

FINANCIAL SUSTAINABILITY AND THE MANAGEMENT OF PUBLIC INFRASTRUCTURE

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Abstract

Infrastructure is a core function, responsibility and even a liability of municipal and other levels of government. Infrastructure is the very foundation of our communities. The impact of maintaining and renewing infrastructure is having significant impacts on the financial sustainability of communities and government. Sustainable management of infrastructure needs to be an essential part of doing business.

New national guidelines published in Australia by IPWEA effectively link the technical and financial aspects of managing infrastructure and services. *Engineers and accountants speaking the same language to assist infrastructure owners develop sustainable long-term asset renewal and financial management plans.* National financial sustainability indicators have also been recommended.

The guidelines provide a methodology for valuing and depreciating assets which applies the requirements of all Australian Accounting Standards to allocate the depreciable amount of an asset on a systematic basis over its useful life to reflect the pattern in which the asset's future economic benefits are expected to be consumed.

These new infrastructure financial guidelines will assist financial and asset practitioners to improve the quality of asset register data and to enhance financial reporting and long-term financial planning – and ultimately ensuring sustainability in the provision of services required by our communities. The methods and guidelines are applicable internationally.

Introduction

Several infrastructure and financial sustainability studies have been published in Australia over the last few years. A report prepared for the Australian Local Government Association, concluded that around 35% of Australian councils are not financially sustainable.¹

These studies identified deficiencies in service planning, asset management planning, long-term financial planning and financial reporting.

The ALGA Study identified that local government is responding to ever rising community expectations by providing a growing range of services

¹PwC, 2006, p 6.

and infrastructure. Rising costs exceeding revenue growth is seeing a significant number of councils develop financial operating deficits.

The Report states that in the absence of major reforms, Australian local governments will have to cut back on services, reduce their asset base or obtain additional revenue if they are to be sustainable in the longer term.

The various sustainability reports highlight how significant infrastructure is a core function, responsibility and even a liability of Australian local government. Infrastructure is the very foundation of our communities. Most of it was built in the 1950's and 1960's and is nearing the end of its economic life.

Under Australian Accounting Standards, owners of infrastructure assets have been required to report on the condition (depreciated replacement cost) and consumption (depreciation expense) of infrastructure in their financial statements for nearly 15 years.

Uniting the technical and financial aspects of infrastructure asset planning and financial planning and management will increase the quality of data used for financial reporting and quality of decisions made on service delivery from existing and new assets.

National Action

Prime Minister Kevin Rudd stated one of the three purposes of the Australian Council of Local Government meeting on 18 November 2008 was to "begin work on a planning reform to improve infrastructure and services delivery across Australia".

*"We must improve asset management and financial management." "We need to know what we've got, what condition it is, whether it needs to be repaired and how much it costs to maintain."*²

The Local Government and Planning Minister's Council (LGPMC) has adopted three nationally consistent frameworks for:

1. Assessing local government financial sustainability³,
2. Asset planning and management⁴, and
3. Financial planning and reporting⁵.

The need for guidelines to link the technical and financial aspects of providing services from infrastructure was identified by the IPWEA's National Asset Management Strategy Committee (NAMS.AU) and the National Local Government Financial Management Forum (NLGFMF) in the mid 2000's.

²ACLG, 2008.

³ LGPMC, 2007

⁴ LGPMC, 2009

⁵ LGPMC, 2009

IPWEA identified national stakeholders to be represented on the project steering committee including:

- Asset management practitioners,
- Financial management practitioners,
- Commonwealth Government,
- State Governments,
 - Local Government division
 - Treasury
 - Auditor-General
 - Valuer-General
- Australian Local Government Association
- State Local Government Associations

Guidelines Structure

The guidelines are set out in 4 parts.

Part A Introduction introduces the guidelines and provides background including reasons for development of the guidelines.

Part B Planning discusses the planning phase of infrastructure financial management, namely service planning, asset management and long term financial planning.

Part C Financial Reporting describes the regulatory framework covering financial reporting and auditing of financial reports.

Part D Application covers the practical application of the above parts to valuation, accounting for infrastructure, financial reporting and planning, administration and implementation.

The guidelines are designed to cover the needs of 'core' (those beginning the process) and 'advanced' users. Moving from 'core' to 'advanced' is one of continuous improvement in priority areas. A Quick Guide is included to provide information on the key points of the guidelines.

Financial Sustainability Indicators

An organisation is sustainable if its infrastructure and financial capital can be maintained over the long-term. The guidelines propose eight nationally consistent financial sustainability indicators.

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|------------------------------------|---------------------------------|
| 1. Operating surplus, | 5. Interest cover ratio, |
| 2. Operating surplus ratio, | 6. Asset sustainability ratio, |
| 3. Net financial liabilities, | 7. Asset consumption ratio, |
| 4. Net financial liabilities ratio | 8. Asset renewal funding ratio. |

These indicators can only tell part of the story and give an indication of where to look for reasons behind any differences or trends.

Planning

Planning for services from infrastructure covers three stages:

Service planning – working to identify and prioritise what services are needed to meet the needs of the organisation’s customers/community,

Infrastructure asset management planning – defining legal and stakeholder requirements and needs, incorporating these into the organisations strategic plan, asset management policy, strategy and operational plans linking to a long term financial plan,

Financial planning – a plan for generating, spending and saving future income and raising and repaying borrowings as necessary and appropriate to equitably fund operations, maintenance, asset renewal and upgrade of existing services and new services.

Reviewing a Service Funding Gap

The ALGA Financial Sustainability Study⁶ estimated the national renewal backlog service funding gap at \$14.6B and national annual underspend on renewals at \$2.16B or \$3.1M per council.

Developing a sustainable long-term financial plan will require the adoption of several strategies to overcome this underspend including:

- reviewing the range of existing services and service levels,
- pursuing continuous improvement in the efficiency of service delivery,
- reviewing projected renewals including remaining/useful life, extending life of assets and use of ‘low cost’ renewal methods,
- identifying idle or surplus assets for sale, disposal, or conversion,
- giving priority to asset renewals over asset upgrade and new assets,
- considering life cycle costs for all new service/asset proposals, and
- sourcing additional income (eg rates/charges, grants) or borrowings.

Financial Reporting

Financial reports show the results of management’s stewardship of the resources entrusted to it by providing information about an entity’s:

- Assets
- Liabilities
- Equity
- Income & expenses including gains and losses
- Other changes in equity
- Cash flows

This information assists users of financial reports in predicting the entity’s future cash flows and their timing and certainty.

⁶ PWC, 2006

Accounting for Property, Plant and Equipment

Australian Accounting Standard AASB 116 *Property, Plant and Equipment* prescribes the accounting for property, plant and equipment assets.

Property, plant and equipment are tangible assets that are:

- held for use in the production or supply of goods or services, for rental to others, or for administrative purposes, and
- expected to be used during more than one (financial reporting) period.

Accounting for property, plant and equipment assets may be summarised as:

1. The cost of an item of property, plant and equipment is recognised as an asset where there is a probable future economic benefit, and cost can be reliably measured. In respect of not-for-profit entities, where an asset is acquired at no cost, or at nominal cost, the cost is its fair value as at the date of acquisition.
2. After initial recognition, either the cost model or the revaluation model is applied to each class of property, plant and equipment. Cost is the carrying amount of the item, less accumulated depreciation and accumulated impairment losses. Fair value of an item is its fair value at the date of revaluation, less any subsequent accumulated depreciation and accumulated impairment losses. Revaluations must be made to ensure that the carrying amount does not differ materially from its fair value at the reporting date.
3. For not-for-profit entities, revaluations are undertaken on a class of asset basis; whereas, for profit-seeking entities revaluations are undertaken on an individual asset basis.
4. Each part of an item of property, plant and equipment with a cost that is significant in relation to the total cost must be depreciated separately.
5. Depreciation starts when the asset is ready for use. The depreciation charge is an expense, unless it is required to be included in the carrying amount of another asset. The depreciation method reflects the pattern that future economic benefits are expected to be consumed. The depreciation method is reviewed at each annual reporting date.
6. Compensation for impairment losses is included in the profit or loss when the compensation becomes receivable.
7. There are a number of disclosure requirements. A reconciliation of movements for property, plant and equipment and associated reserves is required, but only when it is considered material.

Auditing

For infrastructure assets, the primary objective of the auditing procedures is to obtain reasonable assurance that these assets are not materially overstated in the financial statements of the entity.

Auditing Standards require entities to provide adequate documentation to **justify** and **substantiate** all assertions and data. This responsibility not only applies to accountants but extends to engineers, asset managers and others responsible for managing service from the infrastructure.

The role of the engineer/asset manager is to provide support to the accountant in asset management areas including:

- verify the currency and accuracy of asset register(s),
- advise of management and performance of infrastructure assets for determining current replacement values, useful life, residual value and pattern of consumption of future economic benefits,
- advise on indicators of impairment and any impairment loss.

Accounting for Infrastructure

The key accounting requirements for infrastructure assets can be illustrated by 3 key steps.

1. Recognition

Asset is identified at component level.

2. Measurement after recognition

Asset is revalued at 'fair value' option

3. Reporting asset consumption

Depreciable amount of an asset is to be allocated over asset's useful life in a manner reflecting the pattern of consumption of future economic benefits.

Componentisation

Infrastructure assets are typically large, interconnected networks or portfolios of composite assets. The components of these assets may be separately maintained, renewed or replaced so that the required level and standard of service from the network of assets is continuously sustained.

Infrastructure assets by their very nature include items that are known as complex assets. Complex assets are physical items of property plant and equipment that are capable of disaggregation into significant components. The component is the **unit of account** at which the asset is recognised in the asset register.

For identification and recording purposes, property, plant and equipment items may be split into segments as well as into components. Fig 1 shows a typical segment of an urban street.

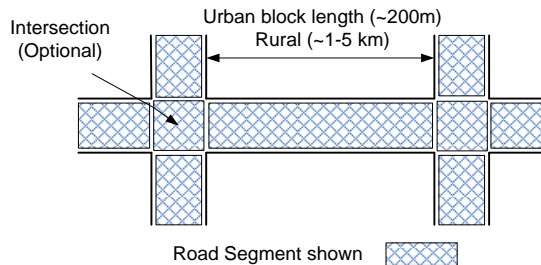


Figure 1: Typical Road Segments

The component of a road asset within a segment identified under this process is the **unit of account** used for financial reporting purposes. Figures 2 and 3 show typical components within a segment of an urban street and rural highway.

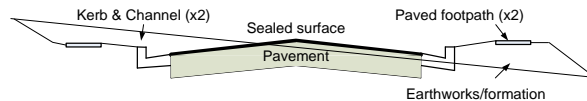


Figure 2: Components within Urban Road Segment

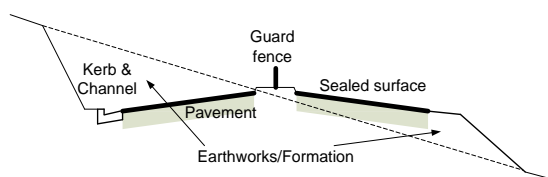


Figure 3: Components within Rural Road Segment

Fair Value

AASB 116 *Property, Plant and Equipment* gives entities the option for reporting asset values at historic 'cost' or fair value. Infrastructure assets generally have no market price and fair value is determined from the cost to replace the future economic benefits contained in the asset. In these cases, the depreciated replacement cost is the appropriate method of determining fair value. For long-lived infrastructure assets, fair value is generally considered more relevant for decision making than historic cost.

Reporting Asset Values and Consumption

Depreciation is the financial representation of the consumption of an asset in the reporting period. The depreciable amount of an asset is to be allocated in a systematic basis over its useful life. The depreciation method is to reflect the pattern in which future economic benefits are expected to be consumed. The guidelines propose an eleven-step valuation methodology.

1. Define valuation component level,
2. Develop asset registers into database of components,
3. Develop standard replacement costs,
4. Assess residual value,
5. Assess useful lives,
6. Assess remaining useful life,
7. Determine depreciation method,
8. Calculate accumulated depreciation, fair value and depreciation,
9. Test for impairment and calculate impairment loss,
10. Sum component values,
11. Assess land value where applicable.

The future economic benefit (FEB) for infrastructure assets is the entity's ability to provide services to its customers/community in the future. The recommended methodology for ensuring that the depreciation method reflects the pattern of consumption of FEB is:

1. Define services provided,
2. Identify measure of consumption of services,
3. Identify pattern of consumption,
4. Select depreciation method.

There are at least 4 depreciation methods as shown in Figure 4.

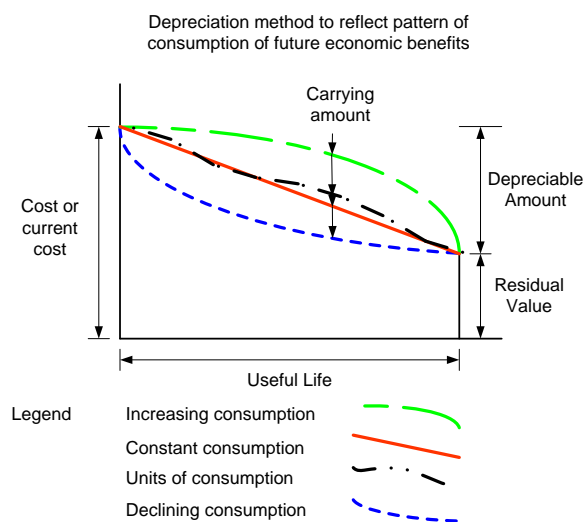


Figure 4: Depreciation Methods

Impairment

Impairment is the decline in the future economic benefits or service potential of an asset over and above the consumption reported through depreciation. An asset is said to be impaired when its **carrying amount exceeds its recoverable amount**. An **impairment loss** is the amount by which the carrying amount of an asset or a cash-generating unit exceeds its recoverable amount. Asset managers have the knowledge of and responsibility to identify assets that are impaired.

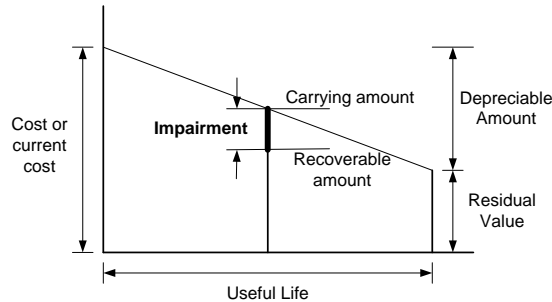


Figure 5: Impairment of Assets

Managing the Assets

Assets should be managed to provide the required level of service at the optimal life cycle cost. Financial reports should reflect how the assets are performing in providing the required level of service. Asset managers have the responsibility to select the best option to deliver their service outcomes. Accountants then report on how the service from the asset is being consumed based on:

- current replacement cost and depreciable amount based on the organisation's replacement policies,
- expected useful life of the asset,
- pattern of consumption of services from the asset.

The first two items are asset management decisions.

AASB 116 Property, Plant and Equipment requires an annual review of the asset's useful life, residual value and depreciation method.

The reliance on asset management policies and management decisions for asset accounting, together with the annual review of asset performance provide the opportunity to improve the accuracy of asset register data. Improved asset register information can be used to enhance the accuracy of financial reporting and for asset renewal planning based on year of acquisition, useful life and renewal cost (depreciable amount).

By improving corporate asset register data, and using this data for financial reporting and asset renewal planning, engineers/asset managers

and engineers can tell a consistent story about assets and how the assets are performing in providing services.

Good Financial Management – The Key to Overcoming Asset Management Funding Gaps

Developing sustainable asset management and long term financial plans requires a funding and treasury management plan.

Asset Managers' role is to ensuring assets are managed, maintained, rehabilitated and replaced at points in time and in ways that achieve required service standards and minimise whole of life costs. Unfortunately, all too often in infrastructure intensive entities this objective is not being achieved. As a result whole of life costs are higher and service standards lower than necessary. The problem typically arises because:

- budgets and service level decisions are made based on short term cash costs and cash availability.
- in acquiring new assets to deliver higher and additional services not enough thought is given as to whether the entity will have the capacity to fund increasing maintenance as existing and proposed additional assets age.

As a consequence assets prematurely fail, economic life is not realised and whole of life costs are therefore higher. The entity is often though not in a position to fund the assets' rehabilitation or renewal and unwilling to raise additional borrowings to do so and as a result service standards fall.

In order to make sound asset management decisions it is essential to:

- have reliable forecasts of likely future asset performance & costs
- have an appreciation of future revenue raising capability & affordability of service level proposals
- be willing to utilise additional debt where cost effective to do so.

Cash Accounting Vs. Accrual Accounting

Continued reliance on cash accounting for budgeting, decision-making and reporting is a poor guide for decision-making and measuring performance. Because costs associated with managing assets increase as assets age it can lead asset intensive organizations to perceive that they are in a stronger financial position than they really are.

Use of accrual accounting provides much better information for organisations with large stocks of long-lived assets relative to income. Unlike cash accounting, accrual accounting:

- distinguishes between payments for expenses (which are shown in the income statement) and to acquire assets (shown in the balance sheet)

- recognises the gradual consumption of assets by recording a charge for depreciation. An expense is recognized in the income statement & a corresponding reduction in asset value is shown in balance sheet.

Use of accrual accounting effectively spreads the capital cost of an asset over its useful life.

Operating Sustainably

Generally speaking and in the absence of other over-riding objectives or directions public sector business entities should strive to generate operating revenue approximately equal to their operating expenses calculated on an accrual accounting basis. A break-even operating result would mean that rates and charges people are paying is equivalent to the costs incurred by an entity in providing its existing levels of service.

A decision to add to the stock of assets will add to operating costs in future years through increased;

- depreciation (unless asset is land)
- financing costs (or reduced investment income)
- possibly higher other operating & maintenance costs

In order to operate sustainably an entity needs to be able and willing to generate higher income in future (or reduce costs elsewhere) when making decisions to increase the quantity/standard of its asset stock.

Rating and outlay decisions should be based on striving to achieve and maintain an operating break-even/small surplus result on average over the medium/long-term. In the case of decisions regarding possible capital outlays the focus should be the impact on the ongoing operating result (eg from depreciation).

Use and Types of Borrowings

Net debt levels in local government in Australia are extremely low. In many instances decision-makers have allowed assets to prematurely fail or incur much higher maintenance costs even though it would have been more cost-effective over time to borrow to rehabilitate/replace them.

If an entity achieves an operating break-even/small surplus result on an ongoing basis over the longer term then it will generate approximately enough cash to fund asset replacement on average. Even so it would still (on average) need to raise debt as a result of purchasing new or upgraded assets. This is equitable. The only way the need for additional borrowings can be avoided as a result of acquiring additional assets is by;

- receiving the assets free of charge or being able to pay for them through receipt of a capital grant
- saving for them (i.e. generating operating surpluses) and effectively charging more than cost of the services they receive/have available

- utilising cash that has been generated from raising revenue to offset depreciation of existing assets.

Public entity decision-makers are often uncomfortable with the idea of more debt per se. Before making a decision about more debt the pros, cons and risks should be objectively assessed. Long-term financial planning should be undertaken.

Even when borrowings are raised they are still often taken out over a long time frame, with regular uniform repayments at a fixed rate of interest. Historically infrastructure intensive public entities were encouraged to use this type of borrowing. In the cash accounting era loan repayments effectively served as a surrogate for depreciation (albeit an inferior one).

There is a better way. Good financial planning enables entities to reduce their exposure to the risk of interest rate movements (up or down) and reasonably minimise financing costs through holistically managing their treasury activities, including utilising any 'reserve' funds (i.e. 'internally borrowing') in the first instance. Where external borrowings are necessary the type raised should be determined to ensure that the entity's overall portfolio of borrowings has an appropriate mix of short and long-term at both fixed and variable interest rates.

Financial KPIs

Financial key performance indicators (KPIs) in common use in the private sector are not necessarily appropriate for infrastructure intensive entities that have the power to determine the amount of revenue they raise. (E.g. the uncertainties of the commercial world mean that private businesses need to place much higher emphasis on liquidity considerations.)

The Australian Infrastructure Financial Management Guidelines recommend use of 8 financial indicators specifically developed for asset intensive public sector entities. An organisation's financial strategy should achieve appropriate targets of performance for these indicators on average over time.

Long-term financial plans

Every organisation with a significant stock of long-lived infrastructure needs a long-term financial plan. It is impossible to effectively and equitably manage service level, asset management and revenue raising decisions without one. There is no excuse not to have one. A simple long-term financial plan can be quick and easy to prepare and is much better for decision-making than having no plan.

A long-term financial plan should show the financial impact over time (at least 5 years) from any material proposals e.g., regarding variations in asset stocks, service levels, operating costs and revenue. It should

disclose projected financial performance against targets. Where targeted performance is forecast not to be achieved proposals should be revised.

Service levels from assets and an organisation's consequential holding of asset stocks need to be based on long-term affordability. Cash flow constraints should be resolved through a long-term financial plan. Asset management plans should be based on maintaining an organisation's preferred, long-term affordable service levels and minimising the whole of economic life costs of assets.

Conclusion

We need to tell a true and consistent story about infrastructure, how it is performing and what funds are required to provide services. The best way to tell the story about infrastructure services is through organisation's financial reports.

Engineers and asset managers can use the process of developing asset management plans and assisting accountants prepare sustainable long-term financial plans to improve the quality of asset register data and accuracy of financial reports.

The IPWEA Australian Infrastructure Financial Management Guidelines⁷ provide direction for all organisations and individuals with responsibility for the management of infrastructure assets, including how to determine affordable service levels, manage appropriate accrual accounting based financial targets, responsibly use debt, and maintain a soundly based long-term financial plan.

Further details on the guidelines are available from www.ipwea.org.au/AIFMG.

⁷IPWEA, 2009.

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John Howard is an Engineer and Economist and was the Project Manager and Principal Author of the guidelines. He began his asset management journey as a municipal engineer working with the council's asset management corporate team to develop the data, business processes and systems into an asset management system integrated within the council's corporate information system. This included a single asset register, works costing system linked to individual assets, daily costing, annual revaluations with asset records linked to the geographic information system. John was the inaugural chair of the IPWEA National Asset Management Committee who developed the National Asset Management Manual in 1994. He has a keen interest in the common functions of technical and accounting systems and was one of the Tasmanian representatives on the National AAS27 Implementation Committee for 5 years. John is the Project Manager for IPWEA National Asset Management Strategy committee NAMS.AU.



Jim Dixon authored the accounting and auditing sections of the guidelines. Jim's qualifications include MBA, B Commerce and B Education. He held the position of Assistant Auditor-General with the Victorian Auditor-General's Office where he was responsible for training and advising staff on the implementation of Australian equivalents to International Financial Reporting Standards (AIFRS) Prior to this, Jim provided advice and training across a wide range of private sector businesses while holding the positions of Technical Director of CPA Australia, Technical Director of chartered accountants, Pitcher Partners and as Senior Manager Research for the National Australia Bank.



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