Deloitte.

Efficient costs of interment services

Independent Pricing and Regulatory Tribunal (IPART)

2020

Deloitte Access Economics

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Acronyms

Acronym	Full name
ACA	Adelaide Cemeteries Authority
ACT	Australian Capital Territory
BALB	Basic Adult Lawn Burial
CLM	Crown Land Manager
CMCT	Catholic Metropolitan Cemetery Trust
COGS	Cost of goods sold
etc	Etcetera
FTE	Full Time Equivalent
IPART	Independent Pricing and Regulatory Tribunal
MCB	Metro Cemeteries Board (Western Australia)
NMCLM	Northern Metropolitan Cemeteries Land Manager
NSW	New South Wales
p.a.	Per Annum
PCTL	Perpetual Care Target Liability
PMO	Perpetual Maintenance Obligation
RGCLM	Rookwood General Cemeteries Reserve Land Manager
SMCLM	Southern Metropolitan Cemeteries Land Manager
VIC	Victoria
WA	Western Australia

Glossary

Term	Meaning in this report
Basic adult lawn burial	A lawn burial of bodily remains without monumentation. There are two elements of a basic adult lawn burial, the interment right and the interment service. This report considers the efficient cost of an interment service and an interment right, for a basic adult lawn burial (BALB).
Efficient cost	'Efficient cost' refers to the minimum cost required to achieve a given set of services or outputs. In this respect, efficient costs may vary depending on the quality of services provided or the types/levels of services provided. The scope of this report is to consider the efficient costs of an interment service and interment right for a basic adult lawn burial. It is important to note that efficient costs of other types of burial may vary based on their specifications, whether those specifications arise from cultural or religious requirements or service type.
Interment service	An interment service is the burial of bodily remains in a grave or tomb. In this report, the efficient cost of the interment service includes costs relating to labour, materials, and equipment (including depreciation).
Interment right	An interment right is a contract between a cemetery operator and a right holder, which permits the right holder to have burials occur in a particular grave or other allotment in a cemetery.[1] In this report, the efficient cost of the interment right includes a share of costs of site development, a share of indirect costs associated with the sale of the interment right (including sales, administration / corporate overhead costs, and some allocated depreciation costs) and a share of maintenance costs for the cemetery.
Maintenance costs	Maintenance costs include grounds maintenance costs, and administrative and overhead costs associated with maintenance, which are costed separately throughout this report.
Grounds maintenance costs	Costs of maintaining the cemetery grounds. The two components of grounds maintenance costs are: • Perpetual care related ground maintenance, which is the cost that the cemetery incurs in maintaining plots and the cemetery more broadly which are sold, at a level of care that is consistent with a cemetery that is fully utilised. These costs commence from the point at which the plot is sold. Ground maintenance costs are typically higher prior to a cemetery being fully utilised, implying that there will be additional ground maintenance costs prior to full utilisation (below). • Additional grounds maintenance before a cemetery is fully utilised, which is the additional ground maintenance required (over and above perpetual care related ground maintenance) for a cemetery before it is fully utilised. This could include the cost of maintaining gravesites to a higher standard and the costs of maintenance for areas receiving frequent visitation.
Site development costs	Costs of preparing land for use as a cemetery. Includes clearing and surveying the land, and making provision of roads, curb and guttering, and unsealed walkways. In some cases, beams and/or pre-poured monumental foundations and pathways may be installed. Does not include land acquisition costs.
Direct costs	The direct operating costs of interment refer to costs that are entirely attributable to a specific interment (both the right and the service). These include: • Site development costs • Costs related to labour, materials and equipment used in the interment of remains

[1] NSW Department of Industry, *Guide to the interment rights system in New South Wales* (2018) <https://www.industry.nsw.gov.au/__data/assets/pdf_file/0016/210409/Guide-to-the-interment-rights-system-in-NSW.pdf>

	• A share of costs relating to grounds maintenance of the site.[2]
Indirect costs	Indirect costs refer to costs that are incurred in operating a cemetery that are not directly attributable to an individual interment. They typically include sales and marketing; administration and overheads; and depreciation.
Fully utilised cemetery	A cemetery is defined as being fully utilised where no new bodily remain burial plots are available for sale. A fully utilised cemetery may still provide cremations, interments and/or sales of interment rights for cremated remains.

[2] While grounds maintenance was considered an indirect cost in the IPART template, it has been repositioned under direct costs in presentation of overall costs to better align with the objectives of this report.

Executive summary

Introduction

IPART engaged Deloitte Access Economics to assess and report on the efficient costs of delivering interment services at the four Crown Land Managers (CLMs) in Greater Metropolitan Sydney: Catholic Metropolitan Cemeteries Trust (CMCT), Rookwood General Cemeteries Reserve Land Manager (RGCLM), Northern Metropolitan Cemeteries Land Manager (NMCLM) and Southern Metropolitan Cemeteries Land Manager (SMCLM).

In particular, IPART asked Deloitte Access Economics to provide an estimate of the efficient costs of a **basic adult lawn burial (BALB)**. A 'basic adult lawn burial' (BALB) is a lawn burial of bodily remains without monumentation.

As part of estimating the efficient costs of a basic adult lawn burial, Deloitte Access Economics has considered:

- activities associated with providing a bodily **interment service** in an adult lawn grave. This includes the efficient costs of meeting cultural or religious requirements for interment in an adult lawn grave.
- the **interment right** to an adult lawn grave including:
    - any costs of site development for the first interment in an adult lawn grave
    - maintenance costs associated with the site for the term of the interment right, which will include the efficient costs to deliver a minimum standard of maintenance for both for the period up until a cemetery is fully utilised and after that period and
    - the allocation of overhead costs incurred in operating the cemetery
    - the efficient costs of meeting cultural or religious requirements for an interment right to an adult lawn grave.
- the additional costs of **renewable tenure** encompassing end of tenure costs such as contacting rights holders, 'lift and deepen', removal and storage or disposal of existing monumentation.

Deloitte Access Economics also considered the costs of **additional services** (such as catering, florists, stonemasons) offered by cemetery operators.

Broadly defined, the notion of efficient cost refers to the minimum costs required to achieve a given set of services or outputs. In this respect, efficient costs may vary depending on the quality of services provided or the types of services provided. Moreover, efficient costs may vary from cemetery to cemetery based on factors which are outside a cemetery operator's control. These include factors such as differences in soil quality or differences in land. Moreover, maintenance costs may differ based on the way cemeteries were organised historically and factors such as the age of monuments and the extent of landscaped gardens.

The analysis in this report builds on cost information collected from the Crown Land Managers submitted to IPART in response to data requests to inform their interim report as well as data collected as part of an adjacent statutory review of the *Cemeteries and Crematoria Act 2013* being led by the Department of Planning, Industry and Environment.

In addition to gathering data and having consultations with the Crown Land Managers, desktop research was undertaken to look at previous studies, financial statements from benchmark cemeteries, interstate research and other submissions to IPART. Deloitte Access Economics also conducted a range of additional consultations with interstate cemeteries and local government cemeteries (to identify further cost benchmarks and understand potential areas for efficiency gains) as well as religious groups, funeral directors and the Australian Workers Union to develop a broader understanding of contextual factors that may impact the efficiency of cemeteries as well as the costs of performing interments for particular faith groups.

Efficient costs for basic adult lawn burial interment service

The interment service involves seven key steps – confirming the site, digging the site, set up, concierge, funeral service, back filling the site and removing the set up. To determine the labour hours required for an interment service for a lawn burial, estimates were derived from the bottom-up, drawing on information from the CLMs and appropriate benchmarks.

The lowest estimate of labour costs was reported by CMCT at $477 based on 13.3 hours of labour time. Other CLMs typically had higher average labour hours. Excluding the very large range in estimated hours to dig a site reported by NMCLM, the typical labour hours for an interment service across all stages was estimated to be 15.8 hours. Based on the average hourly wage (excluding on-costs) of $36.21 for the CLMs, labour costs would equal $570. In addition, there would be $114 in associated on-costs, which represent 20% of wages.

A basic adult lawn burial interment service will also require some materials, including timber boards, matting, turf and soil, and fuel; and plant and equipment, including vehicles and lowering devices, which may be captured through depreciation. On average, materials, equipment or depreciation across the CLMs averaged $288.

Labour costs, on-costs and material and equipment or depreciation costs can then be aggregated to estimate the efficient cost of an interment service. CMCT was found to have the lowest bottom-up costs for an interment service of $901 and this has been taken as an estimate of the efficient costs of an interment service for this report.

Recognising that there is a degree of uncertainty in the data provided and that there may be factors outside a CLM's control that can impact the labour hours required to perform an interment service, an alternative estimate of $972 was derived based on typical labour hours for each stage of an interment service. This may be seen as a more typical measure of efficient costs if certain cemeteries are not able to achieve the savings in labour hours achieved by CMCT.

The cost of an efficient basic interment service can also vary in order to meet the cultural and religious requirements of some communities or due to differences in the geological profile of the area (i.e. more labour hours or resources are required for interments in sandy or rocky soil).

Having higher costs associated with religious or cultural practices is not necessarily an indicator of inefficiency. Efficiency relates to minimising the inputs or costs associated with achieving outcomes under different circumstances. While the lowest cost interment service is for a BALB (without specific religious requirements), it is important to recognise that religious requirements, or services that are not a BALB, or services performed under other circumstances (e.g. soil type) are not 'inefficient'. Rather, these different services can also be performed efficiently, and the report provides estimates for the minimum costs based on these cultural practices or variations (but we note, not monumental burials).

For many faith groups, death and the burial process is an integral part of life and preparation for the afterlife. Different faiths and cultures may have different graveside burial proceedings which can impact the activities and workload of CLMs. These variations include:

- the duration of the service
- the time of day, or day of the service
- the additional facilities required to accommodate the service requirements.

Additional costs may arise from additional staff time or extra staff at the site, additional materials to shore the grave, or higher labour costs at different times of the week. While estimates of the time and cost impact vary, certain **faith-based requirements could result in an efficient cost of $1,172 for a basic adult lawn burial interment service**. That is 30% more than the standard cost outlined above. Interments performed **out of hours can involve higher labour costs, resulting in an interment service cost of up to $1,422, 58% more than normal**. A service could of course involve *both* faith requirements and be out of hours, resulting in high costs. These costs of performing interments to meet certain religious requirements can be applied to the faith mix at each cemetery to establish a faith-adjusted efficient cost – for RGCLM, this could result in an adjusted efficient interment cost of up to $1,399.

Current BALB interment service costs vary across the CLMs. Bottom-up estimates of the average costs for a BALB interment service range from $901 for CMCT which has the lowest labour hours to $1,475 for RGCLM (Table i).

Table i: Bottom-up interment service costs by CLM (2018-19)

	Efficient cost	Efficient cost based on typical labour hours	CLM average	CMCT	SMCLM	NMCLM	RGCLM
Hours	13.3	15.8	17.2	13.3	16.0	22.2	12-19*
Wages ($)	$477	$570	$725	$477	$610	$765	$1,047
On costs ($)	$95**	$114	$124	$95**	$122**	$153	$127**
Equipment, materials, or depreciation ($)	$328	$288	$288	$328	$305	$218	$301^
Total	**$901(a)**	**$972**	**$1,137**	**$901**	**$1,037**	**$1,136**	**$1,475^^**

Note: (a) The $901 efficient cost estimate reflects the minimum cost to perform a BALB. However, interments for some religious and cultural groups have a higher efficient cost. For an individual CLM, an average efficient cost can be estimated by considering the mix of faith groups that interment services are provided for. For RGCLM, this adjusted figure is estimated at $1,399.

Source: IPART, Deloitte Access Economics. ^This includes motor vehicle costs, site costs, repairs and maintenance, and depreciation. ^^ These are average costs which reflect that RGCLM perform a large proportion of interments for religious communities for whom interments are more costly. Factoring in the share of these interments at RGCLM (and the way that interments are performed at RGCLM for Islamic and Jewish communities) would result in an adjusted efficient cost estimate of $1,399. This should be considered in interpreting the possible efficiency of interment services at RGCLM. It should be noted that other CLMs perform Jewish and Islamic interments, which could also drive a difference in the efficient costs – although the proportion (and associated impact on efficient cost) is likely to be lower than for RGCLM. *This reflects that hours vary depending on the type of interment based on a previous cost study of Rookwood although that report also included an estimate of 17.2 hours.**On costs for CMCT and SMCLM have been estimated using a 20% assumption (to incorporate payroll taxes and superannuation). RGCLM's on costs are based on its reported figures.

Later, the report quantifies the opportunities for CLMs to be more efficient – both for a BALB and in their overall operations. While the data provided indicates that there is scope for efficiencies in the provision of interment services, at least for some CLMs, it remains possible that some of these differences could be driven by differences in data interpretation or differences in the faith-mix of services across cemeteries. For this reason, the central estimates of efficiency gains in this report focuses on efficiency gains in relation to the interment right. Alternative estimates of how total efficiency gains would differ if interment services were delivered at an efficient level are set out in the body of the report.

Efficient costs for basic adult lawn burial interment right

An interment right refers to the right to inter a body or cremated remains in a particular grave or crypt or niche in a cemetery. In the case of a perpetual interment right, the remains must be left where they have been interred forever. In the case of a renewable interment, there is an option to renew the interment right after a certain window. In NSW, the initial rights period is between 25 and 99 years, and further terms can be purchased (for a minimum consecutive term of at least five years) to a cumulative total of 99 years.

The following components have been included in estimating the cost of interment rights:

- Site development costs, which is the cost of developing the land for interments. But note – it does not include land acquisition costs.
- Indirect costs associated with the sale of the interment right. This includes sales, administration / corporate overhead costs, and some allocated depreciation.
- The costs of maintaining the plot and cemetery both until the cemetery is fully utilised and beyond this point.
- Administration / overhead costs attributable to maintenance both until the cemetery is fully utilised and beyond this point

The efficient cost for a perpetual interment right for a BALB ranges from $2,600 to $3,500 (excluding land acquisition costs). This range reflects differences in stated development costs and depreciation costs across the CLMs. The efficient costs described below are based on **standard** maintenance costs for a basic adult lawn burial. Cemeteries with higher standards of maintenance such as elaborate gardens may still be operating efficiently but be achieving a higher maintenance standard (which may be valued by customers and their community).

Table ii: Efficient costs associated with an interment right (basic adult lawn burial)

	Per plot per annum	Per interment right
Site development	NA	Current CLM costs, ranges, on average, from $425 to $1,000[(a)]
Indirect costs associated with the sale of the interment right	NA	$1,488
Grounds maintenance		
Fully utilised cemetery	$5	$255
Additional maintenance levels before a cemetery is fully utilised[(b)]	$2	$77
Administration / overhead costs for maintaining existing plots	$5	$255
Depreciation	Current CLM costs, ranges from $3 to $13	Current CLM costs, ranges from $101 to $521
Total	**NA**	**$2,600-$3,500**

Source: Deloitte Access Economics. Note: These costs exclude cost of land.

Table iii compares current and efficient costs for a BALB (interment service and interment right) for the CLMs. We note that this analysis is a point-in-time perspective on interment right costs. Costs vary over a cemetery's life-cycle, and as such, it is possible that growing CLMs have higher indirect costs, when considered against annual sales, as a result of certain activities. **Across the CLMs, a 14% to 32% reduction in current costs would be required to meet the efficient BALB costs based on a basic standard of maintenance.**

It is important to note in interpreting these results that some portion of the indirect costs of interment rights may relate to inspecting and maintaining the safety of monuments or other infrastructure. These costs may be higher in older cemeteries, where materials are aged, or of more variable quality, and therefore more difficult (and more costly) to maintain. For RGCLM, CMCT and SMCLM, the decrease could be realised through reducing indirect costs associated with an interment right. For NMCLM, the decrease would be primarily achieved through reducing the level of grounds maintenance and associated administration.

Table iii does not include an efficiency gain for the interment service costs.

Table iii: Potential efficiency gains for a BALB (interment service and interment right)

	CMCT	NMCLM	RGCLM	SMCLM
Current costs				
Interment service	$901	$1,136	$1,475	$1,037
Interment right	$4,012	$3,794	$3,989	$5,652
Total	$4,913	$4,930	$5,465	$6,689
Efficient costs				
Interment service	$901	$1,136	$1,475	$1,037
Interment right	$2,884	$3,101	$2,561	$3,514
Total	$3,785	$4,237	$4,037	$4,551
Efficiency gain	**-23%**	**-14%**	**-26%**	**-32%**

Source: IPART, Deloitte Access Economics. Figure shows the percentage reduction in current costs required to reach an efficient cost for a BALB and interment right.

Efficient costs for renewable interment right

Renewable interment rights may be purchased for an initial period of between 25 and 99 years, in which time the family of the deceased have the option to allow the right to expire or renew the right. When the right expires, the Act allows the cemetery to commence procedures to facilitate reuse of the grave site. Such renewable arrangements are currently in operation in Western Australia and South Australia.

The efficient cost of a **25 year renewable interment right ranges from around $2,236 to $3,136** (excluding costs associated with future land acquisition). This figure was informed by consulting the Adelaide Cemeteries Authority, Centennial Park Cemetery and the *ACA Costing Report (2018)*[3]. The components are set out below.

Table iv: Renewable interment right cost

Item	Low range	High range
Perpetual interment right	$2,600	$3,500
Perpetual care (Present value)	($802)	($802)
25 years maintenance (present value)	$342	$342
End of tenure (present value)*	$97	$97
Renewable interment right (25 years)	$2,236	$3,136

Source: Deloitte Access Economics, Adelaide Cemeteries Authority, Centennial Park Cemetery.

* End of tenure figure informed through consultation with Adelaide Cemeteries Authority.

Note: Differences may occur due to rounding.

Table iv shows that the cost of a renewable interment right is less than a perpetual interment right by $364 (in both high and low scenarios). These savings are made through reductions in the perpetual care expense, since a renewable right covers a term of 25 years.

Estimates of renewable interment costs are made excluding any costs associated with obtaining and developing new land for perpetual rights in the future. Once these costs are included, the cost differences between a renewable and perpetual right would widen substantially further.

[3] BDO, *ACA Costing Report*, November 2018.

Efficient costs for cemeteries overall

If efficiency gains in the basic adult lawn burial interment right are broadly applied to CLMs' operations, the potential gains are significant. In line with our findings about overall efficiency, the figures below do not include any efficiency gains in delivering interment services, site development and additional services, but include efficiency gains from more efficient administration, sales and maintenance functions. **Overall, a 13% to 28% reduction in current total costs would be required across the CLMs to reach their efficient cost levels.** The largest reduction to current costs is required for SMCLM, followed by RGCLM and CMCT.

Table v: Overall efficient costs by CLM (2018-19)

	CMCT	NMCLM	RGCLM	SMCLM
Current costs ($000)	$19,919	$17,325	$18,875	$18,105
Efficient costs ($000)	$16,592	$15,082	$15,618	$12,955
Efficiency gain	**-17%**	**-13%**	**-17%**	**-28%**

Source: IPART, Deloitte Access Economics. Direct and attributed indirect costs for cremations have been excluded.

In interpreting the efficiency gains set out in this table, it is important to recognise that in some instances, CLMs may incur costs that vary from benchmark cemeteries and may not be able to achieve efficiencies to the same degree. Some individual operator-level adjustments may be needed to take into account specific variations. For instance, RGCLM have identified that $240,000 in their costs relate to monumental risk mitigation and consultation with religious communities – costs that may not be incurred in a cemetery that does not offer monumental interments, or has a more limited variation in the faith mix of its interment services.

It is important to recognise that these efficient costs reflect an efficiency frontier which would require significant structural change in the sector. For instance, a reduction in indirect costs might be gained by combining some administrative functions of the CLMs, and could be larger than the efficiencies CLMs could gain through internal restructures. Broader policy or structural change to the sector may be required to achieve these efficiencies.

There is some evidence of potential additional efficiency gains in interment services for three of the CLMs although these appear to be relatively modest after accounting for potential variations in costs as a result of cultural and religious practices. Given potential data limitations and differences in factors such as soil quality no efficiency gains are assumed for the interment service in Table v although incorporating such efficiency gains would lower efficient costs for NMCLM and RGCLM (and so increase efficiency opportunities).

The report includes forecasts of costs from 2018-19 to 2023-24, showing that while rising demand for services and maintenance needs will increase costs, progressively moving towards efficient costs over five years will restrain cost growth.

Efficiency opportunities

This report identifies opportunities for CLMs to adopt efficient cost operations over time, discusses barriers to implementation, and sketches out a possible transition path. In introducing these opportunities, this report states that CLMs themselves are well-placed to identify the best opportunities to achieve efficiency. This will involve considering how their operations align with or diverge from the efficient cost benchmarks presented in this report. On the other hand, consultations revealed only modest levels of cooperation and information sharing between CLMs. It is likely that efficient operations in one CLM could be adopted elsewhere. Moreover, some efficiencies can only be gained by higher-order policy or structural changes that individual CLMs cannot easily drive by themselves.

The efficiency opportunities included in this report relate to three overall themes: adopting a shared services model, improving the efficiency of land use and maintenance costs, and considering opportunities to reduce indirect costs. Table vi summarises the efficiency opportunities presented in this report as they align to the key findings of this report.

Table vi: Key report findings and associated efficiency opportunities

Key report findings	Efficiency opportunities
Crown Land Managers generally perform the interment service in a reasonably cost-efficient manner. However, **there is variation in the consistency of reporting and the CLM operations tend to lack transparency.**	• Require CLMs to publish efficient costs of interment services • Implement consistent reporting, and standard accounting categories • Increase transparency of additional charges
Current interment right costs are higher than their efficient level, and a **high share of indirect costs** relate to office staff	• Combine CLMs' support functions, and/or establish central management • Encourage CLMs to test the efficiency and effectiveness of outsourcing certain functions • Consider opportunities for CLMs to reduce FTE or allocate staff more efficiently
Maintenance standards and expenditure levels vary significantly across CLMs and between cemeteries	• Implement common maintenance standard • Outsource some cemetery maintenance where this will result in cost savings • Establish pricing approaches which provide consumers with clear choices of maintenance standard
The impact of religious requirements on **interment right** costs are not clearly reported by CLMs.	• Require CLMs to publish efficient costs of interment rights • Implement consistent reporting among CLMs to develop evidence for the indirect costs associated with faith-based interment requirements
There is a **low uptake of renewable interment rights** across the CLMs, and limited community engagement with this model	• Provide cemetery and consumer pricing incentives to remove barriers to renewable interment rights • Support knowledge sharing between State and Sydney CLMs and operators in states where there is a larger uptake of renewable rights • Plan to use remaining cemetery land efficiently through geological profiling studies
Land mangers use **different IT systems and record-keeping approaches** which can drive indirect cost inefficiencies	• Update CLM systems for consistency, and to support standardised reporting. • Combine CLMs' support functions • Implement consistent reporting

Source: Deloitte Access Economics

We note that while this report discusses opportunities to achieve economies of scale and minimise duplication, including through amalgamation, a detailed analysis and further consultation would be needed before such a recommendation could be made firmly.

After identifying these efficiency opportunities, the report provides a discussion of barriers to CLMs' efficient operations – these include both challenges relating to CLMs' operating environment, as well as broader economic and environmental factors. This report concludes by considering possible transition paths to efficient operations and sets out actions for CLMs to overcome these barriers.

Legacy perpetual maintenance costs

Cemetery operators are expected to provide maintenance to sold gravesites in perpetuity at a standard of care that meets the customer and community expectations. IPART requested Deloitte Access Economics to develop a model for estimating legacy perpetual maintenance costs based on a cemetery's characteristics (such as gravesite mix, location, number of sold gravesites and areas

of land developed for sold gravesites). The analysis focused on bodily remains interments, and excluded cremated remains interments, as that was the level of information provided by the participating councils.

For the purposes of estimating current perpetual maintenance obligations, Deloitte Access Economics utilised information provided by a selection of local councils in response to IPART's request for information and Deloitte Access Economics also contacted a sub-set of those councils to request additional information and to understand their current approach to ongoing maintenance. In total, information on maintenance costs were provided by 12 councils including a mix of metropolitan and regional councils.

Information from council consultations were used to develop a model of perpetual maintenance obligations. The model developed indicated that the cost of perpetual maintenance obligations was estimated to be $142 million across the 12 councils. This result was then extrapolated to other council operators and private, church and community cemeteries based on current burial volumes; and combined with information from the CLMs to develop a high-level estimate of perpetual maintenance obligations for NSW as a whole. The results of this analysis indicated that the total level of perpetual maintenance obligations in NSW was almost $1.7 billion as at June 2019.

Importantly, this did not consider the assets which many operators currently already have accumulated in order to meet future obligations. Notwithstanding, it highlights the significant extent of perpetual maintenance obligations facing cemeteries in NSW.

Deloitte Access Economics

1 Introduction

1.1 Background[4]

The Independent Pricing and Regulatory Tribunal (IPART) has a responsibility to investigate and report on the costs and pricing of interment rights in NSW under section 145 of the *Cemeteries and Crematoria Act 2013 (NSW)* (the Act). As part of this review, IPART is to consider:

- the relativity of costs and pricing factors for perpetual and renewable interment rights
- full-cost pricing of perpetual interment rights, including provision for the perpetual care of interment sites and cemeteries.[5]

In undertaking this review, IPART has decided to focus on the following matters:

- how prices can be set so that interment services are affordable and equitable for all, and cemeteries are financially sustainable now and into the future
- ensuring prices for interment services are easy to understand and find, to enable informed choices.[6]

IPART released an Interim Report in December 2019. The Interim Report included interim recommendations relating to consumer choice and affordability, financial sustainability for cemetery operators and the challenge of developing land for new cemeteries. The Interim Report identified several areas where further analysis is required with regards to cost and price efficiency, particularly for CLM cemetery operators. IPART has outlined four main steps that it will undertake in this review – namely:

1. establishing pricing principles.
2. assessing the structure of the interment services market and decide on the form of recommendations.
3. assessing efficient costs of delivering interment services and recommending measures where necessary to encourage more efficient costs in the future.
4. recommending measures to ensure prices meet the pricing principles.[7]

In this context, IPART engaged Deloitte Access Economics to assess and report on the efficient costs of delivering interment services and make recommendations to encourage more efficient costs in the future.[8] This will contribute to step 3 in IPART's review.

The focus of this report is to review the efficient costs of Crown Land Managers (CLMs) in Greater Metropolitan Sydney. Crown Land Managers are one of five organisational structures for cemetery operators in NSW. Other types of cemetery operators include local governments, churches, communities and private operators.[9] In metropolitan Sydney, Crown Land Managers made up the majority of total interments (68%) as at 30 June 2018. Across the whole of NSW, Crown Land Managers accounted for a smaller proportion of total interments (35.9%).

There are four Crown Land Managers in Greater Metropolitan Sydney that are within the scope of this report: Catholic Metropolitan Cemeteries Trust (CMCT), Rookwood General Cemeteries

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[4] Deloitte Access Economics wishes to thank Russ Allison for providing assistance in the production of this report. Mr Allison is Director of Changing Places (Vic) Pty Ltd, a specialist cemetery and funeral consultancy.
[5] IPART, *Review of the costs and pricing of interment in NSW: Interim Report* (December 2019).
[6] IPART, *Review of interment costs and pricing: Issues Paper* (May 2019).
[7] IPART, *Review of the costs and pricing of interment in NSW: Interim Report* (December 2019).
[8] Deloitte Access Economics also recognises the contributions of Robert Pitt (Adelaide Cemeteries Authority), Peter Deague (Metropolitan Cemeteries Board), Janet Miller (Centennial Park) and Pamela Green (Shoalhaven LGA).
[9] Cemeteries and Crematoria NSW, *Annual operator activity survey 2017-18* (June 2018) <https://www.industry.nsw.gov.au/__data/assets/pdf_file/0010/224749/CCNSW-Annual-Activity-Report-2017-2018.pdf>.

Reserve Land Manager (RGCLM), Northern Metropolitan Cemeteries Land Manager (NMCLM) and Southern Metropolitan Cemeteries Land Manager (SMCLM).[10]

1.2 Scope of this report

Deloitte Access Economics has been engaged to review the efficient costs for each of the four Crown Land Managers, and at a cemetery level where data permits.

The report establishes **estimates of the overall efficient costs of the delivery of interment services excluding cremations over the period 2018-19 to 2023-24**.

As set out in its Interim Report, IPART has focused its initial pricing analysis on an adult lawn burial as a service to compare across cemeteries on a like-for-like basis, noting that even within this category there can be significant variation in prices across cemeteries.[11] Accordingly, IPART has also asked Deloitte Access Economics to provide **an estimate of the efficient costs of a basic adult lawn burial,** as distinct from headstone or monumental burial (see Chapter 2 and Chapter 3). As part of estimating the efficient costs of a basic adult lawn burial, Deloitte Access Economics has considered:

- activities associated with providing interment in an adult lawn grave. This includes the efficient costs of meeting cultural or religious requirements for interment in an adult lawn grave.
- the interment right to an adult lawn grave including
    - any costs of site development for the first interment in an adult lawn grave
    - maintenance costs associated with the site for the term of the interment right, which will include the efficient costs to deliver a minimum standard of maintenance for both an open and a closed[12] cemetery[13] and
    - the allocation of overhead costs incurred in operating the cemetery.
- additional services (such as catering, florists, stonemasons) offered by the cemetery operator.
- the costs of renewable tenure encompassing end of tenure costs such as contacting rights holders, 'lift and deepen', removal and storage or disposal of existing monumentation.

This report has also considered opportunities for efficiencies among the Crown Land Managers and makes recommendations about an appropriate transition path to achieving efficient costs (see Chapter 5).

Finally, this report has sought to estimate the legacy perpetual maintenance obligations of selected council cemeteries and used this to inform a high level estimate of total perpetual maintenance obligations across all cemeteries in NSW.

In undertaking this review, Deloitte Access Economics has not:

- estimated the value of land held by cemeteries or land holding costs as this was excluded from the scope of the analysis
- estimated the efficient costs of cremation services
- undertaken a bottom up costing of those costs that are for activities provided by third parties
- estimated the potential costs involved in greater consolidation of cemetery operators.

1.3 The concept of efficient costs

Broadly defined, the notion of efficient cost refers to the minimum costs required to achieve a given set of services or outputs. In this respect, efficient costs may vary depending on the quality of services provided or the types of services provided. For example, in the context of cemeteries efficient costs may vary even for a defined product such as an adult lawn burial depending on area in which the interment is situated, the maintenance required for the gardens surrounding the site

[10] A fifth land manager, Rookwood Necropolis Land Manager, is responsible for the management of common property and infrastructure throughout Rookwood Cemetery.
[11] IPART, *Review of the costs and pricing of interment in NSW: Interim Report* (December 2019).
[12] This report uses the phrase 'fully utilised cemetery' or 'cemetery which can no longer accommodate interments', to reflect that a cemetery, even where full, is never completely closed to the public.
[13] This project is not mainly about settling on agreed community views about standard of care. Further, the standard of care may change over the life of a grave. It is understood that IPART can test community expectations in its draft report.

and the quality of visitor infrastructure provided. Similarly, efficient costs may vary based on specific cultural or religious requirements in relation to how bodily remains are interred. This report examines efficient costs, with a particular focus on the interment service and interment right for a basic adult lawn burial with a standard level of maintenance.

Moreover, efficient costs may vary from cemetery to cemetery based on factors which are outside a cemetery operator's control. These include factors such as differences in soil quality, land or other geological factors increase the complexity of a burial. Moreover, maintenance costs may differ based on the way cemeteries were organised historically and factors such as the age of monuments. Thus, efficient costs may vary both depending on quality standards and contextual factors.

Finally, there may be scope for achieving both technical efficiency (i.e. finding ways to achieve a given service at lower cost), but also dynamic efficiency, that is, improving efficiency over time through innovations in practices and the adoption of new technologies.

Where there is scope to achieve cost efficiencies, achieving these efficiencies, which can often involve restructuring or changes in the way services are delivered, can often take time for operators to implement before the full cost savings are realised. In many cases there is a need for a significant transition period before efficient costs can be achieved. The period over which this could occur is unclear. While the modelling assumes these gains are achieved over a 5 year period in practice it can take up to 10 years to achieve the full range of cost savings.

The analysis here has sought to estimate the efficient costs incurred in operating a cemetery. In calculating the efficient cost of an interment right, where appropriate a number of cemetery operating costs (in particular costs incurred prior to a cemetery being fully utilised) have been spread over an extended period to reflect the typical operating life of a cemetery. This approach seeks to ensure that cemetery operating costs are allocated relatively evenly across all plots regardless of when they are developed over a cemetery's life cycle.

This approach to estimating efficient costs may not necessarily be an appropriate basis for setting cemetery prices. The determination of appropriate prices is outside the scope of this report.

1.4 Approach

The analysis in this report builds on cost information collected from the Crown Land Managers submitted to IPART in response to data request to inform their interim report as well as data collected as part of an adjacent statutory review of the *Cemeteries and Crematoria Act 2013* being led by the Department of Planning, Industry and Environment. This data provided the basis for understanding the current costs of the Crown Land Managers.

However, to gain an understanding of efficient costs (as distinct from current costs) and to break down costs into direct and indirect costs and the different activities of cemeteries it was necessarily to request some additional data items from the Crown Land Managers and clarify certain data items submitted to IPART or the Statutory Review.

The first stage of the work involved undertaking consultations with each of the Crown Land Managers to discuss the data they had provided, their perceptions of potential efficiency gains as well as their reflections on perceived barriers to achieving greater efficiency going forward. Following this discussion Deloitte Access Economics worked with each of the Crown Land Managers to address any remaining information gaps and data queries.

In addition to gathering data from the Crown Land Managers, a desktop review was undertaken to:

- identify previous studies on the costs of cemeteries and interments and relevant cost benchmarks
- review the annual reports of comparable interstate cemeteries to develop cost benchmarks
- review submissions to IPART made by NSW local governments to provide additional cost benchmarks.

To supplement the desktop review Deloitte Access Economics conducted a range of additional consultations with interstate cemeteries and local government cemeteries (to identify further cost

benchmarks and understand potential areas for efficiency gains) as well as religious groups, funeral directors and the Australian Workers Union to develop a broader understanding of contextual factors that may impact the efficiency of cemeteries or the costs of performing interments for particular faith groups.

The information gained from the desktop review and subsequent consultations was then used to develop a series of benchmarks for the total cost of interments and interment rights in order to assess the relative efficiency of the Crown Land Managers. This is then used in conjunction with information from the Crown Land Managers to estimate the efficient overall costs for cemeteries run by the Crown Land Managers, as well as the efficient costs of an interment service and the cost of an interment right for a basic adult lawn burial.

Finally, the information from the consultations and desktop research was used to develop a range of recommendations to help support greater efficiency for the Crown Land Managers over time.

1.5 Caveats and limitations of the analysis

The analysis has been undertaken drawing on cost information provided by the Crown Land Managers. This cost information has varied across the Crown Land Managers. In many cases CLMs were not able to allocate even direct costs across different types of interments making it difficult to isolate the costs of a basic adult lawn burial from other interments of bodily remains. Moreover, Crown Land Managers have sometimes recorded their costs in different ways in the IPART template which limits the degree to which firm conclusions can be drawn about relative efficiency in relation to specific cost items.

In comparing costs for the CLMS to benchmark cemeteries two key limitations were encountered. First, while analysis of financial statements of benchmark cemeteries provided comparable estimates of total cost per interment or service, it was not possible in many cases to determine the direct and indirect cost per interment for those benchmark cemeteries that did not provide information to IPART. Second, benchmark costs were typically not available for a basic adult lawn burial requiring total costs to be adjusted for differences in service mix including the share of cremations and interments of cremated remains in total cemetery activity. The way in which these adjustments were made was necessarily imprecise and may impact the degree to which benchmark costs are truly like-for-like.

The use of benchmarks in this report provides an indication of relative cost efficiency across the sector. In this report, an activity based costing exercise is undertaken using CLM data, to establish an efficient cost of a basic interment service (adult lawn burial). This exercise is expected to provide the most accurate picture of the costs of different activities associated with a lawn burial. A similar activity based costing exercise for benchmark cemeteries could help shed greater light on areas in which efficiencies gains are possible.

Finally, there a number of differences between cemeteries which may impact efficiency that are not fully accounted for in this report. For example, costs are likely to be impacted by differences in the religious mix of those interred at a CLM, but information on the religious mix was not available for all cemeteries. Moreover, historical differences in the way in which cemeteries have been developed are likely to affect the way in which maintenance can be carried out which in turn can affect efficient costs.

These limitations should be borne in mind when interpreting the results of this report.

1.6 Structure of this report

The remainder of this report is structured as follows:

- **Chapter 2** sets out estimates of the efficient cost of the interment service for a basic adult lawn burial.
- **Chapter 3** sets out estimates of the efficient cost of an interment right.
- **Chapter 4** sets out the efficient overall costs by cemetery.
- **Chapter 5** considers potential efficiency opportunities for the Crown Land Managers.
- **Chapter 6** discusses the approach to estimating the legacy perpetual maintenance costs of cemeteries in NSW.

2 Interment service

This chapter estimates the efficient costs of performing an interment service for a basic adult lawn burial. The term 'basic adult lawn burial' is used to describe a lawn burial of bodily remains without monumentation. The costs of an interment right for a basic adult lawn burial, encompassing site development costs, sales costs and maintenance and administration costs for the cemetery are discussed in the following chapter.

2.1 The efficient costs of an interment service for a basic adult lawn burial

To estimate the efficient costs of providing an interment service for a basic adult lawn burial it is important to understand the different steps involved for a cemetery operator. The types of steps that may be performed when a lawn burial is required are set out in Table 2.1 along with estimates of the typical time taken across the different stages.

To determine the labour hours required for an interment service for a lawn burial, estimates were derived from the bottom-up by drawing on information from the CLMs and appropriate benchmarks on the hours required for each task (or set of tasks as some were performed in a single stage). The typical range of average labour hours required is set out in Table 2.1.

Information from the CLMs and benchmarks indicated that:

- Typically, 5-7 hours in labour time was required for all activity prior to the interment service, that is, confirming the site, digging the site, delivering any set up equipment, and setting up any equipment prior to the ceremony. Importantly, these were average costs and in practice the time taken to dig the soil can vary significantly. It may be much longer in cases where the soil was poor quality or waterlogged.
- On average, the concierge and funeral service accounted for 2.5 hours of time.
- Typically, another 5.5 hours to 7.0 hours was required to back fill the site, remove set, top and turf, water the site.
- Lastly, administration including booking and arrangements with the family, providing feedback, and updating the register requires another 0.5 to 1.5 hours.

Table 2.1: Activities associated with an interment service (basic adult lawn burial)

Task	Description	Average labour hours required
Confirm the site	Identify an appropriate site and allocating a team and machinery	5 to 7 hours (prior to service)
Dig the site	Collect machinery, dig site and install grave cover	
Set up	Undertake set up of boards, carpet, lowering device and chairs for the ceremony	
Concierge	Liaise with funeral director and lead procession	2.5 hours (during service)
Funeral service	Lower the casket and stand by during the service	
Back fill the site	Move ceremony set up to the side, back fill the site and remove excessive soil	5.5 to 7.0 hours (after service)
Remove set up	Collect ceremony setup (chairs, etc.) and clean up the area	

Task	Description	Average labour hours required
Top and turf	Settle grave, top soil and turf	
Maintain site following interment	Water site for two weeks following the service	
Administration	Bookings and arrangements with family, WHS requirements, overall feedback, Funeral Director feedback, register update	0.5 to 1.5 hours

Source: Deloitte Access Economics

Taking the average hours within the range as an indication of efficient costs, an interment service would require 16 hours of labour. Assuming an average hourly wage (excluding on-costs) of $36.21 based on the CLM data, labour costs would equal $570. In addition, there would be $114 in associated on-costs, which represent 20% of wages.

Given the nature of the tasks involved in a basic adult lawn burial, most of the costs involved in this process involve labour costs. However, a basic adult lawn burial interment service will also require some materials, such as timber boards, matting, turf and soil, and fuel costs, and the use of machinery, such as trucks and utes, motor vehicles, and lowering devices. While some CLMs reported an equipment and material cost, others reported a depreciation figure. On average, materials, equipment or depreciation across the CLMs averaged $288.

Labour costs, on-costs and material and equipment or depreciation costs can then be aggregated to estimate the efficient cost of an interment service. **The lowest bottom-up cost for performing an interment services across the CLMs was found to be $901 and this has been taken as an estimate of the efficient costs of an interment service for this report.**

Recognising that there is a degree of uncertainty in the data provided and that there may be factors outside a CLM's control that can impact the labour hours required to perform an interment service, **an alternative estimate of $972 was derived based on typical labour hours for each stage of an interment service equalling 15.8 hours in total.** This may be seen as a more typical measure of efficient costs if certain cemeteries are not able to change their practices achieve the savings in labour hours achieved by the lowest cost operator.

Consultations with three interstate and regional cemetery operators suggested that the average cost per interment service ranged from $1,100 to $1,300, with an average of $1,200.[14] Although current costs at these operators are not necessarily a measure of efficient costs, it confirms that interment service costs should be broadly within this range. Private operators suggested that BALB costs could be below $1,000.

2.2 Variation in the cost of an interment service

The cost of an efficient basic interment service can vary. This may be because interment services are altered to meet the cultural and religious requirements of some communities. In other instances, the interment service is more costly because of the geological profile of the area (i.e. more resources are required for interments in sandy or rocky soil).

These variations can lead to additional costs, because of:

- requirements of the interment (including the duration and time of the interment)
- requirements of the interment site/plot (including the grave shoring, orientation and tenure)
- requirements of the cemetery (including facilities requirements and layout).

[14] The three cemetery operators are Metropolitan Cemeteries Board (WA), ACT Public Cemeteries Authority, and Shoalhaven City Council.

The first two components of costs relate to the interment service, and are described below. In some cases, cultural and religious requirements relate to the broader cemetery facilities – such as the need to provide gathering places for cultural and religious festivals, and accommodate interments with a specific orientation or other requirements which may or may not fit the layout of the cemetery. These costs tend to relate to the use and maintenance of land for interments (therefore attributable to the interment right) or are additional services. As a result, faith based requirements which impact the broader cemetery facility are considered in Sections 3 and 4.

Section 2.2.1 sets out the different interment requirements of cultural and religious groups. The impact of the impact of these requirements on the cost of interment services is considered in Section 2.2.2. The costs of performing interments in certain soil types are described in Section 2.2.3.

2.2.1 Cultural and religious interment requirements

Requirements of the interment service

For many faith groups, death and the burial process is an integral part of life and preparation for the afterlife. For this reason, some faiths place a higher level of ceremonial importance on burial and have additional graveside burial proceedings. These variations include:

- the duration of the service
- the time of day, or day of the service

Some cultural or religious burial practices require the mourners being intimately involved in the interment. In some cases, this can extend the **duration of the service**. In Islamic burials, the deceased is lowered into the grave by family members.[15] In Jewish burial services, attending mourners usually participate in back filling the grave with soil. (The grave diggers are to assist in manoeuvring soil to allow the filling of the grave to proceed at a steady pace. When and only if required would the grave diggers fill the grave for the mourners).[16] The NSW Jewish Board of Deputies noted that its faith communities' graveside burial proceedings could moderately extend the duration of the service (between 0-45 minutes additional time) but expected the additional cost of this process to be immaterial (see Section 2.2.2). The Islamic burial practice also involves some hand back-filling - the initial filling is done by the family and mourners who use shovels, with the remaining backfilling completed by machine, by the cemetery operator.[17]

In some cases, communities' interment requirements can affect **the time of day, or the day of the week than an interment takes place**. Jewish funerals are to be undertaken as soon as possible following the passing of the individual; in most cases within 24 hours.[18] In some cases, this will result in a burial taking place outside of a cemetery's standard hours. The NSW Jewish Board of Deputies said that out of hours services tend to be rare, and that in most cases, a Saturday evening bereavement would be accommodated by a Monday morning interment service.[19]

The Islamic interment custom is to bury the deceased as soon as possible.[20] CMCT has noted that 'the Muslim burial service in particular will require services for the deceased outside normal operating hours on Saturday / Sunday which will attract additional labour costs', though the specific requirements are not described in detail.[21]

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[15] Rookwood Cemetery, *Burial types at Rookwood*, 2020 <http://www.rookwoodcemetery.com.au/services/burial-cremation-services/burial-types>

[16] Jewish Burial Rites *Presentation to the CCA Conference - Current Burial Rites and Rituals, xix.* (7 November 2013). Provided to Deloitte Access Economics by the NSW Jewish Board of Deputies.

[17] Muslim Funeral Services, *Frequently Asked Questions* <https://www.mfs.asn.au/faq.html>

[18] Jewish Burial Rites *Presentation to the CCA Conference - Current Burial Rites and Rituals, vi.* (7 November 2013). Provided to Deloitte Access Economics by the NSW Jewish Board of Deputies.

[19] Deloitte Access Economics Consultation with representatives from the NSW Jewish Board of Deputies.

[20] Muslim Funeral Services, *Frequently Asked Questions* <https://www.mfs.asn.au/faq.html>

[21] Catholic Metropolitan Cemeteries Trust, *Submission to IPART Issues Paper* <https://www.ipart.nsw.gov.au/files/sharedassets/website/shared-files/investigation-administrative-submissions-interment-costs-and-pricing-issues-paper/online-submission-catholic-cemeteries-crematoria-d.-furlong-14-jun-2019-150200000.pdf>.

Crown Land Managers' weekend services vary:

- CMCT lists each cemetery's fees for weekday and Saturday interments separately.[22]
- NMCLM lists additional fees for Saturday and Sunday (which vary depending on time of day).[23]
- RGCLM performs some interments on weekend for an additional fee.[24]
- SMCLM performs interments on Saturdays for an additional fee.[25]

Requirements of the interment site

As with the burial process, the gravesite is a highly sacred place and certain communities have additional needs of the site above the requirements of a BALB. Different **physical requirements of the interment site**, or plot, include the structure and orientation of the grave and the number of interments per site.

Islamic burials involve interring the deceased in a shroud rather than a coffin. The body must be placed directly on the earth in accordance with Islamic customs.[26] The interment process involves mourners placing the body of the deceased into the grave, where it is arranged to be facing towards the direction of Mecca. This process involves three to four mourners entering the grave, where the body is then lowered to them.[27] To ensure the structural integrity of the grave (and the safety of the mourners) during this process, additional shoring – either timber panelling or a concrete tomb - is constructed around the grave.

Other faiths also have certain requirements of the interment site. The Jewish burial practice has changed over time. While the traditional practice did not permit more than one interment per site, a now longstanding ruling of the Sydney Beth Din (the Jewish religious court) permits married couples to be buried in one double-depth grave. The NSW Jewish Board of Deputies explained that the paradigm is shifting to married couples being actively encouraged to be buried in a single grave rather than separately in two graves.[28]

Variation within communities

There is variation in the specific interment requirements and preferences within the religious and cultural groups. There are, for instance, differences in the interment requirements of Orthodox Christian communities in terms of interment requirements.[29] Within each faith or cultural community, there is also expected to be variation in the extent to which individuals observe religious or traditional practices. For instance, different members of the Chinese community may seek interment services that align different beliefs – including Buddhist, Confucian, Anglican, Catholic or secular requirements.[30]

2.2.2 Costs associated with cultural and religious interment requirements

Consultations with faith communities and cemetery operators suggested that there are three ways in which different cultural and religious practices for interment impact on the cost of the basic interment service:

- graves being backfilled by hand, and by mourners
- additional shoring of graves

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[22] Catholic Cemeteries and Crematoria, *Consolidated Price list 2019* <https://catholiccemeteries.com.au/wp-content/uploads/2019/12/CCC-Consolidated-Pricelist-2019-V.3.pdf>.
[23] Northern Metropolitan Crown Land Manager, *2018 Price List* <https://nmclm.com.au/wp-content/uploads/2019/05/Pricelist-2018_2019-for-email.pdf>.
[24] Rookwood General Cemetery, *General Price List* (November 2019) <http://www.rookwoodcemetery.com.au/assets/documents/General_Price_List_Nov2019.pdf>
[25] Deloitte Access Economics Consultation with SMCLM.
[26] Rookwood Cemetery, *Burial types at Rookwood*, 2020 <http://www.rookwoodcemetery.com.au/services/burial-cremation-services/burial-types>
[27] Muslim Funeral Services *Frequently Asked Questions* <https://www.mfs.asn.au/faq.html>
[28] Deloitte Access Economics Consultation with representatives from the NSW Jewish Board of Deputies.
[29] Southern Metropolitan Crown Land Manager, *Response to IPART Issues Paper* (May 2019) < <https://www.ipart.nsw.gov.au/files/sharedassets/website/shared-files/investigation-administrative-submissions-interment-costs-and-pricing-issues-paper/online-submission-southern-metropolitan-cemeteries-land-manager-j.-masters-7-jun-2019-144100000.pdf>
[30] Data provided by the Northern Metropolitan Crown Land Manager shows individuals of Chinese heritage are interred in the Baptist, Buddhist, Christian, General and Roman Catholic sections.

- overtime or penalty rates incurred with when interments are undertaken out of hours, in order to meet specific timeframes for interment to take place.

Table 2.2 provides a summary of these cost impacts, which are detailed in the following sections.

Table 2.2: Estimate additional costs of cultural and religious interment requirements

Type of requirement	Faith groups for which this may be relevant [a]	Driver of additional cost	Additional cost ($)	Additional cost (%)	Total cost
Hand backfilling	Jewish	Estimated additional staff time to attend longer service (2 staff, up to 45 minutes)	$0-$65	0%-7%	$901-$1,107[b]
		Third cemetery worker required to attend burial	$109-$141	12%-16%	
Out of hours interments	Several	Higher per hour labour costs	$261-$521	29%-58%	$1,162-$1,422
Family to arrange body in grave	Muslim	Additional materials to shore grave with timber[c]	$206	23%	$1,107-$1,172[e]
		Estimated additional staff time to attend longer service (2 staff, up to 45 minutes) [d]	$0-$65	0%-7%	

Source: Deloitte Access Economics.

Note: (a) The interment requirements of individuals within a faith community are expected to vary, depending on the extent to which religious or cultural interment practices are observed. The communities listed in this table are those which tend to require these variations to the interment process. While after-hours interments tend to be requested by members of certain faith communities that require interments as soon as possible after death (Jewish and Muslim), this is not a feature of all interments of any religious or cultural group. As noted above, while other faith and cultural communities have additional burial requirements, they tend to relate to other domains (e.g. a requirement for burial rather than cremation, the need for perpetual interment, a cultural preference for memorialisation). (b) The lower bound of this range assumes that the hand backfilling takes no additional time and that a third staff member is not required. The upper bound of this range assumes that there are three cemetery workers that attend the standard service (assumed to be 2.5 hours), and that all three staff are required for additional 45 minutes. (c) Assumes timber shoring is used. (d) This may be additional time relating to the body being laid by family members, and/or the hand backfilling process. (e) The lower bound includes materials cost only while the upper bound includes materials costs and additional costs relating to additional labour.

Requirements of the interment service

Hand backfilling

As described in Section 2.2.1, some communities' burial practices involve mourners placing soil on the grave of the deceased, and/or hand backfilling the graves. The driver of possible additional cost in this instance is that the process could moderately extend the duration of the service and in turn, increase the labour costs associated with the cemetery's grave digger staff attending the services. The NSW Jewish Board of Deputies said this difference would be immaterial.[31]

A bottom-up estimate suggests a minor additional labour cost. The hand backfilling processes was reported to extend the interment service by 0-45 minutes and there are generally two cemetery

[31] Deloitte Access Economics Consultation with representatives from the NSW Jewish Board of Deputies.

staff required to support the backfilling process who would be required to attend for this period.[32] Consultation with a Crown Land Manager verified this estimate of 45 minutes, noting that this might also account for the additional time taken to set up the burial site to accommodate hand-backfilling, and that facilitating the mourners' involvement in the hand backfill sometimes involves a third staff member.

Assuming an average hourly wage of $43 (based on the CLM responses, plus on-costs of 20%) suggests an additional cost of for two staff of between $0-$65. This represents an additional cost of 0%-7% of the efficient cost of an interment service ($901).

In the case where a third staff member attends the burial service, this would add an additional $109 in labour cost for the standard 2.5-hour service, and an additional $33 for this staff member to attend for an additional 45 minutes. This represents an upper-bound additional labour cost of $206, where there are three staff in attendance, and they are all present for an additional 45 minutes (an additional cost of 23% of a $901 interment service).

As an additional point of reference for the range of costs, a consultant engaged by one Crown Land Manager to assess interment costs found that a Jewish lawn interment costs $200 more than a lawn burial service (reflecting an additional 22% of a $901 interment service). It is unclear whether this cost estimate includes costs relating to after-hours interments, and data are not available on the components of this additional cost (i.e. whether it relates to service duration, staffing requirements, materials). Another CLM's internal modelling showed no additional cost for a Jewish lawn interment.

Out of hours interments

As identified in Section 2.2.1, some faith-based burial practices require that interments are undertaken as soon as possible after death, usually within 24 hours. At times, this can result in an interment service (or part of an interment service) being conducted outside of the cemetery's usual operating hours. This would result in an additional labour cost relating to staff working out of hours. Establishing a bottom-up estimate of this additional cost requires understanding the relevant penalty rates that apply, and making an assumption of the amount of labour time that would be required outside of ordinary hours.

The Cemetery Industry Award sets out that ordinary hours of work at 7am-6pm, Monday to Friday.[33] Outside of these hours, the Award sets out the following pay rates:

- Monday to Saturday - 150% of the ordinary hourly rate for the first 2 hours, and 200% of the ordinary hourly rate thereafter; and
- Sunday - 200% of the ordinary hourly rate.[34]
- Public holidays - 250% of the ordinary hourly rate with a minimum payment of 4 hours.[35]

While the award entitles casual staff to a minimum of 2 hours' work at the appropriate rate, there is no minimum hours requirement for part time and full time employees, except for on a public holiday.

The additional cost of the interment would depend on the processes that must be undertaken outside of ordinary hours. This would likely depend on the circumstances and timeframe of each interment request. It is expected that at a minimum, the events that would take place after-hours would be the concierge and funeral service. Setting up the funeral facilities, back-filling the site,

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[32] The standard backfill process is reported to involve two staff. Cemeteries and Crematoria Association of NSW (CCANSW) *Response to the Request for Input from IPART* (6 June 2019) <https://www.ipart.nsw.gov.au/files/sharedassets/website/shared-files/investigation-administrative-submissions-interment-costs-and-pricing-issues-paper/online-submission-cemeteries-crematoria-association-of-nsw-m.-reid-6-jun-2019-113538341.pdf >

[33] Cemetery Industry Award 2020, s 12.2 <http://awardviewer.fwo.gov.au/award/show/MA000070#P227_19730>.

[34] Cemetery Industry Award 2020, s 18.1 <http://awardviewer.fwo.gov.au/award/show/MA000070#P227_19730>.

[35] Cemetery Industry Award 2020, s 24.3 <http://awardviewer.fwo.gov.au/award/show/MA000070#P227_19730>.

and packing down the funeral setup might also be required on the day of the interment but might also be performed within usual working hours on either side of the funeral service.

Following the requirement that staff be paid for at least four hours' work on a public holiday, the estimated additional labour costs for out of hours interments are based on two staff each completing four hours work. Using an average hourly wage of $43 as calculated above, Table 2.3 sets out the estimated additional costs of these hours.

Table 2.3: Estimated additional labour costs for out of hours interments

Type of overtime	Additional labour cost (4 hours, 2 FTE)	As a share of interment service
After 6pm or Saturday	$260.71	+29%
Sunday	$347.62	+39%
Public holiday	$521.42	+58%

Source: Deloitte Access Economics using Crown Land Managers' labour hour and cost estimates

In the event that an out of hours interment service does occur, the interment cost will vary to reflect this additional labour cost. While this requirement may be more likely to be required by certain faith communities than others, it would not be relevant to all interments of any faith community. The NSW Jewish Board of Deputies noted that when an out-of-hours interment takes place, the cost tends to be passed onto the family as an additional charge, or not at all in cases of financial hardship.[36] For instance, RGCLM's price list includes separate fees for interments performed on weekends (a fee of $579 or $1,464 depending on the zone).[37]

There should be a distinction made between the cost of interment requirements which accommodate standard religious practice, and those that are specific to certain circumstances, such as out of hours funerals which may or may not be driven by religious requirements. As noted in Section 5.1.6, it would be most transparent to include this as an additional charge for individuals on request, rather than applying this cost (which is not always incurred) to the cost of an interment service for some religious groups.

Requirements of the interment site

Grave shoring

Islamic burials involve the deceased being lowered into the grave and laid to rest by family members, directly onto the earth. If a bottomless concrete tomb has not been installed, this process requires additional shoring of the grave, to ensure structural integrity during the process. Additional shoring sits around the lower portion of the grave to ensure stability for family members who are within the grave having the body passed down to them. An additional structural support sits within the grave to provide initial protection for the deceased as backfilling occurs.

Internal modelling provided by CLMs suggests that the main driver of additional cost in this instance is the materials required to provide additional shoring. While the lower cost option is to use timber shoring, some CLMs use a precast concrete tomb which is lowered into the grave. This process removes the need for cemetery workers to enter the grave to position shoring timbers, which could be more of a safety concern with certain soil types that may be prone to collapse. Different types of graves are used for different soil conditions. [38]

One Crown Land Managers' internal modelling is based on a timber shoring. This estimate shows no difference in the labour costs relating to performing an Islamic lawn interment as opposed to a standard lawn interment, and only minimal materials costs. There is an estimated additional cost

[36] Deloitte Access Economics Consultation with representatives from the NSW Jewish Board of Deputies.
[37] Rookwood General Cemetery, *General Price List* (November 2019) <http://www.rookwoodcemetery.com.au/assets/documents/General_Price_List_Nov2019.pdf>.
[38] Muslim Funeral Services, *The Ghusl Procedure* <https://www.mfs.asn.au/ghusl--burial-steps.html>.

of $206 in materials, which would reflect a 23% increase to the $901 efficient interment service cost.

Another Crown Land Manager uses a concrete tomb instead of timber shoring. A consultant engaged by this CLM to assess interment costs found that an Islamic burial involves additional costs in terms of the COGS of tombs, and an additional 7 labour hours associated with building the tomb, backfilling the site, and completing the top up & turf process. The consultant found the Islamic burial would cost $1,900 more than an adult lawn burial at the same site, including the COGS of two tombs at $1,600. This $1,900 represents a total additional cost of 211% of the efficient cost of an interment service ($901). The use of a concrete tomb at one site is likely related to the geological profile of the area in which Islamic interments are conducted.

Similarly to the instance where the grave is hand backfilled, the Islamic interment service may be slightly longer. This is due to the process of family members arranging the body in the grave and performing some hand backfilling. One Crown Land Manager estimated this would require about 45 minutes additional staff time. Assuming an average hourly wage of $43 suggests an additional cost of for two staff of between $0-$65 (the CLM said that a third staff member was not required in this instance).

2.2.3 Geological profiles

All Crown Land Mangers noted in consultations that the costs of interment can vary significantly depending on the type of soil. On average, Crown Land Mangers identified that the process of digging a site would take 4 hours. However, one Crown Land Manger noted that the time required could range considerably, and in some cases it could take up to 30 hours to dig a site – depending on variables including the soil structure, weather, type of interment and area of the cemetery (for instance, there may be logistical challenges in fitting and using machinery in proximity to delicate monuments).

Examples of reasons for this variation are listed below.

- Land which contains considerable rock can substantially increase excavation costs.
- Lower-lying land in some cemeteries can be prone to waterlogging, which can also lead to increased excavation costs.
- The type of soil can lead to cost variation. Sandy soil requires shoring during the excavation and backfill process (requiring additional materials and labour time) whereas a clay soil may not. However, when backfilled, sandy soil will require less future top ups than a clay-based soil (which could also lead to addition material and/or labour costs).[39]

The cost associated with geographic profile of an area can affect entire cemeteries. For example, SMCLM notes that every grave in the Eastern Suburbs Memorial Park site requires shoring because of the soil composition at this site.

There tend to be additional costs associated with developing remaining land at older cemeteries. Where the original operators utilised the easiest to develop land first, the remaining land (which tends to be rocky or lower-lying and prone to waterlogging) requires more resources for excavation and for the protection of the surrounding grounds – making this land more costly to develop. The cost of the second interment service in the same site can also be affected by how well the plot has been prepared historically.[40] CLMs noted that there can be a great range variation between individual interments, particularly with regard to the time taken to dig a grave. If a rock is hit, it can be costly and timely to dig through. NMCLM is investigating the potential to utilise soil and geotechnical studies to map interment areas and understand the ground composition, which

[39] Southern Metropolitan Crown Land Manager, *Response to IPART Issues Paper* (May 2019) <https://www.ipart.nsw.gov.au/files/sharedassets/website/shared-files/investigation-administrative-submissions-interment-costs-and-pricing-issues-paper/online-submission-southern-metropolitan-cemeteries-land-manager-j.-masters-7-jun-2019-144100000.pdf>

[40] Southern Metropolitan Crown Land Manager, *Response to IPART Issues Paper* (May 2019) <https://www.ipart.nsw.gov.au/files/sharedassets/website/shared-files/investigation-administrative-submissions-interment-costs-and-pricing-issues-paper/online-submission-southern-metropolitan-cemeteries-land-manager-j.-masters-7-jun-2019-144100000.pdf>

would help with estimating dig times. SMCLM also noted human interactions with the site (e.g. removing set ups) as potential factors that would lead to deviations from the average cost.

2.3 The current costs of an interment service for a basic adult lawn burial

It is important to note that direct costs are based on bottom-up estimates of the activity required provided by Crown Land Managers, in many cases based on time estimates for each activity. This may incorporate estimates of efficient levels of activity and for some of the Crown Land Managers differs from 'top-down' estimate of direct interment costs (which may include other cost components).

Table 2.4: Bottom-up interment service costs by CLM (2018-19)

	Efficient cost	Efficient cost based on typical labour hours	CLM average	CMCT	SMCLM	NMCLM	RGCLM
Hours	13.3	15.8	17.2	13.3	16.0	22.2	12-19*
Wages ($)	$477	$570	$725	$477	$610	$765	$1,047
On costs ($)	$95**	$114	$124	$95**	$122**	$153	$127**
Equipment, materials, or depreciation ($)	$328	$288	$288	$328	$305	$218	$301^
Total	**$901(a)**	**$972**	**$1,137**	**$901**	**$1,037**	**$1,136**	**$1,475^^**

Note: (a) The $901 efficient cost estimate reflects the minimum cost to perform a BALB. However, interments for some religious and cultural groups have a higher efficient cost. For an individual CLM, an average efficient cost can be estimated by considering the mix of faith groups that interment services are provided for. For RGCLM, this adjusted figure is estimated at $1,399.

Source: IPART, Deloitte Access Economics. ^This includes motor vehicle costs, site costs, repairs and maintenance, and depreciation. ^^ These are average costs which reflect that RGCLM perform a large proportion of interments for religious communities for whom interments are more costly. Factoring in the share of these interments at RGCLM (and the way that interments are performed at RGCLM for Islamic and Jewish communities) would result in an adjusted efficient cost estimate of $1,399. This should be considered in interpreting the possible efficiency of interment services at RGCLM. It should be noted that other CLMs perform Jewish and Islamic interments, which could also drive a difference in the efficient costs – although the proportion (and associated impact on efficient cost) is likely to be lower than for RGCLM. *This reflects that hours vary depending on the type of interment based on a previous cost study of Rookwood although that report also included an estimate of 17.2 hours.**On costs for CMCT and SMCLM have been estimated using a 20% assumption (to incorporate payroll taxes and superannuation). RGCLM's on costs are based on its reported figures.

Bottom-up estimates of the average direct costs for a BALB interment service range from $901 for CMCT to $1,475 for RGCLM (0).

Wages are the largest component of BALB interment service costs. It ranges from $477 for CMCT to $1,047 at RGCLM, and accounts for 40% to 70% of total direct costs. The lower estimated labour costs for CMCT are based on an average of 13 hours of labour time compared to 22 for NMCLM and 16 for SMCLM. In contrast, average wage costs per hour are broadly consistent across the CLMs, ranging from $34 per hour (NMCLM) to $40 (SMCLM).

CMCT and NMCLM provided estimates of the equipment and material costs associated with a BALB. It ranges from $218 to $318. RGCLM reported $301 in total costs associated with site costs, repairs and maintenance, and depreciation. It is not apparent whether this is directly comparable with the equipment and material costs provided by the other CLMs.

SMCLM noted there were limited non-labour costs associated with interment services. However, they do attribute $305 in depreciation to the interment service. In the consultation, SMCLM did note that further details on the various non-labour components (e.g. specifying the types of materials and equipment) to be included would support comparability across CLMs (Section 5.1.7 considers opportunities to support efficiency by introducing more consistent reporting approaches).

Some variation from the efficient interment service cost estimate can be explained in part by the additional costs relating to the cultural and religious requirements of interments. It is important to note that having higher costs associated with meeting religious or cultural practice is not inefficient. Efficiency relates to minimising the inputs or costs associated with achieving a given outcome, output or service. Those cemeteries catering to groups with specific religious requirements, or services that are not a BALB, or services performed under other circumstances (e.g. high costs soil type) are not necessarily 'inefficient' to the extent that these variations impact cost. Section 2.2.2 discusses the additional costs of meeting meeting specific cultural and religious practices and other factors which may impact the cost of an interment service.

The additional costs from Table 2.3 in Section 2.2.2 (using $1,107 and $1,172 as upper bounds) can be applied to the faith mix of cemeteries' interments to establish a weighted average cost. At RGCLM, just over 36% of interments performed in 2018/19 were in Jewish or Muslim sections. Using a basis of $901 for all other interment types and applying these additional costs to the share of these interments suggests an efficient cost of $992 for RGCLM. Applying a cost estimate of $2,801 to perform an Islamic interment with a concrete tomb and associated additional labour hours would bring the weighted average interment service efficient cost for RGCLM to $1,399. As mentioned in Section 2.2.3, other drivers of variation in cost include the geological profile of the cemetery land used for interments, which may lead to variation in the materials used for interments. RGCLM also reiterated that time differences and ritual differences exist among all denominations and that it is complicated to analyse time or materials costs as the sole difference or the major contributor to cost or labour requirements.

It is important to note that RGCLM is not the only CLM that may be impacted by faith based costs or catering to multiple community groups. For example, SMCLM noted that they work with denominational groups such as the Jewish, Macedonian, Greek, Italian, Catholic and Chinese communities and adjust their service offerings to meet the needs of those communities.

Overall, interment service costs appear to be modestly higher than the efficient level for NMCLM and RGCLM. In the case of RGCLM these differences are potentially driven, at least to some degree, by differences in cultural and religious requirements. In the case of NMCLM costs are estimated to be $164 higher than the efficient level which is relatively modest. Overall the evidence suggests that while some efficiency gains in relation to performing interment services may exist on the whole the CLMs are relatively efficient in performing interment services for a basic adult lawn burial.

3 Interment right

An interment right refers to the right to inter a body or cremated remains in a particular grave or crypt or niche in a cemetery. In the case of a perpetual interment right, the remains must be left where they have been interred forever. In the case of a renewable interment, there is an option to renew the interment right after a certain window. In NSW, the initial rights period is 25 years, and further terms can purchased (for a minimum consecutive term of at least five years) to a cumulative total of 99 years.

This report has sought to estimate both the:

- efficient costs of interment rights for an adult lawn burial based on a minimum benchmark level of maintenance costs (noting that many CLM cemeteries may currently achieve a different standard of maintenance)
- the current cost of an interment right for an adult lawn burial by cemetery drawing on current costs reported by the CLMs.

The following components have been included in estimating the cost of interment rights:

- Site development costs, which is the cost of developing the land for interments.
- Indirect costs associated with the sale of the interment right. This includes sales, administration / corporate overhead costs, and some allocated depreciation.
- The costs of maintaining the plot and cemetery both until the cemetery is fully utilised and beyond this point. These costs are for the term of the interment right, so they can apply to both perpetual and renewable tenure.
- Administration / overhead costs attributable to maintenance both until the cemetery is fully utilised and beyond this point

Costs related to land acquisition should be considered as part of the costs of an interment right but estimating land costs was outside the scope of this analysis. These costs would need to be added on to those estimated here to estimate the full costs of an interment right.

Section 3.1 below sets out the efficient costs of interment rights by component and Section 3.2 sets out the current costs. Section 3.3 provides a discussion about the impact of faith requirement on interment right costs, while Section 3.4 estimates the cost of a renewable interment right.

3.1 The efficient costs of a perpetual interment right for a basic adult lawn burial

This section estimates the efficient cost of a perpetual interment right for a BALB drawing on a range of data sources including the current costs of other benchmark cemeteries and data and consultation with the CLMs. Information from the benchmark cemeteries were based on publicly available annual reports and consultations, supplemented by IPART data template responses for NSW local council cemeteries.

There are some limitations of this approach that should be considered when interpreting the analysis. The benchmark cemeteries may differ in their relative efficiency across the various components of the interment right. Moreover, publicly available data may not be sufficient to estimate the costs of specific components of the interment right for benchmark cemeteries.

Where there is limited information on the efficient costs of a component of the interment right, or where it may not be appropriate to benchmark against other cemeteries or costs are likely to differ depending on the stage of the cemetery's life cycle, the current costs of the CLMs are used.

3.1.1 Overall efficient costs

The efficient cost of each component of the perpetual interment right is summarised in Table 3.1. The first column shows the efficient costs for grounds maintenance, administration and overhead costs for maintaining existing plots and depreciation on a per plot basis for an adult lawn burial. Maintenance costs are broken into two components. The first reflects the cost of maintaining plots

per annum in a fully utilised cemetery with no significant sales activity. The second reflects the additional costs of maintaining a plot when a cemetery is still active and selling new plots. Maintenance costs are typically higher before a cemetery is fully utilised reflecting higher visitation levels, less scope for economies of scale in maintenance and the value of higher maintenance standards in attracting future sales.

The second column of Table 3.1 reports costs on a per interment right basis. In calculating the cost of an individual interment right, a present value approach for those significant cost items that last throughout the lifetime of a cemetery has been adopted. These include grounds maintenance, administration related to maintaining existing plots, and depreciation. Site development costs and the indirect costs associated with the sale of an interment right are estimated on a one-off basis as they largely reflect one off costs related to the development and sale of an individual interment right.[41]

A discount rate of 4% p.a. and an inflation rate of 2% p.a. are used in valuing the present values. The choice of discount rate is the based on long-term yield from a prudent but not overly conservative selection of investment assets. The inflation rate is based on the expected long-term inflation rate.

It has also been assumed that a cemetery is generally expected to stay open for 75 years, and the purpose of this assumption is to produce equitable costs across different generations of customers, e.g. a customer purchasing an interment right this year should create a similar cost for the cemetery to a customer purchasing the right in three years (provided that there is no material change in the cemetery's business strategy and operations).

The application of a present value based on 75 years of a cemetery's operation is applied to additional maintenance costs before a cemetery is fully utilised and depreciation. This captures the fact that these costs are additional costs which occur before a cemetery is fully utilised. The use of a present value formula here spreads these costs over time to reflect the fact that these additional costs are incurred over the period before a cemetery is fully utilised and results in a more even spread of costs depending on when a plot is developed in a cemetery's life cycle. Ultimately the degree to which costs over a cemetery's life cycle should be incorporated into pricing is a policy question for IPART to consider in developing its pricing recommendations.

Administration costs for maintaining existing plots and grounds maintenance costs per plot for a fully utilised cemetery are costs that are incurred in perpetuity and the present value of these costs is calculated on the basis they will be incurred into perpetuity.

The efficient cost for a perpetual interment right for a BALB ranges from $2,600 to $3,500. This range reflects differences in stated development costs and depreciation costs across the CLMs. The efficient costs described below are based on **standard** maintenance costs for a basic adult lawn burial. Cemeteries with higher standards of maintenance such as elaborate gardens may still be operating efficiently but be achieving a higher maintenance standard (which may be valued by customers and their community). That is, the cost of interment right reflects the efficient cost of a basic standard of maintenance and higher costs in these areas could be in part driven by higher standards of care.

It is also important to note in interpreting the below table, that some portion of the indirect costs of interment rights may relate to inspecting and maintaining the safety of monuments or other infrastructure. These costs may be higher for older cemeteries, where materials are aged, or of more variable quality, and therefore more difficult (and more costly) to maintain.

[41] The analysis assumes that all administration and sales costs over and above that required to maintain existing plots is attributable to the sale of the interment right. In practice it is possible that some current costs included in this category could relate to past sales before a cemetery is fully utilised but the precise degree to which this occurs is difficult to determine.

Table 3.1: Efficient costs associated with an interment right (basic adult lawn burial)

	Per plot per annum	Per interment right
Site development	NA	Current CLM costs, ranges, on average, from $425 to $1,000[(a)]
Indirect costs associated with the sale of the interment right	NA	$1,488
Grounds maintenance		
Fully utilised cemetery	$5	$255
Additional maintenance levels before a cemetery is fully utilised[(b)]	$2	$77
Administration / overhead costs for maintaining existing plots	$5	$255
Depreciation	Current CLM costs, ranges from $3 to $13	Current CLM costs, ranges from $101 to $521
Total	**NA**	**$2,600-$3,500**

Source: Deloitte Access Economics.

Note: These costs exclude cost of land. (a) In cases where there are challenges associated with the geological profile or existing cemetery infrastructure, these costs may be higher (see Section 3.1.2). (b) *The total cost of grounds maintenance before a cemetery is fully utilised is $7 per plot per year over 75 years. The cost of grounds maintenance per plot per year consists of two components, a cost of $5 per plot which continues even once the cemetery is fully utilised and an additional cost of $2 per plot per year to cover additional ground maintenance costs per plot for an assumed average of 75 years before a cemetery is fully utilised. The $77 is calculated as a Net Present Value of a cost of $2 per year over 75 years based on a real discount rate of 2%.*

Details on how efficient costs for each of these components have been developed are set out in the following sections.

3.1.2 Site development

The first component of the cost of an interment right is the cost to develop the site. This typically involves clearing and surveying the land, and making provision of roads, curb and guttering, and unsealed walkways. In some cases, beams and/or pre-poured monumental foundations and pathways may be installed. Infrastructure surrounding the gravesites, including amenities and roads, may also be included in cemetery developments. It is important to note that where development costs include supporting infrastructure, cost levels will reflect the quality and age of infrastructure. For instance, newly developed facilities may reflect higher BALB costs because of higher-quality facilities.

There is limited data on site development costs for non-CLM operators. Consultation with Shoalhaven City Council suggested that the average site costs $1,020 to develop. However, there can be a large degree of variation in site development costs. For other NSW Council Cemetery operators, it ranged from $330 (Central Coast City Council) to $1,120 (Cessnock City Council).

This variation is similarly reflected in the CLM providers, with RGCLM reporting a typical cost of $425, and SMCLM reporting an average cost of $1,000 for Woronora.

The analysis uses **current site development costs for CLMs in the efficient interment right cost estimates.** This is because variation in site development costs tends to be cemetery specific, and it is difficult to apply a typical efficient cost. For instance, while RGCLM noted that while it is $425 to develop a site, they had to remove power cables for recent developments, which drove costs up to $2,000 per allotment.

There may also be other legacy constraints which increase the costs associated with site development at a later point in the cemetery's lifecycle. For instance, RGCLM noted that

performing lawn burials near monumental areas or in heritage conservation sector may introduce limitations around machinery use and access. Further, where interments take place in a heavily populated area with pre-existing infrastructure such as rail, roads, electricity or telecommunications lines, this pre-existing infrastructure often has to be removed and or worked around, increasing the costs of developing an area.

Further, development costs can also vary by the life cycle of the cemetery. SMCLM noted that prime land tends to be used first, leading to lower development costs. However, as the cemetery fills up, more marginal land must be accessed, which is more costly to develop. Given that development costs can vary considerably depending on the soil quality and characteristics of the cemetery no single efficient cost is estimated.

3.1.3 Indirect costs associated with the sale of an interment right

Indirect costs refer to costs that are incurred in operating a cemetery that are not directly attributable to an individual interment right. This section covers one-off administration and overhead costs, and sales and marketing costs associated with the sale of an interment right.

Indirect costs in this section do not include grounds maintenance, administration associated with the maintenance of existing plots, and depreciation. They are covered in Sections 3.1.4, 3.1.5, and 3.1.6.

To assess the efficient indirect costs associated with the sale of an interment right, Deloitte Access Economics benchmarked costs from the following four cemetery operators:

- Metropolitan Cemeteries Board (WA)
- Geelong Cemeteries Trust (Vic)
- Ballarat Cemeteries Trust (Vic)
- Shoalhaven City Council (NSW)

These cemetery operators were chosen as benchmarks in establishing an efficient cost as:

- They had the lowest costs per interment of bodily remains out of nine interstate and council cemetery operators (see Appendix B.1). Given that the available evidence suggests that direct interment service costs are broadly similar across operators, the difference is driven largely by lower indirect costs. Consequently, they are likely to provide a reasonable indication of the efficiency of indirect costs that can be achieved.
- For instance, Council operators may achieve indirect cost efficiencies through accessing shared services (such as finances and IT) from Councils. While individual CLMs may not able to access indirect services effectively, there may be potential to reduce costs and match the efficiency produced by Council operators when accessing services jointly.
- Costs for these operators are less likely to be affected by cultural and faith and product type differences, which allow their average costs to be appropriately compared against interment services of BALBs for the CLMs.
- While other councils provided cost estimates in their responses to IPART, a number of which were lower than the cemeteries noted above, these costs were not generally noted in Council Annual Reports. There is a possibility that these lower costs estimates may not fully capture costs such as administration costs which are incurred by councils. For this reason, other councils have not been included in this analysis.

As the benchmark cemeteries do not report on their indirect costs per interment right, it has been estimated using the following approach:

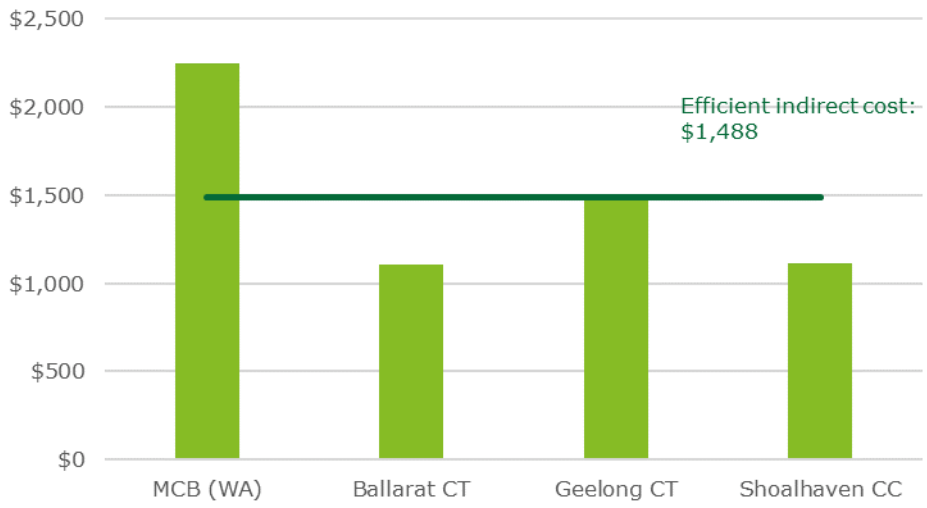
- Total costs per interment of bodily remains is estimated by using cost differentials between various interment products. See Appendix A.2 for a detailed description of this methodology.
- Grounds maintenance costs are estimated and removed from total costs per interment of bodily remains. While the annual reports show the non-labour maintenance costs, the labour maintenance costs have been estimated based on the share of the wages that are typically

associated with maintenance staff.[42] For Shoalhaven City Council and Ballarat Cemeteries Trust, actual reported data has been used.
- Administration costs associated with maintaining existing plots was estimated and removed. This is estimated based on the ratio of administration and maintenance costs across the CLMs.[43] For Shoalhaven City Council, actual reported data has been used. Depreciation is removed. This is based on the figures reported by operators in their annual reports.
- Lastly, direct costs associated with an interment service are removed. Based on Section 2.1, it is assumed that the average interment service costs $1,200. Operator specific direct costs have been used for Metropolitan Cemeteries Board (WA) and Shoalhaven City Council.

Refer to Appendix B.2 for a detailed description of how indirect costs have been derived for the benchmark cemeteries. Note that while indirect costs are ultimately allocated to interment rights, the benchmarking occurs on a per interment basis, as there is no publicly available information on the number of interment rights sold for the benchmark cemeteries. This may potentially bias the results if there are large differences in the relative share of rights and services sold across cemeteries.

Based on these benchmark cemeteries, **it is estimated that on average, an efficient indirect cost per basic adult lawn burial would be $1,488** (Chart 3.1).[44] Development costs, as represented by cost of goods sold, have been removed for these estimates.

Chart 3.1: Efficient indirect costs based on benchmark cemeteries



Source: IPART, Deloitte Access Economics. Indirect costs exclude grounds maintenance, administration related to grounds maintenance, and depreciation. It includes one-off administration, and sales and marketing costs associated with the sale of the interment right.

3.1.4 Grounds maintenance

Ground maintenance is an essential part of cemetery operators' obligation after selling an interment right to clients. The Cemeteries and Crematoria Code of Practice 2007[45] states that the operator of a cemetery or crematorium must maintain the grounds of the cemetery or crematorium in a safe, clean and orderly condition. The IPART interim report recommended that there be a requirement on all cemetery operators to provide perpetual maintenance of cemeteries, and to make adequate financial provision for perpetual maintenance of interment sites and the cemetery.

[42] Across the CLMs, approximately 24% of labour costs are associated with grounds maintenance staff.
[43] Administration related to grounds maintenance is typically 36% of total grounds maintenance costs.
[44] It ranges from $1,471 (Ballarat Cemeteries Trust) to $2,722 (Geelong cemeteries Trust).
[45] Cemeteries and Crematoria Act, *Cemeteries and Crematoria Code of Practice* (April 2007)

Ground maintenance costs generally decline when an open cemetery becomes fully utilised, i.e. when most interment rights are sold, and the cemetery enters the perpetual care state for all its burial sites. This reduction is mainly driven by two factors:

- The standard of maintenance is generally lower for fully utilised cemeteries and they benefit from greater economies of scale
- The number of visitations decreases over time reducing the level of required maintenance.[46]

This means the current total ground maintenance cost can be allocated to two components:

- Perpetual care related ground maintenance, which is the cost that the cemetery incurs for sold and occupied plots after the cemetery is fully utilised.
- Additional grounds maintenance before a cemetery is fully utilised, which is the additional ground maintenance spend (over and above perpetual care related ground maintenance) that exists for a cemetery before it is fully utilised and is open for new burials. This could include the cost of maintaining gravesites to a very high standard for areas receiving frequent visitation.

Ensuring a reasonable standard of care

Cemetery operators have an obligation to provide maintenance to sold plots in perpetuity. The maintenance could include a range of activities[47] including but not limited to:

- mowing, weeding, edging, and irrigation of the grass areas
- maintenance and irrigation of plants
- maintenance related to gardens
- litter control
- cleaning and maintenance of roadways, walks and buildings necessitated by natural growth and ordinary wear
- repairs
- ad-hoc maintenance work to prepare for visits / events.

A particular standard of maintenance means that the above maintenance activities need to be conducted at a certain frequency (e.g. monthly), meeting certain performance threshold / criteria. Although the standard of such perpetual maintenance is not commonly specified in the interment right contracts, customers and communities may have implicit expectations on the level of care cemetery operators will provide. Delivering a standard of maintenance that meets these customer expectations affects the maintenance cost of CLMs, which can be influenced by a number of factors, such as:

- The level of maintenance standard: clearly the higher the standard required (e.g. more frequent, higher quality, more thorough), the more the cost.
- Faith and community standards: certain religious groups may have particular expectations in relation to perpetual maintenance which can affect costs.
- Difficulty of maintenance: some cemeteries have large areas of manicured turf and gardens, which requires more time, resources and skills to maintain. Some cemeteries' land is hilly, which makes it difficult to move equipment / machinery. Generally, the harder it is to maintain, the higher the maintenance cost.
- Outsourcing arrangements: operators may choose to outsource the ground maintenance work for a significant proportion of or the entire cemetery to external contractors which can impact maintenance costs.
- Age of cemetery: older cemeteries (and older sections of a cemetery) may require more significant maintenance and repairs, leading to higher cost.

[46] It is worth noting that the family is responsible for maintaining monumental and mausoleum fittings, while perpetual maintenance is only that which the cemetery operator has to cover.
[47] The activities listed here are examples only, and are not intended to be a comprehensive list. Depending on the specific characteristics of the cemetery, these activities may be different.

- Number of visitations: Within one cemetery, areas / sections that receive more visitations would generally require a higher standard of maintenance and more maintenance for adjacent roads/pathways/infrastructures.

The defined industry minimum standard of care in NSW is a voluntary code of practice, introduced in February 2020.[48] The absence of a clear standard may have contributed to differences in the maintenance costs incurred by CLMs, to date. It is also unclear what the CLMs' current maintenance expenses represent in terms of the standards of maintenance. The introduction of this code of practice, as a standard maintenance guide is expected to provide more clarity on the standards of care an operator is expected to provide. One CLM noted that a clear maintenance standard may also help manage or clarify community expectations in relation to maintenance and, depending on the standard set, potentially improve affordability for customers.

The code of practice sets out six key maintenance principles – that cemeteries are welcoming, safe, efficient, serviceable, accessible and sustainable. The code of practice provides clear examples of best-practice implementation, and considers maintenance activities as they apply to different cemetery types – local cemeteries, district cemeteries and regional cemeteries (this last category refers to the largest cemeteries with the highest visitation and use, and includes the CLMs).[49]

The description of current maintenance activities provided by the four Crown Land Managers (CLMs) and a number of interstate / private operators has been collected through interviews / submissions and are summarised in the table below:[50]

Table 3.2: Maintenance activities across cemetery operators

	Current maintenance activities
CMCT	• Different standards apply to different sections of the cemetery. • Outsourced maintenance work for areas with limited visitation and is maintained every two weeks. More frequent and detailed maintenance is required for modern sections with active visitation.
NMCLM	• The maintenance for the entire site is on a 6-week rotation; but hedges and flowers are cut especially for special days (e.g. Mothers' day) and it is expected that perpetual maintenance will be maintained at this level.
RGCLM	• Some maintenance activities such as clean up, steam clean and mow the grass are done once a month (some are once a quarter). All sites are maintained to the same standard – because the entrant to the new burial areas is through the older sites, so all sites will have visitors walking by.
SMCLM	• Standard of care is agreed upon in individual contracts and it varies over time and across products at both sites. • SMCLM notes that the maintenance levels at both sites meet the standards set out in the CCA's recently released *Voluntary Code of Practice for Cemetery Maintenance*, taking into account different soil conditions and heritage provisions • In line with common practice worldwide, maintenance activities are timed in line with periods of higher visitation around special days/events of the year. • Maintenance levels are higher in current burial and ash interment areas along with front of house and chapels precincts.
InvoCare	• Regional managers do inspections every month (and for special occasions) to ensure that the parks are up to a high standard. They believe that perpetual maintenance requirements are less intensive once a park is fully utilised.

[48] Cemeteries and Crematoria NSW *Voluntary Code of Practice for Cemetery Maintenance* (February 2020) <https://www.industry.nsw.gov.au/__data/assets/pdf_file/0020/311690/Voluntary-Code-of-Practice-for-Cemetery-Maintenance.pdf>
[49] Cemeteries and Crematoria NSW *Voluntary Code of Practice for Cemetery Maintenance* (February 2020) <https://www.industry.nsw.gov.au/__data/assets/pdf_file/0020/311690/Voluntary-Code-of-Practice-for-Cemetery-Maintenance.pdf>
[50] Deloitte Access Economics consultations with Crown Land Managers, InvoCare, Metropolitan Cemeteries Board, and Canberra Cemeteries.

WA	• Varies by cemetery. The old sections are less maintained. Maintenance is done once a month to keep it presentable. If there's a burial, paths/general area is ensured to be accessible and safe. The renewed areas receive a lot of care. • Maintenance at fully utilised areas is 40% of costs compared to open areas (at the most).
ACT	• Across the industry, there is limited specific information on the standards. There is a need to consider industry-wide requirements. Incumbents in the industry should actively manage community expectations, and be proactive on what's achievable given climate change etc.

Source: Deloitte Access Economics Consultation with Crown Land Managers, InvoCare, Metropolitan Cemeteries Board WA, and Canberra Cemeteries.

Standards of maintenance also do not stay constant over time. Apart from being influenced by evolving community expectations and technology, there is commonly a reduction in the maintenance standard after a cemetery closes, i.e. when bodily interment rights are no longer readily available. It is observed that such reductions in ground maintenance and admin costs could be as high as 50-60%. Despite the reductions in costs, a reasonable standard of maintenance must still be achieved to meet customer and community expectations.

The approach taken here is to first establish a baseline view on the cost of basic maintenance commonly applied to older sections of a cemetery (e.g. 50 to 100 years old) with very few visits each year based on estimates of maintenance at fully utilised cemeteries and administration costs provided by CLMs. This was combined with information on benchmark maintenance costs per plot from a range of benchmark cemeteries to develop an understanding of typical maintenance costs in the sector.

This review is not intended to provide a comprehensive description of the efficient maintenance costs which will inevitably vary by cemetery. Ultimately such costs could potentially be established through a tender process for third-party maintenance providers. The efficient cost this review provides should be considered as a guide in assessing the current maintenance costs incurred by the Crown Land Managers (CLMs).

Benchmarking grounds maintenance costs

To estimate a benchmark level of annual ground maintenance costs, information on grounds maintenance costs was gathered from a range of interstate and local council cemetery operators. There was a degree of variation in costs across the sector. In many cases information from cemeteries on number of plots was not readily available so costs were considered on a per hectare basis. Based on a large sample of local councils surveyed by Deloitte Access Economics as part of its analysis of legacy maintenance costs, the typical cost per hectare for an open lawn cemetery was estimated to be $9,000 per hectare. This was at the lower end of the range of costs per hectare from interstate cemeteries.

In determining an efficient maintenance cost per plot, it is necessary to estimate the number of plots per hectare. This figure typically rises over the lifetime of a cemetery as more available plots are developed and sold. Across the Crown operators, most cemeteries currently have at least 1,300 plots per hectare developed. Assuming a maintenance cost of $9,000 per hectare for 1,300 plots results in an average cost of **$7 per plot annually.** This is considered to be a reasonable benchmark for **efficient open cemetery maintenance costs** that achieve a minimum standard that is acceptable to the community. This level has been set based on a given density assumption, cemeteries that achieve higher densities of 2,000 to 3,000 plots per hectare may be able to achieve lower maintenance costs per plot for a given standard of maintenance.

Note that it is unclear what the average ground maintenance spending reported by local council represents in terms of the level of standard of care or consumer satisfaction scores, and comparing per plot expenses is not particularly insightful as to the minimum acceptable standard of care. In practice efficient maintenance costs per plot are likely to also vary based on the size of the cemetery and its stage in the life cycle. Thus, it is possible for efficient costs to be below this level for cemeteries that are close to being fully utilised and indeed this is the case for some of the Crown operators. These factors highlight the challenges of estimating a single efficient cost per plot, particularly prior to the point where a cemetery is fully utilised.

While the above estimates reflects the total cost of maintenance per plot for a cemetery that is not yet fully utilised, efficient maintenance costs are expected to decline considerably once a cemetery is fully utilised. Information from one of the Crown Land Managers on the cost of outsourcing ground maintenance requirements in older parts of its cemetery that is less frequently visited indicated a cost per plot of slightly less than $4 per annum. This reflected a relatively low level of maintenance for areas of cemetery that are infrequently visited. Given that fully utilised cemeteries may still receive significant visitation levels (at least initially) a slightly higher cost per plot of **$5 per plot per annum** has consequently been adopted as an **efficient cost for grounds maintenance** after a cemetery is fully utilised. It is important to note that this is likely to represent a relatively basic level of maintenance - although slightly lower maintenance costs may be achievable for less frequently visited sections of a cemetery.

Consultations with CLMs, interstate, and private operators also similarly suggested that after a cemetery is fully utilised, ground maintenance costs would still need to be at least 40% of the level of maintenance costs for a cemetery before it is fully utilised. Should cemeteries' cost of maintaining a fully utilised cemetery fall below **40%** of the previous ground maintenance level, this may not reflect the level of maintenance activity required to achieve a reasonable standard of care.

3.1.5 Administration and overheads related to maintenance of existing plots

While much of a cemetery's administration costs relate to sales and current interment activities, some administration will continue to occur in supporting maintenance of existing plots even once a cemetery is fully utilised.

Analysis of the Crown Land Managers responses to IPART indicated that administration costs could fall by around 65% once a cemetery was fully utilised. This ratio was applied to the per plot administration costs of the benchmark council cemeteries to estimate the administration costs of maintaining existing plots which ranged from $4 per plot to $8 per plot. A cost of $5 per plot per annum was adopted as the efficient cost. This was also in line with the average level of these costs reported by local government cemeteries. This is assumed to be **a reasonable efficient administration cost for the CLMs for perpetual care.**

3.1.6 Depreciation

Depreciation captures the deterioration of infrastructure used to operate the cemetery. While some of this will be attributable to a basic adult lawn burial, a large part of capital expenditure will relate to development costs, common infrastructure and plant and equipment used for ground maintenance.

For the four benchmark cemeteries identified in Section 3.1.3 depreciation per annum ranges from $1 per plot to $14 per plot, with an average of $7 per plot. Similarly, per annum depreciation per plot ranges from $3 to $13 for the CLMs overall.

The large variation in depreciation costs could reflect the different life stages of the cemeteries. Those cemeteries that are relatively younger may be investing more in new buildings and infrastructure, which will be reflected in higher depreciation figures. Further, there may be one-off investments that can influence costs.

Due to the difficulty in establish a 'typical' efficient depreciation cost for the CLMs, the analysis uses **current depreciation costs for CLMs in the efficient interment right cost estimates.** However, that is not to say that there are necessarily no inefficiencies in capital expenditure at the CLMs.

3.2 The current cost of interment rights by CLM

This section sets out the key components of the cost of interment right for each CLM cemetery for a basic adult lawn burial.

3.2.1 Overall current costs

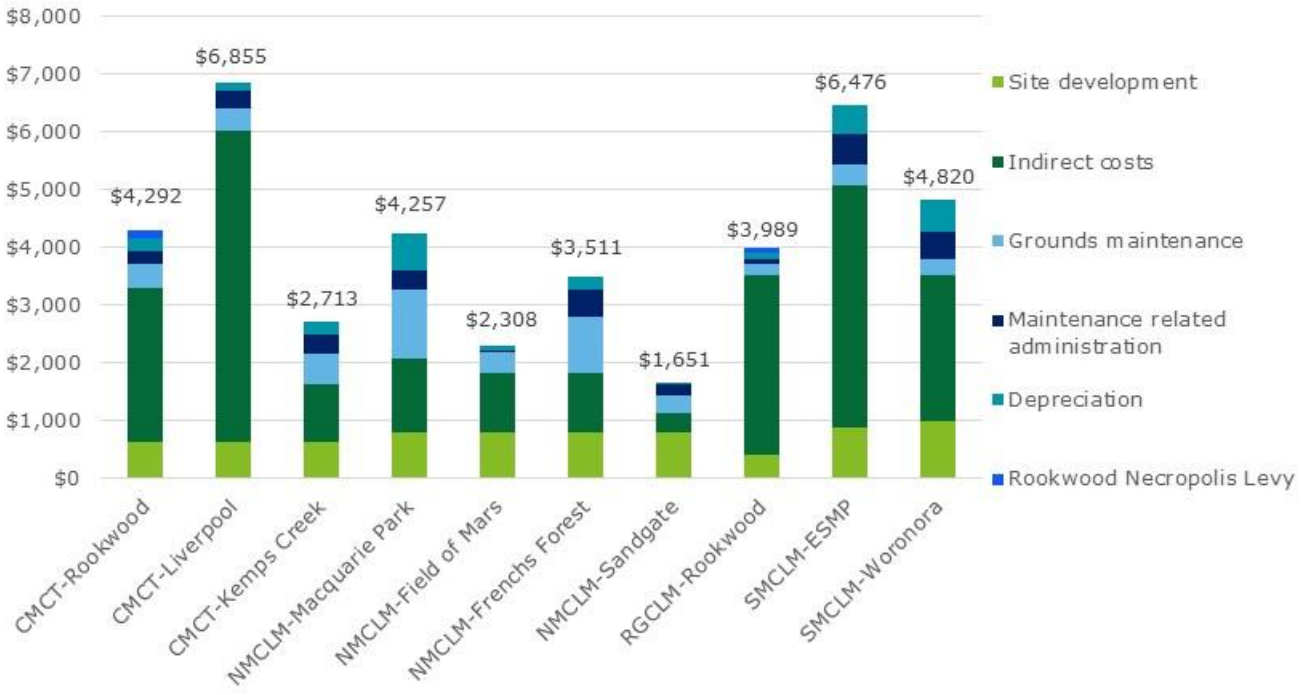
Chart 3.2 illustrates the total current cost of interment rights for a lawn burial by cemetery. The cost of an interment right varies noticeably by cemetery. Overall, CMCT-Liverpool and SMCLM's two cemeteries have the highest estimated cost for an interment right.

For all of these cemeteries relatively high indirect costs are the main drivers of their higher interment right costs. Deloitte Access Economics notes that this analysis is a point-in-time perspective on interment right costs and costs are likely to vary over a cemetery's life-cycle.

There are varying degrees of potential efficiency gains across the CLM cemeteries. Based on the comparison between current and efficient cost levels, Liverpool, SMCLM-ESMP and Rookwood General show the highest potential for efficiency gains. This would primarily be achieved through a reduction in its indirect administration and sales costs.

There are also potentially moderate efficiency gains for many of the remaining cemeteries, and these should be explored in conjunction with the recommendations in chapter 5. For NMCLM cemeteries, efficiency gains will be achieved mainly through lower grounds maintenance costs. This may be partly driven by the fact that some of NMCLM's cemeteries, notably Macquarie Park and Frenchs Forest have extensive gardens and/or land to maintain. Thus, it may not be reasonable to adopt an efficient cost based on a basic level of maintenance cost for certain NMCLM cemeteries.

Chart 3.2: Estimated current cost of perpetual interment right by cemetery



Source: IPART, Deloitte Access Economics consultation with Crown Land Managers, Deloitte Access Economics analysis. Figure shows current average cost per perpetual interment right for the CLMs.

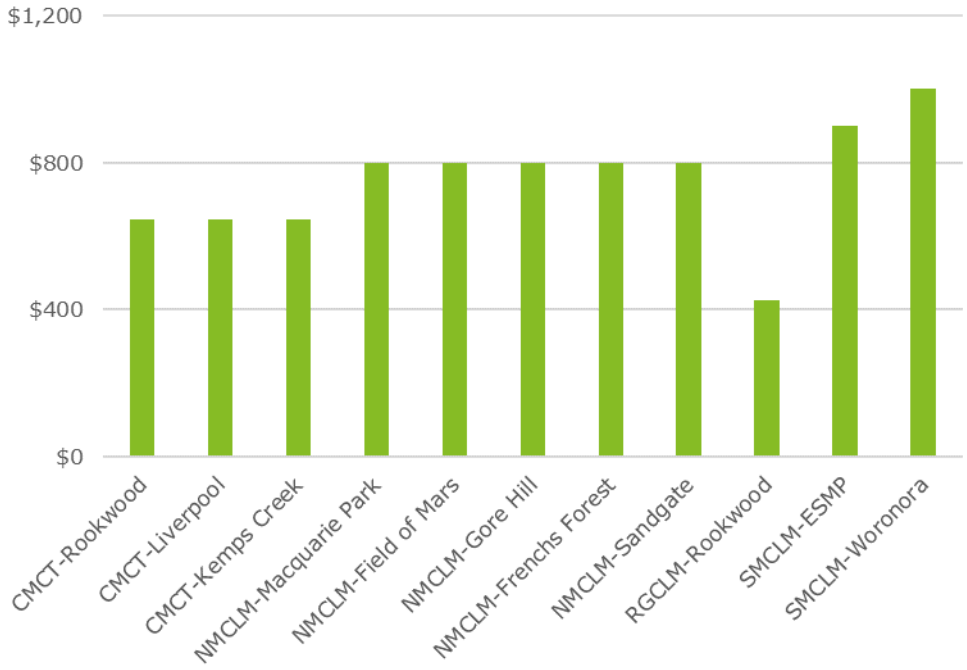
Details on current costs for each of the components across the CLMs are set out in the following sections.

3.2.2 Site development

Chart 3.3 below sets out the development cost per plot based on information provided by the CLMs for a first interment at a site. In most cases these estimates were based on labour time and required equipment and materials although some capital expenditure is likely to be included in the estimates.

Importantly this represents a measure of the typical development cost for a lawn burial. It differs from the average development cost for an interment as development costs are likely to differ across product types such as crypts and vaults and niche walls for the interment of cremated remains. RGCLM also noted that development costs had been higher in recent years than this typical figure due to a need to move power lines for certain plots and that typical development costs could vary widely from site to site.

Chart 3.3: Development cost (per plot) included in interment right



Source: IPART, Deloitte Access Economics consultation with Crown Land Managers, Deloitte Access Economics analysis

3.2.3 Indirect costs associated with the sale of an interment right

While the interment service costs of a BALB can be calculated by CLMs using a 'bottom-up' analysis of time, wages and other expenses, indirect costs such as administration (including sales) and corporate overheads must be attributed based on analysis of financial data and activity levels.

In responding to IPART, the CLMs provided estimates of overall indirect costs but did not attribute them to specific activities or types of interments - which it was noted would require a fairly detailed cost allocation exercise. One caveat of this is that indirect costs may relate to monumental areas – for example, RGCLM noted that it incurs an annual labour cost of $190,000 associated with monumental risk mitigation.

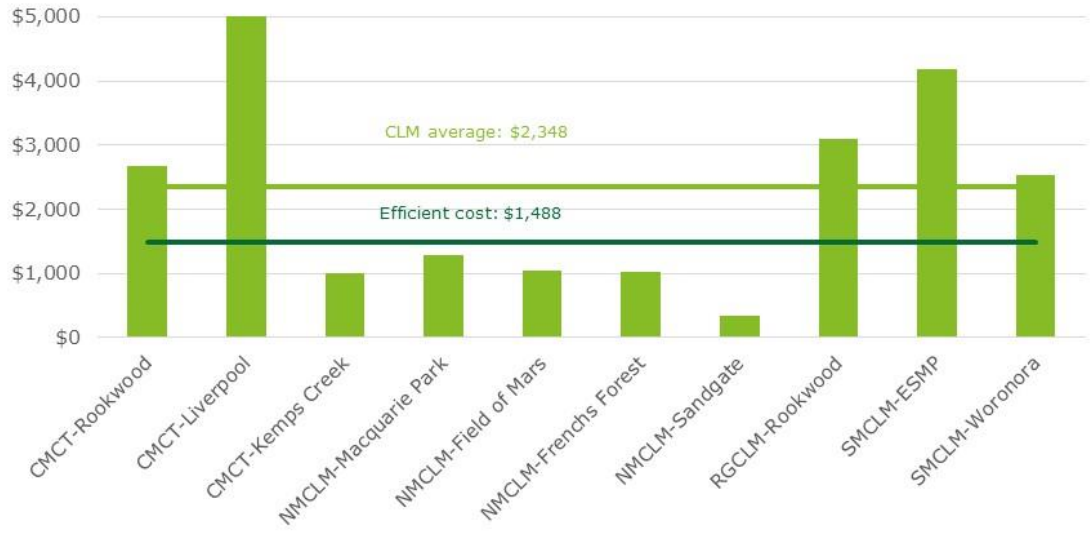
To understand the level of indirect costs attributable to basic adult lawn burials, Deloitte Access Economics relied on a series of assumptions to allocate total indirect costs to different activities including, additional services and development costs, cremations and then to different types of interment of bodily and cremated remains. As such, estimates of indirect cost per BALB should be seen as indicative and subject to variation based on how indirect costs are allocated across different cemetery activities.

The indirect cost allocation approach is outlined in Appendix A.2.

Chart 3.4 illustrates the estimated one-off indirect costs (sales and administration) associated with the sale of interment rights for each cemetery. Administration costs required to maintain existing plots i.e. administration costs which would be incurred still once a cemetery is fully utilised are not included in this calculation. Across the CLM cemeteries, indirect costs (including both sales costs and administration costs) averaged $2,348 in 2018-19. This compares to $1,488 for the benchmark cemeteries (which given their lower operating costs per interment are assumed to provide a reasonable indication of efficient cost levels).

Across the CLMs, SMCLM incurs the highest one-off indirect cost per licence sale of BALBs, at $3,354. This is followed by RGCLM and CMCT at $3,094 and $2,375. While indirect costs are lower at CMCT Rookwood and Kemps Creek, it is significantly higher at Liverpool. NMCLM has the lowest indirect cost at $1,146 – which is slightly lower than the efficient cost benchmark.

Chart 3.4: Current indirect costs associated with the interment right for CLMs



Source: IPART, Deloitte Access Economics consultation with Crown Land Managers, Deloitte Access Economics analysis.

3.2.4 Grounds maintenance

This section outlines ground maintenance costs across the CLM cemeteries. As noted above, current total ground maintenance cost can be allocated to two components:

- Perpetual care related ground maintenance, which is the cost that the cemetery incurs for sold and occupied plots after the cemetery is fully utilised.
- Additional grounds maintenance before a cemetery is fully utilised, which is the additional ground maintenance spend (over and above perpetual care related ground maintenance) that exists for a cemetery before it is fully utilised and is open for new burials. This could include the cost of maintaining gravesites to a very high standard for areas receiving frequent visitation.

The results are summarised in Table 3.3. Results are shown on a per plot per annum basis, and for the interment right. The per interment right figures are calculated by taking the present value of annual per plot cost figures discounted (over 75 years in the case of additional grounds maintenance prior to a cemetery being fully utilised or in perpetuity for perpetual care related ground maintenance), with a discount rate of 4% p.a. and an inflation rate of 2% p.a. The choice of discount rate is the yields of expected long-term cycle returns based on a prudent but not overly conservative basis of investment assets. The inflation rate is based on the expected long-term inflation rate.

Results are based on costs for an adult lawn burial and are lower than the per plot maintenance costs for other burial types reflecting the higher maintenance requirements for monumental areas of a cemetery. Consultations indicated that maintenance costs for monumental areas could be double that of basic lawn grave areas. The estimates here have sought to take into account differences in maintenance requirements and as such reflect the costs of maintaining a lawn grave.

Across the CLMs, average total combined grounds maintenance costs average $11 per plot per annum for an adult lawn burial. Of this, $6 relate to the cemeteries' perpetual care maintenance obligations.

Overall grounds maintenance costs on a per plot basis tend to be lower in older CLM cemeteries such as Rookwood General andthe two SMCLM cemeteries. These are large cemeteries with significant scale and potentially lower maintenance requirements in older parts of the cemetery. Maintenance costs per plot are higher in some of the newer, smaller cemeteries potentially

reflecting either different maintenance standards, more limited economies of scale in maintenance activities or potentially differences in efficiency.

Macquarie Park and Frenchs Forest have the highest non-perpetual care ground maintenance cost per plot, and this may be due to the additional features of their gravesites. Macquarie Park in particular has extensive gardens.

For Sandgate and Rookwood General, both older cemeteries, total maintenance are only slightly higher than estimated maintenance costs if their cemeteries were fully utilised. Deloitte Access Economics believes this reflects the relatively advanced life stage of some of the larger Crown cemeteries- in effect they are approaching the perpetual care stage limiting their additional grounds maintenance costs on a per plot basis. They are also able to spread their costs over a relatively large number of plots.

Table 3.3: Current ground maintenance costs included in interment right by CLM cemetery

	Additional grounds maintenance before a cemetery is fully utilised		Perpetual care	
	Per plot per annum	Per right	Per plot per annum	Per right
CMCT-Rookwood	$6.6	$254	$3.8	$149
CMCT-Liverpool	$5.1	$198	$4.5	$176
CMCT-Kemps Creek	$7.6	$295	$5.4	$210
NMCLM-Macquarie Park	$21.3	$825	$9.2	$357
NMCLM-Field of Mars	$3.9	$150	$4.8	$186
NMCLM-Frenchs Forest	$11.6	$447	$13.5	$521
NMCLM-Sandgate	$1.1	$44	$7.0	$271
RGCLM-Rookwood	$0.4	$17	$5.1	$196
SMCLM-ESMP	$0.2	$8	$8.9	$345
SMCLM-Woronora	$0.4	$14	$6.6	$254
CLM average	$5.2	$200	$6.2	$240
Efficient cost	$2.0	$77	$5.0	$255

Source: IPART, Deloitte Access Economics consultation with Crown Land Managers, Deloitte Access Economics analysis.
Note: ^ Perpetual care costs for SMCLM were not provided so current grounds maintenance have been applied to all sold plots. This was in line with comments from SMCLM that their cemeteries approaching being fully utilised. A small amount of costs is allocated to additional grounds maintenance to capture maintenance costs for a small number of plots not yet utilised. In practice this may overestimate perpetual care costs if costs fall further once the cemetery is fully utilised but result in a corresponding underestimate of additional grounds maintenance costs.

3.2.5 Administration and overheads related to maintenance of existing plots

A share of the administration costs for the cemetery will be attributable to supporting maintenance activities for existing plots. This reflects a basic level of administration activity that would continue to occur once a cemetery becomes fully utilised. This includes organising maintenance operations, any repairs, record keeping and requests from visitors and those seeking information about historical graves and potentially hosting of community events. For cemeteries that are continuing to provide cremations, chapel services may also occur.

An estimate of the administration costs related to maintenance of existing plots was derived based on the administration costs estimated by the CLMs in response to questions from IPART on the level of administration costs were a cemetery to be fully utilised in 2019. As noted above, it is possible that there may be a higher level of administration activity required to maintain existing plots in a not yet fully utilised cemetery relative to a fully utilised cemetery. In this case estimates

of the administration costs of maintaining existing plots could be understated with the additional administration costs included under indirect costs associated with the sale of interment rights in section 3.1.3.

The administration costs per plot were assumed to be similar across different types of interment of bodily remains after separating out a proportion applying to cremated remains based on estimates of cemetery land area used for cremated remains by CLMs.[51]

Table 3.4 illustrates the estimated current administration costs related to maintenance of existing plots. Across the CLM cemeteries, the average cost of administration related to perpetual care maintenance is $7 per plot per annum. CMCT-Kemps Creek and NMCLM-Frenchs Forest and NMCLM-Macquarie Park have higher costs of administration related to maintenance which is consistent with these cemeteries having relatively high current maintenance costs. Both Kemps Creek and Frenchs Forest also have a relatively small number of plots currently.

Administration costs per plot is relatively high for SMCLM but data is based on their perpetual care liability assessment rather than responses to the IPART template with SMCLM noting that it was difficult to estimate their administration costs if their cemeteries were to be fully utilised.

Table 3.4: Current administration / overhead costs related to maintenance included in interment right by CLM cemetery

	Per annum	Per right
CMCT-Rookwood	$5.7	$220
CMCT-Liverpool	$7.9	$304
CMCT-Kemps Creek	$9.0	$346
NMCLM-Macquarie Park	$8.6	$332
NMCLM-Field of Mars	$1.3	$50
NMCLM-Frenchs Forest	$12.7	$493
NMCLM-Sandgate	$4.6	$178
RGCLM-Rookwood	$2.0	$77
SMCLM-ESMP	$14.2^	$548
SMCLM-Woronora	$12.5^	$484
CLM average	$6.9	$266
Efficient cost	$5.0	$255

Source: IPART, Deloitte Access Economics consultation with Crown Land Managers, Deloitte Access Economics analysis.
Note: ^ Estimated from SMCLM's perpetual care liability assessment. The perpetual care liability assessment can be used to estimate an annual cost for maintenance and associated administration. The cost of maintenance set out in Table 3.3 is subtracted from this amount with the remainder assumed to reflect ongoing administration costs.

3.2.6 Depreciation

Depreciation captures the deterioration of infrastructure used to operate the cemetery. While some of this will be attributable to the interment service, a large part of capital expenditure will relate to development costs, common infrastructure and plant and equipment used for grounds maintenance. Current depreciation is calculated by deducting the depreciation amount allocated to the interment service from the total reported depreciation figures and then expressing this figure on a per plot basis. After accounting for depreciation allocated to cremations and additional

[51] While this assumption has been used in the analysis it is possible that older cemeteries with a large number of ageing monuments may have additional costs associated with monitoring the safety of existing monuments. This may raise average administration costs related to maintenance of existing plots for older cemeteries with a large share of monumental graves.

services the remainder is allocated to interment of bodily remains. No differential in depreciation per plot is applied to lawn burials relative to other burial types as it was assumed that both benefit equivalently from common capital expenditure at the cemeteries.

Across the CLM cemeteries, depreciation per plot ranges from $1 per annum to $17 per annum. It is the highest in Macquarie Park, and the SMCLM cemeteries.

Table 3.5: Current depreciation costs included in interment right by CLM cemetery

	Per annum	Per right
CMCT-Rookwood	$5.7	$219
CMCT-Liverpool	$3.6	$139
CMCT-Kemps Creek	$5.6	$215
NMCLM-Macquarie Park	$16.8	$649
NMCLM-Field of Mars	$2.0	$77
NMCLM-Frenchs Forest	$5.8	$225
NMCLM-Sandgate	$0.6	$24
RGCLM-Rookwood	$2.6	$101
SMCLM-ESMP	$12.9	$497
SMCLM-Woronora	$14.1	$545
CLM average	$7.3	$283

Source: IPART, Deloitte Access Economics consultation with Crown Land Managers, Deloitte Access Economics analysis.

3.2.7 Rookwood Necropolis Levy

CMCT Rookwood and Rookwood General pay levies on interments and cremations to fund the activities of the Rookwood Necropolis Land Manager, who is responsible for managing the common property and infrastructure that exists throughout Rookwood Cemetery. This includes, but is not limited to roadways, entrance gates, directional signage, and the environment.

The Rookwood Necropolis Land Manager receives $1.4 million in annual revenue, which represents an average levy cost of $344 per service conducted at the Rookwood cemeteries.[52] This works out to a cost of $2 to $3 per plot per annum, and $79 (Rookwood General) to $135 (CMCT Rookwood) per right.

3.3 Impact of faith requirements on the interment right

As discussed in Section 2.2, the cost of an interment service can vary based on the different requirements of faith communities. In some circumstances, cultural and religious requirements could have implications for the costs of developing land in a cemetery, and costs associated with maintenance and administrative overheads. These costs can potentially affect the cost of an interment right. The particular requirements of faith and cultural communities which could impact these costs include:

- the need to **provide additional facilitie**s for cultural and religious gatherings
- **the level of visitation** of certain sections (that is, there may be costs of maintaining particular parts of a cemetery that are visited more regularly for religious or cultural reasons)
- historical **differences in maintenance standards** for certain communities, and/or different expectations from certain faith communities about maintenance
- the impact of interment site requirements on **cemetery layou**t
- the need to undertake **consultation** with faith communities, which is an indirect cost.

[52] Rookwood Necropolis, Forecasting RNLM's long-term financial requirements.

At the time of the interment, some faith communities' require additional facilities on-site. For example, in the Macedonian Orthodox religion, burial is the most common form of committal service. It consists of a brief prayer ceremony (including the chanting of the Trisagion, a traditional prayer) at the graveside. Mourners then place soil on top of the coffin or casket before it is lowered into the ground.[53] Traditionally, the mourners then share a meal at the cemetery between themselves to celebrate the life of the deceased – this is separate to the wake which generally follows. The Australian Macedonian Council identified that to meet these requirements, there would need to be a covered area at the cemetery (within the Macedonian Orthodox Section) to enable the set-up and serving of the post-committal meal / wake, and for use when holding the subsequent memorial days (where a meal is also served). Facilities are also required to allow mourners to wash their hands between the burial service and wake.

The additional requirements of the interments of certain faith groups extend beyond the day of interment. Some communities have cultural or religious practices that involve **regular visitation of the cemetery,** which has implications for maintenance**.** Some communities gather regularly and in large numbers to celebrate significant days and events with the deceased. The Chinese community, for example, gather annually in cemeteries to celebrate the Qingming Festival. This celebration involves families and clan groups gathering to clean and repair grave sites, lay flowers, and burn joss paper and sticks and paper effigies of items relevant to the deceased, to honour their ancestors. A meal is also shared at the gravesite.[54] Gatherings such as these could place **additional maintenance requirements on cemeteries**, not only to ensure that they remain presentable but to ensure that they are fit for purpose and able to accommodate large gatherings safely.

Some communities have specific expectations of historical arrangements around the maintenance of cemeteries or cemetery sections, which could impact the cost of an interment right. Stakeholders identified previous agreements with certain communities or in certain cemeteries, or parts of cemeteries, to maintain headstones. These may affect the legacy costs of certain cemeteries. Expectations of maintenance may also differ across communities. The NSW Jewish Board of Deputies, for example, noted that their community generally expected that headstones should be maintained (though this is not a religious requirement).[55]

Some faiths' **interment requirements can also impact the layout of a cemetery.** This can be a result of the characteristics of individual interments, or the broader needs of the community. Islamic graves, for example, are constructed so that the deceased lies with their body facing Mecca (North West, in Australia).[56] This may or may not fit with the overall design of the cemetery and could limit the number of graves that could be otherwise accommodated on a site.

In the traditional Jewish burial practice, back-to-back grave sites are not accepted and the graves are oriented so that the feet of the deceased person point toward Jerusalem.[57] The NSW Jewish Board of Deputies noted that they had previously engaged in discussions with RGCLM regarding the possible benefits of adopting a different approach to the layout of interments, but said that they were advised that there would be no material benefit from implementing this.[58]

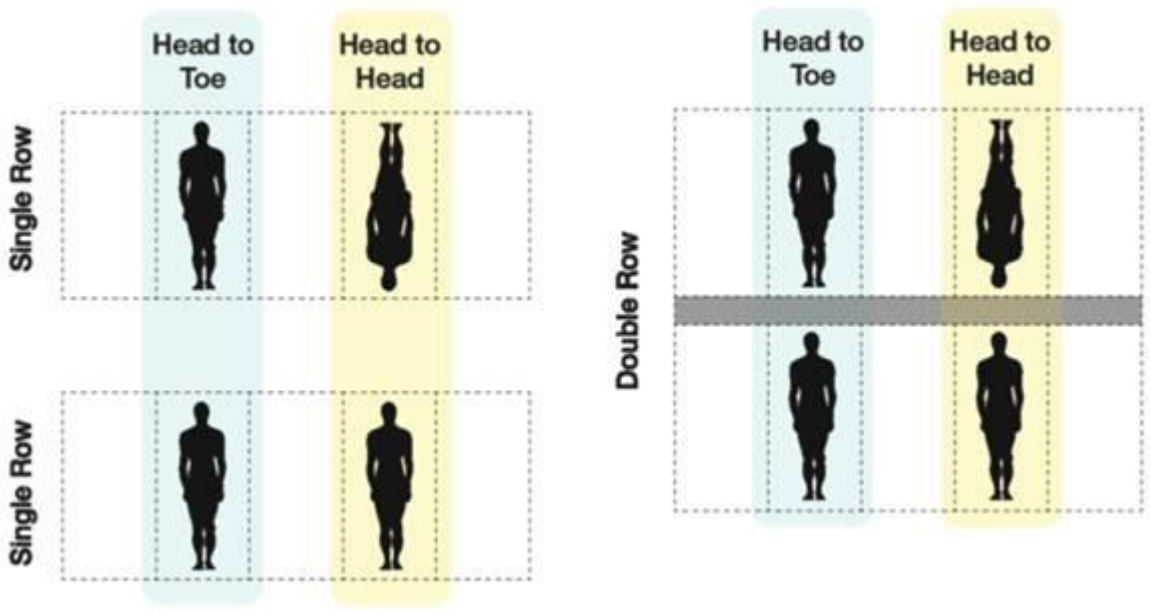
Intersecting with requirements around grave orientation, a possible additional cost may depend on whether or not graves can be created in a double sided row. This layout allows for better interment density than single sided rows, as less space is needed for pathways (there is only a pathway on

[53] Deloitte Access Economics Consultation with representatives from the Australian Macedonian Council of New South Wales – contact provided by Rookwood Cemetery.
[54] Deloitte Access Economics consultation with Chinese community representatives – contact provided by Rookwood Cemetery.
[55] Deloitte Access Economics consultation with representatives from the NSW Jewish Board of Deputies.
[56] NSW Jewish Board of Deputies and the Lebanese Muslim Association, *Submission in relation to IPART Issues Paper: Interment costs and pricing in NSW* (28 June 2019) <https://www.ipart.nsw.gov.au/files/sharedassets/website/shared-files/investigation-administrative-submissions-interment-costs-and-pricing-issues-paper/online-submission-nsw-jewish-board-of-deputies-and-lebanese-muslim-association-v.-alhadeff-28-jun-2019-103800000.pdf>
[57] Jewish Burial Rites *Presentation to the CCA Conference - Current Burial Rites and Rituals, xv. and xvi.* (7 November 2013). Provided to Deloitte Access Economics by the NSW Jewish Board of Deputies.
[58] Deloitte Access Economics Consultation with representatives from the NSW Jewish Board of Deputies.

one end of the plot on a double sided row). Figure 3.1 provides a visual explanation of the space gained from this increased density. The section around each single row would include paths, while the double row has space at one end to accommodate the two graves' memorials (dark grey section in below figure) with pathways surrounding.

A double row can involve bodies being placed head to head. Alternatively, the deceased could be placed head to toe. This layout involves both the deceased to face the same direction.

Figure 3.1: Options for single and double row grave layouts



Source: Changing Places Cemetery Consultants

The need for a certain grave orientation does not necessarily preclude the use of a head to toe double row – that is, this layout could still meet religious and cultural requirements if the double rows were appropriately oriented, and it would rely on whether the practice is accepted by members of the community. This practice was implemented in consultation with the Jewish community in Victoria – interment rights for graves in the side of the double row with feet to the beam were offered at a 15% price reduction, reflecting the equivalent reduction in underlying costs. While this experience suggests a possible saving of 15%, it is expected that the cost saving will depend on factors such as the width of the pathway that is eliminated by using a double row, and how the section fits within the cemetery layout.

The exact cost impact of these interment requirements on land development costs depends on a complicated intersection between cemetery layout, orientation requirements, and community preferences around whether or not double sided rows or a head-to-toe interment arrangement would be acceptable. It is expected that any implementation of these approaches would require extensive consultation with faith communities to ensure that the provision of services is adequate and respects religious requirements.

While land holding costs could vary by for different faith groups, there is insufficient evidence to draw conclusions. Jewish and Muslim faiths require that sections of cemeteries be consecrated for use solely by Jewish or Muslim communities, respectively.[59] Cemeteries also generally allocate land across the cemetery by faith group. Additional land holding costs may be

[59] NSW Jewish Board of Deputies and the Lebanese Muslim Association, *Submission in relation to IPART Issues Paper: Interment costs and pricing in NSW* (28 June 2019) <https://www.ipart.nsw.gov.au/files/sharedassets/website/shared-files/investigation-administrative-submissions-interment-costs-and-pricing-issues-paper/online-submission-nsw-jewish-board-of-deputies-and-lebanese-muslim-association-v.-alhadeff-28-jun-2019-103800000.pdf>

incurred by the cemetery in segmenting community or faith based burial grounds to ensure that these requirements can be met. The cost implication would be that graves in a certain section may be unused if ongoing demand from certain religious groups is not sustained. It is important to note that for the Sydney CLMs, there is a very low likelihood of unused graves, given capacity challenges – especially for these faith communities.[60]

Lastly, where **Crown Land Managers undertake consultations with their communities** to understand the requirements of religious and cultural groups, these may add to the indirect costs of interments. RGCLM noted that the employee costs associated with liaising with community and religious leaders are around $50,000 annually. The operator noted that this relates to staffing the 'Stakeholder Relationship Manager' role – which includes interactions with Community Leaders, and Religious Leaders, among other stakeholders, such as Funeral Directors and Stonemasons. Reflecting the diversity of stakeholders for the operator, RGCLM's multicultural plan sets out a range of consultation actions to ensure that processes and policies adequately reflect the needs of cultural communities.[61] NMCLM also said that a key component of indirect cost was ensuring that cemetery facilities and marketing approaches accounted for the diverse needs of the communities that their cemetery serves.[62]

This section has described five possible impacts of cultural and religious interment requirements on the cost of the interment right. **The cost of these requirements on the interment right remains unclear and they have not been costed in the cost of an interment right, but these costs are expected to be modest.** The largest drivers of interment right costs are maintenance costs and indirect costs. For both of these cost categories, there may be some cost impact, but it is difficult to quantify the variation in cost that is explained by religious requirements. While some cultural and religious groups might have different expectations and historical arrangements relating to cemetery maintenance, the impact of this on the interment right cost is unclear.

There is some variation in the interment right fees for different faith groups at some CLMs, but this is not always the case. There is scope to increase the transparency and consistency of CLMs' reporting of these costs, to ensure differences in the interment right costs for certain faith groups are clear to the consumer and regulators (see efficiency opportunities identified in Section 5.1). Where a cost impact could be quantified, the impact on the pricing of interment rights (including whether there is variation for different faith groups) is a matter for IPART's consideration. It is not within the scope of this report to consider pricing.

3.4 Renewable interment rights

In 2013, the Cemeteries and Crematoria Act (the Act) was passed introducing the option for NSW cemeteries to offer renewable interment rights alongside perpetual rights. Renewable rights, in accordance with the Act, may be purchased for an initial period of between 25 and 99 years, in which time the family of the deceased have the option to allow the right to expire or renew the right. [63] Irrespective of the initial term, the maximum period for which a person can hold a renewable interment right is of 99 years.[64] When the right expires, the Act allows the cemetery to

[60] Cemeteries and Crematoria NSW, *Metropolitan Sydney Cemetery Capacity report* (November 2017) <https://www.industry.nsw.gov.au/__data/assets/pdf_file/0014/143402/CCNSW-Metropolitan-Sydney-Cemetery-Capacity-Report.pdf>; NSW Jewish Board of Deputies and the Lebanese Muslim Association, *Submission in relation to IPART Issues Paper: Interment costs and pricing in NSW* (28 June 2019) <https://www.ipart.nsw.gov.au/files/sharedassets/website/shared-files/investigation-administrative-submissions-interment-costs-and-pricing-issues-paper/online-submission-nsw-jewish-board-of-deputies-and-lebanese-muslim-association-v.-alhadeff-28-jun-2019-103800000.pdf>

[61] Rookwood General Crown Land Manager, *Multicultural Plan* (May 2017) <http://www.rookwoodcemetery.com.au/assets/documents/RGCRT-Multicultural_Plan2017_Updated.pdf>

[62] Deloitte Access Economics Consultation with Northern Metropolitan Crown Land Manger.

[63] Department of Industry, *Cemeteries and Crematoria NSW fact sheet*, November 2017, <https://www.industry.nsw.gov.au/__data/assets/pdf_file/0003/169716/A-new-interment-rights-system-in-NSW-fact-sheet.pdf>

[64] Department of Industry, *Guide to the interment rights system in New South Wales*, January 2019, <https://www.industry.nsw.gov.au/__data/assets/pdf_file/0016/210409/Guide-to-the-interment-rights-system-in-NSW.pdf>

commence procedures to facilitate reuse of the grave site. Such renewable arrangements are currently in operation in Western Australia and South Australia.

3.4.1 Cost of renewable an interment right

Deloitte Access Economics estimates the efficient cost of a 25 year renewable interment ranges between **$2,236** and **$3,136**. This figure was informed by consulting the Adelaide Cemeteries Authority, Centennial Park Cemetery and the *ACA Costing Report (2018).*[65] The components of this total cost are described in Table 3.6.

Table 3.6: Renewable interment right cost

Item	Low range	High range
Perpetual interment right	$2,600	$3,500
Perpetual care (Present value)	($802)	($802)
25 years maintenance (present value)	$342	$342
End of tenure (present value)*	$97	97
Renewable interment right (25 years)	$2,236	$3,136

Source: Deloitte Access Economics, Adelaide Cemeteries Authority, Centennial Park Cemetery.

* End of tenure figure informed through consultation with Adelaide Cemeteries Authority.

Note: Differences may occur due to rounding.

Table 3.6 shows that the cost of a renewable interment right is less than a perpetual interment right by $364 (in both high and low scenarios). These savings are made through reductions in the perpetual care expense, since a renewable right covers a term of 25 years. These maintenance costs have been estimated assuming that renewables are offered in existing cemeteries alongside perpetual sites. Maintenance costs may differ from a new cemetery, or sections of existing cemeteries, which are exclusively devoted to renewable interment rights.

Although the cost of a 25 renewable right is only modestly smaller than a perpetual right, these figures exclude land costs. Once the cost of acquiring land for future perpetual rights is included, Deloitte Access Economics expect that renewable rights will present as the more cost-effective, long-term option for CLMs.

As shown in Table 3.6, there are administrative costs associated with the renewable interment rights that do not otherwise accrue under perpetual rights, described as end of tenure costs in Table 3.6. These include the costs of maintaining suitable records, the costs of contacting rights holders prior to expiry, placing physical notifications on grave sites, and a budget for externally advertising upcoming expiries in local media (typically quarterly).[66] Cemeteries also complete a heritage and significance check on each site prior to removing a headstone to ensure that the site is not of particular community importance.[67] Based on data received from the Adelaide Cemeteries Authority, Deloitte Access Economics estimates the per plot administration cost to be $159 ($97 present value over 25 years).

End of tenure costs are predominantly overhead costs that are equally allocated to each renewable right holder. Since the data informing the calculations are provided by the ACA, these end of tenure costs in Table 3.6 are predicated on the assumption that renewable interment rights are a matured practice (the ACA splits costs across approximately 900 renewals each year). In New South Wales, it will likely take some time before the CLMs can realise the efficient cost, since some items, such as staffing and maintaining records may be significant irrespective of the number of renewals. Other costs, such as advertising and physical notifications, may be somewhat proportional.

[65] BDO, *ACA Costing Report*, November 2018.
[66] Deloitte Access Economics consultation with Centennial Park Cemetery, Adelaide.
[67] Deloitte Access Economics consultation with Centennial Park Cemetery, Adelaide.

The largest single cost item for renewable interment, and one that is not included in Table 3.6, is the cost of lift and deepen. Lift and deepen describes the process of exhuming the human remains attached to the expired right, placing the remains in an ossuary box and re-interring at a greater depth so that the site can be re-used. Lift and deepen is the method approved in New South Wales under the Act and is currently employed in South Australia and Western Australia.[68] Deloitte Access Economics estimate the cost of lift and deepen, incorporating some additional development costs, to cost **$1,000** ($610 present value over 25 years).[69]

Lift and deepen is not included in Table 3.6 because this cost is not incurred unless the cemetery, or the family of the rights holder, determine that a particular site is to be reused. In these cases, the cost is incurred at the time of renewal either by the family choosing to lift and deepen (for purposes of interring another family member in the same site) or by the cemetery wishing to return the site to market. Cemeteries incur the costs of lift and deepen as opposed to the costs of acquiring and developing land for a new site.[70]

As mentioned, the lift and deepen process also accommodates some amount of redevelopment that typically takes place around the site to prepare for the new interment. The cost of redevelopment is variable depending on a number of factors, as noted by Adelaide Cemeteries Authority:

- whether a new concrete beam is installed
- whether irrigated turf is being installed
- whether existing paths being upgraded, or new paths being installed
- the percentage or number of sites in the area to be redeveloped.

As a result of these variables, the cost of lift and deepen and redevelopment should be considered an average cost.

3.4.2 Barriers to implementation

Given the end of tenure costs, and the small difference between the present value of a 25 year and perpetual maintenance figure, it is not surprising that the cost of a renewable interment right does not significantly differ from a perpetual interment right (see Table 3.6). The additional costs associated with renewables provide a strong disincentive for CLMs in New South Wales to offer renewable interment rights, particularly given that the benefits will not be realised until at least the first renewable rights begin to expire, and previously developed land can be re-used (at least 25 years).

Despite the short term costs, renewable tenure represents an opportunity to reduce the long term requirements of the CLMs to acquire, clear and develop new cemetery land in the future. Renewable rights significantly extend the life of each hectare of burial land allowing the maintenance costs to be more appropriately allocated over time. In addition to the costs of development, renewable rights reduce the burden of perpetual maintenance on Crown land Managers. By using discrete lease periods, maintenance costs are easier to estimate, and prices can be gradually adjusted to reflect changes to these costs. In South Australia, renewal of rights have become an ongoing income stream contributing approximately $800,000 per year (3 year average) to the Adelaide Cemeteries Authority.[71]

It may take some time to achieve the level of community acceptance required before CLMs can realise any benefit from offering renewable interment rights. The consultations held as part of this review indicated that there is very little appetite for renewable rights, either from consumers or providers, in New South Wales. In terms of assessing the difficulty of implementing renewable tenure, it is difficult to draw conclusions from interstate case studies. South Australia has had renewable tenure in place for over a century and Western Australia use a different system of

[68] Adelaide Cemeteries Authority, *Frequently asked questions: Renewables and Re-use*, 2020, <https://www.aca.sa.gov.au/faqs>
[69] Deloitte Access Economics consultation with Adelaide Cemeteries Authority and Centennial Park Cemetery.
[70] Deloitte Access Economics consultation with Adelaide Cemeteries Authority
[71] Deloitte Access Economics consultation with Metropolitan Cemeteries Board (Perth).

renewing land for burial (as well as lift and deepen), known as 'cemetery renewal'.[72] What can be learnt from South Australia is that change, in either direction, is hard. South Australia has recently introduced perpetual burial rights (in addition to renewable) and have so far had very minimal take up, demonstrating that preferences may be anchored to the status quo. Given these impediments, it may require strengthened legislation to ensure that renewable interment rights are an option for consumers.

Renewable tenure is not accepted by certain faith groups. In Western and Southern Australia, cemeteries have needed to accommodate and provide exceptions for certain communities (particularly the Islamic[73] and Jewish communities). Cemeteries in Perth and Adelaide have both made specific provision for these communities, such as interring perpetually in land otherwise unsuitable to renewable tenure. Over time, some faith groups have introduced alternative requirements for interment, such as allowing families to be interred together where previously individual interments had been the norm. However, compared to New South Wales, these communities represent a relatively small share of the population in both Perth and Adelaide.

[72] Karrakatta Cemetery in Perth uses 'cemetery renewal' as the preferred method of issuing renewable rights. Unlike lift and deepen, cemetery renewal does not involve disturbing interred remains, instead the cemetery is redesigned such that new burials take place on uninterred land, typically found in between old grave sites or by relocating paths and walkways.[72] Compared to lift and deepen, cemetery renewal is a more difficult process to implement retrospectively. Unlike in New South Wales, Karrakatta cemetery had been designed with greater space between graves, initially to prevent graves collapsing in the sandier soil composition found in Western Australia.

[73] The Lebanese Muslim Association indicated renewable tenure could be acceptable on the condition that the body is fully decomposed, and no human remains would be removed from the tomb.
NSW Jewish Board of Deputies and the Lebanese Muslim Association, *Submission in relation to IPART Issues Paper: Interment costs and pricing in NSW* (28 June 2019) <https://www.ipart.nsw.gov.au/files/sharedassets/website/shared-files/investigation-administrative-submissions-interment-costs-and-pricing-issues-paper/online-submission-nsw-jewish-board-of-deputies-and-lebanese-muslim-association-v.-alhadeff-28-jun-2019-103800000.pdf>

4 Overall costs

This chapter outlines the current costs of the CLMs for financial year 2018-19 based on their responses to the IPART data template. It includes estimates of:

- **Direct operating costs** associated with interments of remains (bodily or cremated), including labour and materials costs, and grounds maintenance.[74]
- **Indirect operating costs** associated with operating cemeteries. This includes sales and administration costs, crown levy and investment costs.
- **Capital costs**, including land, infrastructure and IT systems.
- **Revenue and costs** from additional services. This includes memorialisation, chapel services, masonry, and cafés.

Having established the current costs, this chapter then develops efficient costs for each cost component across the CLM cemeteries. In the absence of existing literature analysing the efficient cost of cemeteries, this was predominantly based on benchmarking the performance of CLMs against that of other cemeteries (across metropolitan and local council operated cemeteries) and draws on the efficiency analysis in Chapters 2 and 3.

4.1 Key considerations in interpreting the results

At the service level, the products provided by cemeteries may at first appear homogenous. However, it is important to consider circumstances or characteristics of each of the CLMs that might affect the direct and indirect costs associated with providing interment services.

Consultations with the Crown Land Managers suggested the following factors are cost drivers:

- **The age of cemetery**. Older cemeteries, particularly those with heritage sections, have higher maintenance liabilities. The average cost of interment may also increase as better or more accessible land is used first.
- **The size of the cemetery**. There are some scale efficiencies, particularly in relation to activities such as maintenance. However, there are limited efficiencies relating to interment services costs.
- **The number of plots sold.** This directly affects the maintenance burden on cemeteries, as unsold plots tend to require less maintenance. The higher the number of plots sold, the higher the maintenance costs for the cemeteries.
- **Soil composition.** Rocky soil can be more expensive to dig through compared to sandy soil. Certain sandy soils can increase the time required to prepare a grave for interment.
- **Product mix**. Cremations and interments of cremated remains are typically less costly to perform compared to interments of bodily remains. While direct costs related to cremations are out of scope for this project, the attribution of indirect costs to cremations will affect indirect cost estimates
- **Faith and cultural mix.** Some faiths have requirements that increase the direct and labour costs associated with interments. Expectations around maintenance may also differ by faith group.
- **The degree of competition.** Greater exposure to competitors (due to geography) could drive expenditure on marketing and sales.

Some, but not all, of differences in these key characteristics across Crown Land Managers are outlined in Table 4.1. Key observations include:

- **Cremations and interments of cremated remains in RGCLM and CMCT occupy a relatively small share of overall services** compared to NMCLM and SMCLM where they account for over 60% of all services. This would lead to higher costs for RGCLM and CMCT, as interments of bodily remains are more costly to perform.

[74] The costs of interment of ashes is also included but considered out of scope for this review.

- **RGCLM and CMCT may deliver more faith-based services** than NMCLM and SMCLM, and the average cost of a funeral service may vary if the cost of the activities associated with those interments or interment rights vary. Over half of all interments of bodily remains at RGCRLM are for individuals from Muslim, Orthodox, Jewish or Chinese backgrounds.[75]

Appendix C.1 outlines the differences in how the CLMs have completed the data templates that may affect comparability of results across the CLMs.

Table 4.1: Key characteristics – Crown Land Managers

	CMCT	NMCLM	RGCLM	SMCLM
Size (Ha.)	85.17	137.60	174.30	82.52
Cemeteries	3	5	1	2
Year established (average)	1867	1905	1868	1894
Cremation (%)	14.5	41.7	0*	48.7
Number of plots developed	239,038	228,283	357,124	149,781
Soil composition	N/A	N/A	Predominantly clay and presence of shale in some regions	Sandy Soils
Share of plots sold (%)	88%	85%	94%	96%

Source: IPART, annual reports. Plots developed has been estimated from some CLMs.

Note: * RGCLM does not operate a crematorium. However, there is an on-site crematorium that is operated by InvoCare.

4.2 Current costs

4.2.1 Total operating costs

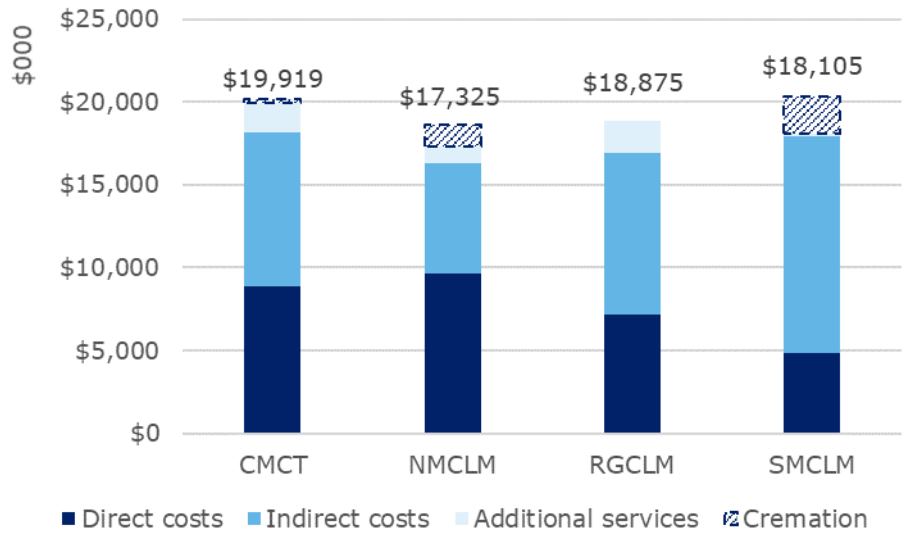
Chart 4.1 shows the total operating costs for each of the CLMs in 2018-19. Direct cremation costs and indirect costs attributed to cremations have been excluded, as they are out of scope for this study**.** Consequently, these figures may not reconcile against what has been reported in publicly available financial statements.

Indirect costs were allocated to cremations based on cremation revenue as a share of total core service revenue. This is consistent with the approach in Section 3.

Total operating costs across the CLMs are broadly consistent and range from $17.3 million (NMCLM) to $19.9 million (CMCT).

[75] Rookwood General Cemetery, Annual Report 2019, <http://www.rookwoodcemetery.com.au/assets/Annual%20Reports/RGC_AnnualReport_2019.pdf>

Chart 4.1: Total operating costs by CLM and cemetery (2018-19)



Source: IPART, Deloitte Access Economics. Note: Direct (actual) and indirect (estimated) cremation costs have been excluded. While additional service revenue was identified for RGCLM, additional service costs were not identified.

While total operating costs per CLM is similar, Table 4.2 shows that there is a considerable amount of variation at the cemetery level due to size differences. SMCLM operates two cemeteries with similar costs, while the remaining CLMs tended to have one large cemetery, and several smaller ones (RGCLM only operates one cemetery).

Costs per interment service range from $4,051 for Sandgate (NMCLM) to $12,555 for Liverpool (CMCT). There is greater variation in costs between individual cemeteries (even within the same CLM) than between aggregate CLMs. At the CLM level, the differences are mostly explained by a different service mix between interments of cremated and bodily remains.

While these figures do not provide an indication of relative cost efficiencies between cemeteries – as they do not control for differences in characteristics – they illustrate the degree of cost variation that can exist between cemeteries and CLMs.

Table 4.2: Key total operating cost results by cemetery and CLM (2018-19)

	Total costs incl cremations ($000)	Total costs excluding cremations ($000)	Interments	Cost per interment service ($)
CMCT				
Rookwood	$15,027	$12,513	1,565	$8,452
Liverpool	$4,685	$3,242	314	$12,555
Kemps Creek	$3,528	$2,331	274	$9,327
All CMCT	$23,240	$18,143	2,153	$9,252
NMCLM				
Macquarie Park	$21,985	$11,418	1,461	$8,470
Field of Mars	$2,362	$1,521	305	$5,043
Gore Hill	$168	$242	2	n.a.
Frenchs Forest	$2,302	$1,717	393	$4,560
Sandgate	$779	$1,325	330	$4,051
All NMCLM	$27,596	$16,264	2,491	$6,955
RMCLM				
RGCRLM	$36,555	$16,927	2,125	$8,882
SMCLM				
Eastern Suburbs	$10,496	$8,588	1,181	$7,328
Woronora	$16,184	$9,346	1,975	$4,773
All SMCLM	$26,679	$17,958	3,156	$5,737

Source: IPART, Deloitte Access Economics.

Note: Direct and attributed indirect cremation costs have been excluded from total costs. Cremation revenue have been excluded from total revenue. Interments include interments of bodily remains and interments of cremated remains.

4.2.2 Direct operating costs of interment

The direct operating costs of interment refer to costs that are entirely attributable to a specific interment (both the right and the service). These include:

- Costs relating to preparing the site for burial
- Cost related to the interment of the remains
- Grounds maintenance of the site.[76]

As these costs are typically not captured in publicly available financial statements, they were derived from the IPART data templates submitted by CLMs as well as other information submitted by the CLMs as part of this review.

Chart 4.2 presents the total direct costs for each CLM by category, and total direct cost as a share of total costs.

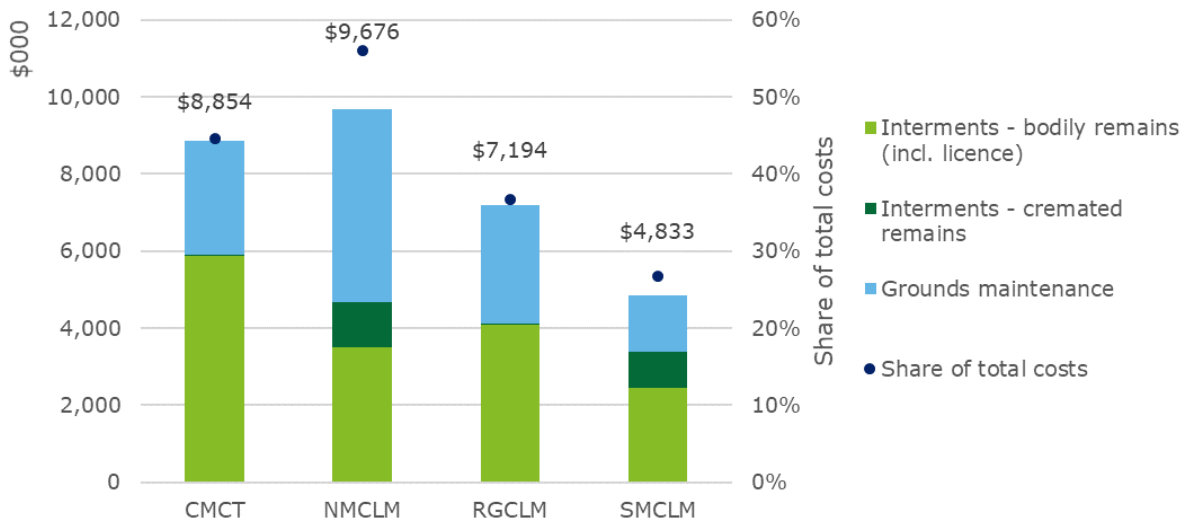
Across the CLMs, there is greater variation in direct costs than total costs. It ranges from $4.8 million for SMCLM to $9.7 million to NMCLM. This leads to direct costs as a share of total costs to range from 25% (for SMCLM) to 55% (for NMCLM). It represents a particularly high share of total costs for CMCT and NMCLM.

[76] While grounds maintenance was considered an indirect cost in the IPART template, it has been repositioned under direct costs to better align with the objectives of this report.

There is also variation in the disaggregation of direct costs across cemeteries.

- **Between 10%-20% of direct costs in SMCLM and NMCLM are devoted to interments of cremated remains.** This is consistent with approximately half of all services performed in these CLMs being cremations.
- **NMCLM has the highest grounds maintenance cost**, followed by RGCLM and CMCT. Consultations with NMCLM suggested that they had a 'premium' standard of maintenance quality, with a six-week rotation for maintenance through the whole site. They also maintain 18,000 camellias at Macquarie Park.
- While SMCLM has a low grounds maintenance cost, they noted in consultations that they have a large maintenance related deficit, particularly in their heritage areas. They will be increasing maintenance over the next three to five years to ensure they meet minimum compliance standards.[77]
- **CMCT has the highest cost for interments of bodily remains**, followed by NMCLM. Note that this includes $3.9 million in 'licence' costs, which is a cost associated with developing graves, mausoleums, crypts etc. To the extent this related to future interment rights, cost per interment service in Table 4.2 is not a measure of efficiency- particularly as these development costs are not included in operating costs (or categorised within operating costs in the same way) for all CLMs.

Chart 4.2: Composition to direct costs by CLM (2018-19)



Source: IPART, Deloitte Access Economics.

Note: direct cremation costs have been excluded.

Table 4.3 shows direct operating costs across the CLM cemeteries.

[77] SMCLM only included grounds related expenses such as materials, machinery operating costs, tools and equipment, and did not include any labour costs as 'grounds maintenance' in their data response. This is likely to be captured under interment costs, and consequently may misrepresent the division of effort between maintenance and interments at SMCLM.

Table 4.3: Key direct operating cost results by cemetery and CLM (2018-19)

	Total direct costs ($000)	Interments – bodily remains share (%)	Interments – cremated remains (%)	Grounds maintenance share (%)	% of plots sold
CMCT					
Rookwood	$6,304	62%	1%	37%	91%
Liverpool	$1,369	70%	0%	30%	97%
Kemps Creek	$1,182	84%	0%	15%	41%
All CMCT	$8,854	66%	0%	33%	88%
NMCLM					
Macquarie Park	$6,427	38%	15%	47%	80%
Field of Mars	$1,295	56%	0%	44%	97%
Gore Hill	$220	0%	5%	95%	100%
Frenchs Forest	$979	27%	17%	56%	52%
Sandgate	$755	14%	1%	85%	90%
All NMCLM	$9,676	36%	12%	52%	85%
RGCLM					
RGCRLM	$7,194	57%	0%	43%	94%
SMCLM					
Eastern Suburbs	$2,604	53%	23%	23%	98%
Woronora	$2,229	47%	15%	38%	94%
All SMCLM	$4,833	51%	19%	30%	96%

Source: IPART, Deloitte Access Economics

4.2.3 Indirect costs of interment

Indirect costs refer to costs that are incurred in operating a cemetery that are not directly attributable to an individual interment. They typically include:

- Sales and marketing
- Administration and overheads
- Depreciation.

Chart 4.3 shows total indirect costs by CLM for 2018-19, excluding cremations. It ranges from $6.6 million for NMCLM to $13.1 million for SMCLM.

Across the CLMs, expenditure on administration and overheads is consistently the largest single indirect cost category. This includes labour costs for administration staff, boards of directors and executives, and other general staff to facilitate cemetery operations, IT system and software licences and fees, travel costs, building cleaning and security fees. It accounts for between 53% to 84% of total indirect costs.

Administration expenses are the highest for SMCLM ($8.8 million), followed by CMCT ($7.8 million) and RGCLM ($7.5 million). It is significantly lower for NMCLM ($3.5 million).

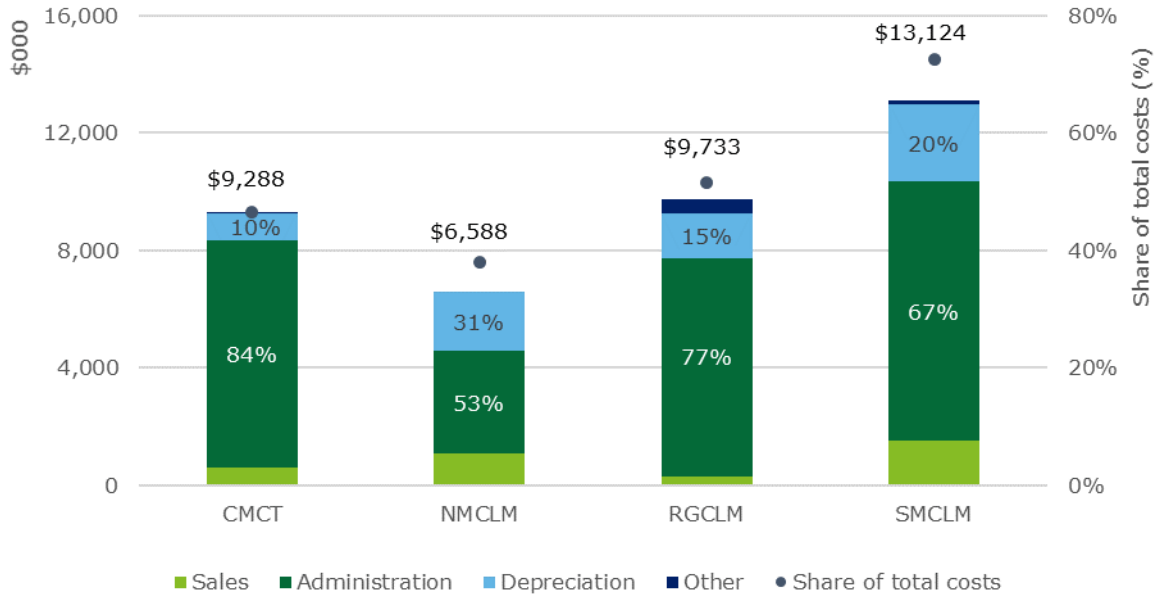
In SMCLM, administration expense has been growing at an average of 7% over the past 4 years, 2% higher than CMCT. Across both cemeteries (for which historic data was provided), administration expenses outpaced growth in total costs and total indirect costs. Whilst CMCT did not have the same level of growth in administration expenses, sales expenses were the fastest growing expense within indirect costs (also 7%). As a result of these areas, average growth in

indirect costs in both CMCT and SMCLM are outpacing direct costs, which have grown 0-1% on average.

NMCLM and SMCLM had higher identified marketing costs compared to the other CLMs. In consultations with NMCLM, they have noted that marketing is important given strong competition from private providers.

Marketing spend for SMCLM could be higher over time. In consultations with Deloitte Access Economics they indicated that they did limited marketing in 2018-19, and costs are likely to be higher in the future.[78] While NMCLM, CMCT and SMCLM provided some information on sales and marketing costs, RGCLM did not do so in their IPART data template responses, and sales costs were consequently estimated.[79] Given limitations in data classification across the CLMs it is likely that sales costs have not been captured consistently across the CLMs.

Chart 4.3: Total indirect costs by CLM (2018-19)



Source: IPART, Deloitte Access Economics.

Note: other includes investment costs, losses upon disposal,

Total indirect costs across a number of cemeteries are shown in Table 4.4. Indirect costs are allocated to cemeteries based on a number of different approaches.

- SMCLM did not allocate indirect costs per cemetery service. They have separate P&Ls for the two cemeteries, including administration costs that are not site specific (e.g. management salaries, consultants' costs, legal costs, audit costs, insurance etc.).
- NMCLM provided indirect costs at an overall level with detailed historical P&L information for each cemetery. Deloitte worked with NMCLM to understand the various cost items and allocated overall operating costs based on revenue share of activities in conjunction with historical information.
- CMCT allocated shared services (e.g. IT) to individual cemetery operations based on their share of revenue.

[78] This may not be reflected in the results below, as it is based on the budgeted 2018-19 costs.
[79] For RGCLM, sales costs were proxied based on the salary of employees in the sales team.

Table 4.4: Key indirect operating cost results by cemetery and CLM (2018-19)

	Total indirect costs ($000)	Sales share (%)	Admin share (%)	Depreciation share (%)	Other share (%)
CMCT					
Rookwood	$6,209	6%	84%	10%	0%
Liverpool	$1,873	6%	86%	9%	0%
Kemps Creek	$1,149	8%	81%	11%	0%
All CMCT	$9,288	6%	84%	10%	0%
NMCLM					
Macquarie Park	$4,991	15%	51%	34%	0%
Field of Mars	$226	20%	44%	36%	0%
Gore Hill	$22	18%	55%	27%	0%
Frenchs Forest	$738	26%	54%	20%	0%
Sandgate	$570	18%	69%	13%	0%
All NMCLM	$6,588	16%	53%	31%	0%
RMCLM					
RGCRLM	$9,733	3%	77%	15%	5%
SMCLM					
Eastern Suburbs	$6,358	11%	67%	20%	2%
Woronora	$6,742	13%	67%	20%	0%
All SMCLM	$13,124	12%	67%	20%	1%

Source: IPART, Deloitte Access Economics.

For robustness, Deloitte Access Economics undertook benchmarking of cemetery indirect costs to those of comparable industries. Ultimately, the outputs of this analysis were uninformative due to stark contrasts in the underlying business operations, as well as the cost data, of the CLMs and the benchmarks industries. For example, the analysis seemed to reveal that cemeteries were very profitable relative to the benchmarks, however this ignores future costs associated with perpetual maintenance, a feature unique to the cemetery industry. Furthermore, the benchmark industry cost data, obtained from IBISWorld, was not comparable to the data provided by the CLMs and contained too many ambiguities to ensure like-for-like comparison. The industries considered as benchmarks were local governments, nature reserves and conservation parks, and zoological and botanical gardens.[80]

4.2.4 Capital costs

By their nature, cemeteries require a high level of investment across various stages of its lifecycle. This includes:

- Land related costs, including both the acquisition of land, and the preparation of land for interments.
- Infrastructure, including roads and buildings.
- Equipment that are directly used in interments, and IT systems that support the day-to-day running of operations.

[80] IBISWorld, *Australia Industry Reports (ANZSIC),* 2020, <https://my.ibisworld.com/au/en/industry>

Chart 4.4 shows the total capital costs by CLM in 2018-19. Capital costs related to cremations have been removed based on cremation revenue as a share of total revenue (excluding additional services).

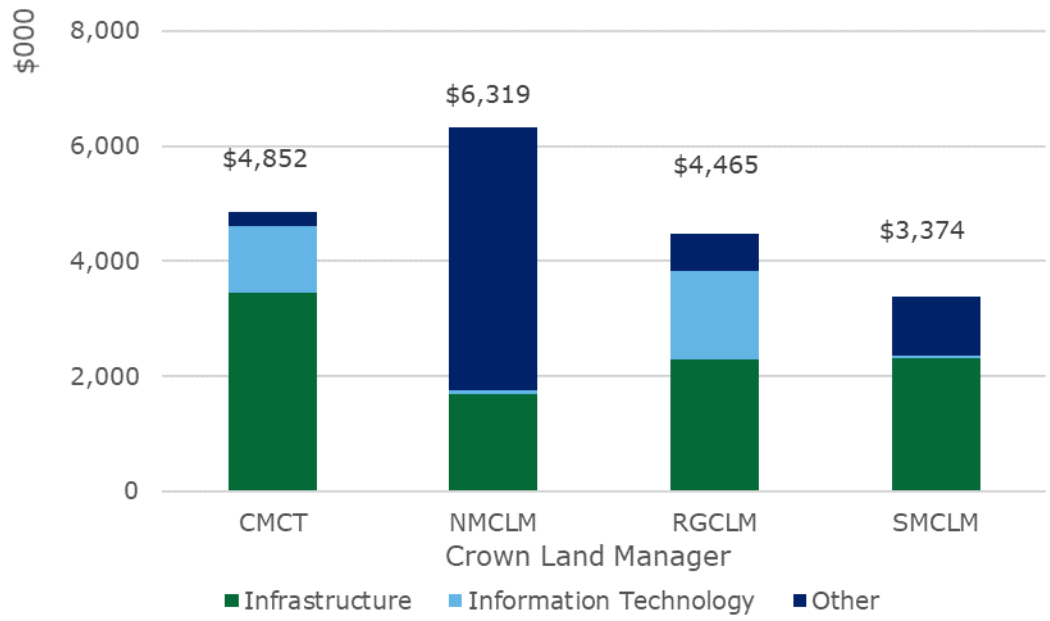
NMCLM had the highest capital cost at $6.3 million, while SMCLM had the lowest cost at $3.4 million.

Capital costs are not included in operating costs, but it may nonetheless be instructive to benchmark against total operating costs for a sense of their magnitude. Capital costs as a share of total operating costs is the highest in NMCLM, representing 40% of costs.

None of the CLMs reported land related capital costs for the eleven cemeteries examined in this report.[81] This is simply as these costs are captured at a point in time and capital costs only reflect land acquisitions from that particular year.

Infrastructure was typically the largest capital expense across the CLMs. CMCT spent $3.4 million on infrastructure, including on property and grounds improvement, and leasehold property. This is followed by NMCLM, which spent $2.6 million. This includes additions to buildings and other cemetery. NMCLM had a large capital costs in the 'other' category. They specified that this includes interment site developments and equipment costs. SMCLM noted that it expects to see a large increase in capital expenditure over the next three years driven by a combination of IT and infrastructure related spending – noting that 2020 is the implementation year of updating financial and record keeping systems and platforms.

Chart 4.4: Capital costs by CLM (2018-19)



Source: IPART, Deloitte Access Economics. 'Other' typically includes plants and equipment. Capital costs attributed to interment services (bodily remains and cremated remains) based on its share of revenue. Consequently, these figures may not reconcile against total reported capital costs by CLM.

[81] CMCT reported $27 million in land related capital costs for Wallacia and Macarthur Memorial park over the past five years. However, it did not report any costs for 2018-19. NMCLM reported $5.1 million in land acquisition costs for a new potential site in 2018-19.

4.2.5 Additional services

Cost and revenue data on additional services are typically not separately reported in IPART submissions or the annual reports. When they are, their categorisation tends to be inconsistent. The information on the costs of offering additional services is summarised in Table 4.5.

The data is relatively more reliable for CMCT and NMCLM, as additional services were clearly identifiable from either their IPART data response, or P&L statements provided by the CLMs. For them, costs associated with additional services as a share of total costs range for 6% to 9%, and revenue for additional services as a share of total revenue range from 7% to 9%.

Data is most consistently identified for memorialisation, which includes cost of goods sold associated with masonry and monuments. It is the largest cost and revenue item among the additional services.

The faith mix of the cemetery may lead to variation in the cost of providing additional services. As notes in Section 3.3, some cemeteries may provide specific gathering places on site, such as chapels and reflection rooms.

Note that the totals may not reconcile against the sum of the individual services as only partial information was received from the CLMs. For instance, while RGCLM identified $2.4 billion for memorialisation, they did not separately identify the other additional service categories. However, at the same time, they reported a total 'other operating revenue' of $4.3 billion.

Table 4.5: Additional services ($000) costs by CLM (2018-19)

	CMCT	NMCLM	RGCLM	SMCLM
Costs				
Memorialisation, masonry, monuments	$1,556	$626	$1,948	$147
Chapel/reflection room	$84	$364	N/A	
Rent, kiosk	$137	N/A	N/A	N/A
Costs for additional services	**$1,776**	**$990**	**$1,948**	**$147**
% of total cost	**9%**	**6%**	**12%**	**1%**
Revenue				
Memorialisation, masonry, monuments	N/A	$1,643	$2,464	N/A
Chapel/reflection room	N/A	$258	N/A	N/A
Rent, kiosk	N/A	$135	N/A	N/A
Revenue for additional services	**$2,172**	**$2,036**	**$4,243**	**$1,174**
% of total revenue	**9%**	**7%**	**12%**	**4%**

Source: IPART, Deloitte Access Economics. CMCT additional costs and revenue include monuments, chapel service, sundry service and other. NMCLM additional services costs and revenue based on P&L statements. It will not reconcile with their IPART template response as it includes memorialisation related costs and revenue. RGCLM and SMCLM additional services revenue based on IPART template response for 'other revenue'.

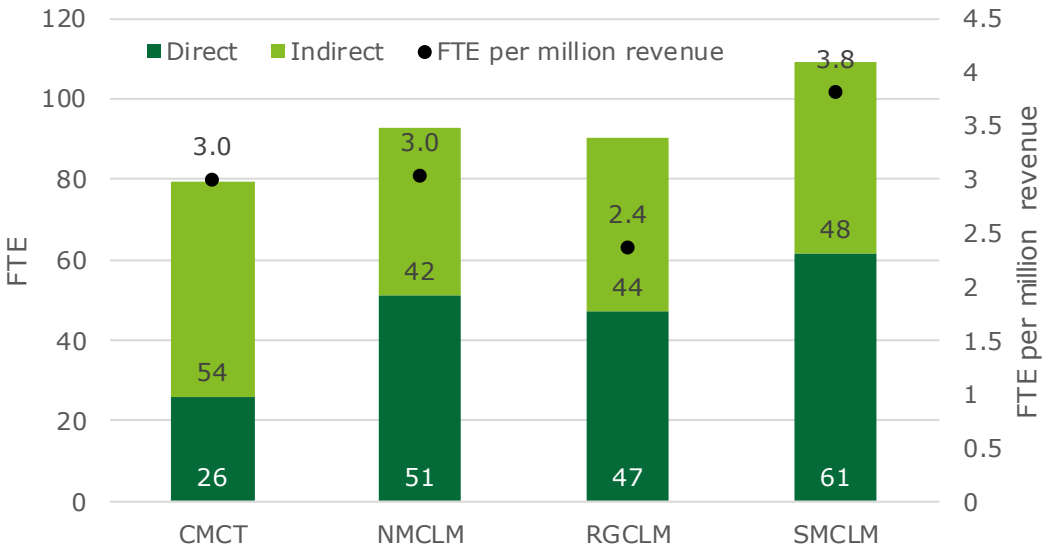
4.2.6 Employment

In addition to the number of employees provided in the IPART templates, three of the four CLMs provided an additional summary of their employment breakdown for financial year 2018-19. These datasets varied in their level of detail. However, it was possible to extract total employment numbers and approximate lines of work. These documents were then compared against annual reports to corroborate the number of executives and board members in each CLM. For SMCLM, who did not provide detailed breakdowns for the latest financial year, ratios of staff roles were

taken from the Strategic Plan 2015-18 and applied to 2018-19 total staff numbers from the IPART template.

Chart 4.5 shows a comparison of the employment data by CLM, including executives and board members. In terms of total staff numbers, the CLMs are reasonably comparable with staff ranging between 80 and 109. SMCLM employs the highest number of staff by a margin of 16. On the right hand side of Chart 4.5, the axis shows the FTE per million in revenue in order to account for differences in the size of cemetery operations. For example, although NMCLM have more employees than CMCT, relative to revenue, employment numbers for these CLMs is consistent. This measure shows RGCLM with the lowest staff per million revenue, although this could be a result of having only one cemetery to operate.

Chart 4.5: FTE (2018-19)



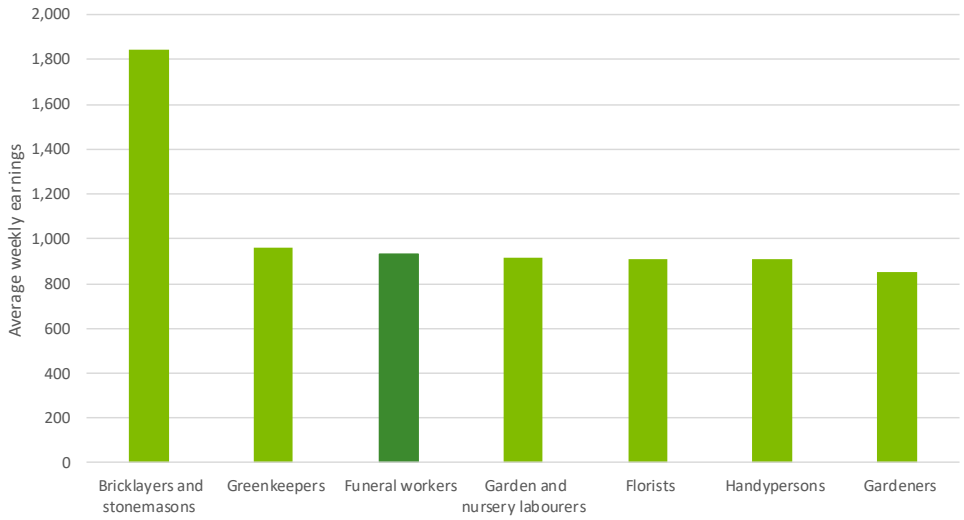
Source: Internal documents, annual reports

Note: Indirect staff include: Administration and office, customer service, executives and board members. Direct staff include: Grounds and gardens, operations, chapel and crematorium.

We understand that CMCT outsources more activities, which would reduce its employee number for direct costs (shown in Chart 4.5). We also note that it was hard to classify some job titles as either in the direct or indirect cost categories.

In terms of direct employment, the analysis of costs data in Section 2.3 indicated there was little efficiency dividend likely to be gained from direct costs. In addition, CLMs cited that reductions in direct costs and employment may reasonably affect their ability to deliver core functions and maintain cemeteries to the standards required or expected from their communities. In addition, ABS remuneration data indicates that direct workers are paid at a competitive salary relative to comparable occupations (see Chart 4.6).

Chart 4.6: Average wages for funeral workers and comparable professions (2018)



Source: ABS Cat. No. 6306.0

Table 4.6 shows the breakdown of employment in each of the CLMs into broad employment categories. This analysis was produced from the data provided however some judgement was made in terms of the categorisation. As such, it is possible that these classifications differ slightly from actual, depending on how the CLM classify their employees. This could explain some of the differences between CLMs, particularly in relation to 'Office and administration' and 'customer service'. The CLMs each have varying numbers of staff in these functions, however, the sum of these two roles (i.e. office staff) is broadly consistent across CLMs.

Table 4.6: Employment numbers by area

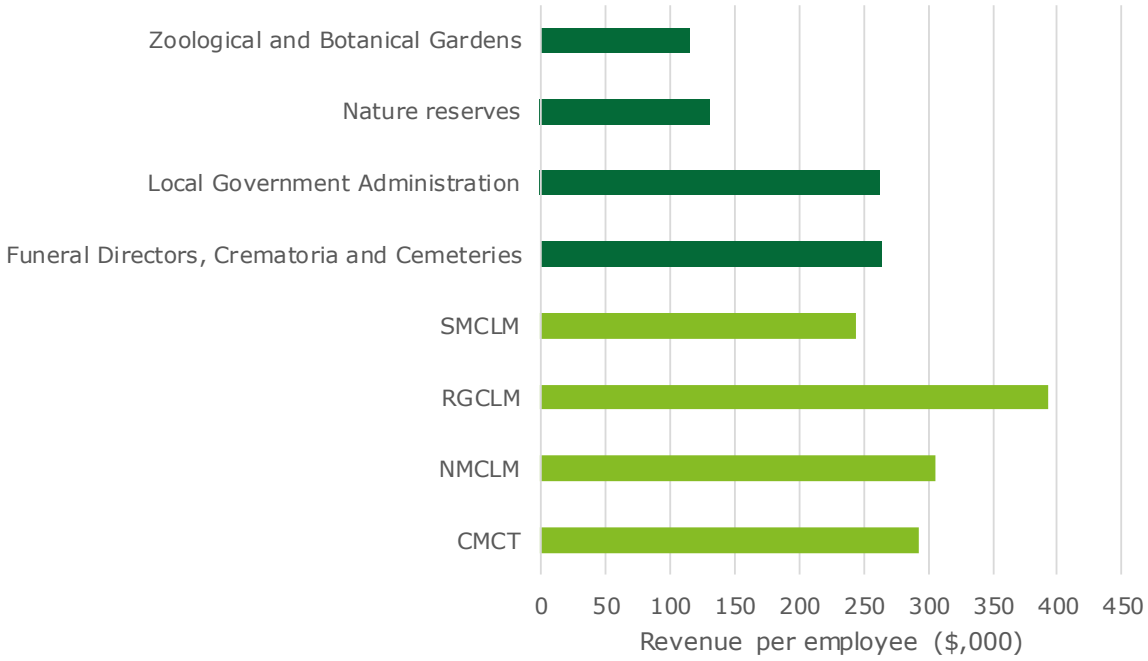
Employment area	CMCT	RGCLM	NMCLM	SMCLM
Board members	10	7	6	7
Executives	7	6	5	7
Office and administration	12	20	14	12
Customer service	25	11	17	21
Grounds and gardens	24	47	42	54
Chapel and crematorium	2	0	9	8
Total	80	91	93	109

Source: CLM internal documents, IPART data submissions, financial statements.
Note: Staff allocation is approximate and may differ from actual. SMCLM allocation determined by proportional shares from 2015 Strategy document on reported staff numbers 2018/19. Board and executive numbers taken from Annual reports.

In Section 4.2.2, this report considered the split between indirect and direct shares of expenses and demonstrated the direct costs were reasonably consistent across CLMs. In contrast, indirect costs varied widely suggesting that efficiency benefits are likely to be found by reducing indirect costs. Analysis of employment is broadly consistent with this finding, showing that support staff represent a high proportion of total labour. Each of the cemeteries are employing more than 30 staff each to manage their office functions, with customer service and office administration accounting for 38% (131 staff) of total employees across the four CLMs (excluding executives and board). In contrast, InvoCare employs fewer total office staff (approximately 125) to service 16 cemeteries and crematoria across New South Wales, Queensland and New Zealand.

As discussed in Section 4.2.3, Deloitte Access Economics undertook a benchmarking exercise to compare the indirect costs of the CLMs and comparative industries. As with indirect costs, it is difficult and potentially misleading to compare the operations of CLMs against other industries due to different operating conditions. Chart 4.7 compares the revenue per employee (including board members and executives) for CLMs against the IBISWorld national industry average for cemeteries and crematoria as well industries with comparable activities. This Chart appears to show that the CLMs (particularly RGCLM, NMCLM and CMCT) are outperforming the benchmarks by achieving the higher than average revenue per employee. Unfortunately, this is a poor metric for efficiency and neglects requirement of CLMs to raise higher revenue to account for perpetual maintenance obligations. Even against the *Funeral directors, cemeteries and crematoria* industry average, the differences between structures of Crown land managers, local government and private cemetery operators, both within New South Wales and nationally, mean that little can be learned from this comparison.

Chart 4.7: Revenue per employee ($,000) by CLM relative to benchmark industries (2018-19)



Source: IBISWorld, CLM data submissions

Although benchmarking could not support the analysis, there is still sufficient evidence that the existence of four individual Crown Land Managers performing similar tasks in different locations results in duplication of roles, particularly relating to board members and executives. Altogether, the CLMs kept 55 executives and board members in 2018/19, totalling 15% of total employees. The ratio of executives to general staff is discussed in Section 5.1.10 where comparisons to local councils lend support to calls for consolidation. If the CLMs were consolidated, as discussed in Section 5.1, it is reasonable to expect that this would reduce the total wage expense.

4.3 Efficient costs

In estimating an efficient cost, Deloitte Access Economics has relied on the interment service and interment right analysis, where variance factors are smaller or can be analysed more easily.

Table 4.7 compares current and efficient costs for a BALB (interment service and interment right) for the CLMs. Across the CLMs, a 14% to 32% reduction in current costs would be required to meet the efficient BALB costs based on a basic standard of care.

For RGCLM, SMCLM and CMCT, the decrease could be realised through reducing indirect costs associated with an interment right. For NMCLM, the decrease would be primarily based on reducing

the level of grounds maintenance and associated administration to a level consistent with the basic level of care.

The analysis does not include any specific efficiency gains in interment service costs. Costs for CMCT are found to be efficient, while modest efficiency gains of $65 and $160 were estimated for SMCLM and NMCLM respectively. This variation could have reflected a degree of data limitations with NMCLM noting that burial hours could vary significantly depending on soil quality. If SMCLM and NMCLM achieve efficient interment service costs of $901, they would need to reduce costs by 34% and 19% respectively. RGCLM also has slightly higher costs than what could potentially be explained through a different religious mix.

Nonetheless, given uncertainties over the additional costs associated with religious and cultural requirements and other data limitations, no specific efficiency gain in relation to the interment service has been assumed in Table 4.7.

Table 4.7: Potential efficiency gains for a BALB (interment service and interment right)

	CMCT	NMCLM	RGCLM	SMCLM
Current costs				
Interment service	$901	$1,136	$1,475^	$1,037
Interment right	$4,012	$3,794	$3,989	$5,652
Total	$4,913	$4,930	$5,465	$6,689
Efficient costs				
Interment service	$901	$1,136	$1,475	$1,037
Interment right	$2,884	$3,101	$2,561	$3,514
Total	$3,785	$4,237	$4,037	$4,551
Efficiency gain	**-23%**	**-14%**	**-26%**	**-32%**

Source: IPART, Deloitte Access Economics.

Note: Figure shows the percentage reduction in current costs required to reach an efficient cost for a BALB and interment right. ^ This average cost reflects that RGCLM perform a large proportion of interments for religious communities with certain interment requirements, which may be more costly. Factoring in the share of these interments at RGCLM (and the way that interments are performed at RGCLM for Islamic and Jewish communities) would result in an adjusted efficient cost estimate of $1,399. This should be considered in interpreting the possible efficiency of interment services at RGCLM. It should be noted that other CLMs perform Jewish and Islamic interments, which could also drive a difference in the efficient costs – although the proportion (and associated impact on efficient cost) is likely to be lower than for RGCLM.

Table 4.8 shows the potential efficient overall costs for the CLMs if the gains in the BALB can be applied more broadly across the CLMs' operations. Importantly, the analysis assumes that the relative scale of efficiency gains (in % terms) for BALB is applied to other forms of interments such as monumental interments or the interment of cremated remains. While efficiencies in indirect costs are likely to be broadly applicable across a cemeteries' operations, it is possible that the scale of efficiency gains which also include efficiency gains in maintenance may differ for different types of interments. For instance, RGCLM have identified that $190,000 in costs relate to monumental risk mitigation and it is not clear whether there are potential efficiencies in relation to these types of costs. Further analysis would be required to understand whether the scope for efficiency gains is likely to differ for non BALB interment types– noting that the efficient cost of monumental burials is not within the scope of this report.

Efficiency gains in the indirect costs attributed to interments are based on the difference in current and efficient costs for 1) one-off administration and sales costs for the interment right, and 2) administration and overheads related to the maintenance of existing plots. It is assumed that

these costs can be proportionally reduced across the range of interment services.[82] The analysis combines the two categories of administrative costs as CLMs that appear relatively efficient in one component of administration may be relatively inefficient in the other component. This could result from a misallocation of costs between the two categories. Consequently, combining the two categories allows the CLMs to offset their costs, and is a more accurate reflection of their overall efficiency with regards to administration and indirect costs.

In interpreting the efficiency gains set out in this table, it is important to recognise that in some instances, CLMs may incur costs that vary from benchmark cemeteries and may not be able to achieve efficiencies to the same degree. Some individual operator-level adjustments may be needed to take into account specific variations, such as faith mix.

Efficiency gains related to grounds maintenance are based on the difference between the current and efficient per plot maintenance costs.

For instance, NMCLM would require a 51% decrease in maintenance costs to achieve a basic standard of care. This is respectively applied to the $5.0 million currently spent on grounds maintenance.

It is unclear whether there are potential efficiency gains related to the provision of additional services. Across the CLMs, additional costs tend to be in line with additional revenue and is a small component of total costs. In many cases these services are outsourced e.g. masonry services while spaces for cafes are typically rented to external organisations. As they also tend to be outsourced, there is limited ability to reduce third-party costs beyond potentially procuring in a collective to create efficiencies and reduce unit costs. Consultations indicated that revenue for the chapel was often at or below cost. Thus, there was limited evidence of potential efficiency gains in the provision of additional services. This is not to suggest that potential efficiency gains may not exist but there was no basis to estimate these based on discussions with the CLMs, recognising that many of these services are provided by external organisations.

Overall, a 13% to 28% reduction in current total costs would be required across the CLMs to reach their efficient cost levels. The largest reduction is required in SMCLM, followed by RGCLM and CMCT. Appendix C provides detailed intermediate results from the efficient cost estimations.

Table 4.8: Overall efficient costs by CLM (2018-19)

	CMCT	NMCLM	RGCLM	SMCLM
Current costs ($000)	$19,919	$17,325	$18,875	$18,105
Efficient costs ($000)	$16,592	$15,082	$15,618	$12,955
Efficiency gain	**-17%**	**-13%**	**-17%**	**-28%**

Source: IPART, Deloitte Access Economics.

Note: Direct and attributed indirect costs for cremations have been excluded.

4.4 Forward estimates to 2023-24

Chart 4.8 shows forward total operating efficient cost estimates for the CLMs to 2023-24 in nominal dollars.[83] Direct and indirect costs related to cremations have not been included. CLMs will reduce their costs each year (on a per unit basis) such that they have fully achieved the efficiency gains set out in Section 4.3 by 2023-24.

However, total operating costs are also expected to be driven based on projections on the sales volumes of interments of bodily remains and cremated remains, and the number of total plots under perpetual care. These projections were developed as a part of the Statutory Review, and were based on the projected demand and supply of the CLM cemeteries, assuming no material

[82] Efficiency gains have not been applied to development and direct interment costs.
[83] Costs are expected to grow by a 2% per annum inflation rate.

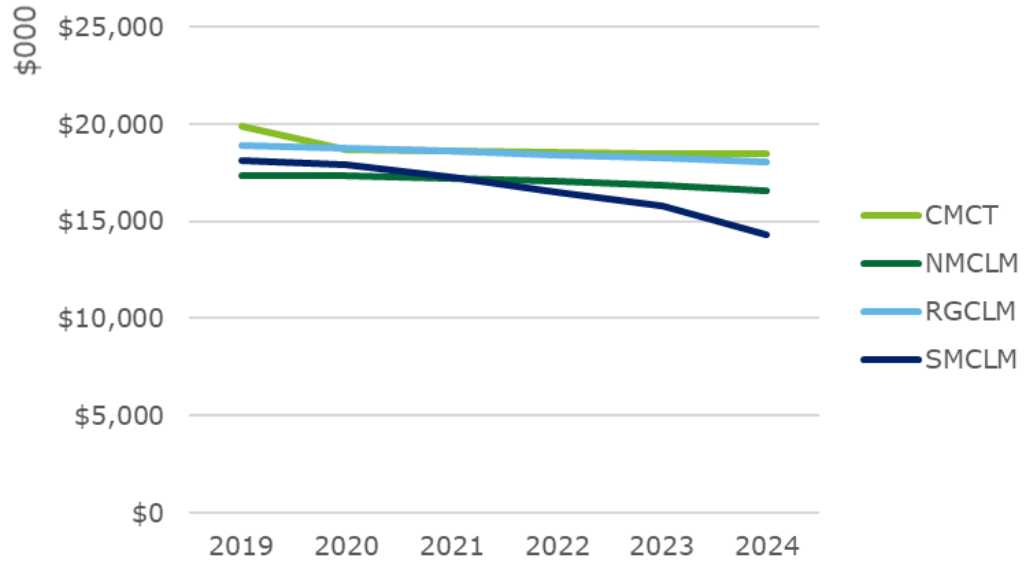
change in the CLMs' business operation, sales processes, and business mix. In projecting future operating costs:

- Direct and indirect costs related to interments of bodily remains are assumed to grow based on the growth in sales volumes for interments of bodily remains (and associated interment rights).
- Direct and indirect costs related to interments of cremated remains are assumed to grow based on the growth in sales volumes for interments of cremated remains (and associated interment rights).
- Grounds maintenance, associated administration and depreciation are assumed to grow based on the growth in plots under perpetual care.
- Additional services and development costs are assumed to grow based on the growth in total interment rights.

Total operating costs are set to decrease for CLMs over the forecast period. This suggests that the efficiency gains have a larger influence on overall costs than the growth in sales volumes for these CLMs.

- By 2023-24, total operating costs for CMCT is expected to be $18.5 million - compared to $19.9 million in 2018-19.
- By 2023-24, total operating costs for NMCLM is expected to be $16.6 million - compared to $17.3 million in 2018-19.
- By 2023-24, total operating costs for RGCLM is expected to be $18.1 million - compared to $18.9 million in 2018-19.
- By 2023-24, total operating costs for SMCLM is expected to be $14.3 million - compared to $18.1 million in 2018-19.

Chart 4.8: Forward estimates of total efficient operating costs by CLM (2018-19 to 2023-24)



Source: IPART, Deloitte Access Economics.

Note: it is assumed that CLMs achieve efficient costs (on a per unit basis) by 2023-24. The efficiency gains are achieved linearly over the five years. Estimates are given in nominal dollars.

This analysis is based on extrapolating trends based on current cost profiles in 2018-19. It does not incorporate any planned cost increases (or decreases). CLMs are at different stages of investment in upgrades to financial and IT systems. The results of the report are based on costs at a point in time but these may change into the future as a result of these investments. In particular, SMCLM noted that it was anticipating undertaking significant investments in updating financial and record keeping systems, and that similar processes had been undertaken by other

CLMs. It noted that this would be likely to impact its indirect costs including raising IT license costs.

4.5 Caveats and limitations on efficiency estimates

The efficient costs established as a part of this study have been based on a select number of benchmark cemetery operators. While the analysis chose more comparable operators where possible, the selection process was driven in part by data availability. Consequently, there may be other more appropriate cemeteries that were not considered. If those cemeteries were relatively more efficient, then the estimates presented in this analysis would overestimate the level of efficient costs.

Using benchmarks to establish efficiency standards is typically most effective where the data is transparent and easily comparable. However, given the nature of financial statement reporting, the publicly available information for benchmark cemeteries is not presented in a way that is consistent with the activity/function-based costing information that was provided by the CLMs through the IPART costing templates.

While adjustments were made to account for some of the differences in costs, they are themselves assumptions driven. To the extent that there are different cost differentials between the various interment and cremations services, or different maintenance costs across the cemetery operators, this would not be captured, and would lead to inaccurate comparisons.

The analysis assumes that the bottom-up direct BALB costs presented by CLMs represent efficient costs for their operations. Even those with costs above the efficient cost of $972 were considered 'efficient' given variation in faith mix and soil competition could lead to small differences.

Further, the average efficient cost per interment estimates are dependent on the indirect cost attribution process. While Deloitte Access Economics has selected the most appropriate attribution based on the available data and the nature of the cost category, it is ultimately assumptions driven. Further analysis of the CLMs may yield different estimates of indirect interment costs for those operators with mixed product offerings.

Lastly, the efficient costs for grounds maintenance are estimated based on a basic standard cemetery maintenance and should be considered as a guide and benchmark. These costs do not account for more sophisticated features of a cemetery (e.g. gardens) which would require more extensive maintenance. Thus, the estimated efficient maintenance costs would be potentially lower than the achievable cost level for CLMs with those additional features.

5 Efficiency opportunities

This section considers approaches to improve the efficiency of the Crown Land Managers' operations. The discussion in the following sections draws upon:

- Consultations with the Crown Land Managers and review of their submissions to IPART.
- Consideration of other operating models and their efficiencies, relative to the Crown Land Managers. This included consulting with stakeholders at private cemeteries, local government cemeteries, and interstate CLM cemetery operators.
- Consulting with other sectoral stakeholders, such as funeral directors, faith groups, and the Australian Workers Union, to understand factors affecting efficiency.

This chapter is structured as follows:

- Section 5.1 describes efficiency opportunities that arise from the key findings of this report, and considers their impact on the Crown Land Managers.
- Section 5.2 considers the possible barriers to implementing more efficient approaches to cemetery operations and land management.
- Section 5.3 sets out possible transition paths to realising these efficiency opportunities.

5.1 Efficiency opportunities

The efficiency opportunities presented in this chapter follow consideration of the key findings of the preceding analysis, and consultations with a range of sectoral stakeholders about opportunities they have identified. Some of these opportunities would require significant structural change to implement, and a range of outcomes would need to be considered in assessing the extent to which efficiency gains that could be realised from these proposed changes.

There are ten efficiency opportunities included in this chapter, which are drawn from analysis in previous chapters, and consultations conducted with a range of sector stakeholders. Table 5.1 aligns the efficiency opportunities presented in this chapter with the key findings of this report – including findings arising from analysis of CLM data, and from consultations with CLMs and other sectoral stakeholders.

In this chapter, efficiency opportunities are presented in the order of three overall themes: adopting a shared services model, improving the efficiency of land use and maintenance costs, and considering opportunities to reduce indirect costs.

Table 5.1: Key report findings and associated efficiency opportunities

Key report findings	Efficiency opportunities
Crown Land Managers generally perform the **interment service** in a cost efficient manner. However, **there is variation in the consistency of reporting and the CLM operations tend to lack transparency** (Chapter 2).	• Require CLMs to publish efficient costs of interment services (5.1.1) • Implement consistent reporting (5.1.7) • Increase transparency of additional charges relating to interment services (5.1.6)
Current interment right costs are higher than their efficient level, and a **high share of indirect costs** relate to office staff (Section 3.2).	• Combine CLMs' support functions, and/or establish central management (5.1.2, 5.1.3) • Encourage CLMs to test the efficiency and effectiveness of outsourcing certain functions (5.1.9) • Consider opportunities for CLMs to reduce FTE or allocate staff more efficiently (5.1.10)

Key report findings	Efficiency opportunities
Maintenance standards and expenditure levels vary significantly across CLMs and between cemeteries (Section 3.2).	• Implement common maintenance standards (5.1.6) • Outsource some cemetery maintenance (5.1.9) • Establish pricing approaches which provide consumers with clear choices of maintenance standard (5.1.6)
The impact of religious requirements on **interment right** costs are not clearly reported by CLMs, and are likely to be modest (Section 3.3).	• Require CLMs to publish efficient costs of interment rights (5.1.1) • Implement consistent reporting among CLMs to develop evidence for the indirect costs associated with faith-based interment requirements (5.1.7)
There is a **low uptake of renewable interment rights** across the CLMs, and limited community engagement with this model (Section 3.4).	• Provide cemetery and consumer pricing incentives to remove barriers to renewable interment rights (5.1.4) • Support knowledge sharing between State and Sydney CLMs and operators in states where there is a larger uptake of renewable rights (5.1.4) • Plan to use remaining cemetery land efficiently through geological profiling studies (5.1.5)
Land mangers use **different IT systems and record-keeping approaches** which can drive indirect cost inefficiencies (Chapter 4).	• Update CLM systems for consistency (5.1.8) • Combine CLMs' support functions (5.1.2) • Implement consistent reporting (5.1.7)

Source: Deloitte Access Economics.

5.1.1 Publishing efficient costs of interment services and interment rights

The preceding chapters of this report analyse the efficiency of each Crown Land Managers' interment services and other activities. In introducing opportunities for the Crown Land Managers to adopt a more efficient operating model, it is important to recognise that the land managers themselves are well-placed to identify the best opportunities to achieve efficiency in a competitive market. This will involve considering how their operations align with, or diverge from the efficient cost benchmarks presented in this report. Publishing this efficient cost information can drive more efficient activity, by providing a benchmark for Crown Land Managers to assess their cost efficiency, and by strengthening transparency for consumers.

Publishing benchmarks for the efficient cost of a basic interment service and interment right and for cemetery operation costs could drive efficiencies in the operations of Crown Land Managers. IPART's Interim Report also identified opportunities to improve efficiency by making cost and pricing information more transparent – Interim Recommendation 11 is that cemetery operators be required by regulation to publish prices for all bodily interment services on a consistent basis, while Interim Recommendation 12 called for the development of a central website for consumers to compare prices for interment services. Reflecting that there may be inherent differences in the services offered by different operators, this benchmarking could involve publishing costs and prices at an individual Crown Land Manager or individual cemetery level, to support the transition to more efficient operations over time.

To ensure that this price benchmarking does not reduce the level or quality of service provided, it is important that these prices and costs published should be at comparable maintenance levels. CMCT suggested that a standardised process be established for ratings of cemeteries to ensure consistency, via a rating system which could be administered by a centralised body such as CCNSW. Other approaches to ensuring that published costs reflect comparable maintenance services are considered in Section 5.1.6.

As noted in Section 3.3, the two large drivers of interment right costs are maintenance costs and indirect costs. Maintenance costs are not found to be affected by religious requirements, and indirect costs are defined and allocated to interment rights differently across CLMs and cemeteries.

This suggests that the impact of religious requirements on interment right costs are expected to be modest. Where there are differences in the interment right for different faith groups, CLMs could be required to publish efficient interment right costs– this will be a mechanism for justifying differences and ensuring transparency of additional charges relating to interment rights for different faith groups.

On the other hand, consultations revealed only modest levels of cooperation and information sharing between cemeteries. It is likely that efficient operations in one CLM could be adopted elsewhere. Moreover, some efficiencies can only be gained by higher-order policy or structural changes that individual CLMs cannot drive by themselves. The efficiency opportunities set out in the remainder of this section vary in scope, but tend to be longer term, require changes to the regulatory and legislative environment in which Crown Land Mangers operate and would require oversight from Cemeteries and Crematoria NSW. Some of these efficiencies can be realised by implementing moderate changes to processes or making strategic investments in administrative systems; while other opportunities would require significant changes to the structure of the land mangers' operating models, management and product mix.

In publishing efficient costs and asking CLMs to publish itemised breakdowns of costs, it will be important to watch for the pitfalls of setting maximum prices. CLMs struggling to achieve efficiency improvements may, if set a maximum price, simply respond by lowering standards of service provision in the burial process or customer communication. That would be a poor outcome, though the risk could be mitigated by implementing a model where compliance with defined minimum standard is linked to an operating licence, for example. In a complicated business like cemeteries, where there are long term maintenance liabilities, cemeteries could also respond to a maximum price regulation by diverting (even more) fees from perpetual maintenance funds towards covering day-to-day operating activities. That too, would be a poor outcome for the sector from a financial sustainability standpoint.

5.1.2 Combined functions

The analysis of current costs presented in Chapter 4 of this report found that while the direct costs of interment were relatively consistent across Crown Land Managers, indirect costs varied widely. Many of the opportunities presented in this chapter consider ways to reduce CLMs' indirect costs by delivering some services more efficiently. Analysis of Crown Land Managers' employment data shows that indirect support and administrative staff represent a high proportion of total labour (see Section 4.2.6). While there may be an opportunity to gain moderate efficiencies at the individual CLM level (see Section 5.1.10), a larger efficiency could be gained by reducing the duplication of these functions at each CLMs. A model where CLMs share back office and customer service teams could result in a significant reduction of the labour costs associated with four land managers each having these in-house teams. This principle could extend beyond the combination of administrative staff teams. Consultations with interstate and local council cemetery operators identified efficiency opportunities where operating, as well as administrative functions, are combined. This might include operators sharing specialist machinery and operations staff, undertaking procurement jointly at scale, and using common platforms to share information.

A model where each of the four Crown Land Managers combine some administrative or operating functions could support a range of efficiencies. These include:

- **Economies of scale could see reduced overhead costs,** where Crown Land Managers share labour and capital. This might involve the sharing of highly specialised machinery or operations staff. Costs related to the duplication of roles could be reduced though the consolidation of each land managers' back office, customer service and/or executive management teams (Section 5.1.3 considers possible approaches to this in more detail).
- **A shared services model would support consistent processes and data management systems**. A range of stakeholders noted the inefficiencies associated with Crown Land Managers using legacy IT systems, and the challenges associated with reporting information or managing bookings inconsistently across Crown Land Managers and across cemeteries. For example, introducing a common data management system for Crown Land Managers could reduce the duplication of fixed costs such as software licences. There may be additional

efficiency related to streamlining and integrating processes, to save conduct sales and administrative processes more efficiently.

- **Increased purchasing power where Crown Land Managers jointly acquire resources**. This could include cost efficiencies related to joint procurement, such as acquiring memorials at scale or directly from wholesalers; or relating to the join acquisition of new land for future cemeteries.
- **Knowledge sharing and innovation**, where bringing together specialised staff would reduce barriers to information sharing and support the multi-skilling of staff, which could in turn reduce indirect costs.

Stakeholders saw opportunities for efficiencies to be realised by Crown Land Managers sharing services and in acquiring resources jointly.

CMCT noted the possible benefits of a shared model for outsourcing some services, such as procuring memorials at scale to reduce costs.[84] NMCLM also expected that cost efficiencies could be achieved through a shared model for procurement and in working with contractors and suppliers.[85] This model could give Crown Land Managers greater purchasing power in the procurement process, and would avoid instances of competition between land managers placing upward pressure on prices.

The interim CEO of Canberra Cemeteries, the major cemetery operator in the ACT, noted the challenges with not being able to further centralise resources, or gain economies of scale through shared services or assets.[86] The challenges for smaller providers in accessing specialist staff at an efficient cost suggest that for the Sydney Crown Land Managers, there could be efficiency opportunities from adopting a shared services model which supports staff specialisation and sharing machinery.

Moving beyond this shared services model, additional efficiency opportunities could be realised by consolidating the Crown Land Managers. This would see the reduced duplication of Boards of Directors and executive management teams, and increase the purchasing power and negotiating power of the Crown Land Managers. These opportunities and their implications are discussed in Section 5.1.3.

While the costs of developing land are beyond the remit of the efficient cost analysis presented in this report, consultations with Crown Land Managers' suggested that the challenges associated with developing new cemetery lands and managing the depleting capacity of some cemeteries was front of mind for these operators. There is also expected to be a reasonable level of administrative labour cost associated with each CLM engaging in the land acquisition process.

Given the time required to identify and acquire land, gain approval for and commence the operation of new cemetery sites; the competition between land uses for greenfield land and the limited capacity of the Sydney metropolitan cemeteries, an efficient model for the acquisition and development of new cemetery land is required.[87]

Alongside a shared services model, or as part of a consolidation approach, efficiencies can be realised by developing a model for Crown Land Managers to acquire land jointly. A joint process will avoid the costs associated with Crown Land Managers competing for the same parcel of land and bidding up prices. This could also reduce the administrative burden to both the Crown Land Managers and government agencies associated with the four operators each engaging separately in the planning, development and construction of new cemeteries.

Crown Land Managers and other stakeholders noted the inefficiencies associated with an uncoordinated approach to the development of new cemeteries in Sydney. CMCT noted a lack of collaboration and knowledge sharing in these processes, historically, and identified that land

[84] Deloitte Access Economics consultation with Catholic Metropolitan Crown Land Managers
[85] Deloitte Access Economics consultation with Northern Metropolitan Crown Land Managers
[86] Deloitte Access Economics consultation with Canberra Cemeteries
[87] Cemeteries and Crematoria NSW, *Metropolitan Sydney Cemetery Capacity report* (November 2017) <https://www.industry.nsw.gov.au/__data/assets/pdf_file/0014/143402/CCNSW-Metropolitan-Sydney-Cemetery-Capacity-Report.pdf>.

managers' prospective acquisitions tended to be within close proximity to their current cemeteries, creating a challenge for distributing supply.[88]

The IPART interim report recognises that stakeholders expressed varying opinions about the role of the Crown Land Managers in acquiring new cemetery land. While some stakeholders felt it was the responsibility for the individual Crown Land Manager to develop new cemeteries, others proposed a more centralised approach.[89] For example, CMCT made the submission that land be centrally acquired by external parties (including the Greater Sydney Commission and Cemeteries and Crematoria NSW (CCNSW)), and then open to a tender process between CLM cemeteries, private cemeteries and councils, in order to encourage competition between operators on the basis of efficiency.[90] This proposal is similar to the Interim Recommendations 1 and 2 of the IPART Interim Report, which are that CCNSW be made responsible for acquiring land for new cemeteries in Sydney, and that these operations be competitively tendered out to either an existing Crown Land Manager or appropriately qualified private operator.[91]

This shared land acquisition model could take many different forms, and would in part depend on the extent to which the Crown Land Managers are consolidated in the longer term. The principle of this efficiency opportunity is that the costs of acquiring land and engaging in the development process would be more efficient when it does not allow for competition between Crown Land Managers to drive up land costs. Reflecting on the 2003 merger, the Western Australian Metro Cemeteries Board noted that it was simpler for a single operator to engage with Government in the construction and planning of new sites.

5.1.3 Consolidation of the Crown Land Managers

Another option for consideration is consolidating the four Crown Land Managers into three two or even one CLM. The benefits of amalgamation could include:

- The reduced duplication of boards, executives and corporate functions.
- Greater purchasing power and reduced competition.
- Economies of scale in terms of developing new land for interments, and have greater power in terms of access to finance.
- Fewer points of contact for government policy liaison.

There is a spectrum of possible options for the format of this shared services model. Options could include:

1. Amalgamating the four Crown Land Managers to form a single operator, which is managed by one board and executive team.
2. Adopting a hub and spoke approach where existing Crown Land Managers share overhead services but retain some executive staff and leaner, more specialised operational staff team for each cemetery or region.
3. Adopting a shared services model only for some functions, such as administrative functions (Section 5.1.2), acquiring land for new cemeteries or managing perpetual maintenance funds.

Some Crown Land Managers were supportive of the consolidation proposal. CMCT expected that significant efficiencies could be realised from establishing a single land manager at Rookwood.

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[88] Deloitte Access Economics consultation with Catholic Metropolitan Crown Land Managers

[89] Rookwood General Cemetery, *Submission to IPART Issues Paper*, (June 2019) p 7 <https://www.ipart.nsw.gov.au/files/sharedassets/website/shared-files/investigation-administrative-submissions-interment-costs-and-pricing-issues-paper/online-submission-rookwood-general-cemetery-g.-simpson-7-jun-2019-084635766.pdf>; Catholic Metropolitan Cemeteries Trust, *Submission to IPART Issues Paper* <https://www.ipart.nsw.gov.au/files/sharedassets/website/shared-files/investigation-administrative-submissions-interment-costs-and-pricing-issues-paper/online-submission-catholic-cemeteries-crematoria-d.-furlong-14-jun-2019-150200000.pdf>.

[90] Catholic Metropolitan Cemeteries Trust, *Submission to IPART Issues Paper* <https://www.ipart.nsw.gov.au/files/sharedassets/website/shared-files/investigation-administrative-submissions-interment-costs-and-pricing-issues-paper/online-submission-catholic-cemeteries-crematoria-d.-furlong-14-jun-2019-150200000.pdf>.

[91] IPART, *Review of the Costs and Pricing of Interment in NSW - Interim Report* (December 2019) <https://www.ipart.nsw.gov.au/files/sharedassets/website/shared-files/investigation-administrative-publications-interment-costs-and-pricing-in-the-funeral-industry/interim-report-review-of-interment-costs-and-pricing-december-2019.pdf>.

Currently, Rookwood Necropolis is currently managed by three separate entities – CMCT, RGCLM and the Rookwood Necropolis Land Manager (RNLM) which manages the common areas of the cemetery. Savings from a consolidated approach to management were expected to be realised by reducing the staff headcount (removing duplication of roles across land managers at a single site) and in putting future maintenance at the site under the control and direction of the one operator.

RGCLM also identified a potential operational efficiency from reducing the number of Crown Land Managers, and proposed a model where operational staff at each cemetery would be supported by a single offsite administrative office (similar to the hub and spoke model identified above).

A key challenge for transitioning to a consolidated model is managing the variation in operating models and efficiency levels of the four Crown Land Managers, and the needs of their individual communities. The distinct faith mix of each Crown Land Managers' local communities could present a barrier for coordination and possible consolidation. Some land managers and their faith communities may be hesitant about their representation in a consolidated model – protecting these groups' interests will be a critical component of setting out an effective governance model.

Other stakeholders also shared views on possible efficiency impacts of consolidating the Crown Land Managers. The Western Australian Metro Cemeteries Board (MCB) cited various operational efficiencies arising from their 2003 merger, where Fremantle Cemetery Board was subsumed into the MCB. Peter Deague, CEO of the MCB cited economies of scale across each layer of operation following the merger, as well as the vertical integration of services across those layers. He also identified the benefit of being a consolidated entity in terms of presenting a single voice to government on policy issues. InvoCare also proposed that operators merge, noting that Crown Land Managers would save on board and executive costs in particular, and also suggested a model where the Crown Land Managers were partially operated by other public or private providers.

Other stakeholders were sceptical of amalgamation benefits. Representatives from one faith-based group countered that small, community-focused, mission-driven organisations would be likely to provide the most efficient, basic services. If an amalgamation of Crown Land Managers was to occur, it was seen to be vital that 'coal face' operational staff with an understanding of faith requirements remain on site. Robert Pitt, CEO of the Adelaide Cemeteries Authority, also noted hesitancy around amalgamation benefits, citing that the presence of private operators in the Adelaide market enhanced competitive pressures which can also drive efficiencies.

Achieving cost savings through amalgamating government bodies is achievable but difficult, as evidenced by the most recent high-profile example in NSW, the amalgamation of local councils. A 2019 report by the NSW Audit Office, *Workforce reform in three amalgamated councils*, makes for sobering reading.[92] Savings can take a long time to materialise. In fact, the benefits realisation plans showed that councils did not expect to achieve material savings or efficiencies from workforce reform within the first three years of amalgamation. Secondly, two of the three councils were not reporting on benefits. Thirdly, ICT systems had not been integrated. And fourthly, there were specific legislative protections to *minimise* job losses from amalgamations, an area where cost efficiencies might arise in the first place.

Equally however, it is important to recognise differences between councils and Crown Land Managers. Whereas in a council, the councillors and senior executives make up a relatively small percentage compared with staff, in CLMs it is much higher. For example, Shoalhaven Council has 13 councillors and 5 senior staff (CEO plus Directors) for a staff level of over 900 employees (in FTE terms), whereas each CLM has 6-7 board members and 4-6 senior staff for a staff of less than 100.[93] Or put another way, even a consolidated single Sydney CLM would be a fairly modest entity, responsible for fewer than half of the staff of a single regional council. Council cemeteries, which this report found to be relatively efficient, do not have separate trusts to report to, but are responsible to Councillors, through the council structure.

[92] Audit Office of New South Wales, *Workforce reform in three amalgamated councils* (1 May 2019) <https://www.audit.nsw.gov.au/our-work/reports/workforce-reform-in-three-amalgamated-councils>.
[93] Shoalhaven City Council, *Delivery Program and Operational Plan – Resourcing Strategy 2019/20* <https://doc.shoalhaven.nsw.gov.au/Displaydoc.aspx?Record=D19/218391>.

The efficiency benefits of amalgamating Crown Land Managers would need to be tested further, especially when considering that it is smaller regional council cemeteries, rather than (on average at least) the single entities of other capital cities, that have the lowest costs for services. The governance model of the Adelaide Cemeteries Authority could provide a point of reference for a consolidation Crown Land Manager model. This involves a leadership team constituted by directors with commercial private sector experience that can provide accountability and governance across the business, as well as a small number of community members who provide an alternative perspective.

5.1.4 Renewable interment rights

In Section 3.4, this Report estimated the efficient cost of a renewable interment right to be marginally less than that of a perpetual right. This figure understates the actual benefit to be realised by renewables as it excludes future land acquisition and development costs. Deloitte Access Economics estimate that after the consideration of future land needs, renewables represent an opportunity to reduce costs over the long term.

Renewable rights represent an efficiency opportunity by alleviating the costs of acquiring and developing new land for burials, and by reducing the burden of perpetual maintenance. By using discrete lease periods, maintenance costs are simpler to estimate, and prices can be gradually adjusted to reflect changes to these costs. As discussed in Section 3.4, Western Australia and South Australia are already operating renewable interment rights and the experiences from these states suggest that there are long term efficiency benefits to be gained from introducing the model in Sydney's metropolitan cemeteries.

To realise these benefits, Crown Land Managers will need to introduce truly cost-reflective pricing arrangements to incentivise renewable rights- which may impact the price of perpetual interment rights. A bridging option might involve 'perpetually renewable rights', where people can continue to keep paying in the future if they wish. In Adelaide's council-operated Centennial Park allows payments to incrementally extend tenure.[94]

Each of the four Sydney metropolitan Crown Land Managers noted that renewable interment options would not be supported by all faith communities. InvoCare echoed the views of the Crown Land Managers – that many communities across Sydney's multicultural population would not accept renewable interment rights due to their religious beliefs. While CMCT have introduced natural burials at Kemps Creek on a 25-year renewal right, they note that there is only one burial of this kind per year and limited plans to extend this offering.[95] Given that natural burials are not overly popular, the Kemps Creek situation may not be indicative of the demand that might be expressed in an appropriately priced adult lawn burial area.

Renewable interments are logistically challenging, and an operational renewal program requires CLMs and state government to introduce effective planning and management. In Adelaide, there is a focused and prioritised rolling 10 year plan in order to ensure that operational efficiencies are maximised (i.e. maximising the area to be redeveloped and minimising instances of small, segmented redevelopment). This plan, as well as strong practices around record keeping, are essential in reducing the reputational risk from poor community engagement, erroneous redevelopments or the removal of heritage sites. To realise the efficiency benefits of renewable interment rights, Crown Land Managers will need to engage their communities to understand this option. The use of renewable interment rights in South Australia provides a point of reference for Crown Land Managers to understand how renewable interment rights might be adopted by their communities, including adopting the model to meet the religious requirements of some communities. Adelaide Cemetery Authority notes the benefits of renewable interment rights for the consumer:

- the price is materially lower than for perpetual interment
- the practice is more environmentally sustainable, due to the reduced need to clear new land for additional interments

[94] Centennial Park, *Expired Sites* <https://www.centennialpark.org/cemetery-records/expired-sites/>.
[95] CMCT information provided.

- the practice allows for individual to be buried within proximity to cities and to family and friends who wish to visit the grave, and for family burial plots to be developed where individuals can be interred with relatives.

In South Australia, legislation did not allow for perpetual interment rights until 2013.[96] As a result of this, the Adelaide Cemetery Authority has developed solutions with some faith communities that would traditionally preference perpetual interments. For example, a model was co-developed with the Muslim community which involves multiple interments in one grave.

As well as managing the expectations of communities in introducing the model of renewable interment rights, Crown Land Managers will require strong incentives to take on the short term capital costs associated with developing a renewable interment model. While the remit of this report is to consider how Crown Land Managers can achieve efficient costs, there may be value in considering other ways to influence the adoption of renewable rights.

5.1.5 Planning to use uninterred land efficiently

Land managers explained that the cost of interments can vary significantly with soil type and land conditions (see Section 2.2.3). This can create a challenge for making the optimal use of the remaining land, particularly at older cemeteries, where undeveloped land tends to be more difficult (and costly) to use for interments. The challenges associated with using some land types for burials suggests that efficiency opportunities which can be realised from geological profile of cemeteries noting this is occurring on an ad hoc basis at some Crown cemeteries.

There are a range of additional options to support the efficient use of cemetery land, beyond adopting a limited tenure model. The Sydney Crown Land Managers, and interstate operators, identified other opportunities to ensure efficient land use, without requiring the relocation of interred bodily remains. Investments in geological profiling, and the adoption of cemetery renewal models are key examples of opportunities to ensure that remaining cemetery land can be used as efficiently as possible.

A more consistent and large scale geological mapping exercise would support Crown Land Managers to better identify the future capacity and costs of using certain areas for interments. NMCLM explained that geotechnical and soil studies can support the effective mapping of burial sites. This would allow them to estimate costs more precisely and support their planning process. RGCLM also noted that technology investment would help to make better use of available land, but that automation may not be possible around some of the old monument sites and may not be in line with the needs of certain faith groups. CMCT noted that a merger to bring Rookwood Cemetery under the management of a single operator would increase the effective utilisation of burial space across the entire necropolis.

An increased investment by the Crown Land Managers in geological profiling could be the initial stage of a longer term opportunity to efficiently utilise cemetery land. These investments would support Crown Land Managers in considering opportunities for cemetery renewal and in identifying which cemetery land is suitable to use for limited tenure interments.

As discussed in Section 3.3, the Western Australian approach to cemetery renewal involves redesigning the cemetery layout so that new burials take place on previously uninterred land. While this process is more difficult to implement retrospectively, this could provide a model for the Sydney Crown Land Mangers to plan the future use of their remaining land to accommodate future cemetery renewals. A challenge associated with this process is that legislative change may be required to support a cemetery renewal model.

There may be other ways to be improve land use efficiency that are not discussed in this chapter. One system that has been used and discussed overseas is vertical cemeteries – buildings to house interred bodily remains. As per IPART's scope for this project, land acquisition costs have not been analysed extensively so we simply note that there may be other longer term options besides other models for procuring land.

[96] Centennial Park, *Perpetual Interment Rights* <https://www.centennialpark.org/perpetual-interment-rights/>.

5.1.6 Increasing consumers' choice of maintenance standard

Crown Land Managers noted maintenance as a significant driver of indirect costs - especially in certain cemeteries or sections of cemeteries which have higher maintenance requirements. Some maintenance costs cited by Crown Land Managers related to ensuring basic access to cemetery sites (e.g. maintaining paths) while others related to servicing areas of the cemetery with a high standard of maintenance (e.g. rose gardens).

As shown in Table 3.3, there is significant variation between Crown Land Managers and cemeteries in the current per plot costs of non-perpetual care ground maintenance. While NMCLM's per pot maintenance expense is particularly high at Macquarie Park ($1,082) and Frenchs Forest ($589) sites, this cost is more moderate for SMCLM ($215 on average across the two cemeteries) and CMCT ($255), while RGCLM's per pot current maintenance is far lower ($25).

Consultations also identified differences between and across Crown Land Managers in terms of the standards of maintenance of both cemeteries and interment sites. One community member expressed that their faith community had previously sought to employ an external organisation to provide maintenance services for their communities' graves, but that this was not possible for insurance and compliance reasons – leaving them subject to the maintenance standard provided by the operator.[97]Given the historical lack of a defined standard of maintenance, it is difficult to assess the whether the maintenance services are being undertaken at an efficient cost. There is additional complexity where CLMs have different maintenance requirements for cemeteries or cemetery areas which are fully utilised an unable to accommodate new interments, and are maintained less regularly as a result. One CLM explained that it would be very difficult to reduce maintenance FTE unless maintenance standards were to change.

RGCLM in particular expressed the need for the regulator to define an acceptable maintenance standard. This would:

- Ensure that a minimum standard of care is maintained and allow the Crown Land Managers to take a targeted approach to achieve this standard in a cost efficient manner.
- Support operators to benchmark their current maintenance activities and to assess the quotes from external providers to identify inefficiencies and avoid unnecessary spending.
- Allow Crown Land Managers to monitor the effectiveness of maintenance services against a well-defined set of criteria.

In February 2020, Cemeteries and Crematoria NSW published a voluntary code of practice for cemetery maintenance.[98] This document provides a defined industry minimum standard of care for cemeteries and sets out best practice for the maintenance of cemeteries of different sizes. The CLMs' implementation of this standard will be a critical step – where maintenance standards can be clearly defined, the efficiency of the maintenance service can be more directly assessed.

IPART identifies that there is scope for more efficient pricing which accounts for the future maintenance costs of cemeteries (Interim Recommendation 13). It is important to manage the risk that operators will respond to this recommendation by offering lower prices at a poor maintenance standard, rather than prices which appropriately reflect the cost of efficiently proving maintenance services to an agreed standard. Ensuring that pricing and maintenance conditions are transparently communicated to consumers can support this. This principle is reflected in IPART's Interim Recommendation 10, that conditions of interment rights be clearly communicated to consumers, including the nature and level of maintenance of the interment site and the cemetery.

Publishing information about minimum standards of maintenance, current standards and the impacts on costs could influence consumer choices and see the growth of interment rights that have more basic and fewer premium maintenance standards. This could be an additional component of the price comparison website proposed by IPART in Interim Recommendation 12. This could be further supported by a model in which minimum maintenance standards, or grades of maintenance are clearly defined, and compliance is linked to an operating licence.

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[97] Consultation with representative from the Estonian community – contact provided by Rookwood Cemetery.
[98] Cemeteries and Crematoria NSW *Voluntary Code of Practice for Cemetery Maintenance* (February 2020) <https://www.industry.nsw.gov.au/__data/assets/pdf_file/0020/311690/Voluntary-Code-of-Practice-for-Cemetery-Maintenance.pdf>

In other jurisdictions, cemeteries have implemented a similar approach - introducing pricing based on clearly articulated grades of service, or interment site attributes. Toowoomba Regional Council's cemeteries provide three sets of fees for burial rights, cremation right and interments in different , which reflect 'standard', 'superior' and 'premium' options – it provides for fee variations within rows of graves and sections to reflect their various attributes. Prices also vary with cemetery location – there is a different set of prices at the council's 17 regional cemeteries than for the Drayton and Toowoomba Cemetery.[99] This model supports the choice of a more basic services and could support Crown Land Managers to articulate the maintenance standards to their customers and therefore better manage their costs.

Another component of this transparent pricing reform could be to ensure that additional costs and charges are clearly separated from the price of the interment service. As discussed in Section 2.2.2, it would be appropriate for an out-of-hours fee to be applied and charged only when incurred, rather than applying this cost broadly to the efficient BALB for faith communities that require this service in some circumstances. Similarly, where additional equipment is required to accommodate graveside burial proceedings (e.g. temporary canopy setup for a shared meal), these cost additions should be charged separately. This is the current practice at some cemeteries – RGCLM's price list includes additional fees for weekend services and for equipment hire. The provision of equipment at the time of interment is complimentary.[100]

There remain some challenges associated with implementing an explicit maintenance standard. In some cases, these standards may drive consumers to choose a higher maintenance standard due to the negative perceptions associated with selecting the lowest standard of maintenance for the burial site of a loved one. In realistically considering the extent to which this model will drive efficiencies, it is important to note that a cemetery's existing product mix (from cremation to basic lawn burial to headstone memorialisation and monuments) already presents a range of choices for consumers, and that those that are most price sensitive may tend to select a cremation over a basic interment.

The process of CLMs adopting the maintenance approaches set out in the voluntary code of practice could be aligned with the outsourcing of land managers' maintenance activity to a single service provider (see Section 3.1.4). While the efficiency opportunities outlined in this section focus on charging prices which reflect efficient costs, there are a range of factors outside of this remit which should be considered in implementing this approach, including ensuring that communities are appropriately consulted in the process of implementing a common maintenance standard.

5.1.7 Undertaking consistent reporting

As described in Section 2.3, there were some inconsistencies in how Crown Land Managers estimated the direct costs associated with interment services (BALB). Some providers allocate indirect costs while others do not, labour on costs were not always estimated. Some CLMs reported equipment costs, while others allocated site costs, repairs and maintenance, and depreciation to the BALB. Across the course of consultations and modelling, it became clear that Crown Land Managers do not use consistent approaches to record keeping and reporting.

Firstly, there are opportunities to realise efficiencies by increasing the amount and detail of data collected by each CLM. In some cases, CLMs do not record sufficiently detailed information about their operations, to assess efficiency at a granular level. For example, the sector, including some CLMs, do not tend to collect worker timesheets by task, while other CLMs who outsource tasks may not have access to granular activity-based data about these services. Having detailed records of worker activities would provide operators with a more accurate understanding of the way that labour time is split across different products (e.g. cremated remains vs burials) and services. CLMs should be required to adopt detailed timesheet records for their systems. This will improve the

[99] Toowoomba regional Council *Fees and charges 2019/20 – Cemetery Burial Services* <http://www.tr.qld.gov.au/otherApps/feescharges/all/index.html?category=CEMETERY%20BURIAL%20SERVICES%20-%20ALL%20OTHER%20CEMETERIES>.
[100] Rookwood General Cemetery, *General Price List* (November 2019) <http://www.rookwoodcemetery.com.au/assets/documents/General_Price_List_Nov2019.pdf>

evidence base on labour costs to support CLMs in assessing the efficiency of their operations, and in allocating resources accurately.

Secondly, efficiencies can be gained by increasing the consistency of reporting across the CLMs. As describes in Section 4.2.2, the development costs associated with interment services are defined differently across CLMs. Some CLMs capture development costs as part of direct costs, while others classify development costs as part of capital expenditure and others report this as a separate cost item entirely. In particular, there is a clear variation in the definition of COGS across the sector. A consistent accounting approach across Crown Land Managers would enhance the transparency of costs across the sector, including increasing transparency around the impact of different cultural and religious interment requirements on fees

To support this efficiency, regulator(s) could provide guidance to the CLMs about clearly defining COGS and applying relevant accounting standards appropriately. Introducing consistency across cemeteries' systems, processes and accounting methods will minimise the need for staff duplication across cemeteries and between land managers (see also Section 5.3.1). Investing in modern and automated reporting systems can also reduce the administrative burden associated with tracking records, which is discussed further in the following section.

5.1.8 Investing in consistent and modern IT systems

As discussed in Section 5.1.2, indirect costs reflect a large proportion of total costs, and this is reflected in the share of direct and indirect labour resources at each Crown Land Manager. Consultations with Crown Land Managers identified that some administrative tasks are particularly time consuming because of incomplete or inconsistent record keeping, or manual processes which are undertaken when community members request historical information.

It is expected that Crown Land Managers will realise efficiency benefits from upgrading IT and data management systems, and introducing more automation in the record keeping process – noting that such upgrades are currently being undertaken by some Crown Land Managers. Up to date enterprise resource planning (ERP) tools could also support CLMs in understanding how labour is allocated across tasks and could lead to more efficient use of labour resources (Section 5.1.10).

While these processes can support efficiency at the individual CLM level, it is consistency across the CLMs' processes that would be expected to bring substantial efficiency benefits. These include:

- **Economies of scale** associated with adopting a common cemetery CRM system, rather than each Crown Land Manager using different versions of the same provider's cemetery software. This could align with as shared services approach to CLMs' customer service teams.
- **Streamlined processes**: upgrading telephone and booking systems can support streamlined and integrated processes, to improve customer service (in particular, reducing the number of interactions with customers and/or funeral directors, and the associated costs).
- **Reducing administrative burden:** improving and automating records management systems will reduce the number of labour hours allocated to these tasks.
- **Understanding resource allocations:** updating internal ERP and payroll systems can reduce the costs associated with maintaining legacy systems and can provide CLMs with provide a clearer picture of resourcing needs, to allocate labour more efficiently.

This efficiency could be realised as part of a shared service model and involve the development of a bookings and/or interment right database that is common and consistent across all Crown Land Managers. Outsourcing this IT system consolidation could mitigate risks of cost increases associated with a challenging implementation process.

Some Crown Land Managers identified ongoing projects to increase IT capabilities. SMCLM is investing in IT upgrades to support their functions - but primarily to improve their customer service capabilities, rather than reduce costs. The adoption of common systems between cemeteries and within Crown Land Managers' different back office teams could also support efficiencies related to multi-skilling of staff. Other Crown Land Managers (RGCLM and NMCLM) noted that IT investments would support future savings and provide relatively immediate efficiency dividends (for example, developing an online booking system would reduce costs associated with meeting with customers in person).

Other sectoral stakeholders tended to focus on the efficiency benefits that could be gained from the use of consistent systems. A funeral director noted inefficiencies of the Crown Land Managers' current approaches to data management. This included instances where paperwork was duplicated, information flows were unclear, or processes were inconsistent. The Western Australian Metro Cemeteries Board noted the efficiencies gained from a recent IT upgrade. This included more efficient internal processes (e.g. collecting performance management data) and customer-facing processes (e.g. allowing for paperless transactions and digital forms).

5.1.9 Test the market to consider efficiency opportunities

Cemetery operators varied in the extent to which they outsourced (and were able to outsource) cemetery services. While CMCT outsources part of the maintenance of areas with lower visitation within their Rookwood site, this outsourcing of maintenance is generally not occurring across the board for all Crown Land Managers (see Section 3.1.4).

Efficiencies could be gained from a model in which Crown Land Managers outsource certain services, or consider their costs of certain functions against an industry benchmark. Tendering of services allows the purchaser to test the market, and provides efficiency benefits where a Crown Land Manager does not have sufficient scale or specialisation to undertake certain activities at benchmark cost.

Outsourced activities could include the day-to-day maintenance of operational cemeteries, the perpetual maintenance of near capacity cemeteries which have limited availability of new graves, or other back office services such as sales and administration services, human resources functions and IT system management. Outsourcing and tendering would also support efficient spending for one-off services. For example, some cemeteries are undertaking highly specific activities, such as the removal of asbestos and the replacement of wiring.

This outsourcing could involve tendering activities to other cemetery operators (e.g. a model where Crown Land Managers are partially operated by other public or private providers). This could be similar to a model for councils, where operators of Council cemeteries employ staff via the council.[101] Other stakeholders, including interstate cemetery operators and union representatives were more sceptical of the efficiencies to be gained through outsourcing, suggesting that a 'cross skilling' approach to training labour would achieve similar outcomes more effectively (see Section 5.1.10).

The nature of this outsourcing would depend on the approach taken to supporting Crown Land Managers in sharing services. This could also involve a model where all Crown Land Managers jointly outsource services, such as the development of a common IT system, or the maintenance of cemeteries which are fully utilised and cannot accommodate additional interments.

5.1.10 Allocating staff more efficiently

By their nature, cemeteries are labour-intensive operations. Analysis of direct and indirect costs, as well as employment data, indicate that savings could likely be made by removing duplication and decreasing office overheads.

Analysis of the direct costs in Section 4.2.6 provided little indication that efficiencies could be made by reducing the level of direct employees. CLMs expressed reasonable concerns that reductions in these areas could compromise the quality of service. In addition, consultations revealed little appetite amongst CLMs to outsource direct labour functions, citing predominantly their inability to control and monitor the quality of work. CLMs were concerned that outsourcing direct labour could significantly damage their brand and relationships with communities.

Nonetheless, we note that interstate consultations indicated generally higher levels of cross-skilling introduced across cemetery functions, had resulted in improvements in their staff utilisation. Removing job titles such as 'grave digger' in favour of 'funeral worker' allowed modest reduction in total staff numbers by creating greater flexibility and reduced specialisation.

[101] Shoalhaven City Council, *Delivery Program and Operational Plan – Resourcing Strategy 2019/20* <https://doc.shoalhaven.nsw.gov.au/Displaydoc.aspx?Record=D19/218391>.

The NSW Australian Workers Union noted that members expressed interest in opportunities to develop a range of skills within their roles, and noted that greater engagement with the Crown Land Managers would support them to identify opportunities to improve productivity across their labour force and develop a broader set of skills. The union viewed this productivity gain as fundamentally necessary to support CLMs in increasing the size, scope and complexity of their operations, as well providing greater job security through higher skills and better pay as a reward for finding efficiency dividends.

Whilst direct costs demonstrated few potential efficiency dividends, analysis of indirect costs and staff indicate the CLMs (particularly NMCLM, CMCT and SMCLM) have historically highly staffed office functions. Indirect costs, as a proportion of total costs, could be anywhere from 30-60% suggesting that there is likely room for CLMs to reduce these expenses at least to the benchmark level. Analysis of employment data corroborated this finding, with office staff accounting for 38% of cemetery employees, or 131 staff across four CLMs. This is in contrast to InvoCare which had fewer office staff (approximately 125) to manage services across 16 cemeteries and crematoria in New South Wales, Queensland and New Zealand. Community and faith groups expressed frustration in dealing with multiple support staff in different capacities and favoured streamlined models where they had a single touch point, an area where RGCLM was showing leadership.

Section 5.1.3 of this report discussed the various options available to CLMs to consolidate operations. Consolidation, at any level is likely to result in efficiencies by reducing duplication of roles across CLMs. In particular, consolidation would greatly reduce the number of executives and board members required. In 2018-19, the four CLMs together maintained 55 executives and board members, the equivalent of 15% of total staff (noting that board members are not staff and not full time). This is not to say that current remuneration is excessive or inappropriate given their responsibilities, only that consolidation would reduce overheads.

5.2 Barriers to efficiency

Crown Land Managers and other sector stakeholders identified a range of barriers to improving the efficiency of their cemetery operations. Some barriers related to operators' ability to adopt certain approaches to operating, while others were broader challenges.

Barriers to efficiency which relate to the historical operations of the Crown Land Manger include:

- **A competitive broader market environment:** The competition within the sector is complex. While competition can put downward pressure on prices for a homogenous service, it can also drive operators to define more differentiated products, or offer premium services, which may have higher prices. Sydney metropolitan Crown Land Managers compete on both price and on service quality. Where there is service-based competition which could result in higher maintenance standards and associated costs, efficiencies seen in local council or interstate cemetery managers (where there is less direct competition on the basis of service quality) may not be applicable.
- **Corporate strategy and community obligations**: Crown Land Managers each have corporate strategies that - to varying degrees - have objectives to increase the quantity and quality of services, achieve broader community objectives, and strengthen their balance sheets – and this may have implications for their efficiency.
- **Cultural and historic separation between Crown Land Managers and their faith mix:** Crown Land Managers perceived barriers to knowledge sharing between land managers because of their historically separate operations. The distinct faith mix of each Crown Land Managers' local communities was also noted as barrier for coordination and possible consolidation.
- **Faith groups' requirements**: some communities' religious and cultural interment requirements present a barrier to adopting specific efficiency measures. In particular, Crown Land Managers and faith communities reiterated that limited tenure interments (see Section 3.4.1) would not meet the religious requirements of some groups.
- **Inherited costs and liabilities:** in older cemeteries, the remaining land tends to be more difficult to develop and more costly to maintain. A common example is rocky land and low-lying land that is prone to waterlogging. These issues increase the costs of developing plots as additional machinery and/or labour hours are required.

- **Absent or unreliable records**: poor quality or missing historical records make it difficult for Crown Land Managers to reliably or readily identify unexercised interment rights or unsold plots. This is a key barrier in implementing a renewable tenure or cemetery renewal model within older sections.
- **High initial outlays associated with longer term efficiency gains:** Some Crown Land Managers need to upgrade outdated legacy systems and manage a backlog of maintenance services, before more efficient processes can be implemented, and that many of these costs were not budget for in an efficient manner. An example of this is a transition to new IT services which involves a significant increase in variable costs: while the previous IT system purchase was a one-off fixed cost, the new system reflects a regular annual licence fee per user.

Other barriers to Crown land mangers' efficiency reflected broader economic and environmental factors. These include:

- **COVID-19 related disruptions:** As well as being a short term barrier to operational efficiency, one Crown Land Manager notes a postponed planned price increase due to the disruptions customers would face during COVID-19. Not being able to charge appropriate sales charges creates a challenge for ensuring sufficient funds to invest in efficiency measures.
- **Enterprise agreements**: Crown Land Mangers identified that where the enterprise bargaining agreements dictate the hours, wages and overtime rates of cemetery workers, it can be difficult to negotiate flexible working arrangements, and more costly to provide twilight or weekend services.
- **Climate change**. Work health and safety guidelines require that staff work outside at temperatures below 37⁰. Where the frequency of high-temperature days is increasing, CLMs may occur additional costs relating to staff working overtime.

Many of these barriers to establishing more efficient processes are not simple to resolve or manage. While some barriers relate to the Crown Land Managers' operating model and their historical processes, overcoming these challenges will require engagement with stakeholders such as faith groups, unions and the Crown Land Managers' broader community members. Considering options to ameliorate some of these challenges will be a necessary component of the transition paths outlined in Section 5.3.

5.3 Transition path

The transition path to efficiency will largely depend on the intended outcome in the long term – that is, whether the Crown Land Managers will be amalgamated or whether some services will be shared. In line with a long-term outlook of at least some centralisation of CLM functions, short and medium term actions seek to improve consistency and coordination across CLMs.

Some of the efficiency opportunities set out in Section 5.1, such as the consolidation of Crown Land Managers, or establishing a shared service model will require an extended period of consultation and planning, and could take 4-5 years to implement and achieve efficiencies. Other strategic investments and smaller operating changes, such as IT system upgrades or outsource maintenance could be implemented in the short to medium term. The following sections detail key objectives across these transition stages.

5.3.1 Short term actions

As noted in Section 5.1, publishing transparent information about Crown Land Managers' costs and prices could be a powerful lever to incentivise operational efficiencies. Recognising that Crown Land Managers are well placed to understand the efficiency opportunities in the context of their individual corporate strategies and the needs of their communities, the transition path over the next 12 months could involve relatively limited direct instruction from the regulator, and rather focus on giving CLMs time to respond to the efficiency opportunities identified throughout the Review. It is also important to recognise that implementing many of these changes will require CLMs to undertake consultation with their staff and their communities.

Some of the short term responses from Crown Land Managers during this period might include:

- IT system upgrades and a transition to consistent record keeping approaches (Section 5.1.8)

- Implementing changes to refine and streamline customer service processes (Section 5.1.8)
- Implementing changes where required to comply with the recently released Code of Practice for cemetery maintenance.[102] (Section 5.1.6)
- Identifying opportunities to more efficiently allocate FTEs by cross-skilling staff (Section 5.1.10)
- Implementing frameworks to test the market when tendering certain services, and identifying which services could be outsourced (Section 5.1.9)
- Managing maintenance backlogs and undertaking geological profiling activity, to bring cemeteries to a minimum standard (Sections 5.1.5, 5.1.6).

Actions from the regulator to support these processes might include:

- Publishing efficient cost benchmarks and setting up the process to collect and publish transparent fee and pricing information over time.
- Introducing a framework and appropriate incentives to support CLMs in outsourcing some functions, in a manner that would support the transition to a shared services model.

5.3.2 Medium term actions

In the medium term, Crown Land Managers should be encouraged to continue to develop internally consistent processes. Stakeholders that had experienced cemetery mergers reiterated the time taken to realise efficiencies. A commonly identified challenge associated with consolidating cemetery management was the need to implement consistent processes and standards. For example, SMCLM was formed in 2012, by combining Woronora Cemetery and Eastern Suburbs Memorial Park. While operated by a single CLM for eight years, some operational aspects are still in the process of being combined. For instance, the two sites have separate payroll teams and separate finance accounts. Encouraging the CLMs to achieve internal consistencies can support efficiencies by reducing the cost of duplicated activities, regardless of whether this is part of a transition toward a shared services model or consolidation of the CLMs.

Another objective in the medium term should be to support consistency across each Crown Land Managers' processes and standards. This would involve supporting CLMs to undertake strategic investments to transition to common approaches to maintenance, administration and other service provisions.

Consultations with interstate cemetery managers that had been involved in mergers noted the importance of aligning maintenance standards, so as not to introduce inefficiencies related to a backlog of services once a cemetery becomes the responsibility of another operator. A shared services model can support a smoother transition to an efficient consolidated model. For example, establishing a system for the sharing of machinery and equipment across cemeteries (see Section 5.1.2) can avoid unnecessary duplication of investment.

Some of the medium term actions from the Crown Land Managers, supported by relevant regulatory incentives, could include:

- Increasing the proportion of functions which are being outsourced, especially those being outsourced jointly. Transitioning to a shared, hub and spoke type service model for discrete operational functions, such as common administrative teams, HR or IT functions and sharing specialist cemetery staff and machinery.
- Increasing the level of communication and knowledge sharing between Crown Land Mangers at an executive level to support a transition to a shared executive leadership team in the longer term.

It is expected that the medium term would involve Crown Land Managers rounding out their short term strategic activities. In particular, this could see the establishment of a pricing system that clearly aligns with a set of clearly defined maintenance standards (IPART Interim

[102] Cemeteries and Crematoria NSW *Voluntary Code of Practice for Cemetery Maintenance* (February 2020) <https://www.industry.nsw.gov.au/__data/assets/pdf_file/0020/311690/Voluntary-Code-of-Practice-for-Cemetery-Maintenance.pdf>

Recommendation 13). Standardising maintenance requirements could be a key mechanism for establishing an effective shared service model for CLMs.

As well as undertaking activities to prepare for a consolidation, the medium term could present opportunities to consider innovate approaches to land management, renewable tenure and cemetery renewal, as set out in Sections 5.1.4 and 5.1.5. Preliminary steps could involve:

- Investing in geological profiling studies to understand the available land at current cemeteries and to increase the reliability of records.
- Improve stakeholders' perceptions of renewable interment rights, by communicating the benefits to consumers and consulting with community stakeholders and faith groups to identify opportunities and limitations, and to appropriately structure pricing.
- Introduce or increase the offering of renewable interment rights.

5.3.3 Long term actions

The primary long-term objective would be to consolidate some or all functions of the Crown Land Managers. Extensive consultation with the CLMs and their stakeholders will be essential to support a model that provides long term efficiencies and continues to serve the community. A key challenge will be developing a set of governance arrangements which meet the needs of a broad set of stakeholders.

The outcomes expected within this longer-term time frame (4-5 years) would include:

- Establishing a common board or executive team to manage and coordinate all for Crown Land Managers. This could leverage or extend the shared services framework set up in the medium term and could involve some functions being partially undertaken by private operators.
- Develop a governance arrangement which supports shared services but allows for specialised and location-specific staff where required.
- Implementing a model for consolidation which recognises learnings from medium term shared service arrangements.

6 Legacy perpetual maintenance costs

As discussed in prior sections, cemetery operators are expected to provide maintenance to the sold gravesites in perpetuity at a standard of care that meets the customer and community expectations. These perpetual maintenance costs include both ground maintenance and administration activities.

Deloitte has been asked to assist IPART with:

- The development of a model for estimating the level of legacy perpetual maintenance costs based on a cemetery's characteristics (such as gravesite mix, location, and numbers of sold gravesites and areas of land developed for sold gravesites); and
- Estimating the dollar value as at 30 June 2020 of such future perpetual maintenance costs at a sample of council cemeteries.

This is in respect of bodily remains interments, and excludes cremated remains interments, as that was the level of information provided by the participating councils.

For the purposes of estimating current perpetual maintenance obligations, Deloitte contacted a selection of local councils and private operators to request relevant data and information. Such data and information was provided by a number of councils, and has been used in this section. Two private operators provided general information on their approaches to managing perpetual maintenance costs but not data about their costs or cemetery characteristics.

6.1 Perpetual Maintenance Obligation for council operators

- As discussed in Section 3.1.4 of this report, and also indicated through our consultations with the councils, perpetual grounds maintenance could cover a range of activities[103] including:
- mowing, weeding, whipper snippering, edging, and irrigation of the grass areas
- maintenance and irrigation of plants
- maintenance related to gardens and furniture, including garden planting, tending and maintenance
- litter control, such as rubbish removal, dead flower removal, and leaf blowing (in particular for crypts)
- pest control
- cleaning and maintenance of roadways, fencing, walks and buildings necessitated by natural growth and ordinary wear
- repairs
- managing safety aspects of monuments, particularly where the rightsholder cannot be located
- security to manage opening hours for a cemetery and prevent vandalism
- travel to/from cemetery site including transportation of maintenance machinery and equipment
- ad-hoc maintenance work to prepare for visits / events

Administration costs related to perpetual maintenance can include genealogy searches and other requests from the families of the interred, as well as the maintenance of systems, databases, and other functions required for ongoing perpetual care such as IT, finance, premises and utility costs.

CCNSW has developed a Voluntary Code of Practice for Cemetery Maintenance 2020which sets out best practice principles for cemetery maintenance.[104] The Voluntary Code of Practice includes a

[103] The activities listed here are examples only and are not intended to be a comprehensive list. Depending on the specific characteristics of the cemetery, these activities may be different.
[104] Cemeteries & Crematoria NSW, *Voluntary Code of Practice for Cemetery Maintenance – Cemetery maintenance guide* (February 2020)

hierarchy of three cemetery types, recognising that maintenance expectations will vary between different types of facilities, and noting that no two cemeteries are the same:

- **Local cemeteries** – typically the smallest of cemeteries (most village or churchyard cemeteries), with less than one hectare of used cemetery space and servicing a small or discrete population. Limited numbers (perhaps only 1 or 2, may be up to 20) of interments each year. Typically found in regional and rural locations.
- **District cemeteries –** larger than local cemeteries and typically service a series of smaller populations or an entire small town and its surrounding population catchment. Often contain between one and five hectares of used cemetery space, and have moderate levels of use (averaging between 20 and 100 interments each year).
- **Regional cemeteries** - the largest and most frequently used type of cemetery. More substantial in size and cater for a broader catchment, such as a major town or entire local government area. Typically cater for 100 or more interments each year. Regional cemeteries will sometimes contain onsite crematorium, chapel and administrative services and are typically found in main population centres or regional cities.

The CCNSW Voluntary Code of Practice for Cemetery Maintenance defines three stages of a cemetery (or for different areas within a cemetery) as follows:

- **Active cemetery area** refers to part or all of the cemetery where interment activities regularly occur, and therefore have higher levels of visitation
- **Transitional cemetery area** refers to part or all of the cemetery where there are occasional interment activities, such as second interments and interment via a pre-existing interment right, and as such have some visitation, though not as much as an 'active' cemetery area would
- **Perpetual cemetery area** refers to part or all of the cemetery where interment activities rarely occur, and as such have typically low levels of visitation and activity

It is expected that maintenance activity would decline through the lifecycle of a cemetery – from unused, to active, transitional and finally to perpetual phase – but the Voluntary Code notes that while a reduction in service standards may be appropriate, it should not detract from people being able to visit the cemetery.

To obtain revenue to pay for these costs, a cemetery operator charges customers for perpetual interment rights, and also for interring bodies or ashes. However, while the cemetery operator only receives revenue at the time of the sale of each of these services, the costs that such revenue must cover are ongoing into perpetuity – hence the term 'perpetual maintenance'.

In many businesses, it is sustainable to pay current costs from current revenue, but as cemeteries will eventually exhaust the area available for burial, their revenue opportunities from perpetual interment rights decline to zero over time, while the costs continue.

There is currently no legal obligation requiring cemetery operators (public or private) to set aside funds for the future costs of perpetual maintenance. CCNSW's Voluntary Code of Practice for Cemetery Maintenance 2020[105] states that during the 'active' phase of a cemetery, "perpetual care funds should be accumulated to cater for the majority of perpetual needs", but as the Code is voluntary, there is no requirement to hold funds for this purpose. IPART's Interim Report recommended that there should be such a requirement so that all operators could make adequate financial provision for the perpetual maintenance of the cemeteries.

The total funds required at the point a cemetery is fully sold (i.e. bodily interment rights are no longer available), previously referred to as the Perpetual Care Target Liability (PCTL), is the amount of assets required to support the cost of perpetual maintenance for all plots in the cemetery. However, it would not make sense, nor be practical, to require cemeteries to hold assets equivalent to this full amount immediately (e.g. on the first day they open for a new

[105] Cemeteries & Crematoria NSW, *Voluntary Code of Practice for Cemetery Maintenance – Cemetery maintenance guide* (February 2020)

cemetery). Rather, funds must be built up to this target in a practical manner, so that the full required amount is reached by the point that a cemetery is fully sold.

Legacy costs refer to the future maintenance costs in relation to sold perpetual interment rights at a particular point in time (i.e, where revenue has already been received for these rights). Legacy costs do not include maintenance obligations in relation to future sales of interment rights. They also do not include any grounds maintenance or administration costs over and above what is required in perpetuity (such as non-perpetual care ground maintenance, as referred to in Section 3.1.4 of this report, which could include the cost of maintaining gravesites to a very high standard for areas receiving frequent visitations), or other costs related to continuing the other activities of the cemetery before it is fully utilised (such as administration related to sales and business development, etc.).

As discussed in the report by Deloitte on "Governance framework – cemeteries", a common way to achieve this is to recognise an obligation, and hold a perpetual maintenance care fund, in relation to perpetual maintenance costs for those plots which have been sold at that point in time. This will ensure that the relevant obligation, and any associated perpetual maintenance care fund, begins at zero before any plots have been sold, and will reach the required PCTL when all plots have been sold. This is also consistent with the funding of this obligation – those sold plots for which the liability is held are those for which the interment rights fee has already been collected, part of which has ideally been collected to meet this future ongoing obligation.

We refer to this amount required to support the cost of perpetual maintenance for all plots which have already been sold as the Perpetual Maintenance Obligation (PMO). Quantification of this amount is the focus of the rest of this section.

6.2 Model for determining PMO

6.2.1 Purpose of Model

An Excel spreadsheet model has been developed for estimating the level of legacy maintenance costs based on certain characteristics of the cemeteries operated by a particular cemetery operator. The key result from the model is the value of the PMO in respect of each cemetery and in total for the operator, representing the present value of future perpetual maintenance costs in respect of past sold interments.

6.2.2 Model Inputs

The model is set up to calculate the PMO for each individual cemetery under an operator's control. It has been designed flexibly so that specific data relating to a cemetery will be used where it is available, but assumptions have been built into the model if such information is not available or is not considered as being reliable. This means that, the more information that is able to be used, the more accurately tailored is the calculated result to an individual council. However, where there are data shortcomings, an estimate of the total PMO is still able to be calculated for each operator.

The model allows for the following inputs, ideally per cemetery, or otherwise at an operator level:

- Cemetery features:
  - Gravesite mix (Lawn, Mixed or Monumental)
  - Location (Metropolitan or Rural)
- Number of sold plots (also referred to as "gravesites")
- Land area used for sold gravesites (in hectares)
- Operator estimates of annual perpetual maintenance costs, split by:
  - Ground maintenance
  - Administration/overheads related to maintenance

In addition, the model allows for inputs for an annual inflation rate for future costs and the ability to add a percentage risk margin to include an explicit margin for conservatism.

The minimum information needed to run the model is either of:

- Number of sold plots/gravesites; or
- Land area used for sold plots/gravesites.

However, the more data is populated in the model, the more accurate will be the estimated value.

6.2.3 Methodology

The model will calculate two different values of the PMO:

1. An "operator estimate" which uses annual ground maintenance and administration costs input specifically for that operator/cemetery
2. A "model estimate" which uses the model assumptions (see below) to estimate annual ground maintenance and administration costs based on each cemetery's statistics (such as size and gravesite type)

This allows the user to contrast the results produced using the specific maintenance and administration inputs available for that cemetery, against those implied for an average cemetery with similar characteristics. This can be used both as a sense check on the inputs used, as well as to understand how the expected perpetual maintenance costs for each cemetery compares to similar cemeteries on average.

We note that if annual ground maintenance and administration costs specific to each cemetery are not inputted, the model will only calculate the "model estimate" result.

The PMO is calculated as follows:

1. Calculate number of sold plots/gravesites or land area (if not provided)

Ideally, both of these pieces of information will be set as inputs to the model. However, if only one of these pieces of information is available, the other will be automatically populated using our "plot density" assumptions (see Section 6.3.1 for more information on this assumption).

If both the number of plots and land area covered by these plots is provided, then the plot density assumption is not used.

2. Calculate annual perpetual grounds maintenance costs

The "model estimate" of the annual perpetual grounds maintenance cost for each cemetery is calculated by applying the model assumptions. The assumption is defined as a "per hectare" (used for gravesites) amount and so is scaled to the total land area used for sold plots at each cemetery, and differs by cemetery type (lawn, mixed, or monumental). More information on this assumption and how it was derived can be found in Section 6.3.2.

3. Calculate annual perpetual administration costs related to maintenance

The "model estimate" of the annual perpetual administration cost for each cemetery is also calculated using the assumptions built into the model. The administration assumption is applied as a "per plot" amount, so is scaled by the total number of plots administered within each cemetery. More information on this assumption and how it was derived can be found in Section 6.3.3.

4. Project ongoing maintenance costs for each future year

The annual perpetual costs calculated in steps (2) and (3), which are in today's dollars, are then projected forward for each future year.

This projection allows for the annual costs to change over time due to both:

- Increases due to expected cost inflation
- Decreases in perpetual ground maintenance over time (for up to the next 50 years)

The latter model assumption is consistent with the CCNSW Voluntary Code of Practice that notes that once the cemetery enters a perpetual phase, and where visitation is correspondingly low, a

less active maintenance regime may be appropriate, for example by establishing a 'meadow effect' that allows native grasses or flowers to establish over longer periods between mowing.

To allow users to reflect expected declines in maintenance costs as visitation rates fall over time and as maintenance levels are reduced in level or frequency, the model allows for the user to enter up to three step-changes in perpetual maintenance costs (i.e. the number of years into the future that an assumed drop in maintenance costs will occur, and the percentage decreases in costs at that date) at the operator level, or separately for each cemetery if the user wants to set more granular assumptions, and/or an ongoing reduction in costs beyond the last step-change up to the date 50 years into the future. Separate assumptions can also be made for decreases in grounds maintenance and administration costs related to maintenance.

5. Calculate PMO

The legacy maintenance costs model calculates the PMO as a present value of the expected future maintenance cost outflows, by discounting the projected future cost cash flows. The yield curve used to determine the discount rates is discussed in Section 6.3.5.

As discussed earlier, two values of the PMO are calculated:

- One using the "operator estimate" grounds maintenance and administration costs; and
- One using the "model estimate" grounds maintenance and administration cost assumptions

6. Calculate funding shortfall (where applicable)

The model also allows operators to input the current balance of their perpetual maintenance fund (where such a fund exists), and then calculates the shortfall in funding for the operator's information, i.e. the difference between the perpetual maintenance fund assets and the calculated PMO. This will allow the operator to understand the unfunded amount which will still need to be accumulated in future from its various funding sources.

6.3 Model Assumptions

For the purpose of setting the underlying assumptions for the model for legacy perpetual maintenance cost obligations, we have taken into account data collected as part of submissions to IPART (covering 14 councils) and through interviews with a range of councils to understand drivers of perpetual maintenance costs. The information provided in IPART data submissions was the basis of our quantitative analysis. This was augmented by the information gained through our consultations with the councils and additional detail they subsequently provided, and in some cases we have also incorporated publicly available information from the council websites and other online sources.

The assumptions are based on expected levels of typical maintenance costs for use where insufficient information is available for the operator's cemeteries. The model does not reflect efficient costs of interments nor what is the level of maintenance that should necessarily be targeted by operators.

6.3.1 Plot density

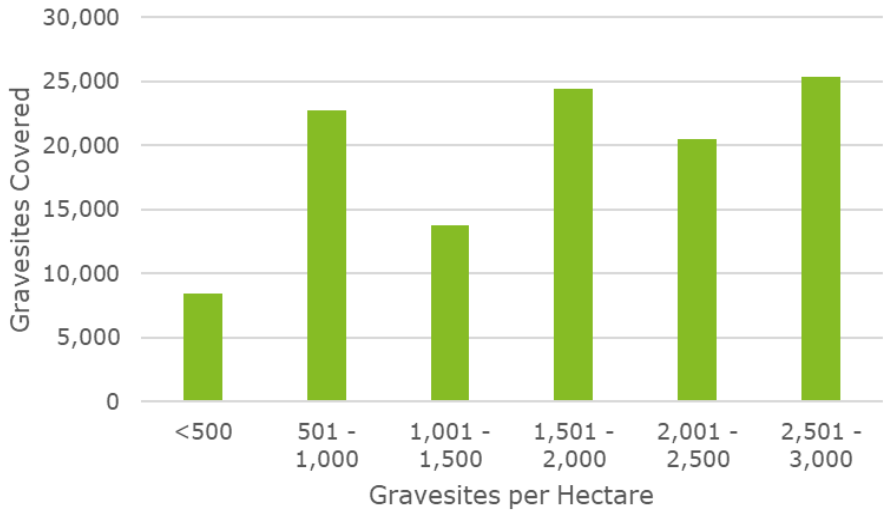
Plot, or gravesite, density is measured as the number of bodily remains interment plots per hectare, where the hectare is measured only as that area specifically developed for gravesites (i.e. excluding areas used for administration or infrastructure, common areas, areas for cremation or cremation memorialisation and undeveloped land). As referred to earlier, this assumption is only required where an operator is unable to provide both the number of sold plots and the total developed (maintained) area for those sold plots.

For the purposes of setting these assumptions, data was analysed for each of the cemeteries / councils where both a number of sold gravesites and amount of land developed for gravesites (and associated infrastructure) was provided.

Where data was provided for each individual cemetery operated by a council, this was used. Where only a total for all cemeteries operated by a council was provided, this was used instead. In total,

this provided 20 data points covering approximately 115,000 plots which was used for this analysis, the results of which are summarised in Chart 6.1 below:

Chart 6.1: Summary of Gravesites by Cemetery/Council Gravesite Density per Hectare

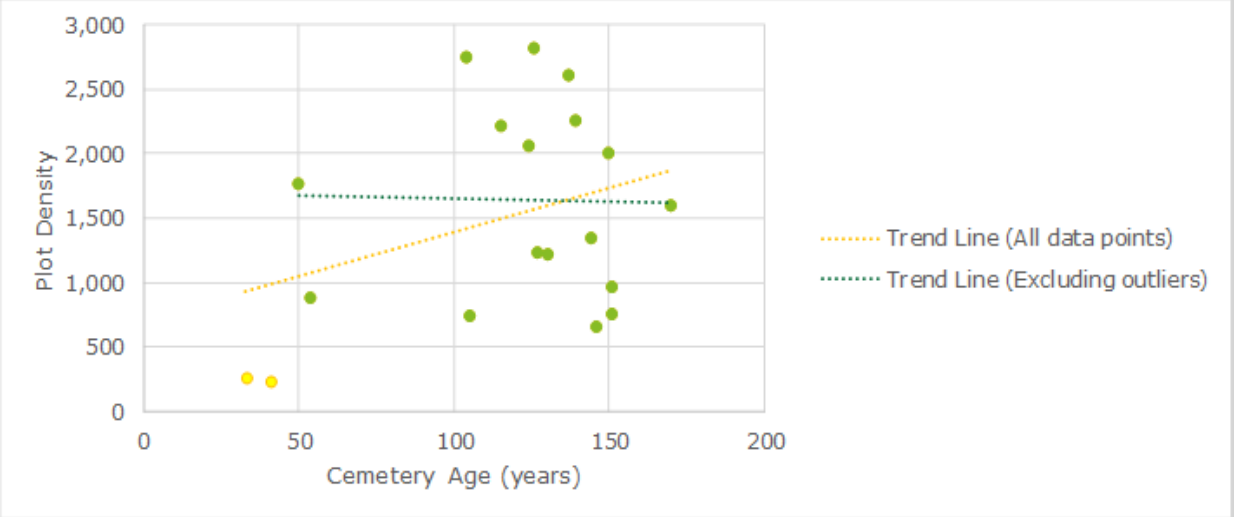


It can be seen that there is a reasonable level of variation in the density of plots/gravesites across the different cemeteries, based on the information provided.

To try to understand the difference between cemeteries, we have further analysed the results by cemetery age, gravesite composition (lawn, mixed vs monumental), and cemetery region (rural vs metropolitan). It is noted that our cemetery region was using operator geographic location, which allowed us to group multiple cemeteries of various operators compared to the earlier noted CCNSW definitions of individual cemeteries. See Appendix D for operator region classification.

Chart 6.2 compares the average plot density for each data point to their age. For data points representing an individual cemetery, the age is that of the cemetery itself. For data points representing a total council area, the age is the average across each cemetery operated by that council, weighted by the number of gravesites. It is noted that only 18 of the 20 data points were able to be allocated an age in the chart below.

Chart 6.2: Plot Density versus Cemetery Age



It initially appears that there is a positive relationship between gravesite density and cemetery age. However, this is heavily driven by the two yellow data points in the bottom-left of the graph. These both relate to large lawn cemeteries, and the very low densities do not appear consistent

with the other data points or with the potential density available for lawn cemeteries. These have therefore been excluded from our subsequent analysis as they appear to be notable outliers.

If those outliers are excluded, the green dotted line shows the resulting relationship. It appears broadly level at around 1,650 plots per hectare regardless of age, although it is noted that the density ranges from as low as 600 up to as high as 2,900.

Table 6.1 shows the average (plot-weighted) density by cemetery type and region, including numbers of observed data points (in brackets), with these two outlier data points excluded:

Table 6.1: Average Observed Density by Cemetery Type and Region

Cemetery Type \ Region	Metropolitan	Rural	Total
Lawn		1,402 (2)	**1,402** (2)
Mixed	2,044 (7)	877 (2)	**1,740** (9)
Monumental	2,065 (5)	1,955 (2)	**2,054** (7)
Total	**2,054** (12)	**1,248** (6)	**1,808** (18)

The overall average density across all 18 data points (excluding the two lawn outliers) is 1,808 plots per hectare used for burial purposes. Based on the data, this ranges from 1,402 for lawn burials up to 2,054 for monumental. However, the lawn results are based on a small number of data points, and indeed many of the mixed category includes combinations of lawn and other composition. Therefore, we consider that mixed and monumental are the most reliable to use.

We also note the apparent difference between metropolitan and rural council operators. The metropolitan is quite consistent across mixed and monumental, with an average of 2,054. However, the rural councils showed more variation which is potentially understandable if they may be running several different cemeteries in more geographically diverse areas and communities. The mixed result for rural appears quite low, especially compared to that for metropolitan and even rural monumental average density (which is 1,955).

We note the following estimates for gravesite density used elsewhere:

- CCNSW in its 2017 Metropolitan Sydney Cemetery Capacity Report[106] identified a gravesite density of 2,040 per hectare when analysing a recent development application for a new cemetery. It is noted that CCNSW had also used a higher assumption of 2,800 for other analyses within its report.
- Department of Health (Victoria) [107] in 2012 determined an average of 2,131 plots per hectare of remaining plottable land
- The United Kingdom Government estimates 1,976 graves per hectare for a typical municipal cemetery[108]
- The Australian Bureau of Statistics (ABS) notes that Catholic Parish Cemeteries Association currently has approximately 2,300 plots per hectare[109]

[106] Cemeteries and Crematoria NSW, Metropolitan Sydney Cemetery Capacity report (November 2017) <https://www.industry.nsw.gov.au/__data/assets/pdf_file/0014/143402/CCNSW-Metropolitan-Sydney-Cemetery-Capacity-Report.pdf>
[107] Victorian Government Department of Health, *Estimation of the remaining capacity of Victorian cemeteries* (2012) <https://www2.health.vic.gov.au/about/publications/researchandreports/Estimation-of-the-remaining-capacity-of-Victorian-cemeteries>.
[108] United Kingdom Government Environment Agency *Guidance - Cemeteries and burials: groundwater risk assessments* (2020) <https://www.gov.uk/guidance/cemeteries-and-burials-groundwater-risk-assessments>.
[109] Australian Bureau of Statistics, *Feature Article: Burial And Cremation Trends in SA* (March 2010) <https://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/1345.4Feature%20Article1Mar%202010>.

The above other research appears to suggest a gravesite density of around 2,000 – 2,300 plots per hectare, which is above our total average however closer to that observed for Metropolitan and Rural monumental cemeteries. Given the relatively small sample size of councils we analysed, and the volatility between the results we have determined for each category, we consider it most appropriate to set a single density rate for the purposes of the model assumption.

We have therefore adopted an assumption of 2,000 plots per hectare for use in the model, regardless of region and cemetery type**.** However, we note that the model includes functionality to set different assumptions by cemetery type and location (metropolitan or rural) if this is required.

6.3.2 Ground maintenance cost

The current costs of ground maintenance for sold interment sites provided by the investigated councils were analysed to determine the key driving factors and overall levels. We analysed these costs both as a rate per plot and a rate per hectare (defined as land for use for burial purposes).

During various discussions with them, many councils indicated that the biggest maintenance activity is grass mowing and whipper-snippering, and so the key drivers of maintenance costs identified by the councils were those which impact the difficulty of this:

- **Gravesite composition** - monuments impact the ease with which a ride-on mower can be utilised, requiring the mower to work around the graves or in some cases use more time-consuming methods such as whipper snipping and manual cutting in order to avoid damage to monuments
- **Gravesite density** – the more tightly packed gravesites are together, the more difficult it is to mow around them
- **Cemetery age** – older cemeteries were not designed with maintenance in mind, and again this can impact the ease at which a ride-on mower and other machinery is able to access and navigate the grounds
- **Cemetery status** - a gradual reduction in visitation over time once cemeteries are fully sold (also referred to as "closed") means their maintenance may not need to be as frequent / thorough, although security requirements may also change as visitation rates decline.

For each of the two potential measures (rate per plot and a rate per hectare), we therefore looked at results using each of these drivers. Table 6.2 and Table 6.3 show the average grounds maintenance per plot and average grounds maintenance cost per hectare respectively, by cemetery type and status:

Table 6.2: Average Observed Annual Grounds Maintenance per Plot by Cemetery Type and Status

Cemetery Type \ Status	Open	Closed	Total
Lawn	$4.8		**$4.8**
Mixed	$8.6		**$9.0***
Monumental	$6.1	$6.4	**$6.1**
Total*	**$6.6**	**$6.4**	**$6.9**

* Total includes one data point not included in either Open or Closed, as it relates to a council area which covers both open and closed cemeteries but could not be separated into these two categories

Table 6.3 Average Observed Annual Grounds Maintenance per Hectare by Cemetery Type and Status

Cemetery Type \ Status	Open	Closed	Total
Lawn	$8,400		**$8,400**
Mixed	$10,272		**$11,278***
Monumental	$11,995	$12,853	**$12,035**
Total*	**$11,262**	**$12,853**	**$11,600**

* Total includes one data point not included in either Open or Closed, as it relates to a council area which covers both open and closed cemeteries but could not be separated into these two categories

Grounds maintenance cost per hectare is fairly consistent across all categories, with a slight increase seen moving from Lawn to Monumental gravesites. This aligns with the discussions with the councils where they noted that the monuments can make mowing these areas more difficult.

We also note that the results of this analysis are sensitive to the data for the cemeteries included, given the small volume of total data. For example, the Monumental result is significantly driven by the numbers for a single large council, and excluding this single data point results in a much higher cost per hectare, while the Lawn result is based on a single council only. Similarly, the relativities between the different cemetery types are sensitive to how each has been classified.

The data does not indicate a material difference between open and closed cemeteries. However, we note that the amount of information provided for maintenance costs for closed cemeteries was particularly small. The closed figure is based on just three cemeteries, only one of which was managed by a council which also provided maintenance cost information for open cemeteries.

It is possible that this similar observed cost for open and closed cemeteries may indicate that the increased difficulty of maintaining older cemeteries (which are more likely to be closed) is offsetting the reduced level of maintenance required for closed cemeteries.

The observed cost of grounds maintenance per plot is less consistent across the different groups. This reflects the different number of gravesites per a given area of land in the data provided for the cemeteries of each type, as discussed above in Section 6.3.1. The more consistent rate by land area makes sense, with the key cost being grass mowing and the amount of grass to be mowed being directly tied to land size rather than the number of gravesites on that land.

Additional analysis was done in respect of additional impacts of cemetery age and density on the cost of grounds maintenance per hectare but no credible trends were found (noting that the above analysis on cemetery type would already allow for the different average gravesite densities of each type, and the analysis by status would already allow for the different average ages of open and closed cemeteries).

We have decided to set our grounds maintenance assumption as a "cost per hectare" measure, given the more consistent results observed, and as this removes the potential distortion observed due to large plot density variation across councils. Based on this analysis, and the qualitative information gained from consultations with the councils, we have therefore set perpetual grounds maintenance assumptions per hectare as shown in Table 6.4:

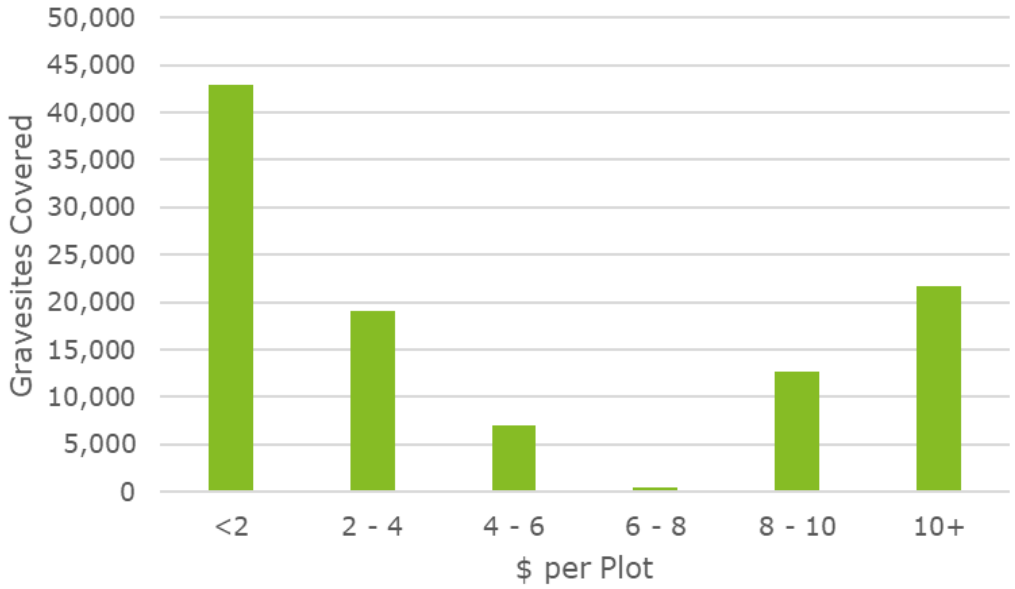
Table 6.4: Assumed Perpetual Grounds Maintenance ($ per Hectare per Annum) by Cemetery Type

Cemetery Type	$ per Hectare per annum
Lawn	9,000
Mixed	11,000
Monumental	13,000

6.3.3 Administration costs related to maintenance

Administration costs for perpetual obligations were analysed similarly to grounds maintenance costs. The councils interviewed indicated that the main administrative activities once a cemetery is fully sold are genealogy searches and other requests from the families of the interred, including transfers of interment rightsholders. Quantitative information on the administration costs, split by plot size, is shown below:

Chart 6.3: Annual Administration Costs per Plot



It is noted that such administration costs was provided by only six councils.

Therefore, given the small volume of data, it has not been possible to credibly determine any drivers of this cost level. However, we note that, unlike grounds maintenance, we do not expect the cost of administration activities such as genealogy searches would be impacted by things such as cemetery type.

As a result, we have set the assumption for the model based on an overall average, which is **$5 per plot annually**.

6.3.4 Maintenance cost trend overlay

While the costs analysed in Sections 6.3.2 and 6.3.3 relate to the grounds maintenance and administration costs required to meet the perpetual maintenance obligations to interment rights holders based on the status of the cemetery at present, it is expected that in the years after a cemetery reaches the stage of being fully sold, these may reduce at certain stages in the future.

This is because there will be a gradual reduction in visitors over time as the number of living close relatives of the interred decreases. This is likely to result in both expectations for perpetual grounds maintenance and administration requests falling over time.

The functionality built into the model allows for different assumptions in respect of expected reductions in ongoing perpetual maintenance costs for grounds maintenance and administration costs, with the ability to vary assumptions in relation to both the rate and frequency of such reductions.

However, we expect that any such reduction would only begin to occur quite a number of years after the cemetery is fully sold (as, for example, the next generation of a deceased's family would be expected to live for another 20-30 years during which they may continue to frequently visit the grave). Because of this, we have assumed that any reduction impacts would occur quite far in the future where the impact on the PMO would be less significant.

For simplicity, the base model assumes **no reduction in the costs of grounds maintenance and administration over time**, although the ability to do so has been built into the model.

6.3.5 Economic assumptions

6.3.5.1 Discount rate

As described earlier, the PMO is calculated by discounting future perpetual maintenance costs. The model functionality allows for either a single discount rate, or a yield curve of spot discount rates applying for up to 50 years into the future, to be used for discounting purposes.

The base discount rate used is based on the expected long-term return of a hypothetical investment portfolio which may be used to support the PMO. The PMO is a long-term obligation by definition, that will extend well beyond 50 years (i.e. into perpetuity). Therefore, the investment portfolio backing such a liability should take a long-term view, with an objective of achieving long-term growth using a balanced allocation between growth and defensive assets. The long-term investment horizon also means that it is appropriate to take a reasonable amount of investment risk to obtain higher long-term returns despite the possibility of short-term fluctuations, as the annual maintenance cost obligations are relatively small compared to the overall size of assets required and therefore short term liquidity is not likely to be a material concern.

In light of the above, we have assumed a gross nominal rate of investment return of 4% per annum, which has been determined as equivalent to an asset portfolio targeting a return of 2% per annum above inflation over the long term (see below for inflation rate assumption).

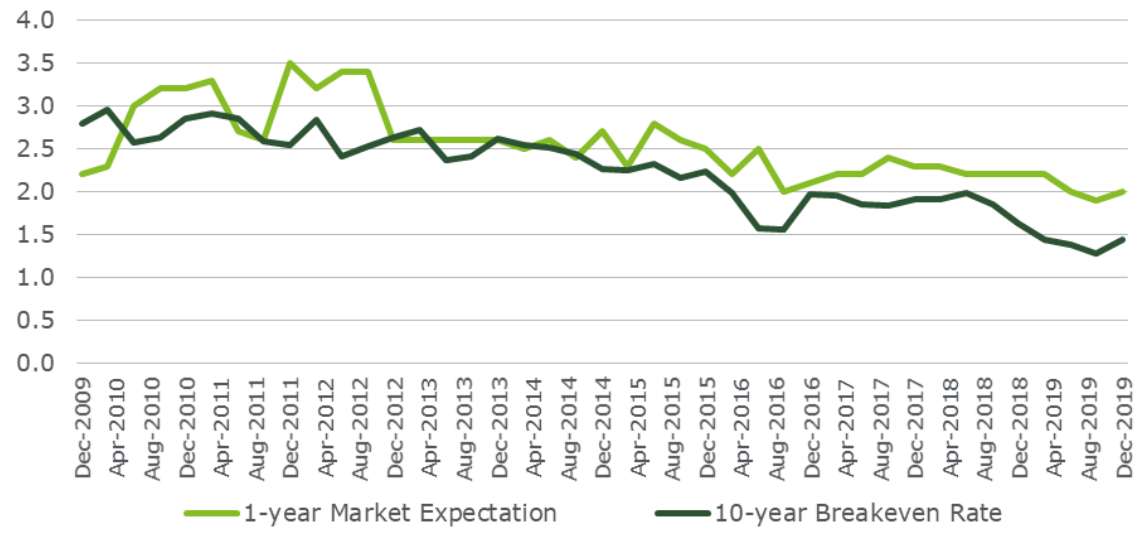
Therefore, we have adopted a 4% p.a. discount rate in the model to be applied to the future inflation adjusted maintenance costs.

6.3.5.2 Cost inflation rate

As mentioned earlier, the model allows for increases in maintenance costs in future due to the impacts of inflation. Accordingly, an assumption is required for the annual inflation rate for future costs.

In assessing a reasonable cost inflation rate for the annual perpetual maintenance costs, we analysed the expected inflation rate over 1-year and 10-year periods published by the RBA, and the 10-year geometric average of the two series.

Chart 6.4: Expected inflation rate



Source: RBA, Deloitte Analysis

Table 6.5: 10-year geometric average of inflation expectations

	10-year geometric average
1-year Market Expectation[110]	2.5% p.a.
10-year Breakeven Rate[111]	2.2% p.a.

Source: RBA, Deloitte Analysis

Based on the above and given the historically low inflationary environment in Australia, we have used 2.0% p.a. as the inflation rate assumption for perpetual maintenance costs as the base model assumption.

6.4 Sample legacy maintenance costs obligations

6.4.1 Selected sample

Using the information provided, sample calculations of the PMO have been performed for 12 councils using the model developed as described above:

- Blacktown City Council
- Central Coast City Council
- Cessnock City Council
- Clarence Valley Council
- Coffs Harbour City Council
- Hawkesbury City Council
- Hills Shire City Council
- Newcastle City Council
- Northern Beaches Council
- Penrith City Council
- Shoalhaven City Council
- Wollongong City Council

Appendix D sets out the gravesite mix and location (metropolitan or rural) used in the model for each of the individual cemeteries for the above sample councils.

6.4.2 Sample results

The calculated PMOs for each of these councils as at 30 June 2019 are shown below. In the following tables:

- an "operator estimate" value calculates the PMO liability based on future perpetual maintenance costs equal to the grounds maintenance and administration costs provided by those councils.
- a "model estimate" value calculates the PMO liability based on future perpetual maintenance costs using the assumptions for typical grounds maintenance and administration costs based on the basic cemetery characteristics (gravesite mix and location), however using plot density as per actual council data if available.

Table 6.6 shows a comparison of the total PMO values as at 30 June 2019 based on "operator estimate" and "model estimate" calculations using the legacy costs model we have developed.

[110] Survey measure of market economists' inflation expectations: Median inflation for 1 year ahead
[111] Average annual inflation rate implied by the difference between 10-year nominal bond yield and 10-year inflation indexed bond yield

Table 6.6: Legacy Maintenance Obligations as at 30 June 2019 – Total

Council	Total PMO – Operator Estimate	Total PMO – Model Estimate
Blacktown City Council	$8,040,523	$6,209,225
Central Coast City Council	$14,965,693	$14,250,967
Cessnock City Council	$8,354,346	$13,924,960
Clarence Valley Council	N/A	$11,685,874
Coffs Harbour City Council	N/A	$6,879,349
Hawkesbury City Council	N/A	$16,685,584
Hills Shire City Council	$6,776,587	$10,424,461
Newcastle City Council	$2,352,484	$7,873,646
Northern Beaches Council	$14,896,531	$7,239,141
Penrith City Council	N/A	$11,427,229
Shoalhaven City Council	$20,753,658 [(a)]	$11,354,537
Wollongong City Council	$32,299,162	$24,187,532
Total PMO for Selected Sample		**$142,142,505**
Total PMO for Selected Sample (8 councils) [(b)]	**$108,438,983**	**$95,464,469**

Note: (a) The "operator estimate" for Shoalhaven City Council looks relatively high, which is due to the amounts of actual ground maintenance costs and administration, as advised in the data submission to IPART, being comparatively higher than other councils on a per hectare or per plot basis.
(b) This totals row excludes four councils where insufficient council-specific data was available

The above shows that the overall PMO using council data provided, where available, would result in a higher relative PMO compared to the model assumptions (i.e. $108.4m compared to $95.5m respectively).

Table 6.7 and Table 6.80 show the calculated "operator estimate" PMO and "model estimate" PMO respectively, measured on a liability per hectare and liability per plot basis (where land size and/or number of plots was shown in the data provided). This could be used by the councils as a way to estimate the proportional amount which needs to be set aside to cover perpetual maintenance costs in relation to any future expansions of land developed for gravesites and future sales of new interment rights. The outputs in the spreadsheet model show the determination of these measures at a cemetery level, which takes into account differences in the maintenance obligations given different characteristics in cemeteries operated by the same council.

It shows that:

- Operator estimates result in a PMO of $1.07m per hectare, or $813 per plot
- Model assumptions result in a PMO of $0.94m per hectare, or $663 per plot (across the same 8 councils consistent with the operator estimate)

In these, it is observed that even for the model assumptions, the value per hectare is not equivalent to 2,000 times the value plot (based on the 2,000 plots per hectare assumption). This is because within the model results, the actual plot density per cemetery (or average per operator) was used if such data was provided.

Table 6.7: Legacy Maintenance Obligations as at 30 June 2019 – Operator Estimate per Hectare and per Plot

Council	Total PMO per HA [a]	Total PMO per plot[b]
Blacktown City Council	$1,710,750	$687
Central Coast City Council	$1,081,267	$595
Cessnock City Council	$675,968	N/A
Clarence Valley Council	N/A	N/A
Coffs Harbour City Council	N/A	N/A
Hawkesbury City Council	N/A	N/A
Hills Shire City Council	$495,883	$648
Newcastle City Council	$294,060	$179
Northern Beaches Council	$2,482,755	$1,178
Penrith City Council	N/A	N/A
Shoalhaven City Council	$1,846,794	$968
Wollongong City Council	$1,020,511	$1,133
Average across Selected Sample	**$1,068,856**	**$813**

Note: (a) PMO per hectare is based on the land developed for gravesites only (b) PMO per plot is based on sold plots with perpetual interment rights only

Table 6.8: Legacy Maintenance Obligations as at 30 June 2019 – Model Estimate per Hectare and per Plot

Council	Total PMO per HA[a]	Total PMO per plot[b]
Blacktown City Council	$1,321,112	$530
Central Coast City Council	$1,029,628	$566
Cessnock City Council	$1,126,698	N/A
Clarence Valley Council	N/A	$614
Coffs Harbour City Council	$771,306	$952
Hawkesbury City Council	$1,127,366	N/A
Hills Shire City Council	$762,819	$997
Newcastle City Council	$984,206	$600
Northern Beaches Council	$1,206,524	$572
Penrith City Council	$1,054,172	N/A
Shoalhaven City Council	$1,010,400	$530
Wollongong City Council	$764,219	$849
Average across Selected Sample	**$959,149**	**$671**
Average across Selected Sample (8 councils) ^	**$940,969**	**$663**

Note: (a) PMO per hectare is based on the land developed for gravesites only (b) PMO per plot is based on sold plots with perpetual interment right only, ^ This row excludes four councils where insufficient council-specific data was available.

While not specifically part of our scope, we became aware during the consultations that some councils already have allocations or funds notionally set aside for the potential purpose of supporting future perpetual maintenance costs in some or all of their cemeteries. However, it was not a data item which was explicitly collected or sought to be collected, and also for those councils that mentioned it, it was also noted that these could also be considered across broader council operations. Therefore, we note this but do not report on what these potential existing funds could total as it is highly uncertain.

6.5 Estimated total PMO across NSW

The estimated PMO of the sample councils can be used to develop a high-level estimate of the overall PMO of local councils in NSW. It can also be extended to other operators such as private, church and community operators, assuming they have similar costs for equivalent maintenance obligations, based on their respective share of burials. This can then be combined with information from the Crown Land Managers, to provide an indication of the size of perpetual maintenance obligations for NSW as a whole.

6.5.1 Approach used to estimate total perpetual maintenance obligations

The starting point for this analysis was the cost of PMO for each of the sample council cemeteries in Table 6.6 (model estimates). The 12 councils were categorised based on whether they were located in Greater Metropolitan Sydney or the rest of NSW. For both groups of councils, the share of burials in those sample councils during 2019 was used to estimate the total PMO for cemeteries operated by councils in Greater Metropolitan Sydney and the rest of NSW.

Eight of the sample councils are located in the rest of NSW (outside Greater Metropolitan Sydney). Based on data from the CCNSW Annual Activity Survey these councils accounted for 15% of total burials occurring outside Greater Metropolitan Sydney in 2019. The PMO for these councils were then scaled up with reference to their share of total burials among councils in the rest of NSW to estimate total perpetual maintenance obligations for all such councils. Private, church or community groups account for the equivalent of 17% of burials done by councils; a PMO estimate was derived by scaling the local council figure to account for this volume.

The four sampled councils in Greater Metropolitan Sydney accounted for 73% of burials by local councils in Greater Metropolitan Sydney. The perpetual maintenance obligations for these sample councils was similarly used to estimate the total PMOs for councils in Greater Metropolitan Sydney based on these councils share of burials, followed by scaling-up to account for private, church and community cemeteries, which in Sydney accounted for more than twice the number of burials undertaken by local councils.

Finally, perpetual maintenance costs of the Crown Land Managers were estimated based on information from their responses to the IPART and information provided as part of the Statutory Review for the NSW Department of Planning, Industry and Environment.

The estimated total PMO for local government cemeteries is estimated to be $768 million with the PMO of private, church and community run organisations being $227 million and that of the Crown Land Managers being $684 million. The total PMO for NSW cemetery operators was estimated to be $1.7 billion. The high-level results and regional breakdown are shown in Table 6.9 below.

Table 6.9: NSW cemetery PMO as at 30 June 2019, by cemetery operator

Operator type	Geographic region	Estimated PMO	Share of total PMO
Local government	Sydney	$48,125,936	3%
Local government	Rest of NSW	$719,578,614	43%
Private, church and community operators	Sydney	$105,264,651	6%
Private, church and community operators	Rest of NSW	$122,201,651	7%
Crown Land Managers^	Sydney/ Newcastle	$684,087,778	41%
Total		**$1,679,258,630**	**100%**

Note: ^ These figures do not include RNLM as no actuarial assessment has been done on its perpetual maintenance obligations.

These are high level estimates which involve a number of scaling assumptions. As our sample covered a relatively small share of burials in councils in the rest of NSW, and had no information on PMO for private operators in Sydney, it is likely that these high level estimates will have a degree of inaccuracy for these groups.

Moreover, current burial activity shares are likely to be an imperfect measure of historical burials, which in turn affect perpetual maintenance obligations. Undertaking the modelling separately at a regional and metropolitan level potentially accounts for differences in current to historical burial activity across these respective regions.

Another key assumption of the methodology is that the current burial shares by type of cemetery has remained constant. The modelling uses the burial shares of local councils, private, church and community operated cemeteries to estimate the total PMO. If these were very different in the past, for example more people were buried in church cemeteries, then the analysis could underestimate the PMO for this sector. On the other hand, if fewer people were buried in private cemeteries in the past due to the growth of these operators (noting that private operators comprise a large share of burials in Sydney) it is possible that PMO for private operators could be overstated.

Also, certain operators may have higher PMO per plot if they have different contractual arrangements (e.g. some private operators have contractual arrangements to maintain headstones). On the other hand, many newer cemeteries (such as those of private operators) may be designed in ways that reduce PMO per plot by facilitating more efficient maintenance approaches. As such, many other factors can impact on the ultimate level of PMO of an individual operator.

Finally, as previously stated, the information from the local councils surveyed was only in respect of bodily interments and did not include the perpetual maintenance costs in respect of interments of cremated remains. Depending on whether cemeteries offer interment of cremated remains, and if so the type and relative size of the area allocated to such cremated remains interments, then it may be that the PMO will be higher should interment of cremated remains also be included. However, we note that future maintenance costs per cremated remains interment are likely to be considerably lower compared to bodily remains interments due to the substantially smaller space occupied by cremated remains and the type of interment provided (such as columbaria or wall niches).

Given these limitations, these estimates should only be considered an indicative estimate of total PMOs in NSW.

Appendix A: Further details on basic adult lawn burial estimates

A.1. Approach for estimating direct interment service cost estimates

The CLMs were asked to provide bottom-up estimates on the number of hours required for BALB-related tasks, average wages per hour, and any additional administration, overheads and other costs.

The bottom-up estimates provided by the CLMs formed the basis of the direct BALB costs. However, as their responses varied in form, Table A.1 outlines the key data considerations and assumptions that were made across the CLMs.

Table A.1: Additional assumptions for BALB data

CLM	Data considerations
CMCT	• CMCT provided their internal modelling and Deloitte Access Economics attributed costs to direct costs by hours worked, labour costs, and equipment and material costs. • Rookwood results were used for CMCT. While CMCT did provide separate estimates for Kemps Creek, the difference was minimal.
NMCLM	• NMCLM noted that they currently do not have an excess fill cost as it stockpiles the excess dirt in the compound. However, in the future, removing excess soil may be costly, and total costs could be higher. • NMCLM did not provide costs by cemetery. It was assumed that all 'open' cemeteries had same costs as the CLM average.
RGCLM	• RGCLM provided bottom up costs by item but not hours. • It is not clear where development costs associated with BALBs are captured in the information RGCLM provided. Further clarification is required to ensure that the BALB estimates are comparable with other CLMs. • Their basic adult lawn grave costing is based on capacity for two full body interments and up to 12 cremated remains depending on space.
SMCLM	• Any indirect cost allocations to a BALB that SMCLM provided were excluded and re-estimated by Deloitte Access Economics to ensure the approach to indirect cost allocation was similar to other providers. • In their response, SMCLM stated they had limited equipment and material costs. However, they did attribute some depreciation to BALBs, which was used. • Basic adult lawn grave costing is based on one full body interment and cremated remains.

Source: Deloitte Access Economics

A.2. Approach for allocating indirect costs associated with the interment right

While some CLMs did provide allocations of indirect costs in their bottom-up interment service estimates, such as overheads in their responses, it was not comprehensive, and not consistently allocated across CLMs. Consequently, Deloitte Access Economics allocated total current indirect costs, including sales, administration, depreciation and other operating costs (as discussed in section 3) to interment rights, and excluded indirect costs that may be associated with additional services, and other core services such as cremations or other interments (e.g. cremated remains and mausoleum).

This indirect cost allocation process first involved separating those administration / overhead costs related to the maintenance of existing plots from the total current admin / overhead cost. This is done by multiplying the assumed annual admin / overhead cost for a fully utilised cemetery by the corresponding ratio of sold vs total current plots. This cost is then allocated between cremated remains and bodily remains based on assumed land usage. Within bodily remains plots, it is allocated equally on a per plot basis, as there is limited basis to distinguish between types of bodily interments.

A proportion of depreciation costs is allocated to interment services on the share of revenue attributable to interments (as opposed to licences). This acknowledges that there are likely to be some depreciation (e.g. machinery and equipment) associated with the interment service itself.

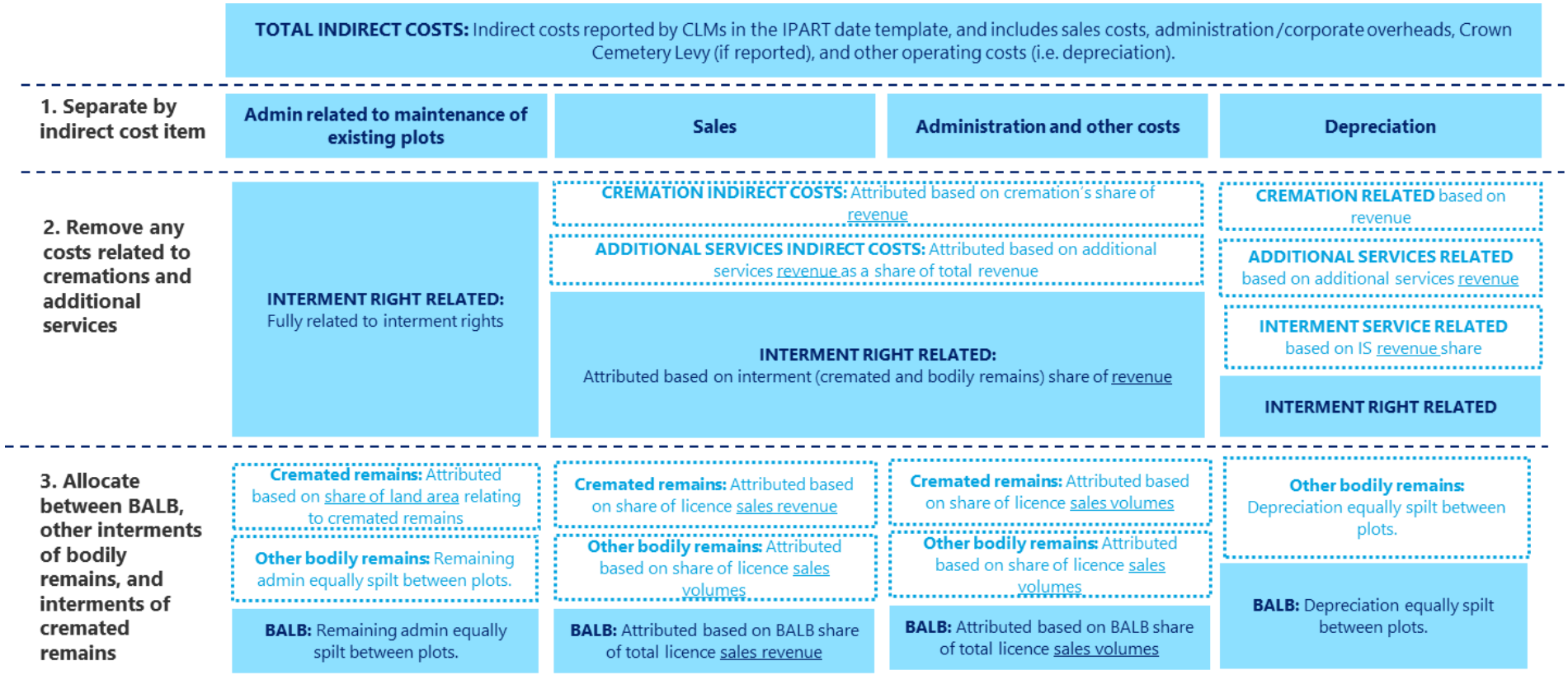
The remaining indirect costs, net of administration costs related to maintaining existing plots, and depreciation related to the interment service, were then allocated through the following process:

- Allocating a proportion of indirect costs to additional services based on its share of total revenue (including cremation). This typically ranges from 7% to 9% of total revenue across the CLMs.[112]
- Allocating a share of indirect costs to cremations based on the share of the revenue of cremations out of the total revenue for cremations and all interments for a CLM cemetery.
- Allocating the interment related indirect costs between a) cremated remains and b) BALBs, and c) other bodily remain interments.
  - For **sales costs**, it is assumed that costs are split based on the share of interment sales volumes.
  - For **administration and other costs**, it is assumed that costs are split on the share of interment sales volumes. This is as a similar degree of administration is likely to be required across all interment types.
  - For **depreciation related to the interment right**, it split equally across interments of bodily remains. This acknowledges that it is difficult to attribute the use of land/ buildings/ motor vehicles differentially to different types of bodily interments.

The conceptual process for attributing indirect costs is shown in Figure A.1

[112] Additional services revenue was not identified for SMCLM.

Figure A.1: Conceptual framework for attributing one-off indirect costs to the BALB interment right



Source: Deloitte Access Economics

Appendix B: Efficient BALB costs based on benchmark cemeteries

B.1. Approach for estimating costs per interment for benchmark cemeteries

Cemeteries that are predominantly bodily interment-based tend to have higher average costs per service. However, this reflects differences in the cost of providing different services, rather than differences in efficiency between cemeteries.

Consequently, to benchmark the CLMs against the other cemeteries, Deloitte Access Economics estimated a total cost per interment of bodily remains figure across the cemeteries.

Data on the benchmark cemeteries were derived from:

- Publicly available financial statements for 2018-19. While financial statements provided a sense of overall costs for the benchmark cemeteries, they typically did not disaggregate costs into the categories of interest (e.g. direct costs, grounds maintenance). Consequently, it was less comparable against the data provided against the CLMs.
- Consultations with other cemetery providers, including the ACT Public Cemeteries Authority (ACT), the Metropolitan Cemeteries Board (Western Australia), Southern Metropolitan Cemeteries Trust (Victoria), Adelaide Cemeteries Authority (SA) and Shoalhaven City Council (NSW). Some consulted cemeteries also provided confidential information, which have been de-identified if they are presented in the report.
- Council responses to the IPART template. Most councils were unable to provide detailed breakdown of their costing data or did not have verifiable cost information in their annual reports and were consequently excluded from the benchmark cemeteries.

A summary of the benchmark cemeteries, the data sources used, and some key information is shown in Table B.1.

Table B.1: Summary of benchmark cemeteries (2018-19 unless otherwise stated)

Benchmark cemetery	Data sources	Size (Ha)	Total cost ($000)	Interments of bodily remains	Interments of cremated remains*	Cremations
Greater Metropolitan Cemeteries Trust (Vic)	Financial statement	600	$54,230	4,520	1,918	6,724
Metropolitan Cemeteries Board (WA)	Financial statement Consultation	378	$25,643	2,080	2,415	9,831
Southern Metropolitan Cemeteries Trust (Vic)	Financial statement	362	$68,269	3,513	450	8,932
Adelaide Cemeteries Authority (SA)	Financial statement Consultation	90	$12,272	906		2,303

ACT Public Cemeteries Authority (ACT)	Financial statement Consultation	56	$6,055	487	140	-
Ballarat Cemeteries Trust (Vic)	Financial statement	62	$2,616	288	258	901
Geelong Cemeteries Trust (Vic)	Financial statement	211	$7,563	886	537	1,781
Shoalhaven City Council (NSW)	Financial statement IPART data template Consultation	76	$1,634	145	328	712
Wollongong City Council (NSW)^	Financial statement IPART data template	31	$2,276	205	73	1,205

Source: Deloitte Access Economics based on publicly available financial statements for the benchmark cemeteries. *Interments of cremated remains Include cremation memorials. Wollongong City Council (NSW) results shown for 2017-18.

Given differences in cemetery characteristics that may make results between CLMs less comparable, the analysis makes adjustments to account for differences in **service mix** across the nine benchmark cemeteries.

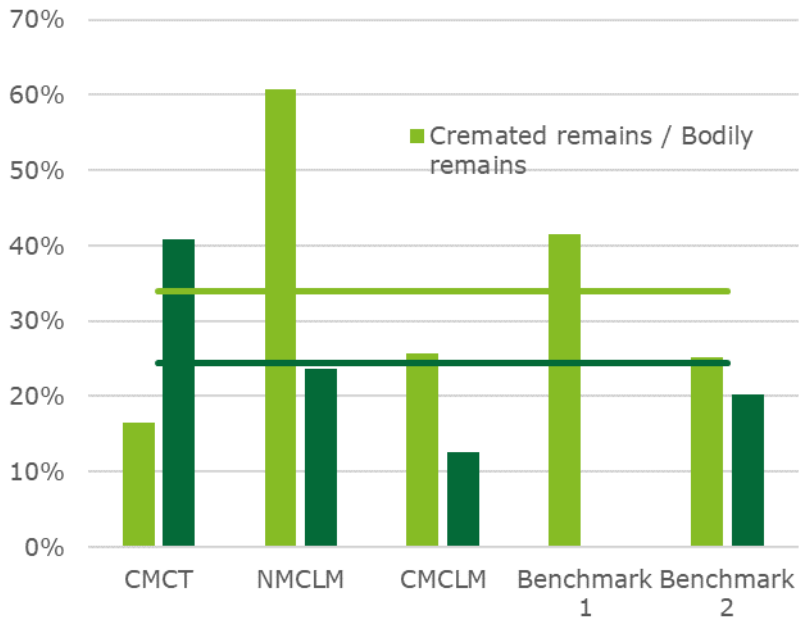
Based on costing data from the CLMs and costing data from two other benchmark cemeteries, it is estimated that:

- On average, the direct unit cost for an interment of cremated remains is 34% that of the direct unit cost of an interment of bodily remains.[113]
- On average, the direct unit cost for a cremation is 24% that of the direct unit cost of an interment of bodily remains.
- On average, the direct unit cost of a cremation is 34% of that of the direct unit cost of an interment (including both cremated remains and bodily remains) (Table B.1).

The cost differential adjustment for direct costs is applied to indirect costs for the CLMs and Shoalhaven City Council (as direct costs associated with their interment activity are given in their IPART data template responses).[114] For the other benchmark cemeteries, the adjustment was applied to their total costs.[115]

[113] RGCLM was not included in this calculation.
[114] It is assumed that all direct grounds maintenance costs are attributed to interments of bodily remains.
[115] A separate cost adjustment factor was applied for Geelong Cemeteries Trust. In its 2016 Regulatory Impact Statement, costs for interments of cremated remains are 43% of costs for interments of bodily remains.

Chart B.1: Direct costs of cremations and interments of cremated remains relative to interments of bodily remains



Source: Deloitte Access Economics based on IPART data template and internal modelling provided by benchmark cemeteries.

From the above assumptions, it is possible to back out the average cost for interments of bodily remains based on the following mathematical relationship:

$$C_s = C_C S_c + C_{ICR} S_{ICR} + C_{IBR} S_{IBR}$$

Where:

- C_s is the average cost per service; C_C is the average cost per cremation; C_{ICR} is the average cost per interment of cremated remains; C_{IBR} is the average cost per interment of bodily remains.
- S_C is the share of services that are cremations; S_{ICR} is the share of services that are interments of cremated remains; S_{IBR} is the share of services that are interments of bodily remains.

The following relationships also hold:

$$S_C + S_{ICR} + S_{IBR} = 1$$

$$C_C = 0.24 C_{IBR},$$

$$C_{ICR} = 0.34 C_{IBR}$$

Based on the above, it is possible to estimate cost per interment and interment of bodily remains by cemetery. The results are given in Table B.2.

Table B.2: Average cost of interment, and interment of bodily remains for benchmark cemeteries

Benchmark cemetery	Service mix adjustment	$ per service	$ per interment of bodily remains
Greater Metropolitan Cemeteries Trust (Vic)	Adjust for cremation & cremated remains	$4,120	$7,965
Metropolitan Cemeteries Board (WA)	Adjust for cremation & cremated remains	$1,729	$4,679
Southern Metropolitan Cemeteries Trust (Vic)	Adjust for cremation & cremated remains	$5,294	$11,686
Adelaide Cemeteries Authority (SA)	Adjust for cremation	$3,824	$7,243^
ACT Public Cemeteries Authority (ACT)	Adjust for cremated remains	$9,657	$11,328
Ballarat Cemeteries Trust (Vic)	Adjust for cremation & cremated remains	$1,719	$4,181
Geelong Cemeteries Trust (Vic)	Adjust for cremation & cremated remains	$2,079	$4,313
Shoalhaven City Council (NSW)	Adjust for cremation & cremated remains	$1,379	$4,035
Wollongong City Council (NSW)*	Adjust for cremation & cremated remains	$1,535	$4,349

Source: IPART, Deloitte Access Economics, publicly available financial statements for the benchmark cemeteries. *2017-18 data for used for Wollongong City Council as their 2018-19 costs are in transition given they ceased operating the crematorium. ^Costs per interment are shown.

Two key assumptions underpin these comparisons. First, it assumes that the cost differential between providing different services are broadly similar across providers. While this is true for the CLMs for average interment and cremation costs, there appears to be much greater variation in the costs of interments of bodily remains and cremated remains across the CLMs.

Consequently, this analysis provides value in observing ***relative cost differences between the benchmark cemeteries and the CLMs,*** rather than providing the most accurate estimate of costs per interment.

B.2. Estimating BALB indirect costs associated with the sale of an interment right for benchmark cemeteries

To assess the efficient indirect costs associated with the sale of an interment right, Deloitte Access Economics benchmarked costs from the following four cemetery operators (out of the nine benchmark operators above):

- Metropolitan Cemeteries Board (WA)
- Geelong Cemeteries Trust (Vic)
- Ballarat Cemeteries Trust (Vic)
- Shoalhaven City Council (NSW)

For the benchmark cemeteries, BALB costs were established from their top-down costs for interments of bodily remains, with grounds maintenance, administration related to grounds maintenance, and depreciation removed, as they are covered under other components of the interment right.

While the financial statements may specify maintenance, they typically refer to the maintenance and repair of equipment, which is not comparable to grounds maintenance. Consequently, the **grounds maintenance** was estimated for the four benchmark cemeteries as follows:

- Shoalhaven City Council (NSW) provided actual estimates on grounds maintenance related costs in its response to the IPART data template.
- For the other cemeteries, the maintenance and repair costs from annual reports were used for the non-labour component. Then the labour maintenance costs have been estimated based on the share of the wages that are typically associated with maintenance staff. Across the CLMs, approximately 24% of labour costs are associated with grounds maintenance staff.

Grounds maintenance per plot ranges from $15 to $22 per annum for the benchmark operators.

Administration costs associated with maintaining existing plots was estimated and removed. This is estimated based on the ratio of administration and maintenance costs across the CLMs.[116] For Shoalhaven City Council, actual reported data has been used. Administration costs per plot ranges from $4 to $8 per annum.

Depreciation is removed. This is based on the figures reported by operators in their annual reports.

Lastly, direct costs associated with an interment service are removed. It is assumed that the average interment service costs $1,200. Operator specific direct costs have been used for Metropolitan Cemeteries Board (WA) and Shoalhaven City Council.

The resultant figure was then used to proxy for the average indirect BALB cost for the benchmark cemeteries. Note that indirect costs related to the interment right are not removed for the benchmark cemeteries. Consequently, the figure may be an overestimation of efficient BALB costs.

Table B.3: Average cost per BALB for benchmark cemeteries

Benchmark cemetery	$ per interment of bodily remains	Grounds maintenance per interment	Admin per interment	Depreciation per interment	Direct cost per interment	Indirect cost per interment
Ballarat Cemeteries Trust (Vic)	$4,181	$1,157	$422	$296	$1,200	$1,105
Geelong Cemeteries Trust (Vic)	$4,313	$816	$297	$509	$1,200	$1,490
Shoalhaven City Council (NSW)	$4,035	$937	$226	$572	$1,185	$1,114
Metropolitan Cemeteries Board (WA)	$4,679	$941	$343	$52	$1,100	$2,243

Source: IPART, Deloitte Access Economics, publicly available financial statements for the benchmark cemeteries.

[116] Administration related to grounds maintenance is typically 36% of total grounds maintenance costs.

Appendix C: Further details on overall cemetery costs

C.1. Approach for estimating current costs

Current costing data has been collated based on CLMs' responses to a bespoke IPART cemetery operator information request data template. In addition to information on their costs, the data template also requested information on:

- The characteristics of each CLM and the cemeteries, including their size, number of plots and their status.
- Sales volumes by product type.
- Questions on the drivers of cost for their operations.

Given that the IPART data templates were filled out by individual CLMs, there may be differences in their interpretation and preparation of data, that makes it difficult to compare across providers. In particular:

- Data granularity varied across providers. For instance, although the IPART template included cost breakdowns by burial type (lawn grave, mausoleum, and other), some CLMs did not have data at this level of detail and were only able to provide high-level cost breakdowns for interment of bodily remains overall.
- Attribution of costs to different categories. All CLMs indicated that labour, equipment and material costs associated interments were included under direct costs. However, some had included labour for garden and grounds maintenance, cost of goods associated with memorialisation, and site development costs, while others did not.
- The data presented and discussed in this Chapter are based on 2018-19 and therefore represent point-in-time estimates. Cemetery costs can be variable over time, particularly capital costs such as land, and as such these estimates may not be representative of long-term costs.

To support comparability, the costings data from the IPART data template were tested through consultations with the CLMs and information obtained as part of the Statutory Review. As a further assurance, the results were subsequently further tested through consultations and cross-referenced against publicly available financial statements as a part of this project. Where data was incomplete or implausible, the data from the financial reports were used instead.

In addition to differences in the characteristics of CLMs that make them less comparable, differences in how the data template has been completed may also affect comparability. The key data considerations for each CLM are outlined in Table C.1.

Table C.1: Additional assumptions for CLM current costings data

CLM	Data considerations
CMCT Actual 2018-19 results	• CMCT provided different cost categories than provided in the IPART template. They were consequently reallocated by Deloitte Access. – They separately identified costs related to licenses (i.e. development costs for preparing graves, crypts, mausoleums etc.), which was subsequently allocated to direct costs of interment. – Rebates allocated to sales costs. – Monuments, chapel services, and sundry services allocated to additional services. – This may make the cost category breakdowns less comparable to other CLMs. • Capital costs relating to Wallacia and Macarthur Memorial Park have been excluded from the analysis.
NMCLM Actual 2018-19 results	• NMCLM was initially unable to provide cost breakdowns by cemetery and interment type. Through the DPIE statutory review work, Deloitte worked with NMCLM to understand, and where appropriate, estimate the non-financial and cost data. Overall operating costs were allocated based on revenue shares among cost categories / individual cemeteries in conjunction with historical P&L information. • Costs for additional services were separately estimated based on the P&Ls they provided. • Some of their site development costs are captured under capital costs. This could make their direct interment costs less comparable with CMCT.
RGCLM Actual 2018-19 results	• While RMCLM separately identified the revenue associated with monuments/masonry, it is not clear where the costs are captured. Consequently, they have not been included in the analysis. • Sales costs were separately estimated based on their sales team labour costs (identified via the annual report) although this is likely to represent an underestimate. • It is not clear where costs related to preparing graves are captured. In their annual report, RGCLM notes $3.4 million in costs of goods sold but it was not clear where these costs were captured in the IPART template which may affect comparability. • Other bodily remains interments predominantly captured monumental lawns, and were consequently included in the sales volumes of interments.
SMCLM Budget 2018-19 results	• SMCLM reported that their maintenance labour costs are captured under interments rather than grounds maintenance. This would underestimate their ground maintenance costs, and overestimate their interment costs. • SMCLM was unable to provide a breakdown of costs by interment type in their IPART template, and comparisons are based on costs per interment (bodily remains). This could potentially lead to an overestimation when compared to average costs per lawn grave for other cemeteries. • SMCLM have noted that they will have higher costs in the future, as a result of marketing and IT investments. Consequently, 2018-19 may not be a representative year, and could understate their costs.

Source: Deloitte Access Economics

C.2. Efficient costs

Table C.2 steps through the calculations for arriving at overall efficient costs across the CLMs by cost component. The starting point is their current costs in 2018-19. This is given by the following categories as different efficiency gains will apply across the cost components:

- Direct interment costs (including bodily remains and cremated remains) will not be changed as outlined in Section 4.3, due to the CLMs reporting costs similar or lower than the efficient interment service cost.
- Development costs will not be reduced due to limited evidence to suggest that there is a typical efficient cost of development.
- Grounds maintenance costs will be reduced based on the percentage difference in current and efficient maintenance costs per right.
- Indirect costs will be reduced based on the percentage difference in current and efficient interment right costs for indirect costs associated with the sale of an interment right, and the administration and overheads related to the maintenance of existing plots.
- No efficiency gains for additional services was assumed.

Table C.2: Efficient overall costs by CLM (2018-19)

	CMCT	NMCLM	RGCLM	SMCLM
Current costs ($000)				
Direct interment	$2,023	$4,672	$2,820	$3,384
Development	$3,888	$0	$1,292	$0
Grounds maintenance	$2,944	$5,004	$3,083	$1,450
Admin related to maintenance of existing plots	$1,562	$1,603	$750	$2,350
Other indirect costs	$6,235	$2,775	$6,482	$7,415
Depreciation	$758	$1,988	$963	$2,676
Additional services	$2,510	$1,283	$3,485	$830
Total	$19,919	$17,325	$18,875	$18,105
Cost reduction to reach efficient cost				
Direct interment	0%	0%	0%	0%
Development	0%	0%	0%	0%
Grounds maintenance	-18%	-51%	0%	-3%
Admin related to maintenance of existing plots	-37%	7%	-45%	-53%
Other indirect costs	-36%	7%	-45%	-52%
Depreciation	0%	0%	0%	0%
Additional services	0%	0%	0%	0%
Efficient costs				
Direct interment	$2,023	$4,672	$2,820	$3,384
Development	$3,888	$0	$1,292	$0
Grounds maintenance	$2,426	$2,451	$3,083	$1,401
Admin related to maintenance of existing plots	$980	$1,709	$412	$1,099
Other indirect costs	$4,007	$2,979	$3,563	$3,566
Depreciation	$758	$1,988	$963	$2,676

Additional services	$2,510	$1,283	$3,485	$830
Total	$16,592	$15,082	$15,618	$12,955

Source: IPART, Deloitte Access Economics. Note: direct and attributed indirect costs for cremations have been excluded.

Appendix D: Assumed Council Regions and Types

Allocation of each council area between "Rural" and "Metropolitan" was done using the NSW Rural Classification Maps. The assigned regions, as well as the assumed cemetery types and reasons for making this assumption are outlined in the following table, together with the Office of Local Government (OLG) groups based on the Australian Classification of Local Governments determined by the Australian Bureau of Statistics:

Council	Cemetery Name	Office of Local Government (OLG) Group (OLG number in brackets)	Assumed Region	Assumed Type	Type Source
Bega Valley	Bega	Regional Town/City (4)	Rural	Monumental	Judgement made from cemetery images
Bega Valley	Bemboka	Regional Town/City (4)	Rural	Monumental	Judgement made from cemetery images
Bega Valley	Bermagui	Regional Town/City (4)	Rural	Monumental	Judgement made from cemetery images
Bega Valley	Candelo	Regional Town/City (4)	Rural	Monumental	Judgement made from cemetery images
Bega Valley	Cobargo	Regional Town/City (4)	Rural	Monumental	Judgement made from cemetery images
Bega Valley	Eden	Regional Town/City (4)	Rural	Lawn	As per council website
Bega Valley	Pambula	Regional Town/City (4)	Rural	Lawn	As per council website
Bega Valley	Quaama	Regional Town/City (4)	Rural	Monumental	Judgement made from cemetery images
Bega Valley	Rocky Hall	Regional Town/City (4)	Rural	Monumental	Judgement made from cemetery images
Bega Valley	Tantawangalo	Regional Town/City (4)	Rural	Monumental	Judgement made from cemetery images
Bega Valley	Towamba	Regional Town/City (4)	Rural	Monumental	Judgement made from cemetery images
Bega Valley	Wolumla	Regional Town/City (4)	Rural	Monumental	Judgement made from cemetery images
Bega Valley	Wonboyn	Regional Town/City (4)	Rural	Monumental	Judgement made from cemetery images
Bega Valley	Wyndham	Regional Town/City (4)	Rural	Monumental	Judgement made from cemetery images
Blacktown	Riverstone Cemetery	Metropolitan (3)	Metropolitan	Monumental	As per council website
Blacktown	St Bartholomew's Cemetery	Metropolitan (3)	Metropolitan	Monumental	Judgement made from cemetery images and its old age
Central Coast	Noraville Cemetery	Metropolitan Fringe (7)	Metropolitan	Mixed	As per council website
Central Coast	Jilliby Cemetery	Metropolitan Fringe (7)	Metropolitan	Mixed	As per council website
Central Coast	Wamberal Cemetery	Metropolitan Fringe (7)	Metropolitan	Mixed	Judgement made from cemetery images
Central Coast	Point Clare Cemetery	Metropolitan Fringe (7)	Metropolitan	Mixed	Judgement made from cemetery images
Central Coast	Yarramalong Cemetery	Metropolitan Fringe (7)	Metropolitan	Mixed	Judgement made from cemetery images
Central Coast	St Barnabas Cemetery	Metropolitan Fringe (7)	Metropolitan	Mixed	Judgement made from cemetery images
Central Coast	Ronkana Cemetery	Metropolitan Fringe (7)	Metropolitan	Monumental	Judgement made from cemetery images
Cessnock	Branxton Cemetery	Regional Town/City (4)	Metropolitan	Monumental	As per council website

Council	Cemetery Name	Office of Local Government (OLG) Group (OLG number in brackets)	Assumed Region	Assumed Type	Type Source
Cessnock	Cessnock Cemetery	Regional Town/City (4)	Metropolitan	Monumental	As per council website
Cessnock	Ellalong Cemetery	Regional Town/City (4)	Metropolitan	Monumental	As per council website
Cessnock	Gordon Williams Memorial Lawn Cemetery	Regional Town/City (4)	Metropolitan	Mixed	As per council website
Cessnock	Greta Cemetery	Regional Town/City (4)	Metropolitan	Monumental	As per council website
Cessnock	Kurri Kurri Cemetery	Regional Town/City (4)	Metropolitan	Mixed	As per council website
Cessnock	Millfield Cemetery	Regional Town/City (4)	Metropolitan	Monumental	As per council website
Cessnock	Rothbury Cemetery	Regional Town/City (4)	Metropolitan	Monumental	As per council website
Cessnock	Wollombi Cemetery	Regional Town/City (4)	Metropolitan	Monumental	As per council website
Cessnock	Glenmore Cemetery	Regional Town/City (4)	Metropolitan	Monumental	As per council website
Clarence Valley	Clarence Lawn Cemetery	Regional Town/City (4)	Rural	Lawn	As per council website
Clarence Valley	Maclean Lawn Cemetery	Regional Town/City (4)	Rural	Lawn	As per council website
Clarence Valley	Iluka Cemetery	Regional Town/City (4)	Rural	Lawn	Judgement made from cemetery images and its old age
Clarence Valley	Lawrence Cemetery	Regional Town/City (4)	Rural	Monumental	Judgement made from cemetery images and its old age
Clarence Valley	Ulmarra Cemetery	Regional Town/City (4)	Rural	Monumental	Judgement made from cemetery images and its old age
Clarence Valley	Copmanhurst Cemetery	Regional Town/City (4)	Rural	Monumental	Judgement made from cemetery images and its old age
Clarence Valley	Coutts Crossing Cemetery	Regional Town/City (4)	Rural	Monumental	Judgement made from cemetery images and its old age
Clarence Valley	Nymboida Cemetery	Regional Town/City (4)	Rural	Monumental	Judgement made from cemetery images and its old age
Clarence Valley	Mylnford Cemetery	Regional Town/City (4)	Rural	Monumental	Judgement made from cemetery images and its old age
Clarence Valley	Grafton Cemetery	Regional Town/City (4)	Rural	Monumental	Judgement made from cemetery images and its old age
Clarence Valley	South Grafton Cemetery	Regional Town/City (4)	Rural	Monumental	Judgement made from cemetery images and its old age
Clarence Valley	Maclean Cemetery	Regional Town/City (4)	Rural	Monumental	Judgement made from cemetery images and its old age
Coffs Harbour	Combined Council Area	Regional Town/City (5)	Rural	Mixed	Judgement made for combined council area
Dubbo	Combined Council Area	Regional Town/City (4)	Rural	Mixed	Judgement made for combined council area
Hawkesbury	Richmond Lawn Cemetery	Metropolitan Fringe (6)	Metropolitan	Mixed	As per council website
Hawkesbury	Pitt Town General Cemetery	Metropolitan Fringe (6)	Metropolitan	Monumental	Judgement made from cemetery images and its old age
Hawkesbury	Wilberforce Cemetery	Metropolitan Fringe (6)	Metropolitan	Monumental	Judgement made from cemetery images and its old age
Hawkesbury	St Albans New General Cemetery	Metropolitan Fringe (6)	Metropolitan	Monumental	Judgement made from cemetery images and its old age
Hawkesbury	Lower Portland Cemetery	Metropolitan Fringe (6)	Metropolitan	Monumental	Judgement made from cemetery images and its old age
Hawkesbury	St Albans Old Cemetery	Metropolitan Fringe (6)	Metropolitan	Monumental	Judgement made from cemetery images and its old age

Council	Cemetery Name	Office of Local Government (OLG) Group (OLG number in brackets)	Assumed Region	Assumed Type	Type Source
Hawkesbury	Bilpin Cemetery	Metropolitan Fringe (6)	Metropolitan	Monumental	Judgement made from cemetery images and its old age
Hawkesbury	Half Moon Farm Cemetery	Metropolitan Fringe (6)	*Not included - missing required information*		
Hawkesbury	Sackville Reach Cemetery	Metropolitan Fringe (6)	Metropolitan	Monumental	Judgement made from cemetery images and its old age
Hawkesbury	General Cemetery McDonald River	Metropolitan Fringe (6)	*Not included - missing required information*		
Hawkesbury	Windsor Catholic Cemetery	Metropolitan Fringe (6)	Metropolitan	Monumental	Judgement made from cemetery images and its old age
Hawkesbury	McGraths Hill Methodist Cemetery	Metropolitan Fringe (6)	Metropolitan	Monumental	Judgement made from cemetery images and its old age
Hawkesbury	South Windsor Presbyterian Cemetery	Metropolitan Fringe (6)	Metropolitan	Mixed	Judgement made from cemetery images and its old age
Hawkesbury	Richmond Presbyterian Cemetery	Metropolitan Fringe (6)	Metropolitan	Mixed	Judgement made from cemetery images and its old age
Hills Shire	Castle Hill	Metropolitan Fringe (7)	Rural	Mixed	As per council website
Hills Shire	Sackville Reach Cemetery	Metropolitan Fringe (7)	*Not included - missing required information*		
Newcastle	Wallsend Cemetery	Regional Town/City (5)	Metropolitan	Mixed	As per council website
Newcastle	Stockton Cemetery	Regional Town/City (5)	Metropolitan	Mixed	As per council website
Newcastle	Minmi Cemetery	Regional Town/City (5)	Metropolitan	Monumental	As per council website
Northern Beaches	Mona Vale Cemetery	Metropolitan (3)	Metropolitan	Monumental	As per council website
Northern Beaches	Manly Cemetery	Metropolitan (3)	Metropolitan	Monumental	As per council website
Penrith	Penrith General Cemetery	Metropolitan Fringe (7)	Metropolitan	Lawn	As per council website
Penrith	St Marys General Cemetery	Metropolitan Fringe (7)	Metropolitan	Mixed	As per council website
Penrith	Emu Plains General Cemetery	Metropolitan Fringe (7)	Metropolitan	Monumental	As per council website
Penrith	Castlereagh Anglican Cemetery	Metropolitan Fringe (7)	Metropolitan	Monumental	Judgement made from cemetery images and its old age
Penrith	St Stephens Anglican Cemetery	Metropolitan Fringe (7)	Metropolitan	Monumental	Judgement made from cemetery images and its old age
Shoalhaven	Shoalhaven Memorial Gardens and Lawn Cemetery	Regional Town/City (5)	Rural	Lawn	As per council website
Shoalhaven	Sandridge Cemetery	Regional Town/City (5)	Rural	Mixed	As per council website
Shoalhaven	Berry Cemetery	Regional Town/City (5)	Rural	Monumental	Judgement made from cemetery images and its old age
Shoalhaven	Nowra General Cemetery	Regional Town/City (5)	Rural	Lawn	As per council website
Shoalhaven	West Cambewarra General Cemetery	Regional Town/City (5)	Rural	Monumental	Judgement made from cemetery images and its old age
Shoalhaven	Conjola General Cemetery	Regional Town/City (5)	Rural	Monumental	Judgement made from cemetery images and its old age
Shoalhaven	Kangaroo Valley General Cemetery	Regional Town/City (5)	Rural	Mixed	Judgement made from cemetery images
Shoalhaven	Old Worrigee Cemetery	Regional Town/City (5)	Rural	Mixed	Judgement made from cemetery images
Shoalhaven	Bellawongarah Cemetery	Regional Town/City (5)	Rural	Monumental	Judgement made from cemetery images and its old age
Shoalhaven	Warden Family Cemetery	Regional Town/City (5)	Rural	Mixed	Judgement made from cemetery images

Council	Cemetery Name	Office of Local Government (OLG) Group (OLG number in brackets)	Assumed Region	Assumed Type	Type Source
Shoalhaven	Coolangatta Cemetery	Regional Town/City (5)	Rural	Mixed	Judgement made from cemetery images
Shoalhaven	Harley Hill Cemetery	Regional Town/City (5)	Rural	Mixed	Judgement made from cemetery images
Shoalhaven	Numbaa Cemetery	Regional Town/City (5)	Rural	Monumental	Judgement made from cemetery images and its old age
Wollongong	Wollongong Lawn Cemetery	Regional Town/City (5)	Metropolitan	Lawn	As per council website
Wollongong	Scarborough Cemetery	Regional Town/City (5)	Metropolitan	Mixed	As per council website
Wollongong	Helensburgh Cemetery	Regional Town/City (5)	Metropolitan	Mixed	As per council website
Wollongong	Wollongong Memorial Gardens	Regional Town/City (5)	Metropolitan	Mixed	Judgement made from cemetery images
Wollongong	Wollongong Cemetery	Regional Town/City (5)	Metropolitan	Monumental	Judgement made from cemetery images and its old age
Wollongong	Bulli Cemetery	Regional Town/City (5)	Metropolitan	Monumental	Judgement made from cemetery images and its old age
Wollongong	Waterfall Generall Cemetery	Regional Town/City (5)	Metropolitan	Monumental	Judgement made from cemetery images and its old age
Wollongong	Kembla Grange Cemetery	Regional Town/City (5)	Metropolitan	Mixed	Judgement made from cemetery images
Wollongong	Berkely Pioneer Cemetery	Regional Town/City (5)	Metropolitan	Monumental	Judgement made from cemetery images and its old age

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