on costs and benefits of alternatives
- prioritization of investments, interventions and asset care activities;
- justification for forward works programs and funding;
- recognition of all costs of owning/operating assets over the lifecycle of the assets;
- selecting the most effective procurement method; and
- benchmarking condition and performance to promote innovation and efficiency.

What is Asset Management?

The International Standards for Asset Management define asset management as:

The coordinated activity of an organization to realize value from assets.

For infrastructure, these are the activities undertaken to manage assets to provide services.

Determining the 'agreed' level of service from both a customer and a technical perspective can be complicated.

Often organizations starting out do not even understand the current level of service they are providing, let alone what their customers want and are prepared to pay for.

Typically, they do not hold good records on the number of asset failures/service outages or how effectively they are used – (booking hours, visitor numbers, wastage, etc).

Ideally, establishing desired (and affordable) levels of service will be done with an understanding of the trade-offs between risk, cost and the levels of service being provided.

Typically, we need to spend more money to raise levels of service and/or reduce risk (e.g. improving road safety).

Asset Management is much more than the lifecycle management of infrastructure (e.g. acquisition, maintenance, renewal and disposal) – it also includes level of service, demand, financial and risk planning and decisions.

The key to good asset management practice is taking a staged step-by-step approach in the preparation of a policy and strategy, supported by Asset Management Plans.

The hierarchy of documents in the Asset Management System is illustrated in Figure 1:

Figure 1: Documents in the Asset Management System

Key Elements

Key elements of good infrastructure asset management are:

- Understanding the state of the assets;
- Providing an agreed the level of service and monitoring performance;
- Managing the impact of changing circumstances through demand management, infrastructure investment and other strategies;
- Taking a lifecycle approach to developing cost effective management strategies for the long term that meet that defined level of service;
- Identifying, assessing, and appropriately controlling risks; and
- Having a long-term financial plan which identifies required expenditure and how it will be funded.

These elements of asset management are enabled through aspects such as capable and skilled staff, effective tools and systems and a commitment to continuous improvement in asset management.

The Stewardship Imperative

Stewardship is responsibility for taking good care of resources entrusted to a person or organization as well as meeting their social, environmental and economic responsibilities.

For government and other public sector organizations, stewardship covers:

- certain resources entrusted to the organization, identified as stewardship of property, plant and equipment and stewardship of investments, and
- certain responsibilities assumed by it, identified as the current services assessment.

Stewardship in private sector organizations can also include the responsible planning and management of resources including shareholders' interests and profitability.

People in top management need to:

Understand their stewardship responsibilities

- what assets they have, and service levels expected to be delivered from the assets
- know what the risks are they need to manage
- know the lifecycle costs in providing infrastructure and services
- know where their infrastructure assets are in their lifecycle
- be informed and know the long- term impact of their decisions.

Know what their customers can afford

- consult with customers on service levels, costs, risk and options
- inform customers on the cost of particular service levels.

Move from annual budgeting to long-term financial planning

- annual budgeting is short term and often ignores implications of future higher asset maintenance and renewal needs
- prepare a long-term plan to assist in ensuring ongoing financial sustainability
- long-term planning looks at revenues required to sustain particular service levels. It should recognize large future funding and outlay needs and give time to consider associated policy and strategy implications.

Maintenance Management vs Asset Management

There is a common misconception that organizations are undertaking 'Asset Management' when in fact the focus is on prioritizing works within parts of the lifecycle (such as prioritizing maintenance tasks) rather than holistic asset management.

Figure 2 illustrates the transformation that will occur as organizations move from more traditional maintenance management approaches to optimized asset management.

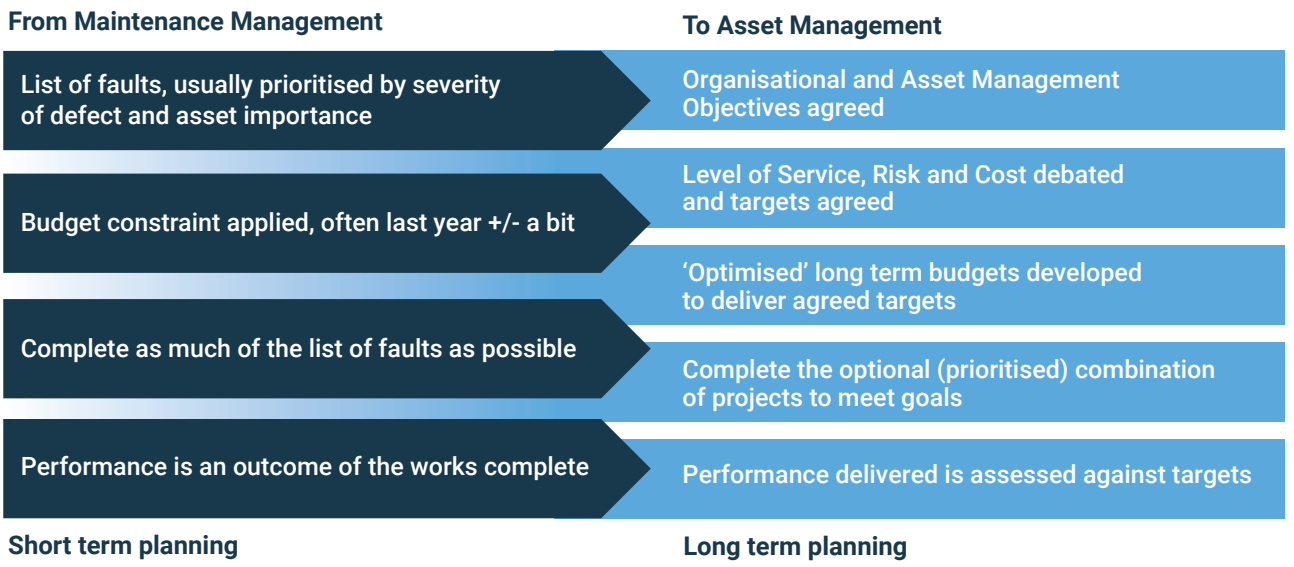

Figure 2: Transforming from Maintenance Management to Asset Management

Asset Management Drivers

The benefits of good asset management should be enough of a driver for implementing effective management practices. Unfortunately, it is often only when things go wrong that proper focus is given. In many countries, the following events and trends have emerged as catalysts for providing a better standard of infrastructure management.

Ability to finance infrastructure renewal

The ability to balance the investment in new infrastructure to support economic growth against the ongoing maintenance and future renewal costs of existing infrastructure is a critical challenge around the globe.

Some systematic analysis has been done in various infrastructure sectors and countries using tools such as infrastructure report cards to highlight information about the condition and performance of infrastructure assets.

This approach has helped generate greater awareness and conversation about the need for governments and infrastructure managers to improve maintenance and renewal decisions.

Changing regulatory requirements

Environmental regulators are typically applying stricter criteria to manage the increasing environmental damage from growing communities.

Financial regulators are increasingly requiring that the public sector recognise and equitably recover the full costs of owning and operating infrastructure over the life of the assets, and that both public and private sector network operators fully justify their capital and operations expenditure and related price structures.

In some countries many asset management functions are legislated, such as the requirement for long-term asset management and financial plans, performance reporting, application of decision frameworks and engagement with communities (for public assets).

Significant Network Failures

The failure of networks to deliver services can occur when there is inadequate maintenance and investment in asset capacity and strength.

Significant failures can result from both a lack of strategic thinking to prevent failures and a poor response when they do happen; there are many examples of city-wide or nation-wide infrastructure failures that were later found to be reasonably avoidable.

Climate Change

Climate changes pose a series of risks to infrastructure, the environment, the economy, and land use and communities are already feeling the effects. These risks need to be recognised and understood to inform planning, preparation and adaptation.

As countries grapple with the likelihood of significant infrastructure investment to mitigate and adapt to climate change, good asset management practices will help better define and evaluate solutions.

Increased Customer and Stakeholder Expectations

Resulting from greater awareness of regulatory requirements, consumer rights, and impacts of service failures, there is a higher level of public scrutiny on infrastructure management decisions than ever before.

The ISO 550xx series of Asset Management Standards has led to a requirement for organizations in certain sectors demonstrate compliance with those Standards. Others have chosen to follow a path of alignment as a means of satisfying their stakeholders that they are applying good asset management practice.

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Source: International Infrastructure Management Manual (IIMM) 6th Edition.