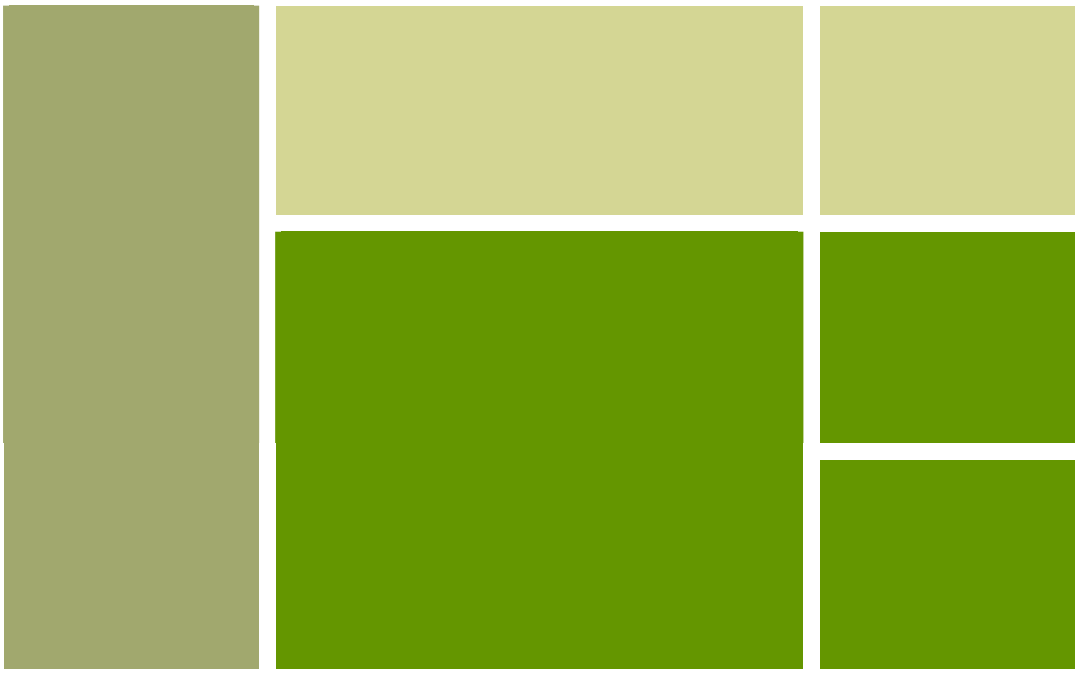
Local Government:
Accounting for non-current physical assets
under AASB 116

A guide



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Victoria The Place To Be

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The Victorian Auditor-General's Office in its capacity as observer has reviewed the guidelines.

Further copies
These guidelines are available for downloading at www.dvc.vic.gov.au under "local councils"

Foreword

The Department for Victorian Communities (DVC) is pleased to release this guide "Accounting for non-current physical assets under AASB 116" which has been coordinated by Local Government Victoria (LGV)

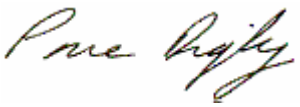
This guide forms part of the suite of best practice guidelines developed to provide support to local governments in their asset management. Other guidelines in this suite include:

- Local Government Asset Investment Guidelines - currently being finalised (DVC (LGV))
- Guidelines for Measuring and Reporting the Condition of Road Assets – currently being finalised (DVC (LGV)).
- Fair Value Asset Valuation Methodologies for Victorian Local Governments (Department of Sustainability and Environment, Valuer-General Victoria)

These guidelines will improve local government's skills and capacity in asset management and thus the consistency of their data. Improved data will enable better decisions to be made by all levels of government due to the more accurate understanding of the sector's position.

They will also help local governments to implement the new international financial reporting standard AASB 116 "Property, plant and equipment" applicable for annual reporting periods starting after 1 January 2005.

This guide updates, expands and replaces the "Accounting for Infrastructure Assets" guide 2003 issued by DVC (LGV). It continues the process of bringing accountants, engineers and valuers to a shared understanding of the complex issues surrounding asset management and of accounting for assets in local government.



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1. What assets are we talking about?

1.1 Introduction

This guide deals with the accounting treatment of non-current physical assets under the Australian Accounting Standard Board's AASB 116 "Property, plant and equipment". These are material, tangible assets that are expected to be utilised for more than one year in the operations of a Victorian local government including:

- "owner-occupied" property held for operational or administrative purposes such as the council offices
- property held for strategic or social policy reasons such as infrastructure
- unoccupied property under construction
- plant and equipment.

The guide does not deal with:

- intangible non-current assets such as licenses, patents, trademarks, goodwill or internally developed software – AASB 3
- tangible current assets such as stores and inventories – AASB 102
- investment property used to earn rentals, held for capital appreciation or both – AASB 140
- unoccupied property held for resale – AASB 5.

1.2 Asset classes

Generally local government assets fall into two main areas – Property, plant and equipment which are those assets required for normal operations excluding infrastructure; and Infrastructure which are those assets required to meet the public need for access to major economic and social facilities and services. The asset classes common to most local governments are set out below:

Property

- Land
  - land
  - land improvements
- Buildings
  - buildings – council offices
  - building improvements – fit-out, air conditioning and lifts
  - leasehold improvements
  - heritage buildings

Plant and equipment

- Plant, machinery and equipment - graders, tractors, front end loaders, lathes, welders and motor vehicles
- Fixtures, fittings and furniture - chairs, tables, desks and filing cabinets
- Computers and telecommunications – hardware, integral operating system software , cabling, phones, faxes, microwave links
- Leased plant and equipment
- Heritage plant and equipment
- Library books

Infrastructure

- Roads - sealed and unsealed
  - pavements and seals
  - substructure
  - formation and earthworks
  - kerb, channel and minor culverts
  - other - traffic islands, signage and traffic management devices

- Bridges – including major culverts
  - deck
  - substructure
  - guardrails

- Footpaths and cycleways - paved or gravel which are separate structures from the road

- Drainage - underground pipes and structures, lined and unlined channels, detention basins, access pits, inlet structures, wetlands and pollution control structures.

- Recreational, leisure and community facilities - sporting fields, ovals, aquatic facilities including structures and signage

- Waste management - landfills, weighbridges including structures and signage.

- Parks, open space and streetscapes - passive parks, gardens, landscaping, street scaping and natural conservation areas

- Aerodromes - pavement and seal, substructure, formation and earthworks, structures, signage and fences

- Off street car parks - sealed and unsealed including structures and signage

- Other infrastructure - marine assets - piers, jetties, groins, sea walls, caravan parks, markets and saleyards including structures and signage.

Assets of a similar nature and use in an entity's operations are required to be grouped and disclosed as a separate class of asset in the financial statements.

Local governments differ from many other organisations in that as well as having assets which are used for operational purposes – property, plant and equipment, they also hold assets to meet the community's need for economic and social facilities and services – infrastructure.

The requirement to split assets by nature and use in the entity's operations means that if an asset's use changes so can its class. Care should also be taken when the change of use of an asset moves it into the jurisdiction of another accounting standard. The accounting standard AASB 140 *'Investment Property'* for example requires that property (land and/or buildings) held for investment purposes is accounted for and disclosed as a separate class of assets from other property. Examples of investment property in the local government context may include off street car parks, aerodromes, caravan parks, markets and saleyards. However, whether these examples are in fact investment properties depends on the particular purpose and use by each local government.

The vast majority of councils' assets are infrastructure assets. Infrastructure assets are physical assets used to meet the public's need for access to major economic and social facilities and services. By nature infrastructure assets are typically large, interconnected networks or portfolios of composite assets. The components of these assets may be separately maintained, renewed and/or replaced, so that the required level and standard of service from the network of assets is continuously sustained. Generally, the components and hence the assets, have long lives, are fixed in place and often have no market value.

1.3 "Horizontal" separation into components

Almost all infrastructure asset can be separated into component parts. These assets are typically managed at the component level, because each major part has a different life and/or requires different approaches to repair, maintenance and renewal/ replacement.

The financial reporting standards require that major parts (significant components) of assets be separately identified and depreciated. It is important therefore that the primary or subsidiary accounting records can distinguish between major parts. Ideally, the subsidiary accounting records will be integrated with asset management systems. The way that assets are separated into components and managed in the asset management system should be reflected in the accounting for these assets.

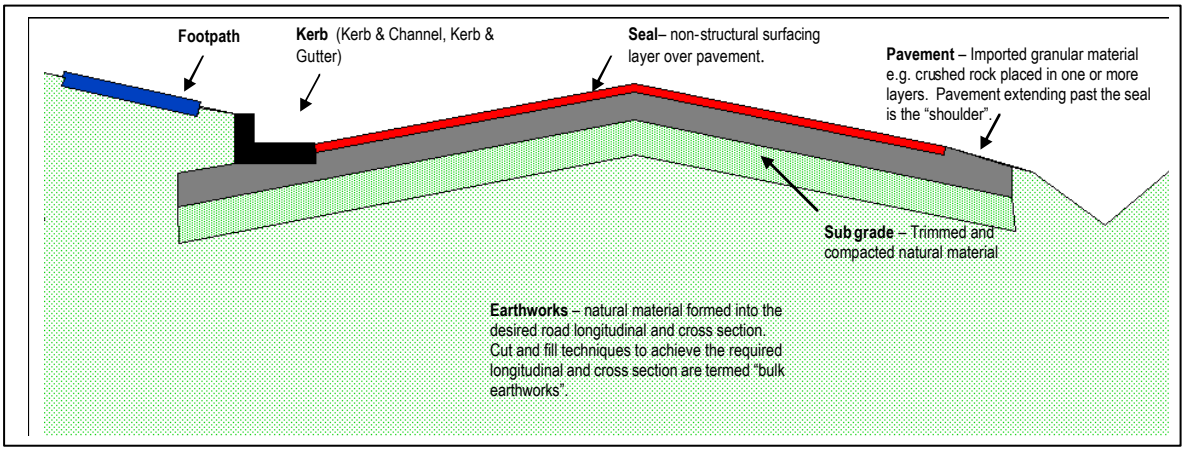
The issue of "horizontal" componentisation is particularly relevant to road networks.

For example, the separable parts of sealed road assets may include the following:

- land under roads (not presently required to be accounted for[1])
- road formation or earthworks
- road pavement (may be further separated into sub-grade and pavement)
- road seal
- kerb & channel
- traffic control devices (if material).

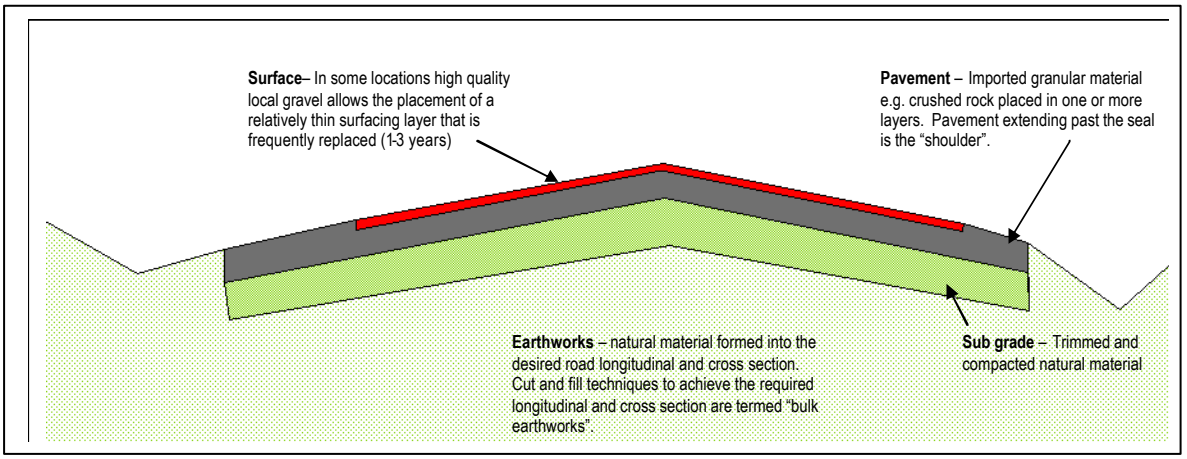
The following diagrams show the separate components in typical cross-sections of sealed and gravel roads.

Diagram 1(a): Sealed road segment



Source: Guidelines for Measuring and Reporting the Condition of Road Assets

Diagram 1(b):Unsealed road segment



Source: Guidelines for Measuring and Reporting the Condition of Road Assets

[1] At the time of publication it is understood that the Australian Accounting Standards Board intends to retain the current transitional provisions of AAS 27 in relation to land under roads until at least 2007-08.

The separable components of buildings may include:

- **Structure/shell/building fabric** – includes the substructure, columns, floor, upper floor, staircases, roof, external walls, windows and external doors.
- **Site engineering services and central plant** – includes external site services (roads, footpaths, paved areas), boundary walls, fences, gates, outbuildings, covered ways, landscaping improvements, external stormwater drainage, external sewer drainage, external water supply, external gas, external fire protection, external electricity, external communications and external special services.
- **Fit out** – includes internal walls, internal doors, wall finishes, floor finishes, ceiling finishes, fitments, sanitary fixtures and special equipment. (Note: The fit out is often leased and not owned by the reporting entity. In such circumstances, the fit out will not form a component of the building for depreciation purposes.)
- **Trunk reticulated building systems**– includes lifts, escalators, walkways, heating and cooling systems, other (cranes, hoists etc).

In addition to the above, there are some building elements that cannot be differentiated and are treated as common to two of the components. For example it may be necessary to combine Fit out and trunk reticulated building systems. This would include sanitary plumbing, water supply, gas services, heating systems, air-conditioning, and ventilation (refrigerated plant, terminal units, heating oils, fans, pumps), fire protection alarm systems, electrical distributions (mains cables, switch gear & distribution equipment), lighting installations, communications (telephone & call systems), specialist services in kitchens or laundries.

1.4 "Vertical" separation into segments

Breaking assets into component parts may not itself be sufficient to adequately account for the assets. Networked assets including roads and drains will often be managed by further division into segments or sections.

Criteria used for sectioning networked assets may vary between local governments, but need to be applied consistently over time within a local government. The most common criteria for dividing network assets into sections will be differences arising from:

- dates of initial construction
- dates of renewal or replacement of components
- nature and dimension of materials used (eg different drain diameters or composition)
- construction methods (eg MacAdam roads)
- physical separation (non-contiguous local roads).

The objective of this form of componentisation or segmentation is to achieve homogenous groupings of sections of an asset that have similar characteristics.

2. How to account on acquisition

2.1 Cost of acquisition

When acquired non-current physical assets are measured at cost. Cost is the amount of cash paid and/or the fair value of other assets given up in exchange for the asset. If payment for an asset is deferred beyond normal credit terms, the difference between the cash price equivalent and the total payment is recognised as interest expense over the period of credit, unless such interest is recognised in the carrying amount of the asset.

Where an infrastructure asset is provided at no cost (eg roads and open space contributed by developers) the "deemed cost" of the asset is recognised as the fair value of the assets received (refer 4.2).

2.1.1 Cost elements

The cost of an asset includes:

- its purchase price (whether bought or constructed), including import duties and non-refundable purchase taxes, after deducting trade discounts and rebates;
- any costs directly attributable to bringing the asset to the location and condition necessary for it to be capable of operating in the manner intended by management; and
- the initial estimate of the costs of dismantling and removing the asset and restoring the site on which it is located, the obligation for which an entity incurs either when the asset is acquired or as a consequence of having used the asset during a particular period.

Purchase price

The purchase price of a self-constructed asset is determined using the same principles as for an acquired asset. Any internal profits are eliminated in arriving at the cost. Similarly, the cost of abnormal amounts of wasted material, labour, or other resources incurred in self-constructing an asset is not included in the cost of the asset. Interest on certain borrowings may also be recognised as a component of cost[2].

Directly attributable costs

These costs include:

- costs of employee benefits (as defined in AASB 119 Employee Benefits) arising directly from the construction or acquisition of the asset;
- costs of site preparation;
- initial delivery and handling costs;
- installation and assembly costs;
- costs of testing whether the asset is functioning properly; and
- professional fees.

Restoration costs

This element of cost is particularly relevant to licensed landfill operations which are subject to the Environment Protection Act. An estimate of remediation and restoration costs is required for all active landfills when they commence operation, or are held ready for operation.

For road and drainage networks it is unlikely that this element of cost will apply on initial construction, unless it is known that the network asset has a fixed life and will not be renewed.

[2] AASB 123 '*Borrowing costs*' allows for borrowing costs that are directly attributable to the acquisition, construction or production of a qualifying asset to be capitalised. This is permitted as an alternative treatment to recognising all borrowing cost as an expense in the year incurred. Local governments need to elect which treatment they will utilise and state this in their accounting policy notes.

2.1.2 Capitalisation threshold

The cost of acquiring an asset is recorded in the balance sheet. This is called the asset's initial "carrying" value (sometimes called its "book" value).

However, not all assets acquired need to be recorded in the balance sheet. If an individual asset or component of an asset is not "material" the cost of acquisition may be shown as an expense in the period it was incurred.

It is common practice to establish a dollar amount as a materiality or capitalisation threshold for each class of asset. Where the cost of an asset or a component of an asset falls below this threshold it is expensed.

What is "material" is detailed in AASB 1031.15 Materiality. It is a decision for each entity based on its own financial position and operating results. It is not appropriate therefore to specify a common threshold to apply to all local governments or even for one local government to use the same threshold each year without reconfirming its relevance and suitability.

The test to be applied is whether, for a given threshold, the application of a lower value would produce a materially different financial position or operating result. This can be determined accurately only by modelling different threshold amounts.

One way of approaching this issue is to establish a benchmark by modelling using a zero threshold (ie. capitalisation of all expenditure on assets). The results of this modelling should then be compared with increased thresholds.

When assessing the impact of different thresholds, particular attention should be given to effect on the annual depreciation expense and the operating result. For example, the threshold should be set so that the annual depreciation charge obtained from the "zero" threshold, does not decrease by more than say 10% using the planned threshold.

3. How to account after acquisition

3.1 Depreciation

Depreciation is the systematic allocation of the depreciable amount of an asset over its useful life (AASB 116.6). The depreciable amount is the acquisition cost, or other amount substituted for cost, less residual value. Depreciable assets have finite lives.

As the cost of the asset is allocated over time its carrying amount decreases. This lower amount is often called the asset's written down value (WDV). The difference between the initial carrying amount and the written down value is called "accumulated depreciation".

The amount of cost allocated is the difference between the cost of acquisition and the "residual value" of the asset or component. This difference is called the "depreciable amount".

Depreciable amount = Acquisition cost less residual value

The depreciation charge calculated each year is treated as an expense. It forms part of the cost of operations and contributes directly to the net annual operating result.

Including part of the acquisition cost of an asset as an expense in each year subsequent to its acquisition through depreciation allows an entity to determine whether its revenues are sufficient to cover all of its operating costs, including the acquisition cost of the asset.

The annual depreciation expense does not represent a cash outflow in that year – the cash outflow occurred when the asset was acquired. It also is not an indication of how much is needed to be spent on future asset acquisition (replacement or renewal) or on asset maintenance.

The annual depreciation expense is often compared to annual outlays on capital acquisition to give an indication of the quantum of the gap between the actual and required levels of renewal of existing assets. Such raw comparisons (even over a number of years) are not a good measure of the renewal gap. For example, capital expenditure will include not just asset renewals but also upgraded or extended assets.

3.1.1 Useful life

The useful life of an asset or part of an asset is the period over which an asset is expected to be available for use by an entity. It is therefore determined by the entity using it. The useful life to the entity may differ from the asset's potential physical life or economic life. For example, local governments may renew road assets when they reach a certain condition rating, notwithstanding that they could continue to be used. Alternatively, the local government may continue to use a road past the point when it would be optimum to renew it, due to resource constraints.

Useful life may be measured in terms of duration (the period over which an asset or component will be used) or usage (the expected capacity or outputs it will produce).

For most infrastructure assets duration will be the appropriate basis for measuring useful life.

Financial reporting standards require the useful life of an asset to be reviewed at least at the end of each reporting period, and, if expectations differ from previous estimates, the change in useful life is to be accounted for as a change in an accounting estimate.

How to estimate useful life

The long-lived and complex nature of infrastructure assets makes the reliable estimation of useful life difficult.

One relevant source of data is historic records of the current age of existing assets and the achieved ages of assets that have been replaced. However, this data may not be available either because of past poor record keeping practices or because certain assets have not completed a full life-cycle and have not needed to be renewed.

Asset condition data is therefore required in many cases, to either complement historic data, or as a surrogate.

Condition data can be used to determine remaining useful life (i.e. when an asset or component is likely to be replaced). It can also be used to confirm current estimates of total expected useful life, based on the expected rate of deterioration of an asset or component.

Systematically capturing condition data over a number of years on a consistent basis will allow also local governments to better understand the actual rate of degradation or deterioration of their infrastructure assets. The actual rate of degradation should be compared to the expected rate to determine whether current estimates of total and remaining useful life remain valid.

Useful life by component

Where an asset, such as a sealed road, consists of a number of major components, it is desirable to initially establish useful lives for each component.

For example, road seals typically have significantly shorter lives than pavements. By contrast road formations (earthworks) may have indefinite lives. A similar approach can be applied to drainage, where pits and pipes may have different useful lives; and to buildings, where plant such as lifts and air conditioning may be replaced during the building's life.

3.1.2 Residual value

The residual value of an asset is the estimated amount that would be obtained today from disposal of the asset, after deducting the estimated costs of disposal, if the asset were already of the age and in the condition expected at the end of its useful life.

Consideration needs to be given to salvage or scrap value as well as to second hand market values. It may be the case that future residual values could be higher than the current carrying amount of an asset. But it is also likely that the residual value, calculated based on today's prices but for the asset at the age and in the condition it would be when it is disposed of, will be less than its current carrying amount.

Where the residual value of an asset does increase to an amount equal to or greater than the asset's carrying amount the depreciation charge is zero unless and until its residual value subsequently decreases to an amount below its carrying amount.

In practice, the residual value of many assets or component is often insignificant and therefore immaterial in the calculation of the depreciable amount.

Infrastructure assets

For infrastructure assets the concept of residual value can be problematic, especially where the asset is renewed or replaced. The difficulty arises because the costs incurred in renewal (commonly called the "brownfield" costs) are often significantly different from than the costs incurred during initial construction (commonly called the "greenfield" costs).

The cost of renewal will include new and relatively higher costs that arise from factors that were not present when the asset was originally constructed. These costs include relocation of services, removal and restoration of 'improvements' erected over the assets, traffic control and increased workplace safety requirements.

Such costs are excluded from the determination of replacement cost (section 4.2.2 refers).

However, some of the "brownfield" costs incurred in renewal will also be relatively less than those incurred in original construction. In the case of roads, the initial earthworks required to create the road formation will not need to be re-done on renewal, achieving a significant saving when compared to a greenfield site.

Closer consideration of the difference in these costs shows that a large part of the difference arises because certain components are not replaced when an asset is renewed.

The difference between the initial greenfield costs on acquisition and the expected brownfield costs on renewal is often used as a proxy for the residual value of the existing asset.

It is preferable, as with the estimates of useful lives, to also separately determine residual values for each asset component.

In the case of roads it is likely that many if not most road formations (earthworks) will have an indefinite life and hence will not be depreciated. Alternatively, if road formations are considered to have a finite life, this could be expected to be very long, for example when compared to the life of the pavement. In either case the issue of a residual value is either not relevant or likely to be immaterial.

Road seals generally would have no or little residual value at the end of their lives, their original cost would be fully depreciated over their lives.

Road pavements or sub-grades may be considered to have a proxy "residual" value in terms of the in-situ material from which they were constructed being able to be re-used in re-constructing or rehabilitating the pavement.

In this case the "residual" value of the in-situ pavement materials would be costed into the new pavement – the combined value of the residual value and the brownfield costs potentially being equivalent, or close to, the greenfield replacement cost of that component.

3.1.3 Basis of allocation of depreciation

Once the depreciable amount has been determined by reference to the asset's or its component's residual values; and the useful life has been determined by reference to the expected life of the asset or component to the entity; the amount of depreciation that is charged as an expense each year has to be determined.

The method of allocating the depreciable amount over the useful life of the asset is required by the accounting standards to reflect the pattern of consumption of the economic benefits (or service potential) embodied in the asset.

Infrastructure assets

The pattern of consumption of economic benefits of an infrastructure asset depends critically on what service it is providing and how this is measured. As discussed above, duration is the appropriate method for setting useful life because there is no reliably measurable concept of "unit of output" that can be usefully applied to most infrastructure assets. This requires the depreciation method applied to determine an amount of depreciation per unit time.

There are only two possible solutions – fixed or varying allocations per unit time.

Fixed allocations per unit time are called "straight-line" depreciation methods. These assume that the economic benefits embodied in the asset or the component are consumed evenly over its useful life.

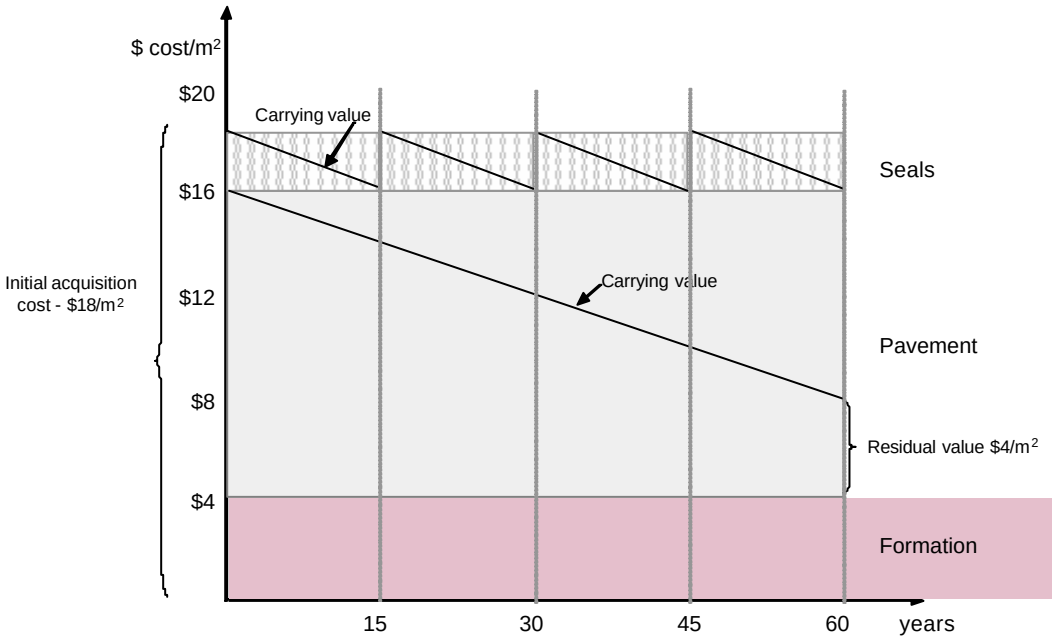
Time varying allocations imply that the consumption of economic benefits vary with time. This requires a systematic basis for determining how the pattern of consumption changes with time. It is argued that asset condition data can sometimes be used to indicate how the economic benefits embodied in an asset are being consumed over time. However, this requires there to be equivalence between condition and economic benefit – for example, that an asset in good condition uses up less economic benefit per unit of time than one in poor condition.

As discussed previously, condition data is used primarily to determine remaining life (duration) to renewal or replacement. It is also used over time to verify or vary initial estimates of total useful life by comparing the actual rate of degradation with the expected or planned rate. It is not clear however, that an asset rated in good condition at one point in time and the same asset later rated in fair condition provides any less or more economic benefit per unit time. A trafficable road in the first year of its life can be argued to provide the same service potential in its 50th year of life – it allows commuters to get safely from A to B.

Consequently, methods that vary depreciation over time to reflect an asset's condition require a clear rationale and demonstrable explicit linkages to the rate of consumption of economic benefits.

The following diagram depicts the depreciation of various components of a sealed road asset over the life cycle of the pavement. In the example the total cost of acquisition was $18 per square metre. The road seals cost $2 per square metre and are expected to be replaced every 15 years. There is no residual value allowed for seals. The pavement component cost $12 per square metre and is expected to be replaced after 60 years. The estimated cost to renew the pavement by recycling the crushed rock pavement materials is $8 per square metre. The residual value is estimated at $4 ($12-$8) per square metre. The road formation costs are not expected to be incurred again and therefore no depreciation is charged. Straight-line allocation of the depreciable amounts has been determined to best match the consumption of economic benefits.

Diagram 2 – Example of depreciation of sealed rural road asset by components



Property assets

Similar issues of allocation methods arise for property assets. While land is non-depreciable, land improvements and buildings have finite lives.

In most circumstances straight-line allocation of depreciation is likely to be the best approximation of its consumption of economic benefits.

Plant and equipment

It may be possible to determine time-varying bases of allocation for certain plant and equipment.

For example, actual machine hours used in a year could be compared to total expected machine hours to determine the depreciation charge. Alternately, diminishing value methods may be relevant which result in a decreasing annual depreciation charge over the useful life.

3.1.4 Grouping components for depreciation

Each part of an asset that has a cost that is significant to total cost must be separately depreciated. However, if two or more parts have the same or similar useful lives and the same of similar depreciation methods – these may be grouped and depreciated as a single unit.

Where component-based depreciation is required for significant parts it must also be applied to the remaining parts. If these parts are immaterial in total they may be grouped. Averaging techniques can be applied to produce an average depreciation expense that is appropriate to the items in the group.

3.2 Expenditure after acquisition

After an asset is acquired decisions needs to be made on how to treat subsequent expenditure on the asset.

As previously discussed the acquisition cost of an asset is recognised in the balance sheet when it is acquired. This cost includes an estimate of any subsequent expenditure required to be spent after the planned date of retirement or disposal of the asset.

However, other anticipated or planned expenditure between the date of acquisition and the planned date of retirement or disposal of an asset cannot be included in its acquisition cost when it is first recognised, even if it is known that it will be required.

Expenditure on an asset incurred after it comes into service and prior to, or on to its disposal, must either be accounted for as recurrent expenditure and expensed or as capital expenditure and added to the carrying amount of the asset when it is incurred. The decision as to whether the expenditure is expensed or captialised depends on its relative size (materiality) and how long it is likely to continue to provide benefits. Small, immaterial expenditure and that with benefits unlikely to last for 12 months are expensed. Relatively large, material expenditure with benefits likely to last for more than 12 months are capitalised (refer 2.1.2).

3.2.1 Maintenance, repair and operating costs

The costs of maintenance, repairs and operations are generally expensed.

Maintenance is actions taken to ensure that the asset or component achieves its original intended useful life at its desired service levels standards.

Cleaning carpets; painting buildings and bridges; and clearing drains are examples of maintenance. The useful life of an asset is normally determined assuming appropriate levels of maintenance and appropriate intervals. A similar principle applies to minor repairs such as treating cracking in spray seals or repairing a lift.

Similarly the cost of operating an asset is not capitalised but expensed when it is incurred. The cost of staff to run a facility; fuel and power; and the cost of routine inspections are examples of operating costs.

3.2.2 Capital costs

Some costs incurred over the life of an asset may be deferred and recorded as part of the carrying value of the asset (refer 2.1.2). The criteria to be applied to determine whether costs should be capitalised is whether, when compared to the original asset, the expenditure:

- is material
- extends the useful life of the asset, and/or
- provides additional economic benefits or service potential.

The simplest example of a subsequent cost that may be capitalised is the replacement of a major component – for example, replacing the seal on a sealed road segment. The seal is designed to keep water out of the sub-grade or pavement. Water seriously reduces the load carrying capacity of the pavement and sub grade. If a seal is not replaced it will become brittle and crack allowing water ingress. This will seriously reduce the useful life of the road asset segment. Regularly replacing seals will extend the useful life of a pavement and such expenditure should therefore be capitalised where it satisfies the capitalisation threshold criteria (materiality).

A similar principle applies to expenditure on other asset components such as gravel re-sheets and re-roofing.

Examples of added economic benefit include lane and shoulder widening, or additional lanes on roads or bridges.

The accounting standards (AASB 116.14) also clarify the situation in relation to major periodic inspections, particularly where these are an operating requirement – for example for safety reasons. If above the capitalisation threshold (ie material), the cost of such inspections is to be capitalised and depreciated. The full cost of the inspection will usually be fully depreciated (i.e. no residual value) over the period between the date of the inspection and the date of the next planned inspection.

3.2.3 Costs on disposal or retirement

The difference between any net proceeds from disposal (after deducting selling costs) and the remaining carrying value of an asset is required to be treated as either a gain or loss in the year the asset is retired or disposed of.

As discussed previously, if the part of the asset disposed of is being used in its renewal, its "residual" value could first be capitalised into the cost of the new asset, before determining any gain or loss.

The cost of site restoration or remediation incurred after the disposal or retirement of the asset has already been included in the initial cost of the asset and depreciated over its useful life.

4. Valuing assets

4.1 Measurement after recognition

AASB 116 provides for assets initially recognised at cost to be subsequently measured at either fair value or cost.

If an entity elects to adopt fair value it must:

- revalue the entire class of assets to which an asset measured at fair value belongs, and
- ensure that the subsequent carrying values of its re-valued assets continue to approximate their fair values.

4.2 Fair value

4.2.1 Definition

The fair value of an asset is the amount for which as asset could be exchanged, or liability settled, between knowledgeable, willing parties, in an arms length transaction. It is therefore the best estimate of the price reasonably obtainable in the market at the date of the valuation. It is the most advantageous price reasonably obtainable by the seller and the most advantageous price reasonably obtainable by the buyer. The estimate specifically excludes an estimated price inflated or deflated by special terms or circumstances such as atypical financing, sale and leaseback arrangements, or concessions granted by anyone associated with the sale.

Underlying the definition of fair value is a presumption that the entity is a going concern without any intention or need to liquidate, to curtail materially the scale of its operations or to undertake a transaction on adverse terms. Similarly, to determine the fair value of an asset, it is assumed that the asset is exchanged after an adequate period of marketing to obtain its most advantageous price.

The fair value of an asset is determined by reference to its highest and best use, that is, the use of the asset that is physically possible, legally permissible and financially feasible; and as such results in the highest value. Opportunities that are not available to the entity are not taken into account.

A principal test in determining the fair value of an asset is whether there is an active and liquid market available for the asset. Where a quoted market price in an active and liquid market is available for an asset, that price represents the best evidence of the assets fair value.

When a quoted market price for the asset in an active and liquid market is not available, the fair value is estimated by reference to the best available market evidence including:

- current market prices for assets that are similar in use, type and condition, (similar assets), and
- the price of the most recent transaction for the same or a similar asset (provided there has not been a significant change in economic circumstances between the transaction date and the reporting date).

For many infrastructure assets the fair value of the asset is not able to be determined from market-based evidence. The market buying price and market selling price of an asset differ materially because the asset is usually bought separately in the new asset market but if sold separately could only be sold for its residual value. In other circumstances the fair value of the asset is not able to be determined from market-based evidence, as there is no market evidence of the asset's market selling price. These circumstances will usually arise where the transaction price evidence arises "in a monopoly context or the asset is specialised and rarely sold, except as part of a continuing business".

Many infrastructure assets in the local government sector have few or no alternative uses in the existing socio-political environment. The assets are extremely specialised and have been established to meet the community's need for economic and social facilities and services.

If the fair value of an item cannot be reliably determined using market-based evidence, its fair value is measured at its market buying price. The best indicator of an asset's market buying price is either:

- depreciated replacement / reproduction cost (DRC), or
- an income approach (Net Present Value/Discounted Cash Flows).

Current market prices for the same or similar assets can usually be observed for land and non-specialised buildings. For land and buildings these prices can also be derived from observable market evidence (eg. observable current market rentals) using discounted cash flow analysis. Further details are available in "Fair Value Asset Valuation Methodologies for Victorian Local Governments (Department of Sustainability and Environment, Valuer-General Victoria)".

4.2.2 Depreciated replacement cost (DRC)

For infrastructure assets such as roads the best indicator of fair value is depreciated replacement cost. This is the "current cost of replacement (CRC) or reproduction of an asset less deductions for accumulated depreciation, physical deterioration and all relevant forms of obsolescence and optimisation".

The "current replacement cost (CRC)" of an asset or component of an asset is its cost measured by reference to the lowest cost at which the gross future economic benefits of that asset could currently be obtained in the normal course of business. This is the minimum that it would cost, in the normal course of business, to replace the existing asset with a technologically modern equivalent new asset [as opposed to a second hand asset] with the same economic benefits [gross service potential], allowing for any differences in the quantity and quality of output and in operating costs.

In determining current cost with reference to the most appropriate modern facility, the modern facility should be of commercially available technology and should not require a redesign or re-engineering of an entity's existing plant.

Use of the current replacement cost of a modern equivalent asset requires that:

- in selecting an appropriate reference asset, the service potential of the existing asset is to first be adjusted for any over-design, overcapacity or redundant components (termed optimisation), and
- the replacement cost of the modern equivalent asset is adjusted for any extra capacity or service provided by the modern equivalent asset as compared to the existing asset.

Adjusting existing assets for over-design, overcapacity or redundancy

Where existing assets are over designed, have excess capacity or are redundant, an adjustment is made so that the resulting valuation reflects the cost of replacing the existing economic benefits based on an efficient set of modern equivalent assets to achieve the required level of service output within the agency's planning horizon.

Permanent excess capacity, and any redundant assets or components that are not severable should have no value assigned to them. Redundant assets that are severable from the network should be valued at market selling price. Over designed "gold plated" assets have features that are not required for the services they provide. These features will not be included in the replacement cost of a modern equivalent asset.

Hence optimisation minimises, rather than maximises, a resulting valuation where alternative lower cost replacement options are available.

Modern equivalent asset

Reference to a modern equivalent asset is made so as to obtain a surrogate for the current cost of the asset held. It does not imply that the reference asset will be acquired as a replacement some time in the future.

The modern equivalent asset may have a different capacity, quality, configuration or useful life from the existing asset to be valued. In such cases, the replacement cost of the modern equivalent asset is to be pro-rated to the economic benefits of the existing asset which should not exceed the anticipated needs as realistically determined by the entity, termed 'expected capacity in use'.

"Expected capacity in use" is the required level of economic benefits or output consistent with both the anticipated future growth in demand and the objective of minimising the whole of life cost of assets within an agency's business planning horizons. It assumes no improvement to the components of the economic benefits of the existing asset i.e. capacity, quality of service and useful life.

Finally, the carrying amount of a depreciable asset needs to reflect the remaining economic benefits of the asset. Therefore adjusted replacement cost of the modern equivalent reference asset must be reduced to exclude the economic benefits already consumed or expired in the existing asset. This is called the "depreciated replacement cost"

Elements of replacement cost

The fair value "replacement cost" of the gross service potential of a new asset includes only the costs that would be included on initial acquisition of the asset. This is called "greenfield" cost. It is not predicated on the costs that would be incurred on subsequent replacement of a component of the asset – called "brownfield" cost.

The use of greenfield costs requires:

- the need to include sunk costs that will not need to be incurred again, and
- the exclusion of costs for the removal of existing infrastructure.

In relation to the first point for example, it is not appropriate to exclude the cost of road earthworks, even though these costs have already been incurred, and generally will not be re-incurred when the road pavement is subsequently replaced.

The unit rates used in determining replacement cost should not be based on costs incurred subsequent to initial acquisition when a component is replaced. It is not appropriate to use unit rates and costs incurred when rehabilitating, strengthening and/or partially replacing an existing pavement. Such rates are likely to be significantly lower than the unit rates that would apply to the cost of a new complete pavement, as they may exclude in-situ materials and initial excavation costs (refer Guidelines for Measuring and Reporting the condition of Road Assets 11.1).

By contrast, including demolition costs that are incurred when a component is replaced will lead to rates and costs that are higher than those that would be incurred for a new asset.

Including demolition and restoration costs for assets such as drains will also potentially overstate the total replacement cost of assets, to the extent that part or all of such costs are also included in the replacement cost of road assets.

4.2.3 Frequency of revaluations

For assets measured using DRC local governments will need to consider both how frequently they need to review the replacement cost and residual value of assets (to assess whether the depreciable amount has moved materially) and how frequently they need to re-assess the total and remaining useful lives of assets (to assess whether the accumulated depreciation has moved materially).

The nature of infrastructure assets is such that none of these elements are likely to move significantly over short time frames.

The assessment of the materiality of changes to the replacement cost is determined based on actual changes in the market buying price of input costs for materials and labour, after taking into any changes in methods of construction and changes in use of assets. Local governments can assess whether there has been a material shift in market buying prices using appropriate price indices in periods between formal valuations.

Local governments need to monitor remaining useful life of an asset based on actual experience in terms of physical wear and tear, technical and commercial obsolescence, and legal or other limits on the use of assets. They need to consider changes to the use of assets that may have affected their useful life to the entity and the result of the most recent condition assessments (to the extent they indicate that future economic benefits are being consumed either faster or slower than planned).

For many infrastructure assets the frequency of formal re-assessment of useful life will depend on the nature of the asset and past experience. For example, for some road segments or for some components of roads (eg seals) it may be that condition assessments are required every two to three years. For other assets such as drainage, a condition assessment would probably be required much less frequently. The frequency of condition assessment will vary for each class of infrastructure asset and for each component of complex infrastructure assets.

It is recommended that local governments review key indicators annually (preferably mid-year) to determine whether either the replacement cost and/or the remaining useful life of each asset or asset component has changed significantly.

Indicators include relevant cost indices for materials and labour; results of any condition inspections/ assessments, favourable or unfavourable climatic changes, significant changes in reactive/preventative maintenance expenditures, significant changes in traffic volumes and loads.

Where there is an indication of material differences between carrying value and fair value of assets or components local governments should then obtain more formal estimates of replacement cost of gross service potential and/or of total and remaining useful life of each component (depending on which indicators have been affected).

As an example, for road networks, the following indicators may be used to consider whether current estimates of useful lives should be formally reviewed:

- data on changes in traffic volumes and usage patterns
- data on adverse climactic conditions or other natural events
- customer request/complaint data and/or customer satisfaction data on the condition of roads
- expenditure gaps and time delays between programmed maintenance and other interventions (based on specified service levels) and actual maintenance expenditure (i.e. backlog maintenance)
- data on the actual age of assets replaced or renewed compared to estimated useful life, and
- results of most recent condition assessments.

4.3 Asset impairment

Whether an asset is subsequently measured at cost or is revalued to fair value, the accounting standards require that any "impairment loss" be recognised and also deducted from the carrying amount of the asset.

An asset is impaired when its carrying amount exceeds its recoverable amount. AASB 136 '*Impairment of assets*' provides that where there are indications of impairment, an asset's "recoverable amount" must be determined. If the recoverable amount is less than the asset's carrying amount, the carrying amount of the asset must be reduced to its recoverable amount.

The recoverable amount is the higher of an asset's:

- fair value less cost to sell, or
- its "value in use."

4.3.1 Value in use

For local governments "value in use" is deemed to be depreciated replacement cost for those assets whose future economic benefits are not primarily dependent on the asset's ability to generate net cash inflows, and where the local government would, if deprived of the asset, replace its remaining future economic benefits.

Infrastructure assets are typical examples of such assets. Where infrastructure assets are already measured at their depreciated replacement cost the impairment standard has no practical application.

The same principle can be extended prima facie to certain property assets or combinations of property assets (cash generating units) that generate cash inflows but that do not generate net cash inflows.

Such assets could include leisure centres, landfills, saleyards and caravan parks. The prime test is not necessarily whether these assets generate a commercial return, but what is the purpose and intent of the local government in owning and operating such assets. If assets are held primarily for social or strategic purposes and not for the generation of net cash inflows, it is more likely they will be subject to the deeming provisions of the accounting standards.

For other property assets, value in use is the present value of the future cash flows expected to be derived from the asset (or cash-generating unit).