



Costing Principles for Local Government

Guidelines for Council staff

December 2013

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1. Costing Principles and Concepts

1.1 Introduction

This paper has been prepared:

- to improve the understanding by Council staff of costing methodologies and their application;
- to provide guidance to Council staff engaged in the preparation and presentation of financial information; and
- to provide examples of the application of costing principles to specific cases of service provision.

The outcomes expected from this paper are:

- a greater understanding by Council staff of the role and importance of applying a consistent costing methodology to the financial reporting of Council operations;
- the timely, accurate and relevant presentation of financial information to stakeholders; and
- a defensible basis for the application of service rates and charges.

The principles and examples set out in this paper are applicable to Councils of all sizes and complexity. However, some judgement will be required by a Council to determine the costing system to be used and the extent to which full-cost attribution will be applied. It is important to remember that there is a cost involved in capturing costing information and there should be benefits from the costing information that are at least equal to the cost of creating and providing the information.

1.2 The Role of a Costing System

The role of any costing system is to meet the diverse needs of a large group of interested parties who want to understand the financial and management information of Council. Fundamentally there are two categories of parties who have needs for information, those who have direct information needs and those who have indirect information needs.

Elected Members, senior management, team leaders, supervisors and a diverse range of staff throughout the Council need financial information. The needs vary from a broad understanding of the Council's finances and financial performance to the detailed costing of individual projects and services. Costing information may be used to satisfy several of the following needs:

- Financial performance measurement (actual versus budget);
- Comparative financial information (this year versus last year);
- Comply with Section 155 of the [Local Government Act 1999](#) in applying the full cost of service provision for service rates and charges (e.g. Community Wastewater Management Systems (CWMS) & Waste Service charges);
- Comparing alternate service delivery costs e.g. 'outsourcing' with 'in-house';

- The provision of financial information to the Local Government Grants Commission;
- Project analysis (a costed break-up of the elements of a job or project);
- Future actions (cost/benefit analysis of capital projects);
- Pricing decisions (market, full-cost basis, operating cost recovery);
- Complying with National Competition Policy by applying competitive neutrality to a significant business enterprise, using cost-reflective pricing¹; and
- Other information needs.

Government agencies (State and Federal), other Councils, the Local Government Association, residents and local businesses, financial institutions, creditors, academics and students, journalists and many others need financial information about Local Government operations. These needs are likely to be at the aggregate level, although some may be for detailed information.

1.3 Costing System Principles

There are a number of key principles to consider in relation to Local Government costs and costing systems. They are:

1. The principal reason for gathering costing information is to make decisions about the functions, activities and services provided by Council. Costs are allocated to the functions, activities and services to allow for their full cost to be determined. The resultant cost information helps to determine:
 - The fee to charge for services provided on a user pays basis;
 - The level of subsidy Council provides where the full cost of service provision is not recovered;
 - Whether value for money has been provided;
 - The most cost-effective way to provide the function, activity or service - e.g. in-house or outsourced; and
 - Cost benefit analysis of existing or proposed functions, activities or services.
2. The adoption of a consistent approach in the methodology used to prepare and present costing information.
3. Compliance with legislation, state and federal, which require the preparation or consideration of costing information.¹
4. Historic costing information is likely to be a useful guide and starting point to plan future actions.

¹ See the LGA's *Guide to National Competition Policy and Competitive Neutrality* (December 2013) at www.lga.sa.gov.au/goto/guidelines

5. Gathering costing information has a price and, generally, it is important to ensure that the value of the information provided by a costing system is greater than the cost of collecting the information. However, it is important to consider the principle of materiality – the concept that costs are material if their omission, non-disclosure or misstatement might mislead decision makers or users of the information. Where there is a legal requirement to collect, consider or provide costing information the cost benefit argument may be over-ridden.
6. The gathering and aggregation of costing information must be done on a consistent basis. For example, period to period or actual to budget comparisons will only be valid if the same cost items are included in the costs being compared, and, where necessary, over the same time frames.
7. Different decisions may need different costs aggregations. Costing data can be presented in a number of different ways and it is important that the basis chosen for presentation is appropriate for the circumstances.
8. While costs are often classified as controllable or non-controllable it is important to remember that all costs are controllable by someone!
9. While costs are often classified as fixed or variable and fixed costs may prove difficult to vary in the short-term all costs are variable in the long-run!

In selecting a costing system, priority needs to be given to the needs of the Local Government for financial information, including any requirement to comply with legislation. The general needs of other organisations are a secondary consideration. A costing system that provides a range of ways of looking at the financial information is likely to provide a better solution to the diverse information needs of the broad range of people who want to know about Council.

Costing is an intrinsic function of Local Government. The following LGA Financial Sustainability Information Papers attest to this and provide further evidence of the need for comprehensive costing systems:

- No. 6 – Infrastructure and Asset Management;
- No. 7 – Service Delivery Framework and the Role of Shared Services;
- No. 8 – Long-term Financial Plans;
- No. 9 – Financial Indicators;
- No. 17 – Depreciation and Related Issues;
- No. 20 – Rating and Other Funding Policy Options;
- No. 23 – Financial Governance;
- No. 25 – Monitoring Council Budget Performance;
- No. 26 – Service Range and Levels;
- No. 27 – Prudential Management.²

² These papers are all available at www.lga.sa.gov.au/goto/fsp

In summary, a costing system enables Council to:

- Collect financial and non-financial information about the functions, activities and services provided by the Council (keeping the score);
- Aggregate the information to enable the comparison of actual versus budget results and the identification of trends (attention directing);
- Analyse financial and non-financial data to explain what has occurred or to determine sound courses of action (problem solving); and
- Provide, to internal and external stakeholders, financial and non-financial data and results (reporting).

1.4 Concepts of Costing

What is a **cost**? Accountants and economists define **cost** as a resource that is either sacrificed or foregone to achieve a specific objective. A simpler definition is monetary amounts outlaid to acquire goods or services.

Costs can be either **direct** or **indirect**.

- **Direct costs** can be specifically assigned to a particular good, service, function or activity – e.g. the labour and material costs associated with operating a Community Wastewater Management Systems (CWMS) or Waste Service Charge.
- **Indirect costs (or overheads)** are all other costs that support the provision of a range of goods, services functions or activities – e.g. the supervision of staff, part of which will be allocated to the CWMS function.

Costs can be further categorised as either **fixed** or **variable**.

- A **fixed cost** is a cost that does not vary with different volumes of service for a given time span – e.g. in providing a waste management service, the fixed costs include the depreciation of the vehicles used in the service. However, if the number of properties serviced increases then the quantum of the depreciation *per property* reduces, even though the depreciation cost is unchanged.
- A **variable cost** is one that varies *in total* with different volumes of service, even though the cost per unit may remain the same – e.g. fuel and maintenance costs will vary depending on vehicle usage. The change in **variable cost** may not be linear.
- In the long run, all costs are variable – e.g. the depreciation cost changes as the mix of vehicles changes over time.

Where the service level varies to such an extent that an additional vehicle is required to provide additional services, then the fixed cost may be classed as **semi-fixed** – a cost which varies, in some step-like manner, dependent on the volume of the service provided. **Semi-variable** costs can be similar in nature – the cost for an extra operator

to drive an additional vehicle. **Semi-variable** costs are also defined as costs which have both fixed and variable characteristics (sometimes called '**mixed costs**'), with the fixed element continuing to be incurred even when use or service delivery is zero – e.g. line rental on an unused telephone service.

Another view of costs is obtained by categorising costs as either **controllable** or **non-controllable** from the perspective of the officer responsible for delivering the service.

- The term **controllable** specifically relates to the ability of the officer to control the costs of providing a good or service. For example, the team leader of waste management services - to a large extent - can readily control the labour costs associated of the waste management services.
- However, the charge for the depreciation of the waste management assets will be assigned to the waste management function – a **non-controllable** cost for the team leader.
- The distinction between **controllable** and **non-controllable** is often blurred – perhaps as a consequence of legislation or political direction or for other reasons – and sometimes it is a matter for individual judgement. In fact, no cost is uncontrollable.

There are four 'economic' concepts of cost that are useful to understand. They are:

Incremental costs – the costs to move to a different service level (e.g. the costs to move to a weekly litter bin collection, rather than a fortnightly collection – additional staff, vehicle, protective clothing, supervision etc.) This concept is aligned to the notion of semi-fixed and semi-variable costs.

Marginal cost – the cost to produce one additional unit of a good or service (e.g. the cost to provide a CWMS service to one extra property). This concept is closely aligned to the notion of variable cost.

Opportunity cost – the net benefit foregone by not using an asset for its best alternative use (e.g. the benefits foregone by converting a small reserve into a commercial allotment). This concept is useful to assess whether the best allocation of resources has been made – by assessing the benefits from the best alternative use of an asset and comparing them with the benefits for a proposed use of the asset and ensuring that the proposed use benefits are greater. For example, if a building can be either rented out to a local business or used to provide facilities to community groups, the net benefit foregone if the building is used to provide facilities for community groups is the revenue from the rental less any cost of earning the revenue.

Sunk costs – are past costs incurred. They are unavoidable, cannot be changed and are generally irrelevant to making decisions about future actions.

1.5 Other Relevant Costing Issues

1.5.1 Recovering Start-up Costs and Carrying Costs

Where Council is in the process of establishing a CWMS, or some other service (e.g. water re-use scheme), it is likely that Council will be incurring costs/outlays in the start-up before there are revenue flows. It is entirely appropriate that such costs are identified as part of the full-cost of providing the service.

Start-up costs will include any expenses associated with getting the function up and running, excluding capital costs (they are treated separately) but including the cost of capital (refer 1.5.4 below).

Start-up costs need not be recovered in the first billing of CWMS charges and can be equitably recovered over a longer period of time.

1.5.2 The Cost of the Service

Section 155(5) of the [Local Government Act 1999](#) provides that where Council intends to apply a service rate or charge for a prescribed service then Council may not recover more than the full long-run cost of providing a service. Pragmatically, it is impossible for there to be an exact match of income and expenditure each year.

The cost of providing a service includes depreciation. It does not include capital costs (the cost of the assets employed in the service), but includes an allowance for the opportunity cost of capital used to acquire the assets (refer to 1.5.4 below). A simple methodology to calculate the opportunity cost of capital is to apply the long-run real interest rate (i.e. the interest rate net of inflation) to the Written Down Current Replacement Cost of the service's assets. It is important that a regular revaluation of the service's assets, perhaps annually, is carried out to ensure that the charges for depreciation and cost of capital are up-to-date.

Council should aim to develop a robust costing model that enables it to equitably charge for the service, ensuring that on a rolling average basis (say, on a five year cycle) there is a reasonable match between revenues and the full long-run cost of providing a service. The costing model will be supplemented by other information to give a complete picture of the full cost of providing the service. Over the rolling period charges can be adjusted to cater for past under or over recovery of costs where deemed warranted.

It follows from this pragmatic approach that where Council has not been calculating the annual surplus/deficit for a service there is little point in going back more than five financial years to correct the situation. However, it is important that Council uses reliable and consistent data to create each year's analysis of revenue and costs. Where such data is not available Council should not attempt to recreate the data.

1.5.3 Capital Expenditure and Depreciation

Capital expenditure is expenditure on items which will provide a service (future economic benefits) for greater than twelve months. Most Councils have a 'threshold' which sets the minimum amount above which expenditure on items that will provide service for a period greater than twelve months will be classed as capital expenditure. The use of a 'threshold' is a sensible action to minimise the number of transactions, and the related transaction costs, for expenditure that is relatively modest in nature. Different 'thresholds' may be applied to different classes of assets.

Capital expenditure is not expensed through the income statement. It is a balance sheet transaction. It is usually an exchange of one asset, cash, for another asset.

The cost of an asset becomes an operating expense through depreciation, the amount charged to the income statement to reflect the use of the asset over the time and the subsequent loss of service potential. Further information about depreciation and assets is contained in the LGA's *Financial Sustainability Information Paper 17 – Depreciation and Related Issues*.³

1.5.4 The Cost of Capital

There is a cost of capital associated with the acquisition of an asset regardless of whether it is financed by using existing financial assets (and foregoing investment income) or from new borrowings (incurring interest charges). It is wrong to perceive that certain assets were financed using borrowings and others were not. Any such assignment is arbitrary and meaningless. It would be wrong therefore to assume acquisition of particular assets generated the incurring of interest expenses and others do not. For those services where Council is levying a service rate or charge it will be important to recognise an allowance for the cost of capital for the assets employed in the service so that the full cost of providing the service can be ascertained and a sound pricing decision made. Even if the cost recovery basis is not the full cost of service provision it is important to know what the full cost is so that the cost recovery decision is made with full knowledge of the 'subsidy' from general rates.

Regulatory bodies such as the Essential Services Commission of South Australia (ESCOSA) usually employ a 'weighted average cost of capital' (WACC) in determining allowable prices for regulated services.. The National Water Initiative Pricing Principles,⁴ which underpin the pricing framework set out by ESCOSA in the *Economic Regulation of Minor and Intermediate Retailers of Water and Sewerage Services – Final Decision*⁵ states that the rate of return on capital must be consistent with the WACC.

³ Available at: www.lga.sa.gov.au/goto/fsp

⁴ Australian Government (2012), *National Water Initiative Pricing Principles*, p.6, [Accessed 24 July 2013 at <http://www.environment.gov.au/water/publications/action/pubs/nwi-pricing-principles.pdf>]

⁵ Essential Services Commission of South Australia (2013) *Economic Regulation of Minor and Intermediate Retailers of Water and Sewerage Services – Final Decision*, p.24, [Accessed 24 July 2013 at

It should not be necessary in most instances to spend a lot of time trying to calculate the cost of capital from historic and projected interest rates. If inflation was expected to be 3% on average over time then it might be reasonable to expect Council interest rates of about 7%. If inflationary expectations were higher then all things being equal interest rates would also be higher.

It is important to make a distinction between 'nominal' interest rates and 'real' interest rates. Interest rates are made up of two components, the lenders' required rate of return and the expected rate of inflation over the period of the loan that the interest rate is fixed for. The 'nominal' interest rate is the interest rate charged on the borrowing. The 'real' rate of interest is the lenders' required rate of return, excluding any allowance for expected inflation (because inflation has the effect of reducing the real value of the repayments). If nominal interest rates are 7% and inflationary expectations are 3% this means that real interest rates are 3.9% (The calculation is $1.07/1.03$).

In calculating the cost of capital 'real' interest rates are generally used and in such circumstances are applied against the written down replacement cost of the asset base. 'Real' interest rates are used as the regular revaluation of assets implicitly includes the effect of inflation on the value of the assets and using 'nominal' interest rates would lead to double counting. If the asset base was valued at historic cost (e.g. vehicles, plant and equipment) then it would be appropriate to determine the cost of capital based on nominal interest rates.

Calculating the cost of capital for a financial year is set out in Example 1, using information from the DC Anytown CWMS Case Study in Appendix 1.

EXAMPLE 1

Calculating the Cost of Capital

DC Anytown has CWMS assets with a depreciated current replacement cost of \$923,193 as at July 1, 2013. This includes assets which have been contributed by developers valued at \$148,853. Contributed assets and assets that have been gifted from other spheres of government, either directly or through grants, do not attract a cost of capital charge as they have not been purchased from Council resources, i.e. Council has not incurred an interest charge or been deprived of interest income. The value of assets to use in the cost of capital calculation is:

$$\mathbf{\$923,193 - \$148,853 = \$774,340}$$

DC Anytown based on expected interest rates and inflation estimates that the current 'real' rate of interest is 4% as calculated above. The estimated cost of capital for the 2013/14 financial year is:

$$\mathbf{\$774,340 * 0.04 = \$30,974}$$

Note that the pragmatic approach adopted has been to apply the cost of capital to the opening balance of the assets. An approach which applied the cost of capital to the average balance for the year is also appropriate.

Note that a cost of capital charge should also be applied to the balance of the under or over recovery of outlays – refer DC Anytown example in Appendix 1.

Appendix 1 identifies assets acquired prior to January 1, 2007 ('the legacy date').⁶ It is not necessary to distinguish whether those assets were acquired from Council resources, gifted from other spheres of government, either directly or through grants, or contributed by developers or third parties.

The 'legacy date' is effectively a fall-back position for Councils that do not have sufficient confidence in records or information relating to the historical acquisition of assets for a CWMS. This allows such Councils to calculate a weighted average cost of capital ignoring whether assets acquired before that date were gifted from other spheres of government, either directly or through grants, or contributed by developers or third parties. However, where Councils have acquired assets prior to the 'legacy date' that have been paid for by others and they apply the 'legacy date' then the cost of capital will be overstated. If Councils have appropriate records, or have a reasonable basis for estimating assets gifted from other spheres of government, either directly or through grants, or contributed by developers or third parties then that information should be used to ensure that the cost of capital applied to the CWMS is as fair and reasonable as possible.

1.5.5 Plant Hire Rates

The calculation and monitoring of plant hire rates is a key element of ensuring that all of the relevant costs associated with a function are included in its full cost. Plant hire rates are set by determining the total costs for plant items for a particular period, usually a financial year, then dividing this total cost by an appropriate usage factor (no. of hours run, kilometres travelled, availability for use) or combination of usage factors. Included in the total costs are:

- Fixed costs – depreciation, cost of capital, extended warranty costs.
- Variable costs – fuel and lubricants, other consumables (tyres, filters etc.), maintenance costs.
- Overheads – an allocation of the costs of acquiring, supervising, managing and disposing of the plant fleet.

It is important to regularly review plant hire rates to ensure that they reflect actual usage over time. Key elements to monitor are:

- The usage factor – is the use of the item in line with expectations?
- Changes in the cost base – cost of fuel and other consumables, registration and insurance costs, maintenance costs.

⁶ Australian Government (2012), *National Water Initiative Pricing Principles*, p.7, [Accessed 24 July 2013 at <http://www.environment.gov.au/water/publications/action/pubs/nwi-pricing-principles.pdf>]

Where the review of hire rates shows a material difference in the rates it will be necessary to reallocate the updated rates to previous allocations in that financial year. The [Model Financial Statements](#) provide further information on dealing with the under or over recovery of plant hire rates. (Refer Note 3 Expenses – Plant Hire “Profit” of “Loss”.)

Note that the increase in maintenance costs of a particular item of plant may indicate the need for its early replacement, rather than any deficiency in the hire rates.

Some key issues to consider in setting plant hire rates are:

- Should every item of plant have its own hire rate? Generally, no – where items can be grouped together because they serve similar purposes and have a similar cost structure (e.g. fixed/variable) characteristics this should be the approach adopted. For example, a Council has three patrol graders that are 4 years old, 2 years old and just purchased respectively. As these items are of the same class, they should be grouped together, pooling all the expenses and using a single hire rate. Note: the monitoring of plant hire rates includes ensuring that individual items in the group do not skew the rates through excessive use or maintenance costs.
- Should every item of plant have a plant hire rate? Not necessarily – where an item is used solely by one function (cost centre) it may not be necessary to set a plant hire rate for that item if the full costs of ownership (including overheads) can be readily traced to the function. For example, a vehicle that is used solely for a particular function (e.g. Planning) may be costed directly to that function without the need for a plant hire rate. However, for simplicity, it may be easier to have all plant items accounted for consistently through a plant hire rate.
- How often should the plant hire rates be reviewed? Plant hire rates should be reviewed regularly to ensure that remedial action is taken promptly to deal with under or over recovery of actual costs. Council’s hire rates should be reviewed at least annually, but more regular reviews are strongly encouraged – see reference to Note 3 in the [Model Financial Statements](#) as discussed above.

1.5.6 In-house Delivery versus External Contract

Understanding both the incremental and full cost of service delivery is vital to making decisions on what is the most cost-effective method of service delivery. It is critical to use a consistent approach to analyse the available service delivery options. In particular, understanding how the elements of the full cost that may change if an external contractor is used to deliver the service enable a range of issues to be explored. For example:

- What will the costs to supervise a contractor be compared to supervision of in-house service delivery?
- What additional costs will be incurred in switching to external service delivery – staff redundancies, early disposal of plant etc.?
- In the short-term, what costs will not be avoided, e.g. staff not redeployed?
- Are there implications for overhead allocation for other services?
- If external service delivery proves unsatisfactory will there be the capacity (skills, re-acquisition of plant, etc.) to return to in-house service delivery?
- Opportunity costs – e.g. cost of capital?

2. Costing Systems

2.1. Costing Systems and The Chart of Accounts

It is important to have a well-structured chart of accounts that facilitates the collection, aggregation and reporting of costing information. The chart of accounts performs three critical roles:

- It enables the capture of all of Council's financial transactions in a systematic manner;
- It facilitates the efficient and effective reporting of the financial transactions to supervisors, team leaders, managers, elected members (management reporting); and
- It facilitates the ability of a Council to comply with its legal obligations in relation to financial reporting and taxation.

The principles for designing a good chart of accounts are:

- Understand the current, and potential future, structure of the organisation – reporting of financial information is usually structured, to a large extent, on organisational lines;
- Understand the needs of the various users of financial information - the chart of accounts must principally meet their needs, not the needs of the finance department;
- Understand the capabilities and limitations of the software package used to process financial transactions – most modern general ledger packages provide a variety of structures to collect, aggregate and present financial information;
- Develop a draft structure and consult with the users of financial information to ensure that it meets their needs – it will also be useful to provide for different ways that the data can be presented using the capabilities of the general ledger package; and
- Build in as much flexibility to the chart of accounts as possible – there is nothing more certain than the fact that the organisational structure and the services provided will change.

For Councils, financial information is usually sought from two different perspectives. The first perspective is the input view - employee costs, materials, contracts etc. The second perspective is the functional view (output view) – waste management, CWMS, library, etc. It is important that both views are capable of being presented to comply with Australian Accounting Standards for external financial reporting.

To achieve both an input and an output view from a chart of accounts it is necessary to construct the 'cost identifier' with two parts – one part that allocates the cost to a function, activity, good or service (the output) and the second part to identify the nature and type of expenses (the input). Both parts should have a logical and consistent structure, which is capable of being expanded to meet changing organisational, costing and reporting needs.

There will generally be a hierarchy associated with functions and activities, e.g. :

- CWMS
 - Scheme A
 - Waste collection
 - Effluent treatment

and there will be a hierarchy associated with nature and type of expenses, e.g.:

- Employee Costs
 - Wages - Direct
 - Wages – Normal
 - Wages – Overtime
 - Wages – Annual Leave.

The coding of ‘cost identifiers’ needs to be developed in this hierarchical fashion to ensure that the collection of accounting data is at the lowest level possible. This will assist with the categorising and analysing of costs, and the monitoring of all costs.

The chart of accounts needs to collect financial information to provide various users and stakeholders with relevant information e.g. internal management reporting, external financial statements, Local Government Grants Commission and other government agencies, community needs. It is critical that all legislative requirements for financial information are met.

Every cost in the organisation needs to be controlled. The chart of accounts must support this essential function.

2.2. Full-Cost Attribution

The [Local Government \(Financial Management\) Regulations 2011](#) in Regulation 11 require Councils to prepare external financial information on a full cost attribution basis. The regulations provide the following definition of full cost attribution:

“3—Interpretation

full cost attribution basis means a system under which all costs, including indirect and overhead costs, are allocated to a function, activity, good or service on a reliable and consistent basis (which may be unique to a particular Council, Council subsidiary or regional subsidiary);”

The legislative requirement to prepare external financial information on a full cost attribution basis enshrines in legislation what should be good financial governance practice as set out in *Financial Sustainability Information Paper 23 – Financial Governance*.⁷

⁷ Available at: www.lga.sa.gov.au/goto/fsp

Although the requirement to use full cost attribution is mandatory for external financial information the application of Section 155 of the [Local Government Act 1999](#) to service rates and charges means that full cost attribution should be applied in determining such charges.

In a full cost attribution approach all costs, direct and indirect, associated with providing a function, activity or service are allocated to the function, activity or service. In this approach the following costs are allocated:

- The direct labour, material, contract, plant hire and other costs associated with the function, activity or service – i.e. the costs that are wholly attributable to the particular function, activity or service. Note that this will include the direct overheads associated with those costs such as employee costs;
- The indirect costs of providing the function, activity or service – i.e. an allocation of joint costs where two or more functions, activities or services are served by the one process and the apportionment of the support costs (administrative costs, accounting services, human resources, information systems costs, occupancy, record-keeping); and

Note that Governance is a function in its own right and not an administrative cost to be allocated to other functions. The [Model Financial Statements](#), in Appendix B, provide guidance on what elements of Council's operations constitute Governance costs.

Costs must be allocated "...on a reliable and consistent basis". Reliability and consistency underpin the preparation of good financial reports. Information is reliable if it is without bias or error, faithfully representing the underlying transactions and two different persons preparing the information would both present the same aggregated information from the same transactions. Information is consistent if it is presented on the same basis from accounting period to accounting period, i.e. the same sets of transactions are aggregated in the same way. Consistency is also achieved by applying the same categorisation, allocation and aggregating methods to all transactions used to prepare financial information, i.e. a uniform and consistent methodology for allocating indirect costs to functions, activities or services. **So it may be the case that some costs remain unallocated because there is no reliable and consistent basis to make an allocation to functions.**

There will be instances where internal financial information is prepared on a full cost attribution basis to assist in making decisions on continuing service delivery and the method of service delivery. In setting out the full costs it is critical that it is made clear what costs will continue to be met even if the service is discontinued or carried out by contractors. Typically, these costs will be allocations of fixed costs.

2.3. Methodologies to Achieve Full Cost Attribution

There are two broad methodologies used to achieve full cost attribution to allocate indirect costs (refer to section 1.4 above):

1. The aggregation of all indirect costs into a single cost pool and their allocation to functions on a single basis; and
2. The placing of indirect costs into multiple homogeneous cost pools and the use of cost drivers to allocate the indirect costs.

Note: In both cases some indirect costs that have a clear relationship with direct costs may be separately allocated – e.g. labour on-costs such as superannuation, annual leave loading, etc., to direct labour costs.

It is important to understand that all methods of indirect cost allocation are somewhat arbitrary in nature.

The aim of cost allocation is to provide as accurate a picture as possible of the full cost of various functions. However, this aim needs to be tempered with the knowledge that the process of cost allocation has a cost and the benefits of the allocation process should outweigh the cost.

2.3.1 Use of a Single Cost Pool

The use of a single cost pool to achieve full cost attribution provides a relatively simple and inexpensive method for allocating indirect costs. The intent of the process is to determine the best, single cost attribute (cost driver) that can be used to allocate indirect costs. This recognises that often there is a major element of all functions that provides an appropriate basis for the cost allocation. Often this is related to the staffing costs associated with functions. However, the growing use of contractors may require a rethink on what would be an appropriate driver to allocate a single cost pool.

Typical cost drivers are:

- Total Budget dollars;
- Direct labour dollars;
- Direct labour hours (or FTE);
- Machine hours; and
- Material costs.

The use of direct labour hours or direct labour dollars to allocate indirect costs is appropriate where the broad range of functions carried out by a Local Government are labour intensive

The calculation for cost allocation would be:

$$\text{Total indirect costs} \times \frac{\text{Total labour costs for function}}{\text{Total labour costs}}$$

The total cost of the function would be:

$$\text{Total Direct Costs plus Allocated Indirect Costs}$$

2.3.2 Use of Multiple Cost Pools

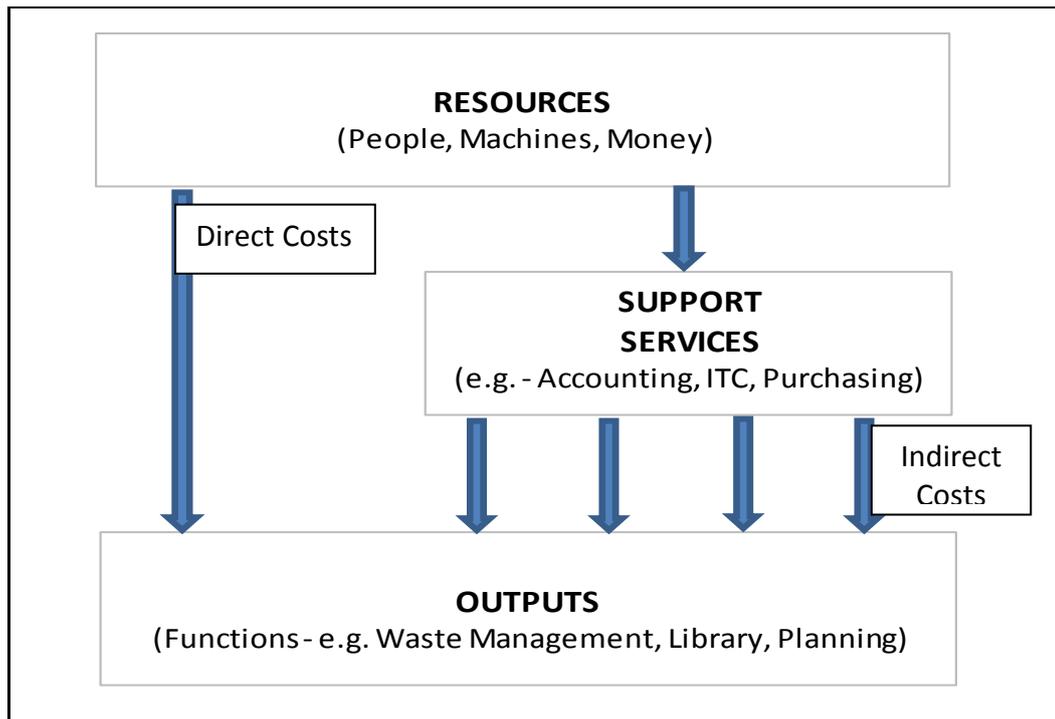
There is an increasing use of allocating costs from multiple cost pools using different cost drivers to allocate from each pool. The rationale for this approach is that a single cost pool with a single method for allocation does not provide an equitable allocation of costs.

Activity Based Costing (ABC) is multi-pool, multi cost driver approach that has been developed as a sound approach to allocating costs. It was initially used by manufacturing industries to provide better information on the costs of producing multiple products but has come to be increasingly used in the service sector where a large portion of the costs can be overheads and the services provided can vary from simple to complex.

ABC essentially adopts a two-stage approach to allocating costs. An outline of the process is shown in Diagram 1.

In the first stage it identifies all the resources that are used in an organisation (people, machines, money) and determines how they are associated with the outputs (functions) and activities (support services - accounting, IT, records, purchasing, etc.) of the organisation, allocating the resources to outputs and support services based on the causal association.

The second stage of the ABC process is to determine what causes the outputs of the organisation to consume the activities (support services) and then to allocate the support services to the outputs. The challenge with stage two is finding the drivers that cause the support services to be consumed by the outputs.

**DIAGRAM 1**

The DC Anytown CWMS case study in Appendix 1 includes a budgeted cost structure that has been derived using an Activity Based Costing approach. The drivers that have been used to allocate the support services costs are shown in the case study. Drivers are specific to the support costs, i.e. the thing that causes the support costs to be consumed by the outputs.

Important Note: This paper is neither advocating that Councils should use Activity Based Costing (ABC) or suggesting that they should not. While there is evidence that ABC provides a more accurate allocation of costs it requires a significant amount of effort to develop and maintain an ABC system and the costs and benefits of using such a system should be carefully assessed as should the costs and benefits of any costing system.

Appendix 1

CWMS Case Study – DC Anytown

The DC Anytown has operated a CWMS scheme since 1982.

The original assets of the scheme were valued at current replacement cost in 1993 and revalued in 1998, 2002 and 2007. The 2007 revaluation reflected the value of assets acquired before the 'legacy date'⁸ of January 1, 2007 and does not distinguish between assets acquired from Council resources, assets from other spheres of government, whether gifted or provided through grants and assets contributed by developers or third parties.

In 2012 actions were taken to:

- Revalue existing assets as at July 1, 2012;
- Renew electrical assets which were commissioned on July 1, 2012; and
- Extend the scheme to a new subdivision, with the new assets commissioned on July 1, 2012 and 30 new residential properties coming on line at that date, taking the number of property connections to 390. The new assets were contributed by the developer of the subdivision.

The DC Anytown CWMS Asset Register is shown on the following page providing summary information sufficient to calculate annual depreciation, depreciated replacement cost and the cost of capital. NOTE: This is a highly summarised asset register for illustrative purposes only. It does not reflect the level of detail that needs to be in an asset register or the disaggregation of asset components and their valuations and useful lives necessary for the effective management of CWMS assets.

This is followed by an extract from DC Anytown's 10 year financial plan of the operating revenues and expenditures of the CWMS scheme. Two versions are shown. In the first, support services costs are allocated to functions using an activity based costing approach. Supervision and corporate overhead allocations are made after support services have been allocated to all functions. In the second, support services have been allocated on the basis of the proportion of CWMS operating expenditures to the total operating expenditures of Council based on the budget (total budget dollars)

Note that connection fees and subdivision contributions are NOT included in the extracted 10 year financial plan operating revenues and expenditures information. Most Councils treat these revenues as capital contributions rather than operating revenues and this is recommended as the preferred approach for both capital contributions and connection fees. Where Councils treat either as operating revenues they should be shown in the operating revenue section of the 10-year financial plan.

⁸ Refer to Section 1.5.4 for a discussion on the application of the 'legacy date'.

The opening and closing balances shown at the foot of the 10 year financial plan information reflects the accrued under or over recovery of CWMS costs over time (excluding capital contributions and outlays). While the clear intent of Section 155 of the [Local Government Act 1999](#) is that the service rates charged for the CWMS service should recover the full cost of the service and not over recover costs pragmatically there will tend to be an under or over recovery from time to time. It is essential that a Council's financial system maintains a record of the under or over recovery so that it can substantiate the basis for the service rate or charge and demonstrate its compliance with Section 155 of the [Local Government Act 1999](#).

Note that:

- there is NO legal requirement to create a reserve within the balance sheet to record this information;
- creating a reserve in the balance sheet DOES NOT require the backing of the reserve with cash – it is simply an allocation of Equity which reflects the accumulated surplus of income over expenditure; and
- accounting standards provide that reserves cannot have a negative balance – hence the need for a Council's financial system to keep a record of under or over recoveries.

DC Anytown - CWMS Cost Structure information extracted from LTFP on a full-cost basis, using Activity Based Costing to allocate Indirect Costs												
	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	
	(Actual)	(Estimated)	(Budget)									
Revenue												
CWMS Rates	\$ 196,000	\$ 215,000	\$ 230,000	\$ 238,000	\$ 250,000	\$ 255,000	\$ 268,000	\$ 285,000	\$ 296,000	\$ 307,000	\$ 319,000	
Expenditure												
Staffing	\$ 52,985	\$ 58,000	\$ 62,000	\$ 66,000	\$ 70,000	\$ 74,000	\$ 79,000	\$ 84,000	\$ 89,000	\$ 94,000	\$ 100,000	Direct cost, including staffing on-costs
Vehicle hire	\$ 3,850	\$ 4,179	\$ 4,500	\$ 4,800	\$ 5,100	\$ 5,400	\$ 5,700	\$ 6,000	\$ 6,300	\$ 6,600	\$ 6,900	Plant hire charges
Electricity	\$ 4,850	\$ 5,345	\$ 5,800	\$ 6,250	\$ 6,700	\$ 7,150	\$ 7,600	\$ 8,050	\$ 8,500	\$ 8,950	\$ 9,400	Direct cost of electricity for pumping network
Contractual	\$ 49,800	\$ 54,220	\$ 58,000	\$ 61,750	\$ 65,500	\$ 69,250	\$ 73,000	\$ 76,750	\$ 80,500	\$ 84,250	\$ 88,000	Direct cost of contract for treatment operations
Materials	\$ 3,660	\$ 4,003	\$ 4,200	\$ 4,400	\$ 4,600	\$ 4,800	\$ 5,000	\$ 5,200	\$ 5,400	\$ 5,600	\$ 5,800	Direct cost of materials consumed
Telephone	\$ 220	\$ 142	\$ 250	\$ 330	\$ 410	\$ 490	\$ 570	\$ 650	\$ 730	\$ 810	\$ 890	Direct cost of telephone charges
Depreciation	\$ 26,575	\$ 34,007	\$ 34,007	\$ 34,007	\$ 34,007	\$ 34,007	\$ 34,007	\$ 37,000	\$ 37,000	\$ 37,000	\$ 37,000	Direct cost of asset consumption
Other costs	\$ 1,120	\$ 1,246	\$ 1,400	\$ 1,550	\$ 1,700	\$ 1,850	\$ 2,000	\$ 2,150	\$ 2,300	\$ 2,450	\$ 2,600	Direct cost of other minor items
Support Services Allocation												
Billing and Collection	\$ 5,200	\$ 5,713	\$ 6,000	\$ 6,300	\$ 6,600	\$ 6,900	\$ 7,200	\$ 7,500	\$ 7,800	\$ 8,100	\$ 8,400	Allocation based on no. of invoices processed
ITC	\$ 2,180	\$ 2,180	\$ 2,310	\$ 2,450	\$ 2,590	\$ 2,730	\$ 2,870	\$ 3,010	\$ 3,150	\$ 3,290	\$ 3,430	Allocation based on no. of PC's
Records	\$ 215	\$ 230	\$ 250	\$ 270	\$ 290	\$ 310	\$ 330	\$ 350	\$ 370	\$ 390	\$ 410	Allocation based on no. of file accesses
Occupancy	\$ 3,020	\$ 3,160	\$ 3,300	\$ 3,475	\$ 3,650	\$ 3,825	\$ 4,000	\$ 4,175	\$ 4,350	\$ 4,525	\$ 4,700	Allocation based on floor space occupied
Insurance	\$ 2,220	\$ 2,370	\$ 2,550	\$ 2,730	\$ 2,910	\$ 3,090	\$ 3,270	\$ 3,450	\$ 3,630	\$ 3,810	\$ 3,990	Allocation based on \$ value of assets insured
Purchasing	\$ 510	\$ 560	\$ 620	\$ 680	\$ 740	\$ 800	\$ 860	\$ 920	\$ 980	\$ 1,040	\$ 1,100	Allocation based on no. of requisitions processed
Payroll and HR	\$ 1,040	\$ 1,120	\$ 1,350	\$ 1,585	\$ 1,820	\$ 2,055	\$ 2,290	\$ 2,525	\$ 2,760	\$ 2,995	\$ 3,230	Allocation based on no. of FTE Equivalent employees
Overhead Allocation												
Works Manager	\$ 10,100	\$ 10,700	\$ 11,250	\$ 11,588	\$ 11,935	\$ 12,293	\$ 12,662	\$ 13,042	\$ 13,433	\$ 13,836	\$ 14,251	Allocation of full cost based on % time on CWMS
Cost of Capital												
Assets employed	\$ 27,373	\$ 26,310	\$ 30,974	\$ 30,338	\$ 29,714	\$ 29,104	\$ 28,506	\$ 30,378	\$ 29,753	\$ 29,142	\$ 28,543	DRC of assets at beginning of financial year @ 4% real interest rate
Under/over recovery	\$66	\$25	\$34	\$85	\$69	\$141	\$24	\$9	\$16	\$15	\$7	Adjustment for opening balance of under/over recovery
Total costs	\$ 194,984	\$ 213,510	\$ 228,727	\$ 238,417	\$ 248,197	\$ 257,913	\$ 268,841	\$ 285,159	\$ 295,972	\$ 306,803	\$ 318,651	
Opening balance	\$1,646	\$630	\$860	\$2,133	\$1,716	\$3,519	\$605	\$235	\$395	\$367	\$169	
Under/over recovery	\$1,016	\$1,490	\$1,273	\$417	\$1,803	\$2,913	\$841	\$159	\$28	\$197	\$349	
Closing balance	\$630	\$860	\$2,133	\$1,716	\$3,519	\$605	\$235	\$395	\$367	\$169	\$180	

DC Anytown - CWMS Cost Structure information extracted from LTFP on a full-cost basis, using Single Cost Pool to allocate Indirect Costs												
	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	
	(Actual)	(Estimated)	(Budget)									
Revenue												
CWMS Rates	\$ 196,000	\$ 215,000	\$ 230,000	\$ 238,000	\$ 250,000	\$ 255,000	\$ 268,000	\$ 285,000	\$ 296,000	\$ 307,000	\$ 319,000	
Expenditure												
Staffing	\$ 52,985	\$ 58,000	\$ 62,000	\$ 66,000	\$ 70,000	\$ 74,000	\$ 79,000	\$ 84,000	\$ 89,000	\$ 94,000	\$ 100,000	Direct cost, including staffing on-costs
Vehicle hire	\$ 3,850	\$ 4,179	\$ 4,500	\$ 4,800	\$ 5,100	\$ 5,400	\$ 5,700	\$ 6,000	\$ 6,300	\$ 6,600	\$ 6,900	Plant hire charges
Electricity	\$ 4,850	\$ 5,345	\$ 5,800	\$ 6,250	\$ 6,700	\$ 7,150	\$ 7,600	\$ 8,050	\$ 8,500	\$ 8,950	\$ 9,400	Direct cost of electricity for pumping network
Contractual	\$ 49,800	\$ 54,220	\$ 58,000	\$ 61,750	\$ 65,500	\$ 69,250	\$ 73,000	\$ 76,750	\$ 80,500	\$ 84,250	\$ 88,000	Direct cost of contract for treatment operations
Materials	\$ 3,660	\$ 4,003	\$ 4,200	\$ 4,400	\$ 4,600	\$ 4,800	\$ 5,000	\$ 5,200	\$ 5,400	\$ 5,600	\$ 5,800	Direct cost of materials consumed
Telephone	\$ 220	\$ 142	\$ 250	\$ 330	\$ 410	\$ 490	\$ 570	\$ 650	\$ 730	\$ 810	\$ 890	Direct cost of telephone charges
Depreciation	\$ 26,575	\$ 34,007	\$ 34,007	\$ 34,007	\$ 34,007	\$ 34,007	\$ 34,007	\$ 37,000	\$ 37,000	\$ 37,000	\$ 37,000	Direct cost of asset consumption
Other costs	\$ 1,120	\$ 1,246	\$ 1,400	\$ 1,550	\$ 1,700	\$ 1,850	\$ 2,000	\$ 2,150	\$ 2,300	\$ 2,450	\$ 2,600	Direct cost of other minor items
Support Services Allocation												
All support costs	\$ 14,444	\$ 15,330	\$ 16,400	\$ 17,450	\$ 18,550	\$ 19,650	\$ 20,850	\$ 21,900	\$ 23,000	\$ 24,220	\$ 25,400	Allocation based on CWMS % of Total Budget Expenditures
Overhead Allocation												
Works Manager	\$ 10,100	\$ 10,700	\$ 11,250	\$ 11,588	\$ 11,935	\$ 12,293	\$ 12,662	\$ 13,042	\$ 13,433	\$ 13,836	\$ 14,251	Allocation of full cost based on % time on CWMS
Cost of Capital												
Assets employed	\$ 27,373	\$ 26,310	\$ 30,974	\$ 30,338	\$ 29,714	\$ 29,104	\$ 28,506	\$ 30,378	\$ 29,753	\$ 29,142	\$ 28,543	DRC of assets at beginning of financial year @ 4% real interest rate
Under/over recovery	\$66	\$28	\$32	\$82	\$67	\$141	\$27	\$8	\$13	\$10	\$5	Adjustment for opening balance of under/over recovery
Total costs	\$ 195,043	\$ 213,510	\$ 228,749	\$ 238,380	\$ 248,149	\$ 257,853	\$ 268,868	\$ 285,128	\$ 295,929	\$ 306,868	\$ 318,789	
Opening balance	\$1,646	\$689	\$802	\$2,053	\$1,672	\$3,523	\$670	\$198	\$326	\$255	\$124	
Under/over recovery	\$957	\$1,490	\$1,251	\$380	\$1,851	\$2,853	\$868	\$128	\$71	\$132	\$211	
Closing balance	\$689	\$802	\$2,053	\$1,672	\$3,523	\$670	\$198	\$326	\$255	\$124	\$87	