



Government of **Western Australia**  
Department of **Treasury**

Strategic Asset Management Framework

# Maintenance Planning and Governance





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## Introduction

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This module provides guidance on the:

- policy and principles for strategic maintenance planning;
- content of an agency's ten-year maintenance plan and its four-year program; and the
- effective governance of maintenance activity and expenditure.

## Definition

Maintenance involves strategic planning and investment, proactive governance and physical work to sustain and repair assets so they can be used effectively.

Maintenance planning is concerned with existing assets and with future assets that have been approved for acquisition or have yet to be considered for approval.

Maintenance work involves assessing the condition of assets and sustaining their functionality and value throughout their lives.

Proactive governance ensures that the resource implications of maintenance are clear and budgeted by an agency in advance and that the work is conducted and the expenditure is achieved as approved.

## Principles

- An agency is the custodian of government assets and ensures that they are maintained at a standard that enables current and future service delivery.
- Maintenance planning, governance and work are core business activities that are not discretionary.
- Strategic maintenance planning clarifies the way ahead for the asset portfolio with reference to the unique operational pressures faced by an agency and each key asset.
- Effective governance by the Chief Executive Officer and senior decision-makers in an agency ensures that current and future maintenance shortfalls are identified and addressed, and that the funding approved by government for maintenance is not diverted permanently to other priorities.

- Cabinet and Ministers should be fully informed of the risks to the community and government services that will arise from inadequate maintenance, and the practical benefits that will be achieved through appropriate levels of maintenance funding.

## Application

All government agencies (including statutory authorities and government trading enterprises) apply the SAMF policies and principles when they plan, deliver and manage maintenance. This includes the annual refresh of the agency's strategic maintenance plan and its submission to the Department of Treasury during the Budget cycle as part of the agency's strategic asset plan.

## Planning Levels

In the SAMF context, there are three levels of maintenance planning:

- strategic maintenance plan: looks ahead ten years to identify the highest priority maintenance activity that should be undertaken by an agency to address significant risks to the successful operation of its key assets.
- maintenance program: highlights the maintenance priorities, benefits and resourcing across the four-year Budget and forward estimates period, including to inform Treasury and the Economic and Expenditure Reform Committee (EERC) on the justification for maintenance funding.
- maintenance schedule: identifies the detailed maintenance work to be done on an agency's asset portfolio across the Budget and forward estimates period within the approved funding level. The maintenance schedule is developed primarily for internal use by an agency and is not normally requested by Treasury.

The three levels are distinct but related as parts of a top-down approach to maintenance planning and decision-making.

## Responsibility

An agency's Chief Executive Officer and Chief Finance Officer are responsible for the effectiveness of an agency's maintenance planning, delivery and governance. This includes:

- leadership and approval of the agency's strategic maintenance plan based on advice from investment planners and heads of asset management and operational areas;
- ensuring that assets are fit-for-purpose, including those operated on behalf of the agency by another entity such as a not-for-profit organisation;
- effective oversight of maintenance work by agency personnel, contractors and Building Management and Works in the Department of Finance; and
- accurate monitoring, accounting and reporting of maintenance expenditure.

## Value

The most important reason for maintenance planning and governance is to ensure that members of the community, including government employees, who use or live close to government assets are not exposed to hazards. For these people, the consequences of poor maintenance can be severe.

Effective maintenance maximises the service delivery return from existing assets and minimises the inconvenience and cost of disruption to services and the impact on the reputation of an agency and the Government. Well planned maintenance also provides wider community benefits particularly to local companies engaged in maintenance services.

Within finite State and agency budgets, the potential for future asset investment improves if the life and functionality of existing assets are sustained. Through maintenance, an agency increases the cost effective life of an asset rather than replacing it prematurely – which is more expensive and deprives other initiatives of funds. The disciplined planning and delivery of maintenance by agencies therefore supports the State's long-term financial position by contributing to the effective allocation of resources.

Clarity on the purpose and benefits of a maintenance program helps to convince Ministers, Cabinet and Treasury that the investment will address the highest priority risks to the community and to services, and that funds will be well spent.

## Summary

The effective planning and governance of asset maintenance is an essential discipline and a challenge faced by agencies in the public and private sectors.

The well-executed delivery of maintenance rarely has a noticeable impact. Maintenance may be recognised in theory as essential but in practice given a lower priority than the acquisition of a new asset or action on other operating pressures. Additional funding is difficult to obtain, particularly if a maintenance plan or submission is not compelling.

The remainder of this module clarifies the basis for the successful planning and advocacy of maintenance investment.

## Part One: Maintenance Plan

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### Overview

In order to develop a strategic maintenance plan, agency decision-makers look ahead ten years to identify the highest priority action that should be taken to address significant risks to the successful operation of key assets, the quality of the services they support and the safety of the people involved as service recipients and providers.

An agency-specific approach is taken which reflects the nature of the assets and the maintenance-related challenges they face. For example, one agency may have assets that are used on a twenty-four hour basis (such as a prison or a traffic monitoring centre). Another may have heritage buildings that have low usage rates but high maintenance obligations.

The strategic maintenance plan clarifies the status of the agency's overall maintenance position, whether weak or strong, as a basis for improvement. It contains the four-year program that is the focus of attention during annual Budget discussions with Treasury, in tandem with major capital investment proposals which contain the maintenance requirements and funding requests specific to each proposal.

A model for the presentation of a strategic maintenance plan is on the Treasury internet site. The following describes the advice that the plan should contain.

### Strategic Justification

As the first point of reference, a maintenance plan summarises the key assets that an agency intends to use over the next ten years as part of its service delivery model (as identified in the investment purpose section of its strategic asset plan).

The summary provides the basis for advice later in the plan on how maintenance should be used to sustain key assets.

The summary includes the assets of all participants such as local government, not-for-profit and community organisations. It identifies the assets that an agency will retain and the new assets that may be required in the transition from its current to future service model.

The main assets that will not be part of the service model are also identified along with the timeframe for their exit, for example, when they reach the end of their life-of-type or are disposed of due to obsolescence. Identification of the key assets to be culled informs decisions including on the appropriate level of maintenance for assets in their declining years compared to those in earlier life stages.

## Asset Condition

The maintenance plan summarises the advice in the strategic asset plan on the condition of the agency's key assets. The summary focuses on aspects that require closer examination from the maintenance perspective such as the age of a significant asset (in relation to its life-of-type) and whether it is functioning at the level required to support service delivery.

In order to provide a complete picture of an agency's current and emerging maintenance obligation, all significant existing assets are included in the advice, whether they are maintained directly by the agency or through an arrangement with a third party.

## Method

An agency's understanding of the condition of its assets is refreshed each year in tandem with work to update its strategic asset plan. To inform that understanding, a focused approach is taken, having regard to the extent, timing and costs involved in asset condition assessments by experts whilst ensuring sufficient information is available.

Agencies focus on the assets that experience the greatest operating pressure and the service delivery shortfalls for which inadequate maintenance is a significant cause. To inform the assessment, an agency considers the operating plan for each key asset. Some will have higher usage rates and maintenance requirements than others. For example, a policy and administration office will experience less usage than a public access facility. Different assets will also be subject to different external conditions such as coastal versus inland weather.

Some key assets will require a combination of assessments in order to address all aspects that involve significant maintenance work. For example, a prison requires assessment of the structural integrity of the facility, mechanical systems (such as lifts) and security (such as ICT systems and perimeter fencing). The assessment may also include external aspects such as the condition of public access routes in the vicinity of the asset.

The timing of an asset condition assessment depends on the extent of the operating pressures and usage rates involved. An assessment is not set according to an arbitrary period of say two years. For example, an agency with a large asset network spread across State regions may conduct more frequent assessments for assets that present the highest risk due to their age and extensive use by members of the community.

Based on the asset condition summary at the start of the maintenance plan, agency decision-makers understand the strengths and weaknesses of key individual assets and the overall portfolio. The summary provides a basis for the maintenance risk and mitigation advice to follow.

## Risk

The objective of the risk assessment is to identify the highest risks to the safety of people, to service delivery and to the agency's financial position that are likely to arise due to the reduced condition of key assets and for which maintenance may be part of the mitigation strategy.

The assessment method should be scaled and relevant to the agency's business and asset types. Common risk measures include: public harm; occupational health and safety; legal, regulatory or contractual requirements; and impacts on service delivery, finances, asset functionality and value, security, productivity, the environment and community perceptions.

The likelihood and consequence of negative risk events are assessed for each measure. The likelihood is conveyed on a scale of 1 to 5, where 1 is rare and 5 is almost certain. The severity of the consequence is rated on a similar scale, where 1 is insignificant and 5 is catastrophic.

A highly technical failure effects analysis of the sort done for military and complex engineering systems is not required for most assets (although a version may be appropriate for economic infrastructure such as power generation plants). The risk measures used in the detailed engineering context are similar to those listed above and can be assessed by most agencies for most asset types without the high cost and time taken to produce a complex appraisal.

The assessment method should be consistent with Treasurer's Instruction 825 on risk management, with current international and Australian risk management standards and with the Risk Management Guidelines developed by the Insurance Commission of Western Australia. An agency also benchmarks its method against those of other agencies in Western Australia and overseas that operate similar assets. The method is shared with Treasury to confirm its relevance.

Based on the assessment, an agency establishes a prioritised set of risks rated medium, high and extreme from the maintenance perspective. This provides the focus for the agency's strategy to address the risks.

## Strategy

The maintenance strategy developed by an agency reflects the nature and scale of its asset base and the unique conditions in its operating environment. The means used to address maintenance challenges will also differ, some of which are outlined below.

## People

The strategy starts with an overview of action to improve the ability of agency personnel to conduct maintenance planning, take major decisions, develop and oversee maintenance contracts and ensure whole-of-life asset management.

Initiatives are developed as part of the agency's corporate planning, particularly to ensure that workforce retention, recruitment and training programs enable adequate personnel skills and numbers in maintenance-related disciplines.

Leadership and organisational initiatives also address barriers in the culture and practices in an agency that constrain effective maintenance planning and delivery. Communication improvements are identified to enable strong, evidence-based advocacy for maintenance, including during discussions with Ministers and Treasury.

## Indirect Initiatives

Priority attention is given to initiatives that will strengthen an agency's asset portfolio and address maintenance-related risks indirectly. Examples include:

- reducing the usage rate of an asset or disposing of it earlier than was originally planned;
- improving the design quality of refurbished and new assets to enable value for money for maintenance work throughout their lives (for example, using longer-lasting components that are easier to maintain and replace);
- relocating personnel to leased offices rather than remain in untenable accommodation;
- maximising the standardisation of assets across an asset class to simplify maintenance arrangements and reduce costs;

- establishing assets that are shared by different personnel within or across agencies (for example, a multi-tenanted building or a common ICT system);
- establishing a single, multi-function asset (such as prison or campus precinct) rather than multiple facilities;
- leasing an asset rather than depend on State ownership and maintenance;
- swapping or transferring an asset to a local government authority on a mutually-beneficial basis;
- expanding asset investment and management funding sources beyond State Budget appropriations to involve private partners and sponsors; and
- establishing public private partnerships for significant new assets including delivery of whole-of-life maintenance and other support services.

The consideration of indirect initiatives reveals alternatives to the prevailing maintenance approach. This enables strategic advice on the best way to address an agency's greatest challenges, for example, when the cost of remedial maintenance will make the current approach unaffordable within five years.

In this way, strategic maintenance planning also informs broader advice on the future asset portfolio that will best support an agency's service delivery model as it evolves over the medium-to-long term.

## Critical Assets

An asset that is critical to service delivery and the operation of an agency is among the first considered in terms of its maintenance and future status in the portfolio. The definition of critical will differ across agencies. However, the asset will often be used directly by (or will be located in proximity to) members of the community and government employees. Examples include electricity poles and wires, fire trucks, school buildings and the water and electricity supply systems at a tourist island or botanic garden.

A critical asset may not have a high profile or replacement cost. However, if the asset fails, the consequences will be severe. Examples include rail track shift points, animal enclosure locks at a zoo and personal equipment for protection against hazardous chemicals.

Regardless of their profile and cost, an agency should have a clear definition and up-to-date register of its critical assets and accurate information on the extent and timing of the maintenance required to sustain them.

## Heritage Assets

Under Western Australian law, agencies are required to conserve assets that are important to the heritage of the State. For many agencies, this obligation involves significant issues in terms of the future purpose and the whole-of-life operation and maintenance of the asset.

A heritage asset may contribute to an agency's service delivery, for example, an historical building to the character and appeal of a museum, library or school. The asset may provide a useful adjunct such as the space in a refurbished former hotel close to an agency's main office. Alternatively, the asset may constrain the agency's service and financial performance, for example, a fire station with structural and site limits unsuited to modern vehicles and equipment.

Heritage assets that constrain an agency have often received low priority for attention while increasing the agency's maintenance liability substantially each year. To address this risk, an agency refreshes its awareness of its heritage assets and has available:

- information on the number and condition of the assets under its care;
- a rating for each asset on its contribution to future service delivery; and
- sound estimates of the future maintenance liability for each asset and across its heritage portfolio.

An agency also considers strategic alternatives that would be consistent with the Heritage Act in terms of adapting the asset to its future service model and thereby reducing its maintenance liability (or removing the asset). Alternatives include leasing a building to a commercial firm, transferring or leasing it to another State or local government agency or disposing of the asset. Further information is available from the State Heritage Office.

## New Assets

The maintenance plan includes advice on the overall requirements and costs for recently-approved and proposed asset investments. This is important because maintenance costs represent a significant proportion of the total cost of owning an asset over its life and of an agency's future portfolio.

To provide the advice, an agency draws on the operating plan for each of its key approved assets and the concept for a proposed asset which clarify how the assets will be used throughout their lives and the maintenance implications.

For proposed assets, the advice is based on the latest information in an agency's business case and project definition work. This includes the whole-of-life operating costs, an outline of maintenance requirements for core project elements and the likely extent, timing and cost of the work.

A sound understanding of the operating requirements of proposed assets presents the best opportunity to establish an appropriate funding base for their maintenance (as a contribution to the future viability of the portfolio) rather than start from a position that under-estimates the project scope and proves untenable.

An understanding of an agency's overall maintenance liability is important in determining the proportions of work and funding that should be allocated to existing and new assets respectively. It enables early decisions on the appropriate time to add the maintenance liability that would accompany new assets, particularly if existing assets are in decay or decline.

## Deferred Maintenance

Agencies operate in a State Budget and asset planning and management system that encourages the focused application of resources on high priority maintenance work that cannot be deferred without significant risk to service delivery and the welfare of the community. The deferral of low priority work is appropriate if the work is eventually completed before major consequences ensue.

Agencies are responsible for managing the level of deferred maintenance and the associated risks within Budget constraints. The tendency to focus solely on tasks that address breakdowns and asset failure is resisted in favour of a mix of preventative and reactive maintenance.

The distinction between activities that can be deferred and those that should be funded in the short-term is based on the results of the risk assessment outlined above. Generally, items with a risk rating of moderate or low may be deferred, such as some restorative maintenance work or minor capital improvements.

In the strategic planning context, advice is therefore provided on the:

- current extent of deferred maintenance and the projected level for the next five and ten years; and
- consequences of increasing, decreasing or holding constant the extent of deferred maintenance for key assets and across the portfolio.

The level of current and projected maintenance that can be deferred is not calculated with sole reference to a generic formula or percentage of the replacement value of a major asset or portfolio because this does not provide sufficient clarity on the risks and implications of the deferrals.

## Backlog

The way an agency intends to address the relationship between its deferred maintenance and its maintenance backlog is a crucial aspect of its plan.

Deferred maintenance does not involve postponing medium and high risk work indefinitely to the point that chronic problems affect the condition and performance of key assets. At this point the agency will have moved from having a manageable set of deferred maintenance to a serious backlog of essential work from which it will be difficult to recover.

Important aspects of strategic maintenance planning therefore include the:

- point at which the threshold between appropriately-deferred maintenance and a compounding backlog will be (or has been) crossed; and
- the extent of the current and future backlog and the best ways to address it.

The estimate of the backlog in five and ten years time is projected from the current state under two scenarios. The status quo shows the extent of the backlog if current resources and maintenance practices continue unchanged, such as the deferral of essential maintenance, the transfer of funds to other priorities, and the under-estimation of maintenance and other operating costs for new investments. The second scenario shows the gradual improvement that will result from changes to resourcing and practices and from implementing indirect strategic initiatives of the sort described above.

## Procurement

The maintenance plan includes high-level advice on the procurement initiatives that could be taken as part of the risk mitigation strategy. These may include:

- supply chain improvements for the rapid replacement of parts for critical assets;
- pressure on suppliers to improve the ratio of maintenance items and costs achieved under warranty;
- bundling or establishing continuity of maintenance support across contracts for existing and new assets;

- efficiencies in the delivery of maintenance services, for example, by a single supplier across different work types on the same asset class in an agency or across agencies; and
- whether in-house maintenance planning and delivery should be sustained or these activities outsourced to a private sector provider (to allow an agency to focus on its core services).

## Recommendations

The strategic maintenance plan concludes with recommendations on the highest priority challenges to the effectiveness of an agency's asset portfolio over the next five and ten years that maintenance will help to address.

The advice and implications may be confronting, including:

- when it will no longer be cost effective to sustain a key asset or asset class through maintenance alone;
- whether indirect strategic initiatives will promote service delivery and reduce the maintenance backlog; and
- when it will be appropriate to add the maintenance liability for new assets given that existing assets are degrading.

The recommendations also address the findings of independent appraisals (such as State audit reports or value for money reviews) that point to maintenance shortfalls for which medium-to-long term action is required.

## Summary

Strategic planning enables a proactive approach to the maintenance of existing and future assets. An agency builds confidence among stakeholders including Treasury by sharing its plan at an early stage in its annual refresh. This helps to establish the credibility of subsequent advice in an agency's Budget submission and four-year maintenance program, as described in the next part of this module.

## Part Two: Maintenance Program

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Based on its strategic maintenance planning, an agency develops a program which identifies the significant short-to-medium term maintenance priorities and the funding level required to maintain key assets at a standard that helps sustain the agency's performance without unacceptable risk.

Summary information is provided on particular maintenance tasks, their priority, benefits, resourcing and funding type (whether from a recurrent appropriation or a capital contribution).

The program is included in the strategic maintenance plan and submitted to Treasury as part of the agency's strategic asset plan. The program is used to advise the Minister, Treasury and the EERC during Budget deliberations on the appropriate levels of investment in an agency's capital and recurrent maintenance funding.

The maintenance program is revised annually to reflect Cabinet decisions. A model for a program is provided on the Treasury internet site.

## Results

An agency is unlikely to obtain significant funds for a maintenance program unless it explains the practical benefits that would result and the risks that would be reduced.

The primary benefits and risks affect the welfare of the community and service continuity in relation to particular assets in specific areas in the State, whether urban, regional or remote. For example, an agency may seek maintenance funding in order to:

- sustain equipment used by students in high priority training categories for the next four years, recognising that funds from federal, performance-based grants may be available in two years time;
- address the likelihood that a dangerous animal will escape through ageing perimeter fencing and harm zoo visitors;
- rejuvenate ICT systems that provide high volume services and for which disruptions have been experienced and are projected to increase over the next three years; or

- avoid train stoppages between stations and passenger disembarkation and delays of the sort experienced in the preceding twelve months.

The wider community benefits of the maintenance work are also identified, such as to local companies engaged in maintenance services.

Alarmist claims are avoided, as is the repetition of past arguments that convey that the investment is discretionary (if it is not). For example, a general claim that a bridge or an agency's ICT system is old and is likely at some point to be unusable is correct but will not be compelling.

The following are also avoided:

- macro bids that seek tens of millions of dollars to address a broadly-described maintenance backlog;
- primary reliance on generic models and indices that do not reflect the condition and risks associated with an asset in its operating context;
- speculation that a negative event might occur (as distinct from advice in a report by a specialist asset manager or adviser that there is a strong likelihood that the event will happen within a given timeframe); and
- proposals to spend maintenance funds across agencies within a portfolio on the grounds of 'equity' rather than priority.

Instead, opportunities are taken to convey the practical benefits of the proposed maintenance in its overall context, for example by:

- including bridge refurbishment work as an important part of an improved regional road and rail network upgrade to enable increased commuter safety and transportation of goods; and
- clarifying how the maintenance work will help to achieve the outcomes set in an agency's annual resource agreement with the Government under the Financial Management Act and summarised in the Budget papers.

Use of the activity-based funding approach is recommended in order to clarify the maintenance results that will be achieved and the costs incurred through core work on particular assets and in each capital and recurrent category.

## Logic

Strong argument and logic at the program level also reinforces the case for individual maintenance investment proposals. Issues include:

- the reasons for the relative priority of individual proposals;

- the nature and type of assets to be maintained and the operating and other pressures faced (such as statutory and safety requirements that generate high maintenance costs);
- the influence of the age profile of the asset portfolio, such as whether most of the assets are relatively new and whether this implies lower maintenance spending in the short term;
- the impact of the asset disposal plan and the scope to reduce maintenance costs for assets that will be redundant in the short-to-medium term;
- confirmation that significant funds will not be spent to rejuvenate assets that are in their terminal stage;
- the impact of indirect strategic alternatives to the prevailing maintenance approach that will reduce the maintenance liability in the later years of the program or the early years of the next;
- whether the acquisition of significant new assets is altering the maintenance spend in the forward estimates;
- any unusual movement in the level of new/emerging maintenance, including spikes due to the cyclical maintenance of large assets or the renewal of maintenance agreements; and
- whether the level of deferred maintenance is changing rapidly (after adjusting for cost indexation and increases to the asset portfolio).

## Categorisation

An overview is provided in an agency's program of the maintenance that should be conducted across the asset portfolio in the categories described at **Appendix A**, namely preventative maintenance, breakdown repairs, lifecycle restoration, minor improvements and special requirements.

Categorisation clarifies a complex maintenance challenge by breaking it into simpler components and enabling the correct accounting treatment of each maintenance task as an annual recurrent or capital item.

Categorisation also enables focused internal agency reports on the status of maintenance work and judgements on the future balance of effort, investment and trade-offs across categories. For example, an agency can determine whether sufficient skills and funds are allocated to routine preventative maintenance to meet safety standards and ensure that assets remain functional.

## Deferred Maintenance

The deferral of maintenance is a strategy (not a category) that is applied after the total maintenance requirement has been established in order to help decision-makers reconcile the requirement against available funding.

An agency's program therefore clarifies the:

- tolerable level of deferred maintenance and the minimum funding required (as a proportion of the total); and the
- consequences of the deferred maintenance position (such as that high remedial maintenance costs will be incurred in later years).

A critical issue in defining the level of deferred maintenance for the four-year Budget period is the extent to which it would increase the maintenance backlog identified in the ten-year maintenance plan.

## Backlog

The maintenance program reflects the results of the strategic maintenance plan which clarified the extent of (and solutions to) the agency's maintenance backlog. In that context, the program clarifies the timeframe required to rectify high priority backlog tasks and return to a manageable state with acceptable risk.

## Funding

Future maintenance funding is considered in its corporate planning context, including the four-year allocation for other recurrent items that an agency receives as part of the annual State Budget (such as for salaries) and for which pressure may be experienced to transfer maintenance funds.

Advice is provided on issues including the:

- amount allocated and spent on maintenance from recurrent base funding and any additional funds recently-approved at Budget (such as for an asset remediation program);
- trends in the transfer of maintenance funds to other purposes;
- extent to which the maintenance component of an agency's base recurrent funding will be (or has been depleted);
- likely point at which the depletion will impact on the performance of key assets and the portfolio;

- cost impact of new assets entering and redundant assets exiting the portfolio and of increased or decreased asset operating rates; and
- funding required to sustain current and future assets, including to undertake indirect strategic initiatives and improved procurement.

Advice is also provided on alternative funding sources that could be used to enable the upgrade of an asset such as through joint State and Federal projects and private sector sponsors.

## Estimation

Calculation of the future funding requirement is based on a combination of methods, namely:

- budgeting that reflects the actual condition and risk assessments for key assets throughout their lives in their operating context (without relying on automatic annual increases to maintenance expenditure levels);
- analysis of past expenditure on the maintenance of existing assets which reveals emerging trends, for example, towards breakdown repairs and life cycle restoration;
- benchmarking against expenditure for similar assets, noting that the asset condition, environment and operating pressures will be different; and
- generic models that seek to predict the effects of the age and growth of an agency's asset portfolio and hence the funding required to sustain it.

Generic models attempt to estimate the maintenance funding level based on a percentage of the replacement value of an asset, an asset class or the portfolio. However, it is important to emphasise that the sole use of such models is not sufficient because they do not reflect the actual condition and maintenance requirements of assets in their operating contexts. Such models should only be used with caution, as a 'sanity check' to help confirm whether the proposed maintenance funding level is appropriate.

Instead, the main considerations include the unique operating environment, pressures and impacts on individual key assets, noting that the impacts will be different, for example, at a facility that operates in a harsh climate on a twenty-four hour basis compared to one that operates in a moderate climate during standard hours.

In addition, previous assumptions about the operating impacts and the maintenance activity and funding level are reviewed in the light of recent experience, rather than perpetuate a rolling maintenance program unquestioned. Future funding projections are also reviewed to confirm that funds will be sufficient to sustain each key asset throughout its life (whether twenty-five years for a prison, five years for an ICT system or less for a small, critical asset such as chemical protection equipment).

For complex programs, a scaled version of the cost estimation method used in the private sector and for public private partnerships is recommended given its clarity and rigour on key aspects. These include the service targets to be achieved when the asset is used, the performance measures for the maintenance work, emphasis on the upfront planning of preventative maintenance, and early consideration at the design and contract stages of value for money in the quality and scheduling of maintenance throughout the life of assets.

Based on an approach that is appropriate for the scale and complexity of an agency's asset base, sound justification is established for the maintenance funding estimate and for the appropriate point between the lowest effective level of maintenance and a proposed additional increment.

## Additional Funding

An agency is expected to manage the maintenance of existing assets within approved total recurrent and capital funding limits.

As a last resort, an agency may request additional funds from the Government. This is only done after the agency's strategic and program planning has been completed.

A request for extra funds is scrutinised by Treasury and is considered in the light of competing Government priorities. A key factor is the extent to which an agency demonstrates that the funds are required despite its best efforts to:

- reprioritise and defer lower priority maintenance activities taking into consideration the risks of doing so;
- retrieve funds that were originally approved for maintenance from within the agency's total funding allocation (recurrent and capital); and
- review the current asset portfolio to identify opportunities to implement indirect strategic alternatives to the maintenance for which the additional funds are sought.

After considering all options, if extra funding is sought for existing assets, a request for recurrent or capital funding is made through the annual Budget process, demonstrating the priority for the request against other items.

Treasury will support a request for extra maintenance funds only in exceptional circumstances, subject to a well-justified strategic maintenance plan and a reprioritised program.

## Maintenance Schedule

Based on the preceding justification and funding decisions, an agency refreshes its maintenance schedule. The schedule is an internal document which contains detailed maintenance items, their risk ratings, timing and cost. The items are categorised and distributed over the Budget year and forward estimates in order of priority, recognising the total approved funding for maintenance across the asset portfolio. This distribution forms the basis for sub-schedules for each year which detail the maintenance work to be done, by when, and who will be responsible.

## Summary

The compelling presentation of an agency's maintenance plan and program is a necessity in the Budget context when various agencies seek access to limited State funds. An approach that clarifies the benefits, risks and priority for maintenance investment is also more likely to trigger a sense of urgency sufficient to balance the attraction felt by decision-makers, investment proponents and reviewers towards new asset investment.

The level of confidence held by Treasury in an agency's maintenance program depends on the quality of the agency's strategic maintenance plan and the agency's record in achieving maintenance delivery and expenditure targets.

Overall, the aim is to provide clear advice that convinces reviewers in an agency and in Treasury that a maintenance program or extra funding proposal will deliver value for money and will not involve paying twice for tasks that were to have been met from an agency's previously-approved operating or capital budget.

The strength of the agency's internal governance and accounting arrangements is also an important consideration, as outlined in the next part of this module.

## Part Three: Governance

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A high performing agency has a proactive internal governance system led by the Chief Executive Officer and other senior decision-makers and asset managers to ensure that priority maintenance planning and delivery is sustained and controlled.

### Profile

A high profile is accorded to asset maintenance at an agency's most senior corporate planning and decision-making forums when the future direction and sustainability of the agency's service delivery model are considered. Maintenance issues are also addressed regularly at the main, senior-level committee that is responsible for asset planning, investment and delivery.

Through the Chief Executive Officer, the Minister receives updates on major maintenance-related risks, their consequences and mitigation, particularly to ensure community safety, service continuity and to address funding pressures.

### Accountability

Senior agency leaders ensure that the roles of each officer engaged in maintenance planning and delivery are clear and recorded in formal documents, particularly performance agreements. For example, references are made to an officer's responsibility to:

- understand the logic and assumptions that underpin the current and forecast levels of maintenance activity and investment;
- uphold the Financial Management Act which includes responsibility to the Minister to ensure that an agency operates in a manner that is efficient and economic and achieves the agency's objectives;
- ensure that public funds are spent for the purpose approved by Parliament;
- conduct reconciliation and monthly reporting on maintenance expenditure, transfers to other priorities and returns to the original purpose; and
- uphold Treasurer's Instruction 825 on risk management by ensuring that material risks to the assets of an agency are addressed.

To assist the Chief Executive Officer and the Chief Finance Officer and to sustain the agency's corporate memory, a record is kept of the transfer of maintenance funds to other operating items, the reasons and the revised risk mitigation plan.

## Results

One measure of the strength of an agency's governance is whether a rapid and accurate response can be provided to a question from the Minister, parliamentary committee or Treasury on the results achieved from maintenance work. Key issues include:

- whether significant maintenance tasks were completed in accordance with the approved maintenance program and for which a Budget appropriation was agreed by Parliament;
- whether the trends in the level of an agency's maintenance backlog and in the management of deferred maintenance are positive or negative; and
- how the maintenance work will support the agency's service delivery model and the achievement of results outlined in its annual report.

## Planning

In a high-performing agency, the value of strategic maintenance planning is upheld by senior leaders in order to achieve results and produce quality advice to the Minister. The value accorded to strategic planning is evident because:

- the agency's maintenance risk assessment is refreshed annually, modified as necessary and shared with Treasury;
- the strategic maintenance plan and program address the key issues and questions in the SAMF guidance;
- the Budget submission and strategic asset plan promote an effective mix of maintenance for current assets and new proposals;
- new asset investment proposals include the full through-life maintenance and other operating costs; and
- maintenance proposals are justified strategically, evidence-based and presented convincingly with the advocacy refreshed and well-timed.

## Asset Management

The Chief Executive Officer is responsible on advice from senior asset managers for the effective operation of the agency's asset management system and the quality of the advice derived from it.

The system includes:

- an accurate, consistent and repeatable method for the collection and analysis of data on the condition of assets and maintenance costs;
- sustained input from asset managers in the urban and regional areas where the assets operate and where maintenance requirements vary according to local factors such as weather and usage rates;
- detailed whole-of-life operating and maintenance plans for individual key assets;
- field reports and regular meetings each year at which asset managers provide advice on maintenance trends and priorities;
- timely and accurate updates to the financial information kept by an agency (and provided to Treasury) on maintenance timing and costs; and
- the use of progress and benefit realisation reports to inform future maintenance and broader asset investment planning.

## Reporting

A well-governed agency provides proactive, unsolicited updates to Treasury on its progress in delivering maintenance, for example, at quarterly meetings on the agency's capital and operating cost challenges. Early advice is provided on significant negative variations to the results that were originally expected, together with the potential solutions.

Proactive reporting provides part of the context for advice by Treasury to the EERC on recurrent and capital funding submissions by an agency at Budget.

## Appendix A: Categories and Treatment

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### Annual Recurrent

An agency requires consistent funding to enable maintenance activities to be sustained at a constant standard. This is included in the Annual Recurrent Budget and is divided into:

- preventative maintenance; and
- breakdown repairs.

As the term suggests, an agency's Annual Recurrent Budget is generally met from recurrent appropriations and treated in accounting terms as an expense. Recurrent funding is not used to purchase assets that should be capitalised in the agency's financial statements.

#### ***Preventative Maintenance***

Preventative maintenance is planned work to preserve the asset, prolong its economic life and reduce the risk of breakdowns. It is divided into:

- routine maintenance – the regular servicing of an asset; and
- restorative maintenance – the repair or replacement of deteriorated asset components.

Restorative activities occur regularly in the maintenance schedule of an asset or portfolio (for example, annually or every three to five years).

#### ***Breakdown Repairs***

By its nature, a breakdown repair cannot be deferred and is carried out on demand to maintain service delivery. The level of breakdown repairs across a portfolio is generally consistent. Variations from one year to the next are influenced by factors including changes in the portfolio's size, age and use.

Significant variations are likely to result from unusually expensive major breakdowns. These events are difficult to predict but may need to be funded from within an agency's approved funding limits.

### ***Minor Improvements / Refurbishments***

Minor improvements and refurbishments are alterations to ensure that assets remain functional, adjust to evolving service delivery objectives, improve the efficiency of operations and meet changing legislative requirements (such as for occupational health and safety).

Due to their minor nature, these items are included in the agency's maintenance plan and program (as distinct from major improvements which are included in the ten-year asset investment plan).

### **Capital Items**

Items that alter or improve the capability, capacity, functionality or residual value of an asset are capitalised. Such items are normally identified from an analysis of asset condition data on the functionality of the asset.

On occasion, a major item may need to be replaced using capital funds due to the severe impact on the normal recurrent funding level. These items are removed from the asset condition assessment before the Annual Recurrent Budget is estimated.

A total lifecycle approach is taken to estimate the cost of capital items. Approval should be sought at Budget based on the agency's asset investment plan and included in its approved asset investment program.

### ***Lifecycle Restorative Maintenance***

Lifecycle restoration work occurs at long intervals. The exact timing cannot be predicted, but the associated large expenditure should be planned. Robust initial advice on cost and timing should be provided in the business case and project definition plan for each asset investment proposal (and reflected in the agency's asset investment program). Improved information is derived from refinements to the operating and maintenance plans for the asset, based on experience, once the asset enters service.

### ***Special Maintenance***

Special maintenance requirements are non-recurring items that often involve one-off costs. Examples include the replacement of major equipment and major changes due to legislative requirements or community pressure.

## **Holding Account**

Treasury maintains a holding account for each agency to receive annual credits for the non-cash component of its appropriation (depreciation) as a provision for the future replacement of assets. The holding account is a funding source that is used in lieu of cash appropriations to meet the capital cost of asset replacement.

Requests for drawdowns from the account are assessed by Treasury during the annual Budget cycle and are only approved after Government has endorsed the replacement of an asset.

## **Further Information**

Treasurer's Instruction 1101 clarifies the application of the Australian accounting standards including AASB 116 Property, Plant and Equipment. Agencies also apply the International Financial Reporting Standards.

Officers can contact the relevant Treasury analyst to discuss the detail of the maintenance categories and accounting standards in the context of their strategic maintenance plan, program and investment proposals.



