



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

Strategic Asset Management Framework

Project Definition Plan



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

Strategic Asset Management Framework

Project Definition Plan

Contents

| | |
|---|-----------|
| INTRODUCTION | 1 |
| Purpose..... | 1 |
| Variation Control | 2 |
| Approval..... | 2 |
| Rigour and Detail..... | 3 |
| Sequence | 3 |
| Summary..... | 4 |
| PART ONE: KEY ELEMENTS | 5 |
| Baseline | 5 |
| Asset Definition..... | 5 |
| Non-Asset Initiatives | 6 |
| Cost..... | 6 |
| Schedule | 7 |
| Procurement and Finance | 8 |
| PART TWO: QUALITY CONTROL AND REPORTING..... | 9 |
| Stakeholder Involvement..... | 9 |
| Value Management..... | 9 |
| Material Changes..... | 9 |
| New Imperatives | 10 |
| Improvements | 10 |
| Corrections..... | 10 |
| PDP Review | 11 |
| Early Alerts..... | 11 |
| Summary..... | 12 |
| APPENDIX A: PDP MODEL – OVERVIEW..... | 13 |
| APPENDIX B: PURPOSE, RIGOUR AND DETAIL..... | 14 |

APPENDIX C: ASSET DEFINITION..... 16

- Master Plan..... 16**
- Functional Statement..... 17**
- Functional Criteria..... 17**
- Functional Layout 18**
- Technical Description 19**

Introduction

This module provides the policy and standards for the content, development and review of a project definition plan (PDP).

Readers should also consult the SAMF:

- Overview which describes how a PDP is used in the overall asset planning and decision-making context; and the
- Business Case module which provides the standards for a robust business case, which precedes the PDP.

A universal model for a PDP is provided separately as part of the SAMF guidance, as summarised at **Appendix A**.

Purpose

A PDP is focused on project delivery issues and risks. It is completed for asset investment proposals with a total capital cost of \$5 million or more before seeking approval to proceed to the tender documentation and market engagement stage.

A PDP is developed for all types of asset investment proposal (whether major infrastructure, public buildings, ICT or other assets). The requirement applies to investment in new assets and for improvements to existing assets.

Accordingly, a PDP refines the scope, cost, schedule and risk information for the endorsed investment option within the parameters set by the previously-approved business case. The PDP addresses all unresolved project delivery risks and concerns raised at the time the business case was considered. In addition, new emerging risks and changes are addressed at the earliest opportunity.

The means to achieve the business case objectives are continually reviewed and updated during the development of the PDP on the basis of:

- more detailed definition of the asset and related non-asset demand control initiatives, and their whole-of-life implications;
- monthly reports within an agency on whether the original investment parameters can be achieved; and
- action to address emerging, material changes from the original parameters.

The PDP also updates the broader advice and information in the business case, particularly to address risks relating to project management, governance and accountability for results. The original business case is retained throughout the life of the investment as a point of reference.

Variation Control

A key objective of the PDP work is to determine whether the preceding business case remains valid, particularly in terms of the scope, cost, schedule, risks and funding involved. The PDP provides an important opportunity to confirm whether project planning remains on track, or whether it is necessary to seek the support of decision-makers to material variations to the advice upon which they relied when they took the original investment decision in favour of the proposal.

Of itself, variation control does not alter the priority that was attached to a project by Cabinet. If the delivery planning proceeds smoothly, an agency does not have to return at subsequent Budgets to have the project reapproved. However, Treasury should be alerted at an early stage if a project appears unlikely to be delivered successfully within its approved parameters.

Approval

Once the PDP is approved, it provides a solid foundation for the development of a more detailed project brief and precise tender and contract documents. On behalf of Government and the community, an agency is well positioned to state the scope and quality of the asset and the risks that are acceptable during its delivery. Industry respondents can provide an accurate price for their input and involvement.

Rigour and Detail

The level of rigour and detail in a PDP will depend on the complexity of the project, with strong and comprehensive coverage expected for projects with high cost and risk. The quality of advice and information in a PDP (relative to the approved business case and procurement contract) is described in broad terms at **Appendix B**.

For all projects, whether complex or simple (and regardless of the procurement method envisaged) the extent to which the PDP standards are applied should be sufficient for Government authorities, project managers and service providers to prepare a project brief and tender documents, agree a contract and deliver the asset successfully – by minimising uncertainty over material scope, cost, schedule and risk aspects.

While a formal PDP is not required for projects beneath the \$5 million threshold, the PDP planning principles should still be followed to an extent sufficient to meet the requirement for high quality, accountable project management, and to facilitate the preparation of sound procurement documents.

Sequence

A business case and a PDP are developed and considered for approval as separate documents in an orderly sequence. Investment proponents should not develop a PDP without an approved business case, nor a hybrid plan with limited elements of both.

The distinction between a business case and a PDP, and their correct sequence, is important. A robust business case enables agreement on the best investment option from among alternatives, and the scope, cost, schedule and risk parameters that apply. The PDP provides the in-depth analysis and specification of the agreed option. Without the stability provided by a business case through its parameter constraints, the PDP will be vulnerable to major changes, for example, if stakeholders disagree over the best way forward.

A distinct business case and PDP increase the likelihood that sufficient time and resources will be devoted to achieve sound cost benefit analysis, considered value for money trade-offs, and robust capital and operating cost estimates. Early work on these aspects, from the business case stage onward, offers the best chance to minimise project delivery problems.

An orderly sequence also helps agencies to avoid spending time and resources on high cost PDP work prematurely before an investment proposal has been approved based on the business case. For example, if the PDP starts too early, before the scale or location of an asset is finalised, significant PDP rework, delay and additional costs will be incurred.

The correct sequence provides an important risk management strategy, particularly for fast-tracked proposals given the complexity of the asset and the compressed timing normally involved; for example to build or refurbish a hospital, road or railway following an election commitment.

Summary

Based on the PDP work, decision-makers can either confirm or correct previous conclusions that the costs and risks associated with the endorsed business case option can be managed, that the schedule is realistic, that the service delivery benefits and design quality standards can be achieved, and that the investment will deliver value for money.

Part One: Key Elements

Baseline

A PDP should not change unilaterally the parameters and constraints in the business case, because these were agreed by decision-makers, including Cabinet, as the basis for investment. To assist decision-makers, the original parameters are repeated at the start of the PDP.

Asset Definition

Sound asset definition is crucial in helping decision-makers finalise the boundaries for the investment and for successful project delivery.

At the PDP stage, the asset definition is developed in more detail for the endorsed business case option. The definition is expressed in three main elements: an improved master plan; detailed functional requirements, criteria and layout; and an initial technical description. As a package, these clarify the best way to achieve the business case objectives and deliver sound investment for the Government. Further information is in **Appendix C**.

The latest asset definition is summarised in the opening part of the PDP. The summary should demonstrate project resolution and clarity with a view to ensuring that subsequent advice on the project delivery scope, quality, cost, schedule and risk is sound. Industry will also be well informed on the asset definition, with minimum potential for misunderstanding, confusion and problems at the tender and contract stages.

Resolution and clarity are also essential in understanding and communicating the practicalities of how the asset will be used on a daily basis in its local context and to help achieve the investment intent. On behalf of taxpayers, decision-makers need to know how the creation or enhancement of an asset will provide a strong platform for the delivery of public services and products.

Non-Asset Initiatives

A PDP includes definition of the non-asset, demand control initiatives that relate directly to the successful operation of the asset. For example, if the project involves building or refurbishing a hospital, then related non-asset initiatives may include the development and implementation of policies for the admittance or transfer of patients within a set timeframe; or for the training of personnel to help patients depart the hospital as soon as they are cleared and ready.

To ensure that the asset investment planning is effective, the PDP team therefore connects with the work of other teams, for example, those responsible for corporate plans to reduce State water or electricity consumption, or demand peaks for public transport. This ensures that the corporate and asset-specific initiatives are complementary and well synchronised.

Cost

The PDP improves the already-robust cost estimates in the business case. If the PDP is approved, the accuracy of the estimates is further refined in the lead-up to tender and in the contract evaluation stages.

Consistent with the cost estimation principles for a business case, SAMF does not support generic costing at the PDP stage; for example, an 'indicative estimate' that obscures the costs for key project elements.

Nor is it sufficient to provide a general statement that, say, 75% of all costs have been addressed, or diagrams which show only that the costs of capital or recurrent items are expected to go up, or down, without advice on the core assumptions and details for the revised projections.

Instead, the cost estimate is based on a sound understanding of all sub-items, commensurate with the improved quality of the asset definition in the PDP. The estimate includes comprehensive verification and analysis of all significant cost drivers, backed by a work breakdown structure. For example, for road, rail and port projects, the land cost items include sub-estimates for:

- each of the requisite environmental and other approvals;
- land acquisition (purchase price and transaction costs) which should be well understood because the site has already been selected based on the business case;
- final topographical and geotechnical surveys;

- tasks required to overcome difficult or restricted site access, for example by building permanent access roads;
- the extension of utilities to the site; and the
- preparation of the site for construction – which can involve a significant cost premium for earthworks at a steeply sloping location compared to a level one.

The cost estimate includes the effects of anticipated increases due to inflation for the period through to the tender date. The overall inflationary effect is stated as a lump sum, as well as per annum, and includes advice on the assumptions beneath the percentage rate increases.

The cost estimate leaves very few unresolved items, for example, for design and construction work. Subject to any approved material changes, the contingency is refined rather than surprisingly different from the estimate in the business case. The estimates are clear about what has yet to be resolved and why the contingency allocation will be adequate and not excessive.

Schedule

The project schedule provides accurate completion dates and implementation durations, broken down by month.

All critical dates are supported by a concise statement and sufficient advice to demonstrate why they are feasible. Any desired dates in the preceding business case are replaced by firm, realistic and achievable ones.

The schedule should be accurate because most assets have an optimum duration for design and construction or refurbishment. When the timing is compressed, or when stages are staggered and rushed, a project will incur cost premiums.

Typically, the PDP schedule is not broken down by week or day, for example, to show the particular date that construction of a major element will start. The most effective timing will be subject to tender bids and contract finalisation. But the schedule does show the occurrence of each major activity logically in the overall project delivery sequence.

The PDP refines the business case advice on schedule risk, and in particular explains the rationale for any items for which there remains a medium or high risk of slippage.

Procurement and Finance

At the PDP stage, procurement and financing advice is focused on the business case investment option that was endorsed by Cabinet. Accordingly, additional procurement and financing analysis, workshops and discussions are held among senior officers in the agency and Treasury.

The conduct of an informal market sounding is recommended at this point. An informal approach will help clarify the market's appetite, the potential for a procurement method to deliver the project scope within the approved cost, schedule and risk parameters, and the potential scale and efficiencies across significant work packages.

In order to provide Cabinet with sound advice, it may also be appropriate to conduct an initial PPP value driver analysis for a project (or project bundle) that is likely to have a capital value of \$50 million or more. The analysis will help to clarify whether the nature and scale of the investment would be attractive to the market as a PPP prospect and the potential for innovation and appropriate risk allocation to achieve value for money.

Initial procurement and financing plans are provided in support of the PDP to address the main issues and risks. For example, the procurement plan maps out the indicative timeframes for key project stages, including the sequence for the future release of an EOI and RFP, and for the contractor engagement phases. Key aspects include the timing of negotiations and the development of the conceptual and final asset designs. Broad advice is also provided on the criteria that will be released as part of the EOI and RFP and their purpose, such as to clarify the respondents' financial capacity and experience in applying design excellence standards.

Similarly, the financing plan canvasses the main issues and risks whether under a joint funding arrangement with the private sector or the federal Government, or complete reliance on State Budget funds.

Based on the PDP and support plans, the agency recommends the procurement and financing methods that are most likely to achieve value for money for the State, subject to further project definition, planning and interaction with the market. Cabinet may decide to pursue a higher risk procurement or financing strategy in order to achieve an early start date for the operation of an asset, or may opt for a more manageable schedule and degree of financial exposure.

Part Two: Quality Control and Reporting

Stakeholder Involvement

The definition of the asset to be delivered by the project, and the advice on its cost, schedule and risk should be based on continuous and robust debate on what will work at the local level among: decision-makers and asset managers; investment proponents and reviewers; public servants and consultants; and stakeholders in the community.

It is particularly important to consult officers who have experience in operating similar assets on the strengths and weaknesses of the proposed approach.

Strong stakeholder communication and debate increases the likelihood that major potential delivery complications can be highlighted and addressed before the PDP is completed.

Value Management

For high and medium risk projects, the scope, cost and schedule advice in a PDP should not be finalised for consideration by decision-makers without completing a value management review.

The review should be conducted by senior, experienced officers and consultants to ensure that the project is on track to achieve maximum value for money within the approved business case parameters. For example, the review may highlight the service delivery benefits and operating efficiencies to be gained from siting facilities and equipment in the best location for shared use by staff from various work areas. Further information is in the SAMF Value Management module.

Material Changes

In most cases, if the business case was robust, progress will be smooth in developing a PDP that is consistent with the original intent and parameters. However, any potential material changes to the business case should be reported from the earliest stages in the development of the PDP in order to provide decision-makers with sufficient time to determine the best response.

A material change is one that has a significant positive or negative impact on the:

- scope, quality, cost, risks or schedule for the endorsed investment option; or
- the cost benefit analysis that underpinned the business case, including the social and economic benefits envisaged.

A material change may affect an underlying assumption (such as that service demand will be high) or a functional criterion (that 24/7 operations are essential) or a price (such as for a service to construct or maintain an asset).

New Imperatives

Given that a sound PDP will take time to complete, new developments and imperatives may arise that necessitate modifications to the business case parameters. For example, there may be recent changes to Government policy, the law, regulations, compliance codes and accreditation standards; or to the requirements of a partner agency or public stakeholder.

Improvements

Changes may reflect good news, for example, a modification to an asset design, suggested by an asset manager or by advisers from industry, which would return greater value for money. Examples include:

- identification of new or better quality materials – such as for stronger foundations for a port, wharf or building extension which would provide extra asset life at an additional capital cost;
- improvements to the functional layout of a facility to gain efficiencies not previously envisaged, for example, from the shared use of rooms, work areas or laboratories; and
- confirmation that an alternative software package has proved in the preceding twelve months to be user-friendly and to enable more accurate data entry.

Corrections

The need to correct material errors is expected to be rare given that the business case ought to have been robust. However, a correction may not have been foreseeable, such as a significant increase in construction costs due to high workforce demand after a natural disaster. Other corrections may reflect improvements to the business case advice based on the more detailed understanding of the proposed investment that is obtained by doing a PDP well.

PDP Review

An agency holds monthly PDP progress reviews to identify any emerging material changes. As soon as a change is detected, an agency reviews the investment proposal against its current strategic asset plan to determine if the proposal still has strategic justification and priority, with a view to advising Government of the review outcome.

The agency also reconsiders whether:

- other options in the business case now offer greater value for money potential in the light of the material change; and whether
- any strong options have arisen between the time that the business case was approved and the change emerged.

The emergence of material changes should also trigger an agency to identify whether trade-offs or non-asset initiatives would provide cost effective alternatives to deliver services within the original cost, schedule and risk profile. For example, in the face of a material cost increase to create housing for regional hospital staff on site, a subsidy for rental arrangements in the community may now provide an effective alternative.

Early Alerts

All material changes, whether positive or negative, should be reported to decision-makers and their agreement sought to adopt the revised approach; for example, to increase funding, or to upgrade the benefits and savings expected from higher value for money design standards. In the best case, the PDP should still confirm that the original business case parameters were sound and that no extra funding or time will be required to deliver the project.

When an agency becomes aware that a project is likely to exceed the approved business case parameters, or that it will fail to deliver the approved benefits or quality, the agency should notify Treasury immediately. Work on the PDP stops, pending a decision on the revised way ahead. For high cost and risk projects, a joint decision is taken on whether Cabinet should be asked to reconsider the business case, the original investment decision and the level of funding in the Asset Investment Program. To facilitate discussions, the logic and justification for each material change is clarified.

If a compelling revised case can be made, an agency may still proceed with the endorsed option, perhaps with a modified scope, cost, schedule and funding profile. However, decision-makers may conclude that it would be preferable to reassess the project, to move entirely to an alternative option or to abandon the investment proposal.

Summary

The PDP provides an important reality check to enable decision-makers to determine whether or not to proceed to the tender documentation stage. It is imperative that changes with negative impacts are addressed early, and that project proponents or reviewers who do so are supported, for example, in briefs to Ministers and the Treasurer. This will encourage early problem resolution in the interests of service recipients and taxpayers.

Appendix A: PDP Model – Overview

EXECUTIVE SUMMARY

Objectives and Parameters

Material Variations

Implications/Major Risks

Recommendations/Next Steps/Approvals

STRATEGIC JUSTIFICATION

SAP Connection

Service Delivery Objectives, Demand and Model

BUSINESS OBJECTIVES

Business Case Baseline

DELIVERY

Scope

Asset Definition and Non-Asset Initiatives

Value Management Results

Cost and Schedule

Estimates

Drivers and Risks

Procurement and Finance

Value for Money Methods

RISK PROFILE

Residual Challenges

Lessons Learned

Appendix B: Purpose, Rigour and Detail

| | Approved Business Case | PDP | Contract |
|---------------------|--|---|--|
| Purpose | Robust advice/reasonable certainty to identify the best value for money option | Reality check before preparing tender documentation Helps decision-makers set the parameters for project delivery (e.g. scope, cost, schedule and risk) | Signature creates obligations and liabilities (based on clear statement and understanding of project definition, quality and objectives) |
| Options | Cabinet approved option drawn from the shortlisted set (status quo; recommended; and alternatives) | Focused on delivery of the endorsed business case option Highlights and seeks approval for material variations from the endorsed parameters | Focused on the final project definition (including approved PDP variations) |
| Depth/Rigour | Robust | Accurate | Precise |
| Scope | Early/initial master plan Clear scale and standard (e.g. m ² of land and facility; hospital room and bed numbers; vehicle model and numbers) | Demonstrates project resolution and clarity Clear asset definition package: an improved master plan; detailed functional requirements, design criteria, standards and layout; and an initial technical description | Delivery work starts according to endorsed PDP scope Construction-ready design 'fixed' (no further modifications) |
| Benefits | Precise statement of benefits and KPIs Rigorous cost benefit analysis (strong quantitative) | Nil additional analysis, unless endorsed business case parameters have changed | Targets statement of benefits and KPIs in the approved business case and subsequent approved refinements |

| | Approved Business Case | PDP | Contract |
|----------------------|---|--|--|
| Cost | <p>High-quality estimates by appropriately experienced people (similar to quantity surveyor standard and method)</p> <p>Robust contingency calculation by line item (justified/not broad brush)</p> | <p>Accurate/closer to tender-quality/fully itemised/based on detailed understanding of asset scope and risk</p> | <p>Price locked in</p> |
| Schedule | <p>Detailed and well-constructed</p> <p>Based on indicative work breakdown structure</p> | <p>Accurate completion dates and implementation durations</p> <p>Broken down by month</p> | <p>Schedule locked in</p> |
| Risk | <p>Sound strategies to control main project risks</p> <p>Backed by risk register and risk management reviews</p> | <p>Focused on project delivery risks (scope, cost, schedule, procurement etc)</p> <p>Clear, overall risk profile based e.g. on project-specific evaluation and lessons learned from similar projects</p> | <p>Parameter risks and overall profile locked in</p> |
| Delivery Plan | <p>Clear implementation plan with strategies established for major aspects including: governance; project management; stakeholder communication and engagement; benefit realisation and reporting</p> | <p>Detailed implementation plan to support preparation to achieve readiness for market</p> | <p>Work proceeds according to approved requirements and timing</p> |

Appendix C: Asset Definition

Master Plan

To assist decision-makers and reviewers, a PDP includes a concise statement of the main strengths, challenges and requirements revealed by the master planning thus far.

There are different definitions of a master plan. For SAMF purposes, it provides a strategic overview of the asset in context.

Examples of sound master plans are those which relate:

- a port to the necessary road and rail connections;
- a major road construction to existing arterial routes, local communities, tourist attractions, private property and favourable terrain;
- a bus or ferry terminal to rail connections and central business district areas;
- a hospital to public transport and other health facilities in the area;
- a public sector office consolidation to Ministerial offices;
- fire stations to other emergency units to enable an effective response to bushfires; and
- a software system to other legacy and future ICT systems with which connections will be needed in an agency and with other agencies.

The master plan demonstrates effective links between the asset and its surroundings. For example, facilities such as ports, stadiums, hospitals and utilities plants should be oriented to best face major connections (both existing and planned) for the flow of traffic, logistics and communication networks.

For non-ICT assets, the master plan is informed by long-term State and local government development plans. It demonstrates how the asset will best meet the operational requirements of the agency while achieving government policies, for example, for the location of infrastructure close to future centres of public activity.

The master plan clarifies the potential impact of the asset on its surroundings and how the impact will be addressed – for example, through measures to overcome disruptive effects on communities and the environment, such as from increased traffic and additional utilities consumption.

The indirect impacts on related infrastructure are also identified, for example, the increased need for buses or timetable rescheduling for the large number of staff who will work in a consolidated office complex.

Functional Statement

In the SAMF context, the function of an asset is to support service delivery. Examples include the:

- production of an output, such as water, electricity or gas supplies for households;
- performance of public service tasks by staff in an office shopfront, or the delivery of information through a government website; and the
- movement and attention to patients in a hospital, to students in an education facility or to visitors in a museum.

A PDP includes a concise statement of the functions and consequent action that the asset should both enable and preclude. For example, the functions of a public web site may be to enable real-time welfare transactions while precluding unauthorised access by third parties to private information.

In simple terms, the functions of an emergency wing in a hospital include: enabling the receipt of patients from multiple sources (via helicopter, ambulance, on foot and by car); triage; and the delivery of care and follow-up action, whether through patient rest on site or through community-based services.

The functional statement is based on strong interaction with stakeholders and industry experts to ensure that it reflects the investment intent and is feasible.

Functional Criteria

Functional criteria are concise measures by which the effectiveness of a project development proposal will be judged at tender. There are different degrees of criteria, from initial through to fine-detailed engineering and architectural. For SAMF purposes, the criteria focus on the material design aspects.

The criteria clarify the value for money that should be achieved. They articulate preferred design quality standards such as that an emergency ward must facilitate the rapid receipt of casualties from multiple sources concurrently, that the movement of patients to care should be achieved within a set timeframe, and that public car parking should be within a specified, short walking distance.

The criteria indicate the main risks to people that should be mitigated and for which solutions should be provided. Examples include: closed areas in hospitals that help stop disoriented patients from 'wandering'; separate access and lift wells in courts for judges and defendants; and buffers and security in a utilities plant or at a railway station.

The criteria also articulate clearly any strong preferences in relation to the major cost, schedule and risk drivers. For example, it may be important to prefer commercial-off-the-shelf rather than customised software, and cloud computing rather than in-house data storage.

The functional criteria are provided in a concise summary and ranked according to whether they are essential or desirable. For example, depending on the nature of the environment, the criteria may indicate that cyclone or flood protection are essential features.

The ranking of criteria sets the basis for trade-offs, if needed, across solution elements that could be foregone to stay within the original cost, schedule and risk parameters.

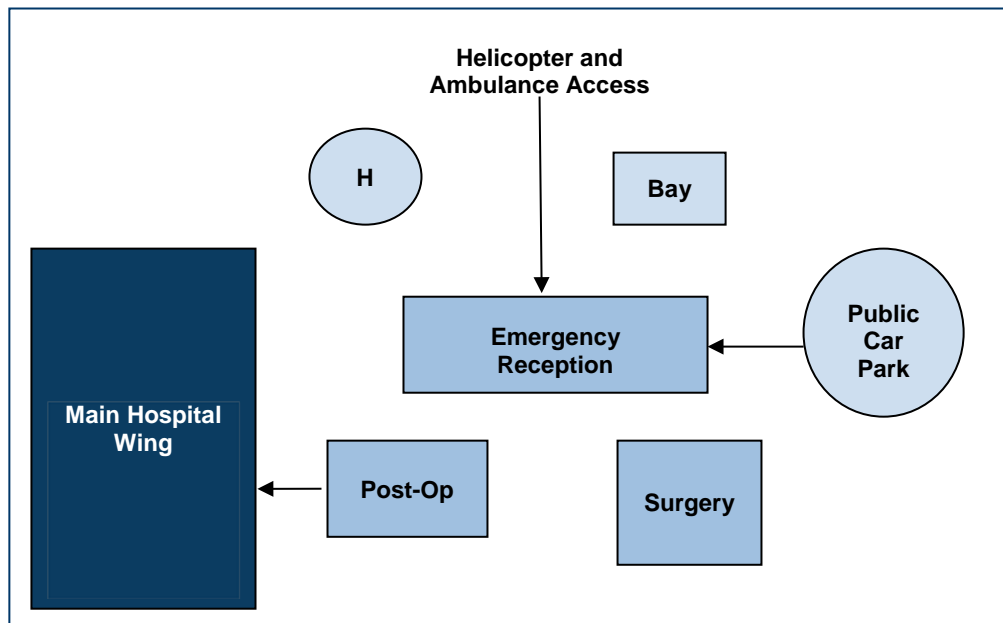
Overall, a clear and ranked set of functional criteria also assists industry to provide value for money design propositions at the tender stage, such as for the co-location of service delivery or production areas.

Functional Layout

The layout is focused on the preceding functional statement and criteria. It conveys the physical nature of the asset, with particular attention to its essential characteristics, including its scale, dimensions and internal connections.

A diagram is used to help convey the functional layout, as shown in the fictitious example below for a refurbished hospital emergency wing. It clarifies in simple terms how the connections to patient transport points and the main hospital would facilitate the rapid receipt and delivery of care.

Diagram One: Functional Layout



Technical Description

A PDP demonstrates that an agency has a sound understanding of what a successful technical approach would be when overcoming the main challenges involved in operating the asset and delivering services or products effectively.

For example, if the functional criteria for the refurbishment of an agency's headquarters call for strong sustainability and low energy use, the agency explains the technical implications, the cost premium and the value for money that would be achieved compared to less demanding standards.

For other asset types, an agency explains:

- the likely best material for the foundation and structural material for a wharf to resist heavy seas; or
- how often the air in a hospital operating theatre must be refreshed, and the potential air conditioning plant and other systems that will be needed to do so.

Command of the basic technical aspects reinforces confidence that the functional statement, criteria and layout can be achieved. This is important to assure decision-makers that the technical aspects have not been left entirely to the more detailed work to follow after contract signature, with a high risk of cost increases and delay from significant, unforeseen technical problems.

