

Investment Lifecycle and High Value/High Risk Guidelines

PROVE



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New Zealand Treasury (2012) *Better business cases* at
<http://www.infrastructure.govt.nz/publications/betterbusinesscases/>

HM Treasury (2011) *The Green Book: Appraisal and evaluation in Central Government* at
http://www.hm-treasury.gov.uk/d/green_book_complete.pdf

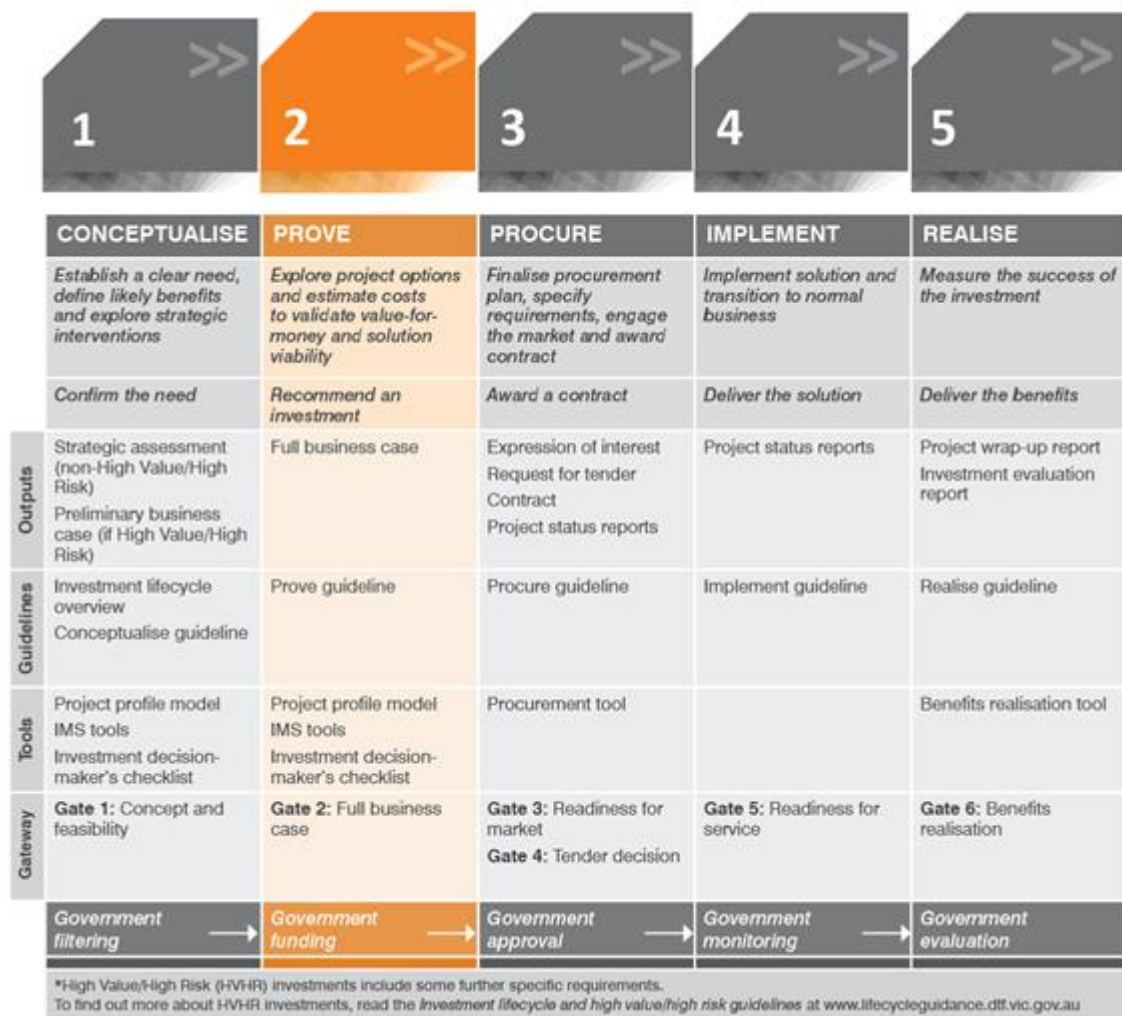
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1. Introduction

1.1 Purpose of this document

This guideline presents the issues agencies should consider when they are preparing a full business case for investment to address a problem or opportunity in the delivery of government services. **It is applicable to any investment proposal – asset or output.** The investment lifecycle framework lays out the following stages of an investment. This guideline is concerned with the second stage of the investment lifecycle – *Stage 2: Prove*.



1.2 How to use this guideline

The purpose is to provide useful methods and processes that support agencies as they prepare investment strategies and proposals. The guideline supports evidence-based decision making. It is a tool to be **scaled to the complexity of the investment**.

The guidance material has been developed to deliberately address differing levels of competence and experience. Consequently the Prove guideline incorporates templates, technical guidelines and examples.

Technical guidelines for the tricky bits ...

Some aspects of a full business case are technical and require specialist knowledge. DTF has developed specialist technical guidelines to assist business case writers and technical experts in these areas. These areas include:

- ICT
- governance
- project costing and budgeting
- procurement strategy
- risk management
- economic evaluation
- real options

1.3 Who should use this guideline

The lifecycle guidelines target a broad range of stakeholders, both internal and external to the public sector, involved at all stages of the investment lifecycle. The lifecycle guidelines are designed to be useful for those with varying levels of investment knowledge and a range of requirements. The audience and the benefits of the lifecycle guidelines for each group are outlined in Table 2.

Table 1 Who should use the Stage 2 Prove guidelines

Your role	Your functions	Benefits of the Prove guideline
Practitioner	To plan, develop, project manage or monitor the full business case development of investments of all sizes and types.	<ul style="list-style-type: none"> • Provides a best practice guide for the whole investment lifecycle. • Provides a whole-of-lifecycle approach for investment management. • Assists you through each stage of the investment management and implementation process, regardless of your experience and knowledge. • Provides technical guidance for specialist areas, e.g. stakeholder engagement and economic analysis.
Strategist	To think about business case development at a high level, and to coordinate investment functions, improve organisational efficiency or productivity.	<ul style="list-style-type: none"> • Provides a high-level guide to developing a robust business case that is strategically aligned to organisational priorities, represents value for money, and demonstrates an investment can be delivered as planned. • Discusses key concepts in business case development.
Facilitator	To train organisations in business case development practices or facilitate investment proposal development. This may include accredited investment management facilitators, business case trainers, and training and development officers.	<ul style="list-style-type: none"> • Provides information on the techniques and process of the full business case development stage of an investment. • Assists you in teaching all levels of knowledge and experience.

1.4 Creating your business case – length and style?

The level of detail in the full business case should be appropriate to the scale and complexity of the investment

Agencies should provide an evidence based case to justify the investment. The full business case should be a plain English account setting out the *case for business* of the proposed investment. High levels of technical data are not necessary, nor technical jargon in the main body. Important technical data can be included as an appendix, such as costings, risk management, and technical information to support the deliverability of the investment. The level of technical detail required will vary depending on the size, scale and complexity of the investment.

Quality and relevance not quantity....

1.5 Building the full business case

All investment proposals over \$10 million seeking budget funding are required to submit a full business case.

The purpose of submitting a full business case at Stage 2: Prove is to provide confidence to decision makers that:

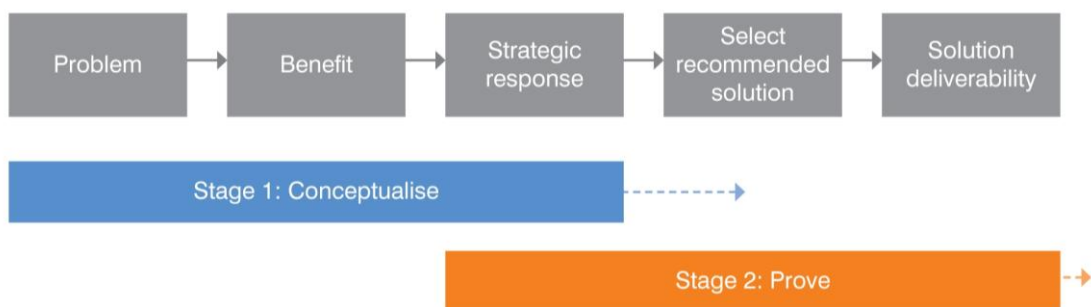
1. The strategic justification for the investment is still valid.
2. They are selecting the right investment option.
3. The agency can deliver the investment as planned.

Remember: High value/high risk (HVHR) investments are those with a total estimated investment (TEI) of \$100 million or more and/or identified through the Gateway project profile model as 'high risk' or otherwise nominated by Government.

However, the business case is lays the blue print for the whole investment lifecycle and its role changes as you move from one stage to another. In later stages it is used to ensure the investment is being delivered as planned. If there are any changes that affect the business case, the business case should be updated and ongoing business justification should be assessed in light of new details.

1.5.1 The investment logic 'line of enquiry'

Figure 1 The investment logic's line of enquiry at prove stage



Stage 2: Prove requires agencies to substantiate with evidence the investment analysis called 'the line of inquiry' initiated in *Stage 1: Conceptualise*. The development of this line of enquiry should involve the participation of an appropriate and balanced range of informed high-level stakeholders.

1.5.2 Full business cases

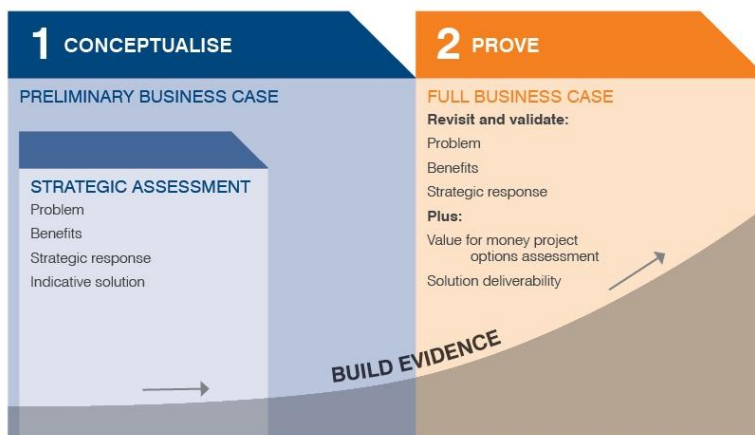
The information that is input to a full business case (e.g. economic evaluations, risk workshops, procurement workshops etc.) should take place over the entire shaping period of an investment.

Building from a strategic assessment or preliminary business case

The strategic assessment or preliminary business case developed for *Stage 1: Conceptualise* provides the foundation for the full business case. You should draw heavily on the work completed in Stage 1 to inform your full business case. The key difference between the Stage 1 preliminary business case/strategic assessment and the Stage 2 full business case is that the full business case:

- contains the substantial evidence base establishing the case for government to invest; and
- provides the confidence it can be delivered as planned.

Figure 2 Building the business case



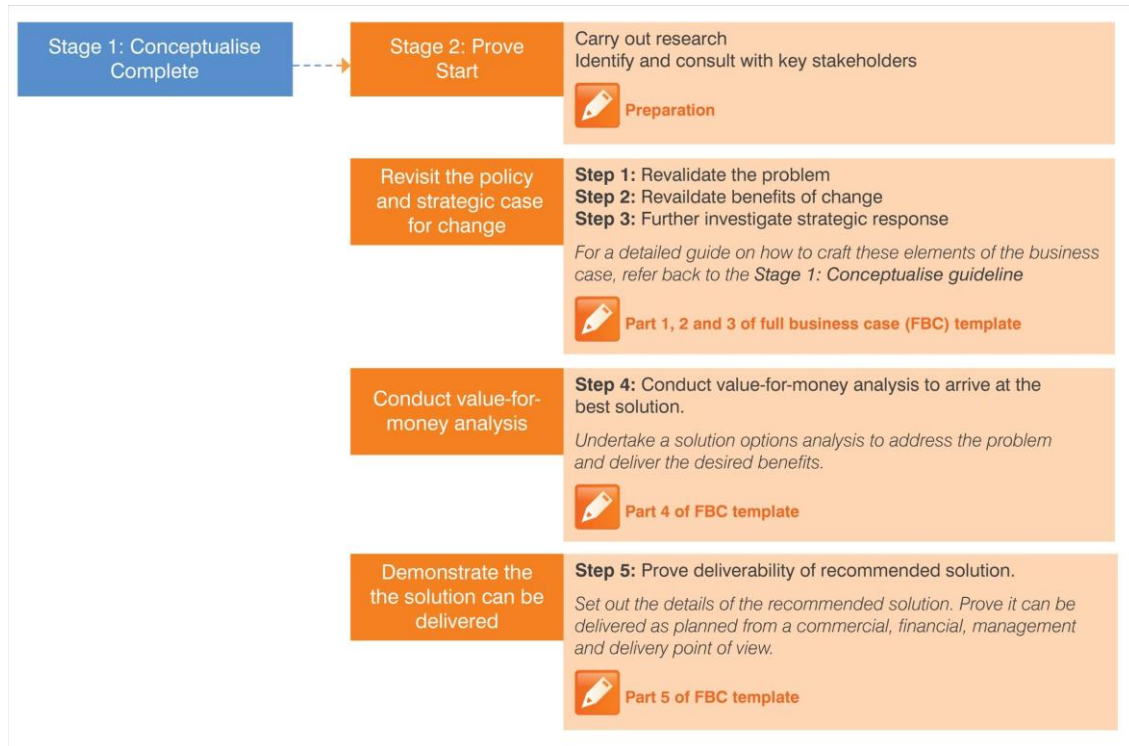
Depending on whether your investment has been classified as ‘high value/ high risk’ (HVHR) or not, *Stage 1: Conceptualise* will have required agencies to present a strategic assessment (for non-HVHR) or a preliminary business case (for HVHR). These documents present the high-level strategic case for your proposed investment, that is, the problem, benefits, strategic response and indicative solution. The detail required for strategic assessments is less than for preliminary business cases. These documents undertake early filtering (asset proposals submitted to government/ output proposals undergo internal filtering) in order to determine whether they should proceed to full business case submission.

In developing the full business case, the underlying investment logic developed for the strategic assessment/ preliminary business case needs to be revisited to revalidate that the logic is still sound and increase the evidence base. If the nature of the problem, benefits, or strategic response changes as a result of changed assumptions, government decisions, new evidence, policy changes, service need changes etc., it may be necessary to conduct further facilitated IMS workshops to ensure the logic for the full business case is robust.

Significantly, the full business case requires a more extensive solution options analysis (the depth of this analysis should be scaled to the size and complexity of the investment). The full business case should also present, for the first time, the case supporting whether the investment can be delivered as planned. This includes evidence to support the deliverability of project options and the preferred solution.

Figure 2 Building the business case summarises how to use the investment lifecycle guidelines to build from *Stage 1: Conceptualise* to a full business case. In particular, it shows how sections of this guideline map to the Investment Lifecycle Guideline’s full business case template.

Figure 3 Summary: Using the Investment Lifecycle Guidelines to build a full business case – assets



1.6 For output proposals: Building the full business case

The use of the Investment Lifecycle Guidelines’ full business case template is **optional** for output initiatives however, Ministers and agencies should consider the complexity and size of each initiative when determining whether a full business case is required. The full business case template should be scaled and adapted to reflect the complexity, size and type of proposal.

As with asset proposals, the purpose of the full business case is to provide confidence to the decision makers that they:

1. are selecting the right investment option; and
2. can deliver the proposal as planned.

If it is determined that the best way to provide that confidence is through building a case for investment using the full business case template, then the same process in developing an asset business case is recommended. If the Government does not undertake a filtering process for output initiatives it is recommended that, on completion of Stage 1, agencies undertake an internal review to determine whether the initiative should proceed to Stage 2.

Agencies should consult with their DTF relationship managers to determine whether a full business case is required for output proposals.

2. Key issues and processes at *Stage 2: Prove*

2.1 Reasons for government intervention

Agencies should think about the reasons for initiating an investment in these terms and be able to answer why it is appropriate that *the government* intervenes, and if it is most appropriate that *this government* (i.e. the Victorian Government) intervenes. In some cases, this might be obvious, in others it may need to be justified in more detail.

The rationale for government intervention should be assessed when considering any such intervention, including in relation to investment decisions.

Freely functioning competitive markets generally provide the most efficient means of allocating resources to the production of goods and services. However, there are areas of 'market failure' where markets, left to their own devices, produce suboptimal outcomes.

The 'call to action' for government intervention is usually founded in market failure or where there are clear government objectives that need to be met. Some issues typically identified as market failures include:

- the existence of monopoly power;
- circumstances of incomplete/imperfect information;
- external costs and benefits (known as externalities) not being taken into account by the market (e.g. pollution);
- public goods (such as national defence) or mixed goods (such as education), where the market left to its own devices is likely to lead to an underproduction (from society's perspective) without government intervention.

Government intervention may also result from policy decisions and/or service needs. Government intervention may also be justified to address distributional/equity concerns that are still a legitimate concern for governments.¹

2.2 Carrying out research

Central to initiating a new investment is carrying out research, which may have been partially addressed in agency planning processes. This research will provide an evidence base for this investment. This covers analysing the:

- long-term planning data of the organisation including service drivers;
- current market environment (e.g. cause of the market failure, employment levels);
- impacts on stakeholders;
- evidence of the cause and effect of the problem;
- current and projected trends and published forecasts and modelling;
- technological developments;

¹ For a more detailed discussion of rationales for government intervention, refer to Department of Treasury and Finance 2011, *Victorian Guide to Regulation – Edition 2.1*, State of Victoria, August, pp. 8–11, <http://www.vcec.vic.gov.au/CA256EAF001C7B21/pages/regulation-review-guidance-material>.

- market sounding;
- appropriate governance and procurement options available; and
- research of similar projects including those from interstate or overseas, to obtain lessons learned.

2.3 Choosing stakeholders to help build the business case

Agencies should consider which stakeholders are best placed to assist them in developing the full business case. The role of stakeholders here should relate to the amount of influence and importance that they may have in shaping and driving the success of the proposal.

Stakeholders involved should represent a range of portfolios so that a broad range of perspectives can be applied to the proposal. In particular, **central agencies should be engaged early to provide a whole-of-government perspective.** In some cases it may be appropriate to involve industry stakeholders. Without the right stakeholders involved in the business case development process, your full business case may not provide clarity on the appropriateness of all key elements of the business case.

Care needs to be taken, in particular with external stakeholders, not to indicate any aspect of government commitment, until government has made a clear decision on proposals.

Refer to the Investment Lifecycle technical guideline on *Governance* for further information.

2.4 Dealing with uncertainty in investment planning

Investment decisions historically have generally resulted in an all or nothing decision to invest in a final output. However, where significant uncertainty surrounds an investment, new circumstances may mean that the original investment can no longer deliver value for money in the services provided. In such cases the original investment can be regretted.

Government investments are sometimes subject to significant uncertainty. Uncertainties are different from project *risks*. A project risk is defined as a known event that may occur within a known range of likelihood and consequence, and which the project team can manage in a way that delivers the original approved scope. Then there are *uncertainties* external to the project or project alternatives. The scale of such external uncertainties cannot be effectively be measured, nor can they be reduced – in other words the extent to which they impact the project is out of the project’s control (see Table 2: Examples of external uncertainties).

Where an investment may be impacted by significant uncertainty (e.g. climate change, further research), agencies should consider flexible ways that each solution option (in section 4) could be implemented to adapt to changing circumstances, when more information is available later down the track.

When planning an investment that may be impacted by uncertainty, agencies should consider whether there is capability to make the investment flexible, by taking a ‘real options’ approach. A real option is the capability to do something differently, coupled with the choice to exercise the option or not. It provides the flexibility to only exercise the option when it seems sensible to the investor to do so. The use of flexibility to manage the uncertainty or change is at the core of real options planning and strategy.

Figure 4: Impact of external uncertainties impacting on an investment (Source: DTF)



The more uncertainty there exists in the environment of an investment, the greater the value there is in using Real Options.

2.4.1 How to apply real options?

Step 1: Should a real options approach be applied?

To assess whether an investment is appropriate for the use of Real Options this guideline recommends the application of the 'Real Options Triage' which consists of three key issues:

1. **Making sure the right problem is being addressed**, and that the way the question is formulated does not discourage identification of possibly powerful and cost effective ways of meeting objectives.
2. **Characterising the nature of the uncertainties** that may support a case for investing in some types of flexibility. This includes uncertainties with a downside risk and with upside opportunities, should the flexibility exist to exploit them. The key question is whether the outcomes could be relevant to the best strategy.
3. **Exploring alternative approaches** to meeting objectives that might support valuable flexibility and allow for better management of uncertainty and associated risks and opportunities. This might include taking a deterministic approach (investing in resolving the uncertainty upfront before investing further) or taking a resilience approach (building in scale up/scale down/ switching/ exit options so the investment can change path when circumstances change).
4. **Drawing the initial triage together** to decide whether the investment would benefit from further real options probing at full business case stage.

If an investment satisfies these requirements, there is scope for improving the investment outcomes using Real Options.

The principle of Real Options is to formulate a range of alternative investment possibilities including potentially different ways to structure the investment, and to describe the decision making process that will be followed.

Step 2: Applying a real options approach

The more uncertainty there exists in the environment of an investment, the greater the value there is in using real options.

Where it has been decided that a real options approach will be adopted agencies should apply the following two step process.

1. **Formulate and assess investment trajectories** in response to different outcomes in the environment of the investment. This can be done using the 'real options toolkit' including decision trees or influence diagrams to value different real options trajectories. Trajectories should include clear trigger points at which options can be exercised.
 - Specifically, if an agency decides to adopt a real options approach to an investment , agencies should formulate and value/assess investment trajectories at Part 4 of the full business case. Applying real options to the solution options analysis includes considering quite different approaches that may perform poorly in terms of a 'base case' analysis of a fairly deterministic project implementation, but that may offer much lower expected costs and/or higher value because of the flexibility offered and the way it might interact with the uncertainties. This is described in more depth in
2. **Dynamically respond to these changes** as the management learns, adapts and revises investment decisions.
 - If an agency decides to adopt a real options approach to an investment, agencies should plan for how they will respond to changes. These plans should be document in section 5 of the full business case (deliverability of recommended solution), including how governance, communications, project management and change management plans will adapt to changing circumstances.

Table 2: Examples of external uncertainties

Examples of external uncertainties that may impact a project
<ul style="list-style-type: none"> • Unpredictable climate change, for example, the potential for tidal surges to damage infrastructure in coastal regions. • IR developments that materially impact on the investment objectives • Quantum technology changes, particularly with ICT projects where the development cycle is short and competitive technologies may be developed to meet demand • Global systemic shifts, for example, the global financial crisis impacting on the risk allocations in PPPs • Learning from doing, which is sometimes experienced as more efficient and/or effective solutions of delivering services or constructing a project becoming evident during implementation • Known unknowns, for example, how tenderers may respond to carbon pricing • Possible future shifts in policy positions currently constraining feasible approaches, for example, policies in relation to using some price instruments and attitudes to indirect potable reuse of water.

Possible Real Options are shown in Table 3 Types of options or adaptations.

This guideline provides some practical suggestions to encourage you to think about how you might build flexibility into your investment to improve it.

Table 3 Types of options or adaptations

Types of real options or adaptations

- Abandon options that could limit the risks of cost blowout by allowing a project to be abandoned at an early stage. For example, the funds to finish a project may be better invested for a greater return (financially or in public interest terms) in an alternative, possibly quite unrelated, project. Abandon options can be more feasible and cost-effective if explicitly built in, and announced, from the start. Those announcements, and careful design of commercial arrangements, can themselves create real options.
- Scale change options, which can be either: – scaling up, for example, building excessive warehousing facilities for a planned TV and Film studio to take advantage of emerging demand.
- Scope change options, which provide for a different mix of project deliverables. For example, deciding not to install coin operated vending machines in public transport vehicles due to immature technology.
- Staging options, where the implementation of the investment is planned in discrete stages, with each subsequent stage being triggered by demand metrics, for example, staging secondary school facilities at a particular site to match growth in enrolments.
- Switching options, where the inputs or outputs of the investment are altered to meet changing supply options or end user requirements, for example, the investments in printed publications are switching to investments in delivery of content to e-readers.
- Readiness (or invest in flexibility) options, which commit to time critical elements of a project but delay major investment until a trigger point has been met. For example, reserving road corridors to allow for later road widening.
- Invest in R&D to reduce the uncertainty before proceeding with a large physical investment and so reduce the risk of regret. The R&D creates options as to whether and when to trigger the large physical investment.
- Change the operation of existing infrastructure – extend utilisation of public facilities to new uses; allow for intermittent operation of energy/water infrastructure to match operating costs to value of output; mothball.
- Use inherently flexible technologies, even where specific applications are not clear – sequence of small projects rather than one large project.
- Non-asset measures to reduce demand, including market instruments and policies. For example, introduce “Nurse on Call” to reduce the demand on public hospitals.

Further information

DTF has created the Investment Lifecycle technical guideline *Real Options* to assist agencies it is available at www.lifecycleguidance.dtf.vic.gov.au.

2.5 Use of the Investment Management Standard during this stage

This guideline is consistent with edition 5 of the Victorian Government’s Investment Management Standard (IMS), a set of tools that will assist you as you move through the initial examination of an identified problem or business need.

The IMS establishes a set of simple practices that enable organisations to direct their resources to the things that matter most.

It is not mandated that you use the IMS in the development of your submission, however it is recommended.

The IMS aims to eliminate unnecessary process. It does this by providing tools and workshops that support a structured way of thinking, characterised by the use of simple logic, bringing together the best thinkers on a subject, evidence-based discussion and simple storytelling. Use of the IMS enables you to explore and confirm the logic of your investment.

In shaping new investments, the practices use facilitated two-hour discussions (workshops) to address the line of enquiry, described at Figure 1 above. If undertaken, these workshops should have been completed as part of *Stage 1: Conceptualise*. For further information see the *Stage 1: Conceptualise guideline* and the *IMS website*

2.6 How long-term planning relates to Stage 2: Prove

During *Stage 1: Conceptualise*, agencies are asked to confirm that an identified need for an investment aligns with the agency’s long-term service vision (outlined in corporate/long term planning documents) and its asset management objectives. The investment proposal should be part of a cohesive strategic response to a service delivery challenge. The asset initiatives should support optimal operation of the overarching service delivery frameworks. It should identify and coordinate implementation with dependencies of other investment initiatives.

2.7 Accuracy of estimates in the full business case

The cost estimate is an approximation of the cost of the project/investment, the accuracy of the estimate is a ‘measure’ of how precisely this estimate is able to predict the actual expenditure. Estimate accuracy is often presented as a +/- % range of accuracy with a % confidence that the final value will be within that range. The +/- % accuracy estimates shown in Table 4 are purely a guide as the range and confidence measures are unique to each project and its circumstances.

An alternative approach in estimate development is to identify the project definition level or design level status. Design is developed progressively from the concept stage and the extent of design detail available at the procurement or tender stage will relate to the procurement methodology adopted.

There is a clear relationship between these confidence levels and the need for adequate risk allocation and contingencies. Cost and benefit estimates should neither be undervalued, nor over inflated – but a reasonable understanding of the confidence level and assumptions around figures used and presented should be provided. Table 4 provides a summary of levels of accuracy expected at various stages of the Investment Lifecycle.

Table 4 Summary of accuracy required at key stages of the Investment Lifecycle

Key: IP – internal process, TA – Treasurer’s approval required

STAGE	PROCESSES	ESTIMATE	MILESTONES	HVHR	NON-HVHR
1 Conceptualise	Investment Logic Problem, benefits identification, strategic response, indicative solutions	Order of magnitude estimate type -40% to +60%	Strategic Assessment	IP	✓
	Project scoping Project option appraisal, define project scope (and options for further consideration) with concept design	Concept estimate -30% to +60%	Gate 1 Concept and feasibility	✓	
			Preliminary business case	✓	
2 Prove	Pre-feasibility Assessment of solution options, initial risk and environmental assessment	Developed concept estimate -20% to +25%	Internal project agency review	IP	
	Feasibility Integration of risk assessment, preliminary design, functional model, whole of life costing and procurement strategy	Preliminary design estimate -15% to +25%	Gate 2 – full business case	✓	
			Full business case	TA	✓
3 Procure	Procurement Staged tender process including tender preparation and evaluation	Tender estimate -10% to +15%	Gate 3 – Readiness for market	✓	
			EOI	TA	✓
			RFT/P	TA	✓
	Preferred bid	TA	✓		
Negotiate contract price agreement	Tender price/ contract (excluding agency administration cost) -5% to +10%	Gate 4 – tender decision	✓		
		Contract	TA	✓	

Explanation of estimate accuracy terms

Order of magnitude (OOM) – this estimate is used for screening and is based on historical information. OOM estimates are developed when a quick estimate is needed and few details are available. It is typically developed to support what-if analyses. It is helpful for examining differences in high-level alternatives to see which are the most feasible. Because it is developed from limited data and in a short time, a rough order of magnitude analysis should never be considered a budget-quality cost estimate.

Concept estimate – this estimate is based on concept design data. For less complex projects this level of estimate accuracy is sufficient to robustly compare project options. Project definition is likely to be in the order of 1% to 10% complete. In many cases there will be benchmark project data that will considerably reduce uncertainty (increase accuracy). For example – if the project were a new school then there is extensive industry benchmark data from previous school developments.

Developed concept estimate – For more complex projects, more design information would be expected to reasonably compare project options. Project design is likely to be in the order of 5% to 15%. These levels are probably more suitable for the ‘one-off’, never been done before type schemes.

Preliminary design estimate – This estimate is used to provide the approved budget estimate for the project, i.e. the business case budget estimate. Project design is likely to be in the order of 10% to 40%. Costing at this stage is expected to be a robust, defensible, risk-adjusted estimate with an appropriate contingency allowance. The estimate should be based on a well-defined project scope, a breakdown of project costs (e.g. using elemental estimating techniques) supported by reference to relevant benchmark project examples, and adjusted for risk and uncertainty.

Tender estimate – prior to going to tender, design specifications will be developed in more detail in order to obtain tender bids. The estimate at this stage is based on the specification and design development leading up to the tender process. Project design is likely to be in the order of 30% to 70% depending on the nature of the procurement approach.

Tender price or contract estimate – this estimate is based on the agreed contract price following the tender process. Note that the project should maintain a contingency allowance that exceeds this contract sum in order to manage uncertainty and unallocated risks.

2.8 Whether to prepare a submission for a program or an individual investment?

Programs are outcome-focussed investments that bring together multiple projects under a single coordinating structure, where each project contributes to the program outcomes. Programs can include pieces of work that are not projects (e.g. ongoing business as usual work) and can have a variety of structures.

Program thinking is useful to:

- help shape, manage and evaluate an interconnected collection of activities that contribute to a common outcome (such as an education strategy to enhance learning technology in schools);
- prioritise and manage a program of works (such as a set of criteria to prioritise a series of rail/road separations); or
- identify and respond to unmet priorities of an organisation (what are our investment priorities over the next 10 years?).

When deciding whether to prepare a full business case submission for a *program*, or for an *individual initiative* that is part of a program, you should consider whether the core logic that is established in initiating an investment can be used for any of the following purposes:

- to obtain Government approval for the development of a proposed program of activities;
- to obtain Government approval for the prioritisation of similarly intended investment proposals; or
- to strengthen the case for your individual initiative if it is part of a program.

If your agency decides it is appropriate to present a program full business case submission, it can be presented in one of two formats:

- **Programs consisting of a number of major, complex projects (for example, multiple HVHR projects):** agencies may present a business case outlining the program ‘master plan’, justifying the program logic and providing the underlying support for the component projects. Agencies should then prepare separate business cases for major projects that are part of that master plan.
- **Programs consisting of smaller, less complex projects:** it may be appropriate to present a business case for the program and set out the criteria and selection process for projects that are proposed under the program, along with a high level project plan of those projects if available.

If you are unsure about how to present your proposal in a submission, contact your DTF representative.

Use of the IMS for programs

The IMS has developed an investment logic map specific to program logic development. For further information, see the IMS website.

2.9 What to do if you don’t have funding to develop a full business case?

For some proposals, especially HVHR proposals, agencies may require funding to support business case development. In general the strategic assessment or preliminary business case development should be funded internally, but agencies may need to make an ‘investment development funding submission’ to progress the proposal to full business case stage.

The investment development funding submission should be based on the strategic assessment (see the template in the Conceptualise stage guidance). It will focus on the indicative costs, tasks and staging of the proposal development (with only a ball park estimate of the project funding for the indicative solution). If the agency has sufficient funding to develop the preliminary business case the submission should be based on this rather than the strategic assessment.

Agencies who wish to apply for development funding should speak to their DTF relationship manager.

2.10 Responsibility for producing submissions

As a funding submission is ultimately a Minister’s submission to the Government, it is critical that the agency retains accountability and responsibility for the investment planning process. For all investments – agencies should appoint a Senior Responsible Owner (SRO) for the project’s direction at steering committee level, as recommended by the Gateway process and in the Investment Lifecycle technical guideline entitled *Project Governance*.

Responsibility for the central coordination and direction of business cases cannot be outsourced to external consultants. External consultants may be of great assistance in producing the documentation. While their use should be considered where the necessary skills and resources are not available within your organisation, particularly for elements of the full business case that require specific expertise.

Similarly, the production of the full business case is a key component of project manager's role and ultimately the responsibility of the senior responsible owner. It must be viewed as a fundamental part of the overall business planning process, which requires advice from Departmental business managers, users and technicians involved in the proposed initiative.

2.11 Reviewing your thinking

About the investment assessment checklist (16+ Questions)

The 'investment assessment checklist (16+ Questions)' has been created for business case developers and assessors. Its purpose is to guide your thinking as you develop your investment proposal and it can be used by agencies when assessing whether a business case is on track, or sufficiently robust to submit to Government. It is also used by central agencies to assess and recommend proposals once complete. To use the investment assessment checklist to check business case robustness, apply the following steps:

Step 1: Apply the investment assessment checklist to your full business case. Think carefully about the questions and what they are asking.

Step 2: Indicate your assessment of the investment. Using the detail in the full business case, work through the questions answering each by circling either **Yes (Y)**, **Maybe (M)**, **No (N)** or **?** (circle ? if you are unable to answer).

Step 3: Do you understand enough to make an overall judgement? At full business case stage, your analysis should enable you to answer 'yes' for most questions.

Step 4: What is your judgement? Based on your role and purpose for analysing this investment, make a judgement or draw a conclusion at the end of each stage to reach an 'on balance' judgement.

Examples of assessment conclusions

Is the business case comprehensive/robust as a basis for a sound investment decision?

- Although the logic of this investment is clearly demonstrated, the organisation has not demonstrated that it has the capability and capacity to deliver this investment.
- The business case has not demonstrated that the recommended project solution is the best value for money option.
- The business case cannot demonstrate that the recommended project solution is realistically costed.

2.11.1 16+ Questions

STAGE 1 CONCEPTUALISE QUESTIONS: STRATEGY AND POLICY FOCUS						
Revalidate response from Stage 1: Conceptualise are all outstanding issues addressed?						
Problem	1.	Is it clear what the problem is that needs to be addressed, both the cause and effect?	Y	N	M	*
	2.	Is there sufficient evidence to confirm both the cause and effect of the problem?	Y	N	M	*
	3.	Does the problem need to be addressed now and by this government?	Y	N	M	*
	4.	Does the defined problem capture its full extent/scope?	Y	N	M	*
What is your judgement?						
Benefits	5.	Have the benefits that will result from fixing the problem been adequately defined?	Y	N	M	*
	6.	Are the benefits of high value to the government?	Y	N	M	*
	7.	Are the KPIs SMART and will they provide strong evidence that the benefits have been delivered?	Y	N	M	*
	8.	Have key dependencies critical to benefit delivery been considered?	Y	N	M	*
What is your judgement?						
Strategic response	9.	Has a reasonable spread of strategic interventions been identified and packaged into sensible strategic options?	Y	N	M	*
	10.	Is there evidence to demonstrate that the strategic options are feasible?	Y	N	M	*
	11.	Were the strategic options evaluated fairly to reflect their ability to respond to the problem and deliver the benefits?	Y	N	M	*
	12.	Is the preferred strategic option the most effective way to address the problem and deliver the benefits?	Y	N	M	*
What is your judgement?						
STAGE 2 PROVE QUESTIONS: DELIVERABILITY FOCUS						
Solution options analysis focussed						
Value for money	13.	Have the solution options been specified clearly, including key risks, assumptions, constraints and dependencies?	Y	N	M	*
	14.	Consistent with the preferred strategic option, has a reasonable spread of solution options been analysed?	Y	N	M	*
	15.	Is the recommended project solution the best value for money way to respond to the problem and deliver expected benefits?	Y	N	M	*
	16.	Is the procurement strategy the most appropriate for this investment and attractive to the market?	Y	N	M	*
What is your judgement?						
Solution deliverability focussed						
Commercial and financial	17.	Have the solution options been specified clearly, including key risks, assumptions, constraints and dependencies?	Y	N	M	*
	18.	Have all significant risks been identified along with strategies for their management?	Y	N	M	*
	19.	Has the recommended solution been appropriately costed (including risk adjustment)?	Y	N	M	*
	20.	Have alternative sources of funding been considered?	Y	N	M	*
What is your judgement?						
Management	21.	Is the governance structure identified and is it appropriate for this investment?	Y	N	M	*
	22.	Is there evidence that the implementing organisation has the capability and capacity to mobilise and deliver this investment?	Y	N	M	*
	23.	Have relevant stakeholders been identified along with strategies to manage their engagement?	Y	N	M	*
	24.	Has a robust project management strategy been outlined?	Y	N	M	*
What is your judgement?						
Delivery	25.	Has an appropriate change management strategy been provided to support benefit delivery?	Y	N	M	*
	26.	Are the proposed timelines and investment milestones reasonable?	Y	N	M	*
	27.	Has an appropriate benefits management strategy been outlined?	Y	N	M	*
	28.	Has the transition from construction to operation been adequately considered?	Y	N	M	*
What is your judgement?						
Overall assessment of the full business case:						

KEY Y Yes N No M Maybe * Not enough information

2.12 Gateway review at stage 2: Prove

It is mandatory for HVHR investments to undertake a Gate 2 review at this stage. The Gate 2 review should take place once the full business case is 80-90% complete. It will examine the readiness and robustness of the full business case documentation, and investigate whether the project team has the capacity and capability to deliver the full business case and transition to Stage 3: Procure. Contact DTF's Gateway Unit for further information.

2.13 HVHR deliverability assessment

For HVHR projects, departments must seek the Treasurer's approval of the business case before it can be submitted to DPC's Cabinet Secretariat for BERC funding consideration as part of the 2013-14 budget. To facilitate this, departments must ensure:

- a Gateway review of the full business case has been completed (Gate 2); and
- Recommended Action Plans (RAPs) for any red flag recommendations arising out of Gate 2 Gateway reviews and a full business case (or at least a draft full business case) have been completed and submitted to DTF for the Treasurer's assessment of the business case robustness and deliverability.

To ensure there are no delays in the approval process, departments should engage early with DTF and submit drafts intermittently throughout the business case development process.

Proposals will be assessed under the HVHR process if:

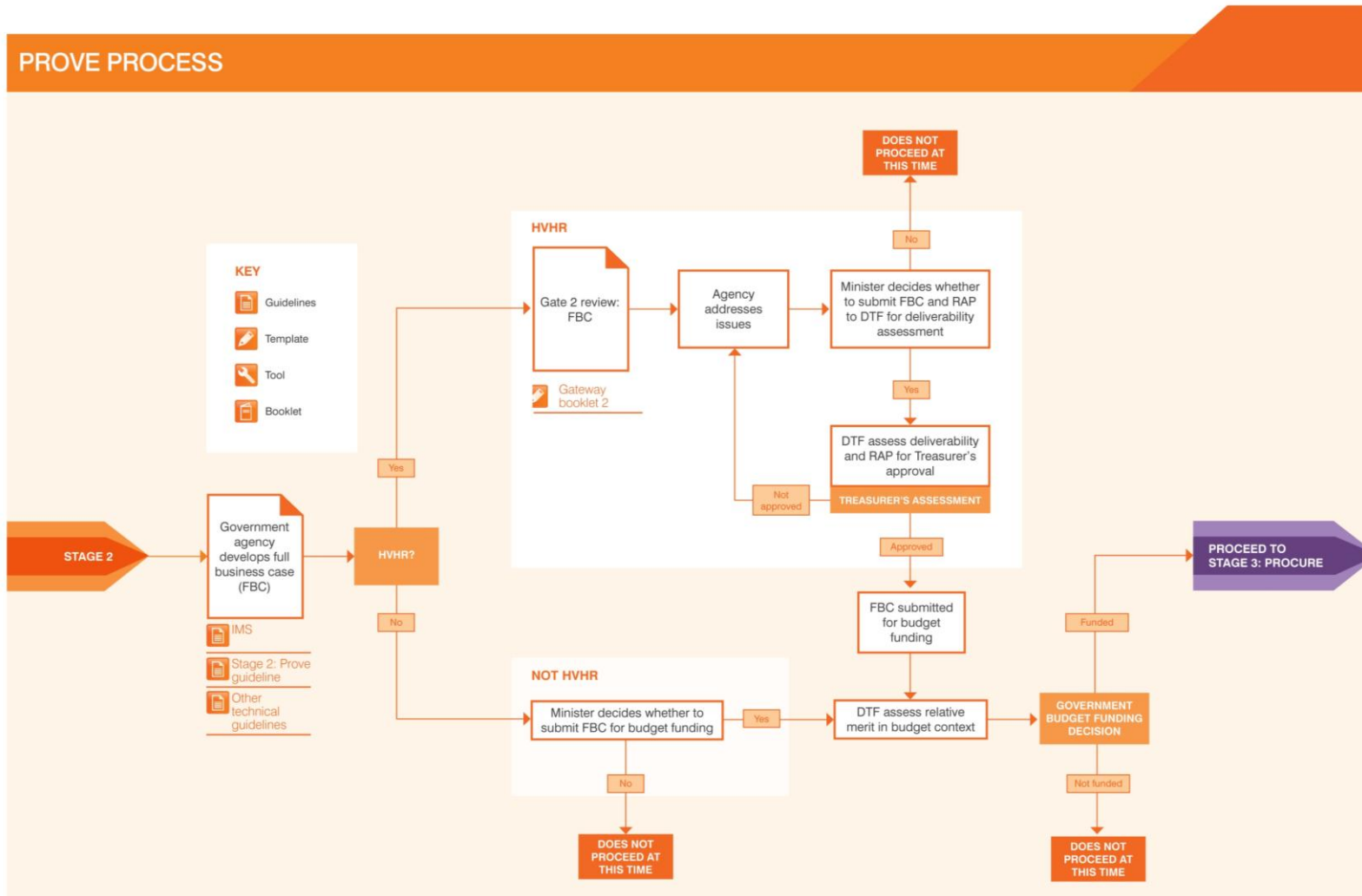
- they have a TEI greater than \$100 million; OR
- they are rated as 'high-risk' using the Gateway Project Profile Model; OR
- BERC has determined that they warrant extra rigour; OR
- departments agree with their DTF contact for assets (refer below) that the project should be classified as HVHR.

2.14 What's next: Procurement

The full business case is used by government in the budget process to determine funding allocations. The next stage of the investment lifecycle, *Stage 3: Procure*, involves approaching the market to deliver the project. Agencies should not proceed to the *Stage 3: Procure* unless the Government approves your business case and/or funding submission.

2.15 Process roadmap – prove stage

Figure 5 Stage 2: Prove - Roadmap



3. Revisiting the strategic case for change

The policy and strategic case for change should have been clearly defined in *Stage 1: Conceptualise* (i.e. in the strategic assessment or preliminary business case). As part of this process, you will have followed a line of enquiry to establish the investment logic by setting out the problem, benefits and strategic response. This chapter focuses on providing evidence for the strategic case presented in the preliminary business case or strategic assessment.

Note: The intent in this section is not to repeat previous work included in the strategic assessment or preliminary business case, but to confirm that this analysis is still relevant and robust.

As the full business case development process can be developed over a long time, a significant period may have passed since the initial analysis. The case for change set up in *Stage 1: Conceptualise* should be reviewed and revised to reflect any changes in the investment logic due to:

- conditions made by Government in approving the strategic assessment or preliminary business case;
- the political, economic and policy environment;
- Ministers or stakeholders influencing the direction of the investment proposal;
- new evidence that impacts the investment logic that was presented in your earlier submission;
- any uncertainties that, if they materialise, would impact upon evidence to support the problem, or might result in a low level of benefits being achieved.
- new requirements due to the time that has passed since the development of the preliminary business case or strategic assessment; and
- revision of underlying assumptions of the initial options assessment.

If there have been minor to moderate changes to the investment logic or strategic options since the earlier submission, these should be explicitly noted in the full business case to draw the decision-maker's attention to:

- what those changes are;
- their rationale;
- what impact they have on the investment logic (if any); and
- what work has been done to amend the proposal to accommodate the change/s.

If the changes are more significant, it may be necessary to seek Government direction on how to proceed. Where there have been changes to the preliminary business case or strategic assessment, agencies should contact their DTF contact to decide whether it is appropriate to seek Government direction on how to proceed.

3.1 Step 1: Problem

Once the problem has been revalidated, or revised if necessary, evidence in the preliminary business case or strategic assessment should be strengthened and revised, particularly when building on strategic assessments.

Business case information requirements for the problem:

- **Background:** Describe the context and background necessary to set the scene to introduce the problem and benefits from addressing the problem. Outline the existing service related outputs, existing asset base and resource commitments including lapsing status. This might include a discussion on current service funding, service distribution and levels, and underlying drivers of those services. This section may also introduce providers and stakeholders relevant to the problem.
- **Definition of the problem:** Explain in plain English and in less than one page the problem(s) needing to be solved. Present the cause of each problem, who is affected, and how they are affected. Describe the nature of the problem - for example whether it is immediate, transitory, ongoing or escalating. This section should include a discussion on the rationale for government intervention and the role of government.
- **Evidence of the problem:** Provide the evidence of both the cause and effect of the problem. Evidence might include demand forecasts (with assumptions and sensitivity analysis), key performance indicators in current performance levels and/or facts/ examples of the problem. This section should also include key assumptions and constraints impacting the problem definition.
- **Timing considerations:** Describe why the problem needs to be solved by government at this time, noting any connections to long-term planning documents. Explore whether the problem is suited to a staged response. Explain the implications of delaying a response to the defined problem such as:
 - physical or capacity limits will be reached
 - significant reductions in the level of service (quality/quantity) will be experienced
 - failure to meet specific government commitments or legislative requirements
 - requirement for urgent action at additional cost due to asset failure, system overload etc.;
 - lead time for investment to become operational; and
 - any critical dependencies with related service requirements.
- **Consideration of the broader context:** Explain whether similar needs or opportunities exist either inside or outside your organisation that might be addressed together with this proposal. For example, benefits of a wider sectoral approach, integration opportunities, pilot studies in other sectors that may impact the type of response.

Further information on developing the business case discussion of the Problem, along with fictional examples for this, are shown in the Stage 1: Conceptualise guideline.

3.1.1 Problem – checklist

To assess the extent to which you have outlined and evidenced the problem, consider how well you have answered the following questions. At this stage of your investment proposal you should be able to confidently answer all the questions below.

Table 5 Investment assessment checklist (16+Questions) – problem

Problem – Investment assessment checklist				
1. Is it clear what the problem is that needs to be addressed, both the <i>cause</i> and <i>effect</i> ? (revalidate)	Yes	Maybe	No	Not sure
2. Is there <i>sufficient evidence</i> to confirm both the cause and effect of the problem? (revalidate)	Yes	Maybe	No	Not sure
3. Does the problem need to be addressed <i>now</i> and by this government? (revalidate)	Yes	Maybe	No	Not sure
4. Does the defined problem capture its full extent/scope? (revalidate)	Yes	Maybe	No	Not sure

3.2 Step 2: Benefits

Once the benefits (and dis-benefits) have been revalidated, or re-crafted if necessary, the additional content in the business case should relate to strengthening the evidence, particularly when building on strategic assessments (which require a lesser amount of evidence than preliminary business cases for HVHR investments).

Business case information requirements for section 2 Benefits.

- **Benefits to be delivered:** identify the key benefits to be delivered (this can be drawn from the investment logic map and benefit map if available). Outline any dis-benefits or negative consequences that may arise.
- **Importance of benefits to government:** Show how this investment will help to advance the government and/or organisation to meet its objectives. This might include reference to the size and timing of those benefits. Describe how this initiative connects to government priorities and the department’s corporate, strategic and long term planning documents. List key high-level economic, social and environmental benefits the initiative will deliver.
- **Evidence of benefit delivery:** Define measures and key performance indicators that will show whether the investment benefits have been delivered. These benefits provide evaluation criteria and objectives for the development and selection of interventions and options. Details of baseline, interim and target measures, dates and frequency for the KPIs and the person/position responsible for delivering the benefits should be included in an appended benefit management plan or equivalent, which has been updated to reflect the recommended option. Reference or include the benefits management map. Where appropriate (as an alternative to a Benefit Management Plan) an evaluation strategy/framework should be included or attached.
- **Interdependencies critical to benefit delivery:** Identify key interdependencies critical to benefit delivery. For example reliance on other projects or decisions. These interdependencies may require a level of flexibility to be built into the proposal. Show that any key dependencies critical to benefit delivery have been considered.

Further information

Further information on developing the business case discussion of Benefits, along with fictional examples for how this might be done, is shown in the *Stage 1: Conceptualise* guideline.

3.2.1 Investment assessment checklist

Table 6 Investment assessment checklist (16+Questions)– benefits

Benefits – Investment assessment checklist				
1. Have the benefits that will result from fixing the problem been adequately defined? (revalidate)	Yes	Maybe	No	Not sure
2. Are the benefits of high value to the Government? (revalidate)	Yes	Maybe	No	Not sure
3. Are the KPIs SMART* and will they provide strong evidence that the benefits have been delivered? (revalidate) *SMART: <i>Specific Measurable Achievable Relevant Time-bound</i>	Yes	Maybe	No	Not sure
4. Have key dependencies critical to benefit delivery been considered? (revalidate)	Yes	Maybe	No	Not sure

3.3 Step 3: Strategic options analysis

This section presents the level of thinking agencies should have undertaken to explore options at the prove stage, and how that thinking might be documented. The process and guidance for undertaking the strategic options analysis is set out in detail in *Stage 1: Conceptualise guideline* on the DTF website.

3.3.1 Investigate the strategic response to the problem

It is crucial at Stage 2: Prove to carefully revisit the strategic options presented as part of your strategic assessment or preliminary business case. More evidence may be required to substantiate the analysis, there may have been changes in the strategy’s assumptions to since the initial options assessment, or the groupings may no longer be viable.

In relation to each strategic option, you should examine whether it is still:

- likely to deliver the investment objectives and critical success factors;
- likely to deliver sufficient benefits, noting the aim to improve value-for-money;
- practical and feasible;
- presenting a reasonably affordable range of costs; and
- clearly not too risky.

Also, moving from a strategic options analysis to a solution options analysis may not always be a linear process. When considering solution options, issues that arise that call into question or undermine the strategic options analysis. It may require you to return to the strategic options analysis for further consideration. In this case it may be necessary for you to move back and forth between solution options and strategic options until the investment story is robust.

Figure 6 Development of options: Strategic focus to project focus

Business case information requirements for the Strategic Response section (Section 3 of the full business case).

- **Method and criteria:** define the method and criteria used to select, assess and rank the strategic options identified;
- **Strategic options analysis:** describe each strategic intervention considered. List (by way of appendix if appropriate) any strategic options that were considered but then removed from consideration prior to the strategic options analysis. Provide a justification if appropriate. Outline the strategic options analysis process that was undertaken. Demonstrate that strategic options considered were each feasible and ranked fairly in arriving at the preferred strategic response; and then
- **Recommended strategic option:** ensure the preferred strategic response is clearly outlined.
- **Fictional examples for how this might be done is shown in the Stage 1: Conceptualise guideline.**

3.3.2 Strategic response – checklist

To assess the extent to which you have explored and presented the most appropriate strategic response, consider the way you have answered the following questions.

Table 7 Investment assessment checklist (16+ Questions) – strategic response

Strategic response – Investment decision-maker’s checklist					
9.	Has a reasonable spread of <i>strategic interventions</i> been identified and packaged into sensible strategic options? (revalidate)	Yes	Maybe	No	Not sure
10.	Is there evidence to demonstrate that the strategic options are feasible? (revalidate)	Yes	Maybe	No	Not sure
11.	Were the strategic options <i>evaluated fairly</i> to reflect their ability to respond to the problem and deliver the benefits? (revalidate)	Yes	Maybe	No	Not sure
12.	Is the preferred strategic option the most effective way to address the problem and deliver the benefits? (revalidate)	Yes	Maybe	No	Not sure

4. Step 4: Solution options analysis

Step 3 of this guideline looked at *strategic* options from a high-level perspective before presenting the recommended *strategic* option. *Step 4: Solution options analysis* identifies the efficiency and cost-effectiveness of the solution options that align to that strategy, and evaluates them to identify the recommended project solution.

Step 4 therefore involves agencies undertaking a more detailed evaluation of options, backed up by research, data and evidence before coming to the recommended solution. During this process it may be found that an alternative to the initial strategic option will achieve better outcomes (in which case the strategic options analysis will need to be revisited). The level of accuracy expected at this stage should be consistent with *concept estimate*.

Estimates to support the analysis in this section should be evidence based and defensible. They may be based on similar projects and other available comparative information, noting any points of difference.

What is a solutions options analysis? A process in which a range of solution options (both asset and non-asset) are evaluated from an socio-economic, financial and risk perspective. The best value-for-money option is then selected for more detailed evaluation of its deliverability. The best solution option becomes the 'recommended solution'.

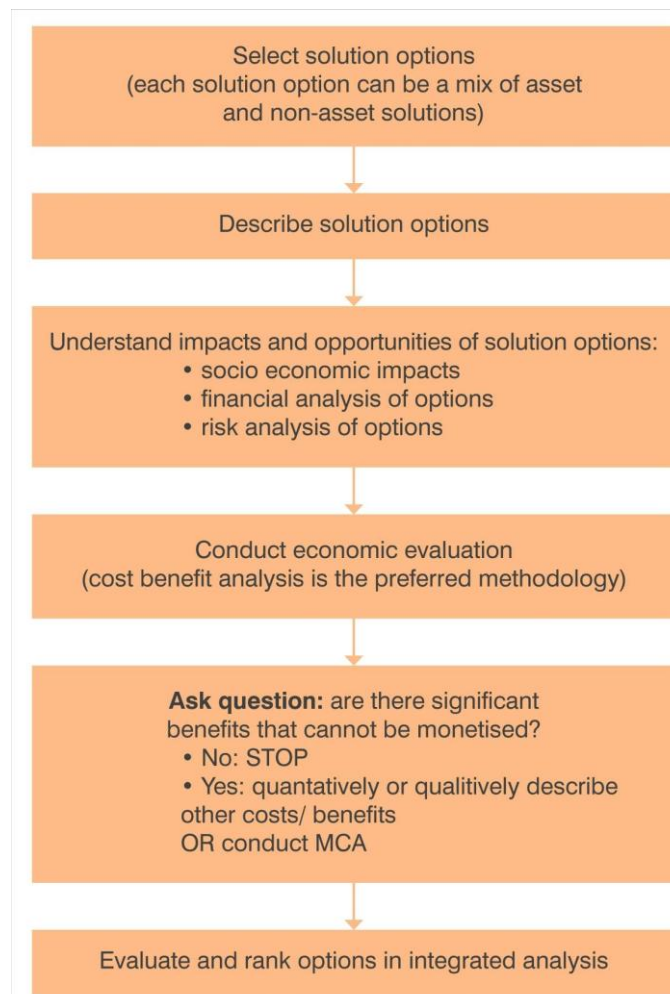
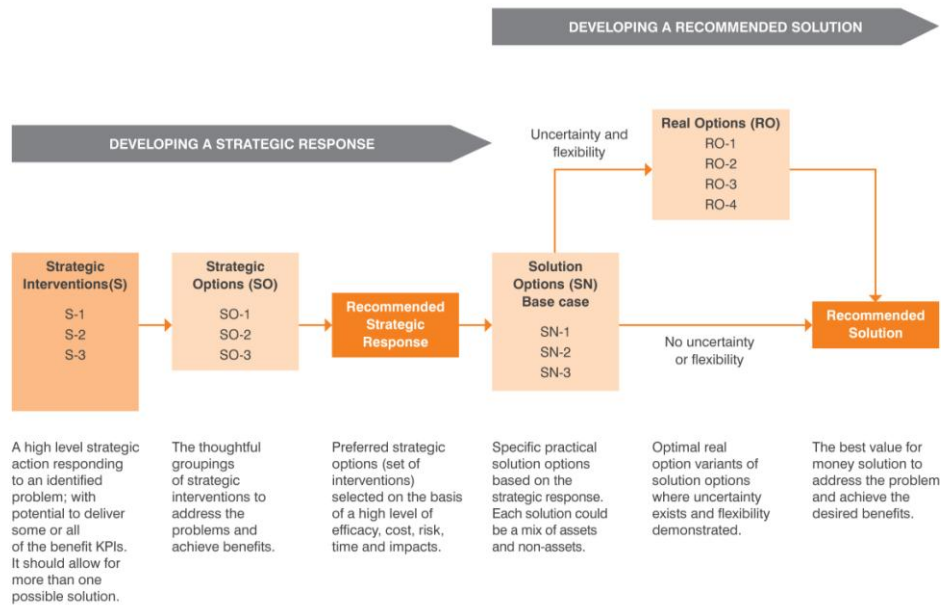
When further modelling or feasibility work performed during the Prove stage calls into question evidence relied upon in selecting the strategic response, the strategic response may need to be revisited.

If the **real options triage** conducted in the Conceptualise Phase indicated that the investment has a **significant level of uncertainty and flexibility**, a real options approach should be considered in this section, particularly for HVHR projects.

What are solution options?

Solution options explore how the preferred 'strategic response' might be implemented. A solution option might consist of business changes or assets that can be grouped to delivering the benefits expected from an investment (as specified in a benefit management plan). Each solution option must be consistent with the identified strategic response.

Figure 7 Process for solution options analysis



Step 4: Solution options analysis

4.1 Selecting and describing solution options

4.1.1 Defining the base case

The 'base case' is the first project option defining what occurs continuing under the current policy settings. The base case is a realistic option that could be used for future service delivery.

Defining the 'base case' enables understanding of the incremental impacts of different options in addressing the underlying problem.

There are situations when determining the base case isn't straightforward. Sometimes a 'do nothing' (i.e. spend nothing) base case is possible, in which case base case represents the minimum cost of using the existing arrangements to deliver services at current levels and standards. The government's current policy settings should be assumed to be maintained on a per capita basis, including investment levels, unless there is an explicit policy or reason why this should not be the case.

A 'base case' is the 'current policy' option. However you define the base case, ensure it is clear and explicit.

4.1.2 Choosing solution options

Agencies need to develop and set out realistic and feasible options to address the underlying problem and meet the overall **investment benefits**.

This guidance uses the term **project option** to refer to the combination of service changes, assets and/or other actions proposed. This does not mean an asset should always be proposed.

These solution options should be aligned to the strategic response identified in Step 3 of this guideline. The initial project option scoping looks at a variety of scoped asset and non-asset solutions for the purpose of selecting the preferred option. Developing and evaluating too many options is expensive and time consuming. Agencies are encouraged to select a manageable shortlist of solution options from those initially considered. Do not spend time developing and evaluating options unlikely to be pursued. If solution options have been removed at any stage, briefly outline what those options were, and why they were not further analysed.

At least two solution options and the base case should be analysed in the full business case.

Types of solution options

- **Existing asset options:** using existing government assets to meet the need.
- **New asset acquisition:** involves investing in the development or purchase of new assets.
- **Non asset options:** Non-asset options are those which change regulation or policies to deliver new or additional service capacity without creating additional assets.
- **Market-based solutions:** At least one innovative 'market-based solution' should be scoped and considered. Market-based solutions use market mechanisms such as pricing, property rights and competition to solve common problems. Some examples of market-based solutions are:
 - Pricing to manage demand e.g. user charges.
 - Introducing competition into government service delivery e.g. through private sector provision.
 - Restructure purchasing or service delivery arrangements to replicate incentive structures operating in markets.

Each solution option may require a combination of assets and non-assets in order to deliver the strategic response.

Private sector involvement considerations

When considering private sector involvement consider:

- whether a competitive market exists or can be established to provide the proposed services.
- how private sector provision compares to the cost and quality of provision by the public sector after taking into account the after tax rate of return required by the private sector.
- the impact of private sector involvement upon the State's financial position.
- risks of the investment and the degree to which risks can be shared with the private sector.

Indicators that the private sector may add value to an investment proposal include:

- the size of the investment;
- operating efficiencies of the private sector; and
- benefits of ownership of assets accruing to the private sector.

Business case information requirements for solution options selection:

- Describe the base case, including information on the present service delivery performance, status and condition, assumptions and use of existing infrastructure.
- Describe the solution options and the rationale used to select the solution options
- Ensure that asset, non-asset, private sector and market based solutions considered in selecting solution options.

Project options analysis - Choosing project options (fictional transport example)

A business case should outline the basis for selecting the included project options. If there are technology, stakeholder, policy, legal and/or other constraints that make certain options unfeasible then these should be explained. This case study illustrates how this requirement might be addressed, for a fictional road bypass project.

4.1 Project options considered

Three project options are presented for a bypass of Smithville (the preferred strategic response). All project options run to the east of Smithville and are a minimum 5 kilometres from the city centre.

Alignments to the west of Smithville, or to the east but closer to the city centre were not preferred due to:

- The Smithville industrial precinct, in the northeast, is a common origin/destination for heavy vehicles. A bypass route to the west of Smithville would be used less, reducing the projects' key benefits.
- A route to the west needs to avoid the Namillian State Forest. To do this the route must cross two ravines requiring costly bridges and significant earthworks. Options to the east have significantly lower cost.
- A number of important sites (including two schools and a recreation centre) are in the southeast of Smithville, sited up to 4 kilometres from the city centre. Feasible routes to the east run close to these facilities raising significant community concerns around increased noise and pollution.

4.1.3 Describing solution options

The full business case template asks agencies to describe solution options prior to analysing them. Agencies should be able to describe solution options, critical assumptions, asset and output options and at least one market-based project solution where possible. Note that critical assumptions or constraints must be option-specific.

- Critical assumptions include revenue drivers, capital and operating costs, social and environmental factors, financing constraints, and availability of resources and expertise.
- Include known or emerging constraints or windows of opportunity affecting the proposed initiative.

Step 4: Solution options analysis

- Identify regulatory, legislative, policy issues and relevant Acts that may impinge on the proposal.
- What is the extent of uncertainty that stems from these factors?

These assumptions or constraints should be considered as part of the sensitivity analysis in the integrated assessment (see section 4.4.3).

If uncertainty and flexibility was identified in the delivery of the solutions, identify **real option alternatives** within the solution options.

Business case information requirements for describing the solution options.

- Scope of each solution option (including assets and non-assets of each solution option).
- Critical assumptions or constraints and windows of opportunity for each option.
- If uncertainty and flexibility was identified in the delivery of the solutions, identify real options alternatives.
- Any potential for 3rd party revenues.
- Outline solution options considered but not evaluated and state rationale for non-consideration.

Project options analysis - Describing project options (fictional transport example)

This case study illustrates how a project option might be presented in a full business case, after the preferred strategic response has been identified. The recommended strategic response is construction of a road bypass of Smithville. The fictional project option presented below details one practical option for the bypass.

4.1 Project option 2 - description

Option 2 is a 21-kilometre bypass, to the east of Smithville, connecting Phillips Highway between Mitchell and Williams Roads. The bypass includes a 4 kilometre duplication of the existing highway north of Smithville providing two lanes each way between Williams and Walsh Roads as illustrated in Figure X. Specifically, it includes:

- A freeway-standard bypass to the east of the City of Smithville
- Duplication of the existing Phillips Highway between Walsh and Williams Roads, including new local access roads
- Diamond interchanges at Mitchell Road and Walsh Road with bridges over the freeway and ramps giving full access in all directions
- An overpass taking Pitchford Road across the freeway
- An underpass taking Harvey Road beneath the freeway
- Upgrading sections of Langford Road, Pitchford Road and Harvey Road.
- Planting of trees (to serve as noise barriers) on the Smithville (west) side of the bypass
- Signalling and signage as required.

The bypass would have maximum gradient of 3.5% across the entire length of the route. With this bypass, through traffic between Melbourne and the Goulburn Valley would no longer enter Smithville. Similarly, heavy vehicles travelling between Melbourne and the Smithville industrial centre would access the Phillips Highway at Williams Road and so be diverted from the city centre. During the most congested periods this is likely to reduce travel times on the Phillips Highway through Smithville by about 25 minutes. The bypass would be developed in a single phase of construction. Construction would commence in November 2013 with the bypass scheduled to open in late 2015.

4.2 Understanding impacts and opportunities of solution options

The solution options analysis section should communicate significant impacts of solution options considered, including social, stakeholder, environmental, financial and economic impacts and opportunities.

4.2.1 Types of impacts and opportunities

Stakeholders

Stakeholders impacted need to be identified and considered in the context of the option shaping and selection. Agencies are required to outline key stakeholder positions, impacts and the level of consultation for each project option.

This case study illustrates the type of information that might be provided on stakeholder impacts.

Example Stakeholder Identification - Major investment

Key stakeholders include Victorian Government agencies (Regional Development Victoria (RDV) and Tourism Victoria), the Outback Council, the Outback Development Corporation, various businesses and community groups including the local indigenous community. Stakeholders are identified in the table below with the nature of their interest explained.

Stakeholder	Impact and interest in project	Consultation to date – option preference
RDV and Tourism Victoria.	RDV and Tourism Victoria are agencies with a direct interest in this proposal. RDV delivers regional economic development programs complementing this proposal. The proposal links to Tourism Victoria’s strategy for marketing the Outback region.	Ongoing dialogue with these agencies indicates their support for the project with a preference for option 1. They are keen to ensure it complements other initiatives in the region
The Outback Council and the Outback Development Corporation	The Outback Council and the Outback Development Corporation are the two local bodies responsible for promoting economic development in Outback. Both bodies support the project as there is an opportunity to leverage better outcomes from investment.	A series of meetings established these agencies will support the project, conditional on their ongoing involvement. Option 2 provides closer alignment and will likely generate a contribution.
Local businesses and community groups including indigenous communities.	The site of the proposed investment links its business and tourism districts. This prime location means most members of the local community will be impacted or take a close interest. Some community groups may be negatively impacted during construction. Community groups are likely to support the project, subject to effective engagement and management of disruption to groups using existing facilities.	Consultation has largely been through presentations and correspondence through local council processes. There is broad acceptance of the problem and benefits but a diversity in option preferences.

Social impacts

Agencies are expected to provide a high-level overview of the spread and depth of significant social issues, impacts or opportunities specifically relevant to particular solution options.

Environmental impacts

Agencies should outline significant environmental issues, impacts or opportunities relevant to each project option including:

- The extent and nature of short and long-term environmental consequences.
- Opportunities to deliver environmental benefits (or address risks) relating to Government objectives (e.g. through the incorporation of conservation and sustainability).
- Any uncertainties or risks stemming from these factors and strategies to address them.

An environmental impact analysis will be required for some asset proposals to meet relevant legislative requirements and identified community concerns. For some projects, an

Step 4: Solution options analysis

Environmental Effects Statement (EES) or a (Commonwealth) Environmental Impact Statement (EIS) may be required. If completed, the results of these statements should be summarised with the full report contained in an appendix.

Sustainability investment thinking in your project options analysis

When looking at investment in sustainable initiatives you should consider opportunities for investing in sustainability as long as it contributes to VfM or a stated government policy. An Investment Lifecycle Guidelines technical supplement: *Sustainability Investment Guidelines* has been developed to assist in the consideration of sustainability issues. Key themes and areas of focus of the guidance include:

- linking investment decisions to clearly identifiable benefits (quantified or otherwise);
- a whole of life investment approach, including in the cost benefit appraisal;
- building in sustainability from the concept stage by providing a set of prompts to consider; and
- improving the robustness of sustainability elements towards clearly defined performance.

Economic impacts

The full business case should summarise significant economic impacts and opportunities of each project option. 'Economic impacts' in this instance refers to impacts on key economic drivers such as productivity, workforce participation and unemployment. The impacts of each option on society as a whole are compared as part of a socio-economic evaluation (e.g. via a cost-benefit analysis).

Economic impacts can be identified quantitatively through economic modelling or in a qualitative manner (e.g. by describing possible changes and their likely order of magnitude). Data is available from the Australian Bureau of Statistics and other sources, which can assist in this task – particularly when providing qualitative descriptions of possible impacts.

Business cases should set out the following impacts and opportunities in the Solution options Analysis

- Stakeholders: Stakeholder identification and mapping
- Social impacts: The nature and extent of the social impact on each group or individuals including distributional impacts – 'winners and losers'. These impacts may be the deliberate intention of the proposal or an unintended consequence.
- Environmental impacts: Outline the extent and nature of short and long-term environmental consequences of each option. Opportunities to deliver environmental benefits relating to Government objectives from the proposed investment should be outlined.
- Financial impacts: the monetised costs and benefits to Government of undertaking the different solution options.
- Economic impacts: All significant economic impacts and opportunities of each project option.

4.2.2 Financial analysis

Financial analysis is an estimate of all investment specific Government-wide cash flows expected to occur over the life of the investment, in other words what the investment will cost and how affordable it is. If uncertainty and flexibility exist within the investment, a real options approach should be used to identify the expected NPV of the investment. The financial analysis focuses on the net cost of options to be appraised in the economic analysis. These costs and benefits are assessed relative to the base case. Both the 'financial' based perspective and the 'economic' perspective need to be assessed, along with risk and uncertainty in providing decision maker's with a clear picture of the factors affecting the investment decision.

A summary of the financial modelling process and outcomes for each Project Option is required. Costs are specified to the level of a concept estimate. The costs need to be realistic, evidence-based and defensible.

Capital, operational costs, revenues and cash flows should be modelled over a sufficient period of time to consider whole-of-life impacts and to allow meaningful option comparison. This section should also detail any biases, limitations and deficiencies of the analysis.

If a real options analysis is being applied, costings will need to be determined for each real option alternative. The following table outlines the difference between the economic and financial analyses.

The following information should be included in the financial analysis section of the Solution options Analysis:

- **A description of the costing methodology** used to establish the TEI estimate.
- **A statement addressing the scope of estimates for Solution options.**
- An explanation of **key assumptions**, such as:
 - assumptions used to develop the estimated project cost for each option;
 - estimated unit costs of the project option. Where possible include costs per unit of output, e.g. cost per hospital bed, and building unit, e.g. cost per square metre;
 - relevant benchmarking of other projects, assets, facilities if other similar work has been undertaken before; and/or
 - component costs, such as industry accepted rates or reliable unit costs e.g. cost/km.
- **Annual capital and output cash flows** for each project option and a comparison of net present values.
- **Any biases, limitations and deficiencies** of the analysis.

Project options analysis - Financial analysis of project options (fictional hospital example)

Business cases assess both the capital and operating costs of the project options, and compare these in net present terms. This case study illustrates how the financial analysis of hospital expansion options might be presented. If uncertainty exists, this will need to be done for each real option, and then compared on an expected NPV basis.

The following table presents the estimated capital costs for the project options. These consist of a base cost estimate, a base risk allocation and a contingency. The capital cost of the Base Case is zero so it is not shown.

Capital cost estimates (\$'000)	Option 2	Option 3	Option 4
Base cost estimate			
Construction works	\$48,700	\$72,300	\$90,300
Other	\$13,500	\$19,600	\$24,200
Total – base costs	\$62,200	\$91,900	\$114,500
Base risk allocation			
Cost escalation	\$5,210	\$7,750	\$9,750
Other project risks	\$2,490	\$3,650	\$5,350
Total – base risk allocation	\$7,700	\$11,400	\$15,100
Project cost estimate	\$69,900	\$103,300	\$129,600

Operating costs have been modelled in the table below using assumptions and inputs as previously outlined. A copy of the detailed financial model is provided at Appendix X. The table below summarises increases in operating costs over 25 years from the expected opening date in 2012-13. All costs are incremental and presented in net present terms.

Operating cost estimates (2012-13 to 2037-38)	Option 2	Option 3	Option 4
Salaries and wages	\$46,092	\$57,832	\$70,217
Medical and surgical expenses	\$71,328	\$93,097	\$101,685
Other consumables	\$40,530	\$52,904	\$57,780
Facilities, maintenance and contracts	\$25,620	\$29,463	\$32,281
Overhead costs	\$30,606	\$35,197	\$38,564
Risk adjustment	\$15,338	\$17,687	\$13,559
Total operating costs	\$229,514	\$286,180	\$314,085
Total net present cost	\$304,914	\$397,680	\$453,485

The estimated incremental net present costs of the project options (using a discount rate of 8%).

4.2.3 Socio-economic analysis

The assessment of socio-economic impacts (including social, economic and environmental) outlines what Government is ‘purchasing’ for its investment in terms of the **net benefit to society**.

In addition to the information provided below, see the Investment Lifecycle Technical Guideline on Economic Evaluation for further information.

Table 8 Difference between economic evaluation and financial analysis

	Socio-economic analysis	Financial analysis
Focus	Overall social welfare / Value-for-Money – net present value / benefit-cost ratio	Cash flows, funding requirements and funding sources
Purpose	Relative contribution of option(s) to net social welfare compared to a base case	The additional net financial impact to the organisation across time
Inclusions	All allocative resource flows (all incremental and new costs and benefits from society’s perspective) including market (such as most of what is included in a financial analysis) and non-market based impacts (e.g. externalities). Costs and benefits occurring in different time periods are ‘discounted’ to their present values using the recommended discount rate.	Direct capital, revenue and output financial and accounting impacts (e.g. depreciation and capital Asset Charge) Costs and benefits occurring in different time periods are ‘discounted’ to their present values using the recommended discount rate. Refer to technical guideline Preparing project budgets for business cases for further information.
Exclusions	GST and taxes Depreciation Sunk cost Interest and financing costs Transfer payments	GST and taxes Sunk costs
Period of analysis	Service term or period sufficient to consider whole of life impacts of the project	Service term or period sufficient to consider whole of life impacts of the project

Scalable analysis

The effort invested in carrying out socio-economic analysis of solution options should be scaled to the size, complexity and nature of the proposed investment. Estimates and data used should be evidence-based and defensible.

Outline assumptions/ sources of information

Estimates will be given more weight if different methods give similar results, or if the study has been replicated by other researchers with similar results. Sometimes the use of cost or benefit ranges may be appropriate. In any case, the assumptions and sources of information used in the socio-economic and environmental assessment should be clearly set out.

Select methodology

Cost benefit analysis (CBA) is the preferred methodology for conducting the socio-economic assessments. CBA focuses on assessing the marginal value of an investment to society, to the extent that costs and benefits can be monetised. . Due to the cost and time involved in performing a CBA accurately, it does not need to be performed for low cost projects where the impacts are difficult to monetise.

CBA determines whether an investment makes a sufficient contribution to society’s welfare to justify the expenditure. These impacts include both market and non-market specific impacts in the areas previously described (i.e. social, environmental and economic). The net present value assessment measures the value of the investment to society relative to the base case. Should

be used for medium to high cost projects where the majority of costs and benefits are captured in the CBA.

CBA should be used for investments wherever possible to assess monetised benefits.

Computable general equilibrium (CGE) uses real economic data to estimate the economy wide impacts of a proposed project or policy change. A CGE model only includes market-based goods and services (not non-market goods). It should be only be used to complement a cost-benefit analysis. In addition due to the costs and complexities involved it is usually only appropriate for very large investment projects.

Cost-effectiveness and least-cost analysis: A partial cost-benefit approach that compares the relative costs of different options in reference to a specific agreed outcome. A cost-effectiveness analysis expresses the result in terms of the average cost per unit of effectiveness. A least cost analysis shows the total cost of each option.

Significant, difficult to monetise, socio-economic costs or benefits need to be evaluated separately from the NPVs or benefit-cost ratios to help determine the preferred option. This is achieved through an integrated analysis which is discussed further in 4.3 Integrated analysis.

If the vast majority of costs and benefits are captured in the CBA, then the NPV/benefit-cost ratio forms a major part of the project selection.

Quantify and monetise costs and benefits

While there is a strong preference for all project option impacts to be monetised (to facilitate cost-benefit analysis), there are occasions when some social, environmental and economic impacts are difficult to measure due to the cost involved relative to the impact being measured or because there are no reliable techniques or relevant default values readily available. As cost benefit analysis and other economic evaluation techniques do not go beyond assessing monetised impacts. For example, qualitative (e.g. aesthetic value) effects are not captured. Yet these factors can be important contributors to Government decision-making – and especially for investments with social and/or environmental objectives.

The overall economic evaluation should include the impacts with the preference for inclusion being as follows (with reliability being the key driver):

- include the impact in quantifiable monetary terms;
- include the impact in a non-monetary quantity allowing comparison between options; and
- unquantifiable (qualitative/ described) impacts.

Impacts should only be assigned a monetary value when this is done in a robust and neutral manner in line with the appropriate use of existing widely accepted valuation techniques or default values. If impacts cannot be assigned monetary values then they should be described in quantitative/ qualitative terms.

Sometimes it is difficult to monetise benefits, however agencies should strive to monetise impacts in a defensible, neutral manner wherever possible.

Valuation techniques include:

- **Market-based valuations:** Market-based valuations infer a price by examining consumer behaviour and/or prices in a similar or related market. Techniques include defensive expenditure, replacement cost and productivity method.
- **Revealed preference:** The revealed preference method seeks to find out how much consumers spend on goods and services in similar or related markets by observing the

Step 4: Solution options analysis

choices. For example, valuing the impact of flight path noise by comparing prices of similar homes under the flight path with those removed.

- **Stated preference method:** This approach is useful where there is no other method available to monetise a particular cost or benefit. Stated preferences are obtained by specially constructed questionnaires and interviews designed to elicit estimates of the willingness to pay (for) or the willingness to accept a particular outcome.
- **Benefit transfer method:** This method adopts a value from an existing body of research as a proxy value for use in the cost-benefit analysis. This method may be used for assessing health and environmental impacts. Explanation of why research is the best approach should be provided.

Geographic focus of impacts

In most cases, the non-financial impacts should focus on impacts on the *Victorian* community/ economy/ environment. One exception may be where the primary objectives/ drivers of the investment are distributional (ie. where there are equity objectives). For example, the Government may have explicit policy priorities to promote economic development in a certain region. In this instance the analysis may focus on the impacts on that particular region rather than the whole of Victoria. The analysis should note this restriction but note the impacts on Victoria. There may also be projects seeking federal co-funding where incorporating national benefits is appropriate.

Discount impacts back to present values

Discounting ensures that costs and benefits from different time periods are assessed using their present values. It reflects the opportunity cost of investing in a particular project. The discount rate used in public sector project evaluations should reflect the risk profile associated with the project. See the Investment Lifecycle Technical Guideline on *Economic Evaluation* for further information on the discount rate.

Choose a quantitative assessment tool

Net present value (NPV): NPV is the preferred quantitative assessment tool when assessing options. Nevertheless, the benefit-cost ratio should also be reported to provide decision-makers with additional relevant information.

The NPV measures the present value of net benefits. It is calculated as the present value of all benefits minus the present value of all capital and recurrent costs (including externalities) within the appraisal period for the project.

NPV = PV benefits – (PV of capital plus recurrent costs) ± PV of other impacts

Present values are discounted as outlined in the Investment Lifecycle Technical Guideline on *Economic Evaluation*.

The NPV is used to:

- Rank options based on their magnitudes; and/or
- Accept or reject options

Benefit-cost ratio (BCR): the BCR in its simplest form is the present value of all benefits divided by the present value of costs. A BCR that is greater than one implies a positive NPV and the project should therefore generally be acceptable to proceed. The BCR should be reported with the NPV but is not recommended as the only quantitative assessment tool reported or used for decision making because it is biased towards projects with early returns and small projects. The results from the BCR should be considered with the NPV results during the decision making process.

Distributional impacts

Note distributional impacts, while an important factor for government decision-making, are **not included in the headline results** (e.g. the net present value) of the economic evaluation (which addresses welfare impacts to society as a whole). These impacts, along with other considerations, are considered in the integrated analysis at 38 below.

Potential problems in economic (and financial) assessments

Optimism bias: Optimism bias, which means underestimating future costs and overestimating future benefits and timelines. The assessment should state how cost, timing and benefit estimates were developed and rigorously tested.

Objectivity can be enhanced by having an expert, independent of the area promoting the investment, to undertake the analysis.

Double counting: Impacts can be accidentally doubled counted. This is usually because they are inherently reflected in the pricing of other benefits. Another serious error is counting costs as benefits. For example, the use of resources such as labour is often counted as an employment benefit. However, this almost always has a cost (i.e. an opportunity cost) if such resources can be used elsewhere in the economy.

Unanticipated impacts and ignoring non-market impacts

Many potential costs and benefits are unanticipated at the time of project evaluation. Non-market impacts are generally harder to anticipate and quantify and are not more likely to be overlooked. Nevertheless, listing and estimating all relevant costs and benefits early in the process, as well as affected parties, should be attempted.

Business cases should cover the following issues in undertaking the socio-economic impacts and evaluation:

- identify the basis for costs and benefits for solution options;
- describe the economic assessment methodology;
- quantify and monetise (wherever possible) costs and benefits at a level of accuracy consistent with 'concept estimates' level, as a minimum. The level of accuracy should be determined based on the scale and complexity of this investment. Assumptions should be provided;
- agencies should discount impacts back to present values using the recommended discount rate; and
- an appropriate quantitative assessment tool (e.g. NPV or benefit-cost ratio) should rank the solution options as a significant component of the project option selection.

Solution options analysis in the face of uncertainty

While a cost-benefit analysis can help deal with risk and uncertainty associated with particular impacts through the use of techniques such as sensitivity analysis and scenario analysis, there may be a need for a more in-depth approach when faced with significant uncertainty.

Where it has been demonstrated that this investment is subject to significant uncertainty, real options should be used in the analysis of the investment (see 2.4 above). For instance, if there is uncertainty regarding the Net Present Value of an option, it can be difficult to distinguish from alternatives. A low risk, low NPV option may be preferred to an alternative with higher NPV but more uncertain net benefits. Real options can be used to determine the preferred option.

Step 4: Solution options analysis

For each project option that is subject to uncertainty, a strategy for **responding to that uncertainty** should be developed in the form of a series of decisions. Those decisions may be to:

- grow or accelerate the investment on the basis of new information or under more favourable investment conditions;
- abandon, contract or delay the investment under less favourable conditions; and
- switch inputs or outputs for instance in the event of changes in prices or demand.

The Investment Lifecycle's *Real Options* guideline provides a practical guide to applying real options to an investment. The key elements of adopting a real options approach is defined below.

Assigning values and trigger points to real options

In setting out the solution options in this section, clearly define which solution options have real options alternatives attached to them. For each project option for which there is real options alternatives a value should be estimated for each real option response to the uncertainty. This value might be a net present value, a benefit cost ratio, a rank or some other meaningful attribute. A decision tree or influence diagram can be used to show the values of various real options strategies.

For each real options alternative within a project option, the business case should outline clear trigger points in the investment's trajectory, at which time a decision needs to be made on whether to activate a real option or not (i.e. at X milestone (date X/X/2016) a decision will be made to scale up or scale down as per the real options strategy)..

Real Options Economic evaluation (cost-benefit analysis) (fictional transport example)

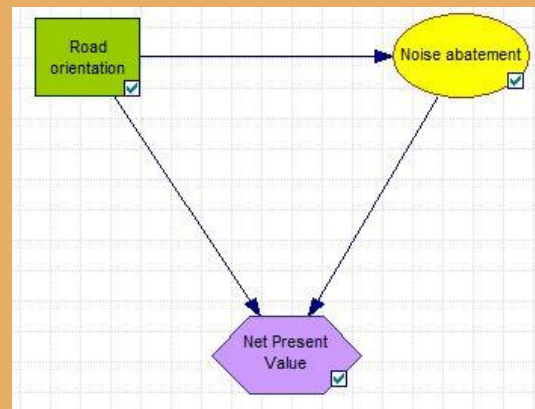
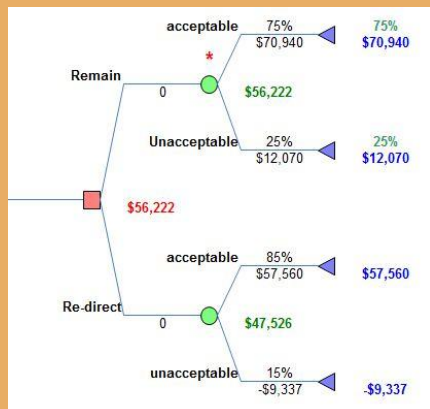
Where uncertainty exists, the economic evaluation should be conducted using real options. In the fictional transport study there could be a number of uncertainties. For instance, Project Option 2 passes near residential using trees for noise suppression. Modelling indicates that this has a 75% chance of providing the necessary noise suppression. If it does not provide adequate suppression, the construction costs will increase by 22% to take into account the need to retrofit the solution. Alternatively the road could be re-directed further away from the residential areas, in which case the costs would increase by 5% if the suppression is successful or 30% if not. Re-direction by itself has an 85% chance of successful noise amelioration.

Item	Option 1 No redirection No extra suppression	Option 2 No redirection Extra suppression	Option 3 Redirection No extra suppression	Option 4 Redirection Extra suppression
Benefits – monetise				
Travel time savings	\$421,325	\$421,325	\$421,325	\$421,325
Vehicle operating cost savings	\$235,050	\$235,050	\$235,050	\$235,050
Accident cost savings	\$4,500	\$4,500	\$4,500	\$4,500
Savings in other externalities	\$52,605	\$52,605	\$52,605	\$52,605
Asset residual value	\$61,650	\$61,650	\$61,650	\$61,650
Total monetised benefits	\$775,130	\$775,130	\$775,130	\$775,130
Costs				
Construction costs	\$267,591	\$326,461	\$280,971	\$347,868
Operations and maintenance costs	\$436,599	\$436,599	\$436,599	\$436,599
Total cost	\$704,190	\$763,060	\$717,570	\$784,467
Benefit-cost ratio	1.10	1.02	1.08	0.99
Net present value	\$70,940	\$12,070	\$57,560	-\$9,377

The decision tree below indicates that this project option actually has an expected net present value of \$56,222. The other project options may have different uncertainties but a similar process would be used. It is the expected values that would be used in the comparison of project options in the event of significant uncertainty. Uncertainty may exist in both benefits and costs.

The preferred real option is to keep the current alignment of the road and depend on the current noise abatement strategy. What is shown is the potential for cost escalation if that strategy is unsuccessful, but that realigning the road is less effective than retrofitting a solution.

The influence diagram shows that the net present value is affected by the decision made and the chance event (ie that noise abatement may or may not work), and that a chance event applies to each of the decision alternatives.



Step 4: Solution options analysis

Cost benefit analysis (fictional transport example)

This simple case study presents findings of an economic evaluation (CBA) for a fictional road bypass project.

This section presents the findings of the **real options cost-benefit analysis** of project options. Cost-benefit analysis enables the project options to be assessed on the basis of their net present value (NPV) or benefit-cost ratio (BCR). The baseline for assessment is the base case (the 'do minimum' scenario). Project options that have a positive NPV (or a BCR above one) are considered to have merit, prior to consideration of the benefits that have not been monetised.

The table below shows the NPV of each project option. The cost-benefit analysis finds that, in terms of monetised benefits, Option 2 has a positive NPV but Option 3 and Option 4 do not (although Option 3 has an expected NPV close to zero).

Integrated assessment (PV \$'000)	Option 2	Option 3	Option 4
Benefits – monetised			
Travel time savings	\$421,325	\$480,850	\$560,820
Vehicle operating cost savings	\$235,050	\$257,580	\$257,735
Accident cost savings	\$4,500	\$5,860	\$7,055
Reduction in air and noise pollution	\$52,605	\$69,615	\$95,820
Asset residual value	\$61,650	\$76,855	\$98,320
Expected total monetised benefits	\$775,130	\$890,760	\$1,019,750
Costs			
Construction costs	\$282,308	\$325,894	\$389,172
Operations and maintenance costs	\$416,599	\$561,265	\$658,349
<i>Loss of native vegetation</i>	\$20,000	\$15,000	\$25,000
Expected total cost	\$704,190	\$902,158	\$1,072,521
Expected benefit-cost ratio	1.10	0.99	0.95
Expected net present value	\$56,223	-\$11,398	-\$52,771

This analysis does not include non-monetised impacts and, therefore, does not allow definitive conclusions on whether all project options have an overall socio-economic benefit. Nonetheless, it indicates Option 2 has a net benefit solely on the basis of monetised economic benefits, while Option 3 and 4 do not.

4.2.4 Risk assessment

The risk assessment focuses on each options' risks and uncertainties. Agencies should choose a methodology for identifying project risks, mitigation treatments as well as a method of evaluating the risks as part of the project option assessment. A risk workshop is often used as a useful approach for identifying key project risks.

In setting out the risk assessment of solution options, agencies should:

- Include a description of the risk assessment methodology undertaken.
- Outline the risk profile of the investment, including risk causes, events and responses/mitigation strategies.
- Summarise the key risks to incorporate into the integrated analysis of the investment solution options.

To assist in identifying the key risks, the following is a (non-exhaustive) list of risk categories and sources providing a number of perspectives from which agencies can consider project option risks.

Table 9 Types of project risks risk

Risk type	Explanation
Non-project specific risk (uncertainties):	May highlight the need for a flexible ‘real options’ approach to the investment. Eg general financial markets risk, climate change, limited information available in market at this time.
Investment planning risk:	The risk the investment proposal has not been rigorously prepared meaning issues critical to success have been missed or costs, benefits and risks over and/or under estimated.
Completion/construction risk:	Relates to the development and implementation of the investment within the time and budget parameters.
Implementation risk:	The analysis of implementation risk involves an assessment of the likelihood the proposed investment will deliver the targeted outcomes and outputs.
Management risks:	The ability of management to deliver the expected outcomes.
Operations risk:	Operations risk is dependent upon the nature of the integration of the recommended project with other underlying operations of the enterprise.
Financial risk:	Financial risk is dependent upon the investment’s financial structure. Interest rates, taxation treatment, timing of cash flows and ability to absorb losses.
Environmental risk:	Relates to the impact of the proposal upon the natural environment.
Private sector risk:	Risks include the ability of the private sector to manage the allocated risks and to deliver the outcomes (i.e. funding, implementation, management, operation etc.).
Political risk:	These risks arise from commitments or actions of politicians. Investments sometimes create a polarisation of interests in the community which can create political risks if not managed appropriately.
Stakeholder risk:	Arises when there are varied and conflicting expectations of investments, or if there is significant commitment required by a stakeholder to ensure the project’s success.

Project options analysis – Risk comparison

A business case describes the process through which risks of project options have been assessed and addressed. This can provide assurance that project risks are well understood and reflected in cost estimates. This case study provides an example of how this requirement might be met, for a fictional new hospital facility.

4.8 Risk comparison

Project option risks were identified and quantified through a staged process involving two project risk workshops. The workshops included two external experts and senior staff from the Department of Good Health. The initial workshop confirmed generic project risks and developed a draft risk register in the same format as hospital project Y. A second workshop was held to quantify risks for each project option to include in the financial cost estimates. At the workshop:

- The risk assessment framework was confirmed. This involved high-level assessments of the likelihood (probability of occurrence) and the consequence (impact on costs) of each risk, for each project option
- Major project risks for each option were assigned as impacting capital or operating costs or both;
- Risks were assessed within this framework, based on the professional judgement of workshop attendees, and taking into account the extent risks could be mitigated through management strategies likely to be deployed for each option.

Risks that were minor and difficult to quantify were classified as non-quantifiable and recorded as such. This workshop produced expected values of project risks, to serve as financial risk adjustments for each option.

The final risk adjustments were validated through a comparison against benchmarks for similar projects. The risk analysis has been incorporated into the financial analysis as a cost over and above the base cost. The contingency for each project option was confined to matters outside the risk assessment to prevent risks from being double-counted.

Step 4: Solution options analysis

4.3 Distributional impacts

Governments typically wish to know how proposals will affect different groups in society. Distributional impacts refer to how costs and benefits are allocated across different groups in society. Projects may have uneven effects on different individuals according to income level, age, gender, ethnicity, location, health or skill, or other factors. Projects can also have impacts on different industries.

A cost-benefit analysis should not directly include distributional (transfer) impacts in the overall result (NPV or BCR). However, a description of the final distributional impacts of each proposal on various sections of society should be provided to decision-makers along with the overall results. This could include the impact on different income groups, industries and geographical areas.

4.4 Integrated analysis

The purpose of the integrated analysis is to combine each project option's socio-economic, environmental and financial impacts, risk and uncertainty. Communicating what may be a vast amount of information and complex analysis in a digestible form helps with quality decision making. If most of the costs and benefits are captured in the CBA, then the NPV/benefit-cost ratio forms a major part of the project selection and an integrated analysis does not need to be performed.

Integration should only be undertaken where the agency is satisfied of the quality of the information and the analysis available.

If any scoring or weighting is used, the agency must be satisfied it is robust and transparent and will stand the critical review of independent third parties.

Agencies should present cost-benefit analysis results and additional information clearly and transparently in business cases. Information needs to be presented in a manner that decision-makers and relevant stakeholders without technical expertise can understand.

Business case information requirements for the integrated analysis of the Solution options Analysis:

- Outline the method used for undertaking the analysis.
- Provide an overview of the analysis.
- Where a multi-criteria analysis is included in the integrated assessment, outline the relative weighting of the financial and non-financial components.
- In a summary table, provide an integrated assessment of financial and socio-economic impacts to arrive at a ranking of solution options.
- Conduct sensitivity and scenario analysis to test changes in the outcome if assumptions or other variables change.

The initial stage of the integrated analysis draws on the following inputs from the option impact assessment (normally the most relevant measure from each list will be selected):

Financial impacts (usually this will be the financial costs of the proposal to the agency/co-investors)	Economic, social, environmental impacts (usually this will be the net costs and benefits to the community)
NPV of financial impacts for the Victorian Government	NPV of monetised economic, social, environmental impacts (preferable)
NPV of financial impacts for the Victorian community	Quantified economic, social, environmental impacts (if can't monetise)
NPV of financial impacts for the Australian Government (if co-funding is being sought)	Qualitative economic, social, environmental impacts (if can't quantify)
NPV of financial impacts for others if appropriate (eg. investors)	

Key principles of the analysis should include:

- As a minimum the assessment should include costs to be funded by the Vic Government.
- Financial impacts to be included need to be based on the final source of funding (e.g. if investors will initially bear the cost but this will be recovered in user charges (as under some PPP models), then this should be included.
- If funding sources for options are not yet identified then the assessment should include all financial impacts (costs).
- Irrespective of the approach used for the integrated analysis, risk assessment should be incorporated into the integrated assessment to ascertain whether the risk assessment outcomes change the preferred project option.

If there is uncertainty over this aspect then two assessments might be done (e.g. where relevant, an integrated assessment may be undertaken with and without Australian Government funded costs).

4.4.1 Approach to the integrated assessment

Where a cost benefit analysis has been undertaken:

- A multicriteria analysis (MCA) may be used separately to the CBA to assess non-monetised impacts if they are significant; or
- If a MCA is not used to integrate some (or all) of the results, non-monetised impacts they may be described separately from the economic evaluation's headline (CBA) results.

Where a cost-benefit analysis has not been undertaken:

- Impacts should be monetised wherever possible, and a CBA conducted. Where this is not possible a multi-criteria analysis (MCA) may be the most appropriate option for the integrated analysis **where there investment has a high level of non-monetised impacts or the investment is small in value::** The MCA attempts to compare quantitative and qualitative impacts across proposals by assigning weights and scores to criteria linked to the objectives of the proposal (these should be sourced from the 'benefits' section (Section 2) of the business case.

Step 4: Solution options analysis

4.4.2 About multi-criteria analysis

MCA can be used for smaller projects where the low cost of the investment doesn't warrant a CBA, or for proposals where significant economic benefits cannot be monetised. In carrying out MCA, objectivity is a key concern.

Key principles to underpin the use of MCA are:

- Balanced weighting of financial impacts (costs) and economic, social and environmental impacts (for example these might be weighted at 50% each), which should sum to 100%.
- Consideration should be given to the relevant importance that the expected economic, social and environmental impacts of options have to the Government depending on the investment type, as described in the diagram at Figure 8 Considering the importance attached to financial analysis and socio-economic impact assessment
 - Selection of impact criteria should align with the investment benefits identified in section 2 of the full business case. Criteria should also align with negative economic, social and environmental impacts if these are material (eg environmental costs from an initiative).
 - Impacts included in the assessment should be independent, or, if they are not independent they should be included in way that avoids double-counting (note that overlapping impacts are sometimes included to better illustrate the breadth of benefits from a project option) (see example 3)

Figure 8 Considering the importance attached to financial analysis and socio-economic impact assessment



4.4.3 Sensitivity analysis

Sensitivity analysis is a form of quantitative analysis that tests the validity of assumptions under various conditions. It is useful where the investment is impacted by uncertainty, however may not be required for routine low risk projects. Sensitivity analysis examines how net present values, benefits, costs or other outcomes vary as individual assumptions or variables are changed. For example, testing the likelihood of an uncertain impact occurring by changing probabilities or testing the discount rate. Refer to the Investment Lifecycle technical guideline on *Economic Evaluation* for more information on the discount rate. For example, testing the likelihood of an uncertain impact occurring by changing probabilities or testing the discount rate using 7 per cent.

Sensitivity analysis can address two key questions:

- Would the preferred option still be worthwhile pursuing if some of the key assumptions are incorrect?
- What actions can be taken to reduce the risks before accepting a particular option?

It is also possible to determine switching values. That is, how much would a given significant driver (for example an exchange rate or revenue forecast) have to change before an alternative option displaces the preferred option or before it becomes negative NPV?

4.4.4 Scenario analysis

A scenario analysis evaluates the changes to outcomes as a result of changes to multiple variables under different likely scenarios. The changes to the variables in a scenario analysis should be realistic and be generally based on optimistic and pessimistic scenarios that have a reasonable likelihood of occurring, rather than extreme cases.

Uncertainty in estimates of impacts can be taken into account in cost-benefit analysis by the use tools and techniques such as sensitivity and scenario analysis. However, uncertainty may be associated with the underlying investment concept or the circumstances surrounding it. This may require an adjunct to the analysis approach to incorporate options which allow the flexibility to defer some of the decision-making until that uncertainty is resolved, including through the use of real options.

4.4.5 Further information

Refer to the *Investment Lifecycle's Technical guideline on Economic Evaluation* for further guidance on cost benefit analysis and methodologies for the assessment and valuation of costs and benefits.

Step 4: Solution options analysis

4.4.6 Presenting the integrated analysis

This guideline recommends the use of tables to present a summary of the integrated analysis

Table xx: Presenting the results of the options analysis

Strategic response:	[Name]				
	Project option 1: Do Nothing	Project option 2:	Project option 3:	Project option 4:	Project option 5:
Investment benefits					
% of full benefits to be delivered					
Benefit 1...					
Benefit 2...					
Dis-benefits Negative impacts that are likely to occur as a direct consequence of implementing this option.					
Integrated analysis					
Key Assumptions					
Analysis Period (years)					
Capital Costs (\$m)					
Output Costs (\$m)					
Cost-Benefit Analysis (of monetary costs and benefits discounted at the appropriate Discount Rate)					
Present Value of Benefits (\$m)					
Present Value of Costs (\$m)					
Benefit Cost Ratio					
Net Present Value (\$m)					
Other important considerations (see the examples provided)					
Intangible costs / benefits (e.g. small, med., large)					
Distributional impacts (e.g. small, med., large)					
...					
Risks Primary risks that the expected benefits will fail to be delivered (Criticality/Likelihood) H/M/L					
Time From funding date to delivery of benefits (Range)					
From funding date to operation (Range)					
From funding date to delivery of benefits (Range)					
Preferred option					
Overall assessment					
Recommendation					

Table xx: Presenting the results of the options analysis, with multi-criteria analysis

Strategic response:	[Name]				
	Project option 1: Do Nothing	Project option 2:	Project option 3:	Project option 4:	Project option 5:
Investment benefits					
% of full benefits to be delivered					
Benefit 1...					
Benefit 2...					
Dis-benefits Negative impacts that are likely to occur as a direct consequence of implementing this option.					
Integrated analysis					
Key Assumptions					
Analysis Period (years)					
Capital Costs (\$m)					
Output Costs (\$m)					
Cost-Benefit Analysis (of monetary costs and benefits discounted at the appropriate Discount Rate)					
Present Value of Benefits (\$m)					
Present Value of Costs (\$m)					
Benefit Cost Ratio					
Net Present Value (\$m)					
Multi-Criteria Analysis (ranking of intangible costs and benefits, if any)					
Criteria 1					
Criteria 2					
Criteria 3					
Risks Primary risks that the expected benefits will fail to be delivered (Criticality/Likelihood) H/M/L					
Time					
From funding date to operation (Range)					
From funding date to delivery of benefits (Range)					
Preferred option					
Overall assessment					
Recommendation					

Step 4: Solution options analysis

Integrated assessment – example 1

Case study – investment in a new bypass of regional urban centre (Smithville)

Note that for simplicity these examples include only two project options (other than the base case).

Financial impacts

All costs to be borne by the Victorian Government.

Project option	Financial impact
Project Option 1	Estimated net present cost of \$820 million over 30 years (inclusive of upfront capital costs, ongoing maintenance costs and road residual values after 30 years)
Project Option 2	Estimated net present cost of \$920 million over 30 years (inclusive of upfront capital costs, ongoing maintenance costs and road residual values after 30 years)

Socio-economic impacts

Socio-economic impacts include travel time savings, vehicle operating cost savings, accident cost savings, plus savings in other externalities (air pollution, greenhouse gas emissions, noise, water pollution and others). They also include various benefits from the removal of trucks from the Smithville city centre (noise, amenity, public safety, etc.). All of these benefits (relative to the base case) may be monetised (see table) using transport evaluation guidelines.

Project option	Monetised socio-economic impacts
Project Option 1	<p>\$800 million of monetised socio-economic benefits comprising:</p> <ul style="list-style-type: none"> estimated \$630 million benefits from reduced travel times, vehicle operating costs, accident costs and externalities estimated \$170 million benefits from 70% reduction in the number of truck movements through the Smithville city centre
Project Option 2	<p>\$935 million of monetised socio-economic benefits comprising:</p> <ul style="list-style-type: none"> estimated \$810 million of benefits from reduced travel times, vehicle operating costs, accident costs and externalities estimated \$185 million of benefits from 80% reduction in the number of truck movements through the Smithville city centre

Integrated assessment

Integrated assessment would be a CBA because the majority of costs and benefits are monetised.

Impact	Project Option 1	Project Option 2
Financial impacts (costs)	(\$820 million)	(\$920 million)
Monetised non-financial impacts (benefit)	\$800 million	\$935 million
NPV	(\$20 million)	\$15 million

Project Option 2 is recommended (there are no major risks needing to be taken into account). Sensitivity analysis of the option might be conducted by varying relevant parameters, such as:

- Usage levels on the new road (affects estimated value of non-financial impacts)
- Discount rates used in the calculation of net present values (for both financial and non-financial impacts)
- Weightings assigned to the various non-financial impacts.
- Integrated assessment – Example 2 - Bushfire safety program (CBA combined with MCA)
- Note that for simplicity these examples include only two project options (other than the base case).
- Investment in electricity distribution network assets in rural areas to reduce risk of these starting bushfires in future
- Financial impacts
- Investment costs will be paid by the Victorian Government and by electricity distributors in rural areas (to be recovered from users in those areas through network charges). All of these costs need to be included in the assessment

Project option	Financial impact
Project Option 1	Estimated cost of \$600 million (NPV) \$215 million paid by the Vic Govt \$385 million initially funded by electricity distributors and recovered from electricity users
Project Option 2	Estimated cost of \$1.18 billion (NPV) \$795 million paid by the Vic Govt \$385 million initially funded by electricity distributors and recovered from electricity users

- Socio-economic and impacts
- The project options reduce the risk that power lines start bushfires. The non-financial impacts (benefits) includes the avoidance of future bushfires and associated costs to the community/environment.
- These impacts include a mix of social, economic and environmental impacts.
- Estimated *social* and *economic* impacts of the project options have been monetised – based on a literature review of the cost of major bushfires, the expected reductions in power line bushfire risks from the project options and other assumptions (e.g. the frequency of major bushfires in future).
- *Environmental* impacts of the project options have **not** been monetised – because there is limited research to draw upon on the impacts of major bushfires on the environment (greenhouse gas emissions, water yields, water quality, soil quality, native species, etc) and the appropriate monetary value to assign to these.
- Non-financial impacts have been calculated as shown.

Project option	Non-financial impacts
Project Option 1	\$1.12 billion estimated reduction in future bushfire costs (social and economic) from reducing the environmental costs of bushfires in future (greenhouse gas emissions, water yields, water quality, native species, etc.)
Project Option 2	\$1.25 billion estimated reduction in future bushfire costs (social and economic) from reducing the environmental costs of bushfires in future (greenhouse gas emissions, water yields, water quality, native species, etc.)

- Integrated assessment – Example 2 - Bushfire safety program (CBA combined with MCA) *continued*
- MCA is used in addition to a CBA because not all major non-financial impacts can be monetised.
- Scoring of monetised impacts
- NPV of monetised impacts is scored according to the scale shown. The highest monetary impact in the assessment is \$1.25 billion, so the scale is set to ensure this impact scores close to 4. Note that anything equivalent to the base case is scored at 0.

Impact range (NPV, \$'000,000)	Conclusion	Score
\$975 to \$1,300	'Very much better than the base case'	+3 to +4
\$650 to \$975	'Much better than the base case'	+2 to +3
\$325 to \$650	'Moderately better than the base case'	+1 to +2
\$0 to \$325	'Little better than the base case'	0 to +1
\$0 to (\$325)	'Little worse than the base case'	0 to -1
(\$325) to (\$650)	'Moderately worse than the base case'	-1 to -2
(\$650) to (\$975)	'Much worse than the base case'	-2 to -3
(\$975) to (\$1,300)	'Very much worse than the base case'	-3 to -4

- This leads to scoring for monetised impacts as shown.

	Monetised impacts	Score
Project Option 1	Estimated cost of \$600 million (NPV)	(1.85)
	Estimated social and economic benefits of \$1.12 billion (NPV)	3.45
Project Option 2	Estimated cost of \$1.18 billion (NPV)	(3.63)
	Estimated social and economic benefits of \$1.25 billion (NPV)	3.85

Step 4: Solution options analysis

- Scoring on non-monetised impacts
- Environmental impacts are scored based on the expected reduction in power line bushfire risks under the project options, against the following scale (note that anything equivalent to the base case is scored at 0.)

Reduction in power line bushfire risks	Conclusion	Score
75% to 100%	'Very much better than the base case'	+3 to +4
50% to 75%	'Much better than the base case'	+2 to +3
25% to 50%	'Moderately better than the base case'	+1 to +2
0 to 25%	'Little better than the base case'	0 to +1

- This leads to scoring for non-monetised impacts as shown.

	Non-monetised impact	Score
Project Option 1	Reduction in the environmental costs of bushfires in future (estimated 55% reduction in power line bushfire risks)	2.20
Project Option 2	Reduction in the environmental costs of bushfires in future (estimated 62% reduction in power line bushfire risks)	2.48

- Weighting of financial, socio-economic and other impacts
- Each impact (benefit) should be weighted according to their relative value to the Victorian community.
- The *monetised* socio-economic impacts (social and economic benefits – e.g. human lives, damage to assets) are expected to have much greater value to the Victorian community than non-monetised impacts (environmental benefits). Based on this consideration, the impacts are weighted as follows:
 - Financial – 50%
 - Monetised non-financial impacts (reduced social and economic costs of bushfires) – 40%
 - Qualitative non-financial impacts (reduced environmental costs of bushfires) – 10%

Integrated assessment – Example 2 - Bushfire safety program (CAB combined with MCA) *continued*

Impact	Project Option 1	Project Option 2
Financial impacts (costs) – 50%	(0.92)	(1.82)
Social and economic impacts (benefits) – 40%	1.38	1.54
Environmental impacts (benefits) – 10%	0.22	0.25
Net score	0.68	(0.03)

Project Option 1 is recommended as it achieves the highest score in the MCA. (It also has the highest NPV.) Sensitivity analysis of the option might be conducted by varying any number of relevant parameters, such as:

- The estimated cost of a major bushfire in future (affects estimated value of social and economic impacts)
- The degree of bushfire risk reduction achieved by the project options (affects estimated value of all non-financial impacts)
- Discount rates used in the calculation of net present values (for both financial and non-financial impacts).

Sense check of MCA

For the recommended option (Project Option 1), the estimated reduction in environmental costs of bushfires due to the investment has an implied NPV of \$162.5 million. (This is the value of the weighted score of 0.5 for environmental impacts on the scale used to score monetised impacts.) Based on the available information (see Appendix F) this appears to be reasonable.

Integrated analysis sensitivity analysis (fictional transport example)

A business case should conduct sensitivity or scenario analysis, to determine how the assessment varies with critical assumptions. This case study demonstrates how sensitivity analysis might be used, for the fictional road bypass project that has been used throughout this section as a case study. The sensitivity analysis is undertaken on the economic evaluation.

This section conducts sensitivity analysis on the socio-economic and environmental impact assessment of project options, with a focus on the net present values (NPV).

A key driver of the calculation of NPVs is the outputs of the transport demand modelling. That modelling underpins the calculation of project option benefits. The values shown earlier reflect best estimates. However, there is a range of uncertainties in transport demand modelling (e.g. land use assumptions, model calibration, value of time and user sensitivities to financial costs) that may lead actual benefits to vary from the estimated values.

To evaluate the potential impact of this uncertainty, this section assesses the sensitivity of *the net present values* to changes in the *monetised benefits*. For simplicity, the scenario analysis captures uncertainty in demand modelling by including general changes in monetised benefits (-10%, +10%) that critically depend on that modelling, rather than separately modelling changes to individual demand parameters. As part of this analysis, it is assumed that the benefit item of residual asset value is not impacted by these scenarios.

The tables at Appendix D (note not provided) show how the NPVs for the project options change under these scenarios. The key findings of the sensitivity analysis are that the NPVs are indeed sensitive to the transport demand modelling. For example, when the monetised benefits are increased by 10%, all project options have a net present benefit. Importantly, Option 2 retains a positive NPV even when the monetised benefits are reduced by 10%.

This validates the earlier finding that Option 2 is the recommended approach. It retains a net present benefit under a pessimistic scenario for demand. This is before the non-monetised benefits are included in the assessment.

In Section 5, following detailed costing of the recommended solution, the integrated assessment is revisited to confirm that the investment represents a good value for money proposition. This is a two stage approach: a less detailed assessment at solution options analysis stage, and detailed assessment on the recommended solution.

4.4.7 Value for money solution options analysis – checklist

To assess the extent to which you substantiated the value for money, consider how well you have answered the following questions. At this stage of your investment proposal you should be able to confidently answer all the questions below.

Value for money – Investment decision-maker’s checklist

Have the solution options been specified clearly including key risks assumptions constraints and dependencies?	Yes	Maybe	No	Not sure
Consistent with the preferred strategic option, has a reasonable spread of solution options been analysed?	Yes	Maybe	No	Not sure
Is the recommended project solution the best value for money way to respond to the problem and deliver the expected benefits?	Yes	Maybe	No	Not sure

5. Step 5: Prove the deliverability

A sound investment business case needs to lay out much more just what a proposal intends to do. It needs to consider how it will deliver on its intent – and, indeed, how it will deliver through the life of the investment. In this section, agencies are asked to provide detailed information on the recommended option selected at the end of the solution options analysis section. The full business case is the first time agencies are asked to address the information required in Part 5 of the full business case and speaks to the question: *‘Can the solution really be delivered?’*.

To avoid duplication, provide references to earlier sections where appropriate and reconfirm specific assessments such as the risk assessment, the benefit-cost ratio and NPV calculation, in the light of detailed costing and higher level of accuracy required in presenting the recommended solution.

The rationale for proposing the recommended solution must be clear and defensible.

Ultimately, stakeholders and decision-makers should have assurance that the analysis and the selection process is robust.

There should be a strong evidence base for the recommendation that is substantiated with a clear audit trail for decision-makers to check the assumptions, evidence and calculations leading to the recommendations.

5.1 Details of the recommended solution

This section asks agencies to present the recommended solution in detail. If a real options analysis was required, the recommended solution is the preferred real option. Depending on the nature of the investment, it may be useful to involve the market in scope development and constructability analysis to improve the understanding of the recommended solution’s costs and risks, and to inform the procurement options analysis process. It may be appropriate to involve potential contractors in scope development and constructability assessment.

The information presented here should clearly present the evidence relied on in the options analysis in arriving at the recommendation, including:

- whether a real options approach applies to the recommended solution (ie if the option builds in flexibility to change direction in the face of uncertainty);
- a design intent statement that outlines the intended level of design quality and identify what design aspects of the project need special consideration (the Office of the Victorian Government Architect can assist with this if required);
- all major assumptions, including the scope of the analysis;
- why certain costs and benefits have been included or excluded; and
- the valuation methodologies employed to estimate costs and benefits.

Public interest test

In this section, agencies asked to apply the public interest test to all investments that are the subject of a full business case. This test should be applied to the extent that is appropriate to the size and scale of the investment. The full business case should provide a summary of the test.

The public interest test should be applied to all significant investments at the pre tender phase.

The public interest test involves determining whether suitable measures can be established to adequately protect the public interest. The areas of concern should have been highlighted during *Stage 1: Conceptualise*. In the business case, detail the impact of the project on the eight elements of public interest: effectiveness, accountability and transparency, affected individuals and community, equity, consumer rights, public access, security and privacy.

Annexure 7 of the *Partnerships Victoria* requirements further explain public interest issues and how to undertake a public interest test.

In outlining the details of the recommended solution in the full business case, agencies should be able to:

- clearly state which project option is the Recommended Solution, and clearly summarise the rationale for its selection in light of the solution options analysis. Note that the recommended solution may be a program that consists of a number of projects.
- Provide details of recommended solution, including its project objectives, assumptions and scope.
- If a major asset is required, provide designs and specifications to the extent they have been developed. (Detailed designs are not expected at this stage, however agencies must provide enough information on scope to enable a rigorous costing).
- Provide information on preferred sequencing or staging of the project solution and justify why staging/sequencing is required.
- Describe significant broader impacts specific to the implementation of the recommended solution (references can be made to other sections of the business case if necessary to avoid overlap) e.g. on the sector, economy more generally, and/or other key stakeholders.
- Agencies should include a design feasibility study which demonstrates the long term vision for the preferred proposal in the broader urban/environmental context. Provide a 'Design Intent Statement' to demonstrate the intended level of design quality and identify what design aspects of the project need special consideration.
- Provide an overview of public interest issues across the eight elements of the public interest test: effectiveness, accountability and transparency, affected individuals and community, equity, consumer rights, public access, security and privacy.

Step 5: Prove the deliverability

Statement of design intent (fictional transport example)

Agencies are encouraged to submit a design intent statement that outlines the intended level of design quality and identify what design aspects of the project need special consideration (the Office of the Victorian Government Architect can assist with this if required).

The design intent for this proposed investment is to reinvigorate the historic Harrison Central Station, improve its transport function and unlock the urban design and development potential of the precinct. The station is one of Australia's most important heritage sites and one of the nation's busiest train stations. These factors create a complex mix of demands and priorities on the site and its wider precinct. The design response is required to balance boldness of vision with a careful attention to the many opportunities and challenges of the station. A rejuvenated Harrison Central Station and precinct will act as an urban catalyst, playing a critical strategic role in enhancing essential transport services and integrating an appropriate mix of uses for a growing city. It will also play a vital role in strengthening connections between the city and the station, and beyond to the Yarra River and its expanding arts and sports precincts to the south and south-east.

The design intends to set an international benchmark in heritage conservation, adaptive re-use, sustainable urbanism and high-quality architecture and urban design, adding to a legacy of award winning public buildings and spaces in Melbourne. This legacy includes recent projects such as the Harrison Museum (opposite the World Heritage-listed 19th century Royal Town Hall), Harrison City Square, the Harrison City Sports Centre and the Melba Convention Centre. These architectural exemplars contribute to Harrison's international reputation for innovative design and investment in cultural capital, which in turn frames the expectation for the Harrison Central Station design.

The overarching objectives of the design are:

- Upgrade the station to its former glory, in the tradition of other great cities around the world, as a state and international icon and a focus of the Harrison Central Business District (CBD);
- Restore and protect the Administration Building and other heritage elements to include adaptive re-use of areas that have high public interest, such as the ballroom, to be accessible to the public;
- Improve all aspects of the transport function of the station and adjacent transport modes and cater for significant growth in transport patronage;
- Better integrate the station with its surrounding precincts, such as Harrison City Square, providing better linkages between the CBD and the Eyre River;
- Better utilise the land adjacent to rail and air space above rail on the western portion of the site;
- Provide significant civic space while allowing for a distinctive and memorable architectural outcome with a mix of uses; and
- Provide a value-for-money solution capable of being (at least partially) self-funding.

5.2 Commercial and financial

5.2.1 Procurement strategy

Having a sound procurement methodology is essential to ensuring project delivery. As the decision to fund a project includes a decision on the procurement methodology, the full business case must include an analysis of procurement options and a recommendation on the preferred procurement method. The full business case must demonstrate that the investment would be procured by the most appropriate method and provide an overview of the recommended procurement strategy.

Good procurement outcomes for any project means developing a strategy that will:

- maximise the likelihood of achieving project objectives;
- maximises value for money;
- minimise the likelihood of problems occurring later (this may be by selecting a flexible real options approach),
- improve management of risk and its consequences, and
- enables *quality* to be achieved (including design quality).

If real options has been used in the formulation of the recommended solution, it will be necessary to select a procurement option that enables the project team to respond to changes in direction in accordance with pre-determined criteria.

Procurement options analysis

Choosing the right procurement model for your investment is a significant decision requiring in-depth analysis and consideration – getting it wrong could have a serious impact on the project delivery success and realisation of benefits. The procurement methodology employed by the strategy must be appropriate for the types of risks, issues and ambitions that have been identified as associated with the specific project. These decisions must be based on a thorough analysis of relevant facts, particularly procurement objectives, project characteristics, risks, the requirements, supplier markets, and agency capability. A good procurement options analysis process includes:

Agencies are encouraged to use a **procurement workshop** to enable key stakeholders to discuss and reach consensus on the best procurement model for the investment being considered.

See the **Procurement Strategy Guideline and Procurement Options Analysis Tool** for more information.

- compiling information on project objectives (linked to investment benefits), project characteristics, risks etc.;
- developing assessment criteria to shortlist then analyse procurement options;
- a short-listing process (this is not always needed);
- a detailed procurement options analysis to identify the best approach;
- tailoring of the preferred approach; and
- considering a range of other issues to consider such as probity, transparency, value for money, fairness etc.

DTF recommends the use of the process set out in the technical guideline *Procurement Strategy* and the *Procurement Options Analysis Tool* when developing this section of the full business case.

Some procurement delivery models:

The Victorian Government's public construction projects use a variety of delivery models. These include:

- public-private partnerships (Partnerships Victoria projects);
- alliance contracting;
- managing contractor;
- construct only (lump sum or fixed price contract);
- design and construct;
- design, construct and maintain;
- construction management; and
- hybrid approaches.

Delivery models can be combined to create a hybrid delivery model more suited to the project circumstances. On a large project, parts of the project may be packaged separately and so there may be different contracts and delivery models, which all need to be reflected in the procurement strategy.

Agencies may need to form adaptations to the preferred procurement method to ensure quality and good design are embedded in the process and are key criteria for measuring success.

The Office of the Victorian Government Architect can provide advice and recommendations on the selection of procurement models and potential adaptations from a design perspective.

Step 5: Prove the deliverability

5.2.1.1 Market engagement

Market engagement refers to two distinct activities important in developing procurement strategies:

- i. **Market soundings** – involves accessing information and intelligence (via a range of activities including industry forums and market surveys) on the potential capacity of industry to deliver the project. This process enables a competitive bid process.
- ii. **Industry briefings** – involves collecting project-specific information during the planning phase to facilitate preliminary dialog with industry. This step helps ensure a competitive market prior to inviting tenders. There are a range of issues that may be discussed at this point based on project specifics (subject to probity). Some include:
 - Scope of the project;
 - Project timelines;
 - Project-specific issues and requirements; and
 - Market interest and capability.

Business case information requirements for the procurement options analysis:

Outline the method and analysis for selecting the recommended procurement option:

- Outline procurement options testing and analysis method and process, showing ranking of options against criteria used to select recommended procurement strategy, with a balanced view of the related issues of time, cost, whole-of-life value, and quality.
- Outline the recommended procurement strategy, justifying why it is the best value-for-money option e.g. by having the capacity to include flexibility or better manage risk.

Outline the procurement strategy to deliver the recommended procurement option:

- Provide a high level overview of the procurement strategy that builds on the business case and links to implementation and delivery.
- A procurement strategy outlines the methodology, approach, process and project management structure for implementation of the investment's procurement.
- The purpose of the strategy is to:
 - Formulate adaptations to the preferred procurement method to ensure that quality and good design are embedded in the process and are key criteria for measuring success of the project.
 - Outline the organisation's experience and capability to deliver the preferred procurement method as well as outline key risks and contractual issues. Provide details of legislative, policy or business practice changes required [refer to ILM].
 - Provide an overview of the planning for the approach to market, evaluation of offers and identification of the preferred supplier;
 - Ensure the best supplier is selected for the right reasons and at a price that represents value-for-money over the life of the contract;
 - Assigns roles and responsibilities; and
 - Sets realistic timeframes
- If a PPP procurement or Alliancing approach is being proposed additional details are required. The Infrastructure Advice and Delivery Group at DTF can advise on these requirements.

This case study provides an example summary of the procurement options analysis and the basis for recommending a procurement option, for a new hospital facility. The facility is a new cancer centre at Bird Health, which would house radiation oncology, ambulatory oncology and palliative care. The cancer centre would replace an existing building and must be closely integrated with adjacent facilities. The total estimated capital cost of the recommended option for the centre is \$100 million. The project and construction program for the preferred option runs for two-and-a-half years (with two years of construction). A decision not to stage the project was made prior to commencing the procurement work. The key development risk is designing an addition which integrates well with existing facilities. This is critical for supporting the proposed model of care.

Procurement analysis and strategy

Analysis of procurement strategy for this project was conducted over two stages: an assessment of the merit of bundling (to short-list models); and then a detailed evaluation phase.

The merit of bundling was considered, at a high level, in the context of key project characteristics and issues, including the value of the project and degree of efficient risk transfer that may be achievable. The bundle tested was asset development and facilities maintenance (FM). (Clinical services could not be included.) Overall, bundling was considered unlikely to provide a net efficiency: the FM task is conventional with a low level of risk, which suggests limited gains from transfer or innovation. As a result, the analysis focussed on unbundled models.

A procurement workshop (involving the project team and quantity surveyor) was used to agree procurement objectives, and evaluate potential models. The procurement objectives were:

- Time to market: ensuring the project is completed to meet articulated service requirements
- Value for money: ensuring risk transfer is optimal (including price certainty) and creating scope for innovation
- Agency capability / process risk: ensuring risks from capability and experience with process are acceptable.

The three models selected for evaluation were the construct only model, the construction management model, and the managing contractor model. These models were shortlisted because they are typical unbundled models generally used for projects of this size and type, and for which the agency has some experience. Other unbundled models such as an alliance were set aside as they clearly do not suit the project characteristics.

The Procurement Strategy (Appendix G) summarises the short-listing process and contains a detailed evaluation of these three models against the selection criteria. Key results are summarised below.

	Construct only	Construction management	Managing contractor
Time to market	This model potentially has the longest timelines but there is not an urgent need to begin the project or a high risk of missing the scheduled in-dates. This leaves sufficient time for the State to complete a design and procure a builder.	There is not an urgent need to begin the project. If there was, this model could bring in construction advice at an early point.	Without a pressing need to begin the project, there is a weaker case for this approach from a schedule perspective, which does provide for early contractor involvement.
Value for money	Expected to provide the greatest scope for competition and certainty over contract prices. Administration costs are low. Project requirements (especially design and functionality) contain some unique features, which suggests limited value from trying to transfer design risks.	Construction component would also be competitively tendered but this model imposes higher transaction set-up costs. The value of early construction involvement is considered low. While there are unique features of the services which complicate the design, the overall simplicity of the build suggests a weak case for this model,	This model typically defers the competitive tendering of the build components which limits price certainty to a later point in the project schedule, meaning the State effectively retains price and time risks. The common trade off - value from early involvement and a collaborative approach - is considered low in this case.
Agency capability / process risk	Bird Health has the most experience and capability using this model.	Bird Health has some experience in construction management.	Bird Health does not have any recent experience using this procurement model.
Conclusion	Recommended	Not recommended	Not recommended

Overall, the construct-only model is preferred because it best suits project characteristics. In particular it gives the State a high degree of flexibility during the design development process, which is considered necessary as the dynamic between physical integration of the new build and model of care is progressively tested and refined. This procurement model also offers price certainty at an early point, and is familiar to the sponsor.

To validate the recommendation, Bird Health considered the market’s appetite and capability. The successful use of the model for recent ‘brownfield’ projects of a similar size had demonstrated both appetite and capability. Appetite was tested in the context of recent policy changes, including the State’s new Construction Code, which contractors for public sector projects must comply with in the near term.

The agency has skilled project managers and a capital development team with experience obtaining approvals, going through procurements for technical advisers, all stages of the design development process including engaging stakeholders and user groups, and managing the cost plan. The cost plan will be managed through an iterative process of refining costs as scope is finalised and design is developed to full documentation. The cost plan is the basis for testing the pricing from constructors.

This analysis and recommendation will be reviewed upon implementation, should this business case be successful.

Step 5: Prove the deliverability

Further information

The Investment Lifecycle's technical guideline entitled *Procurement Strategy* outlines options and key steps in developing an appropriate procurement strategy. The *Procurement Options Analysis Tool* may also assist with this process.

5.2.2 Risk assessment and management

Each recommended solution that is put forward for approval will involve some element of risk (threat or opportunity). Risk is an uncertain event or set of events that, should it occur, will have an effect on the achievement of the project's objectives. This includes completing the project to a number of targets such as time, cost, quality, scope benefits and risk. It consists of a combination of the probability of a perceived threat or opportunity occurring, and the magnitude of its impact on objectives.

Market risk has already been taken into consideration in the discount rate for the investment whereas project specific risks require special attention. They need to be identified in the investment evaluation and, where possible, their effects should be estimated by sensitivity, switching and scenario analysis (see socio-economic analysis at 4.2.3 above).

This section of the full business case asks agencies to present the risks of the recommended solution and address them in a risk management plan.

Elements of risk

The elements of risk that may apply to an investment proposal at this stage of the analysis are explained in more detail in section 4.2.4.

Risk management plan

While risk cannot be removed entirely, it can be managed. In section 4 of the full business case, agencies were required to conduct a risk assessment of all options considered in the solution options analysis process. Where sensitivity or scenario tests conducted in that analysis determined that it is realistic and likely for a key variable in the project to switch the recommended solution, the investment evaluation should consider ways of reducing the uncertainty surrounding that variable so that the risk of making the wrong selection is reduced.

Agencies should provide a brief overview of the risk management planning process that was undertaken for the recommended solution. Agencies should then outline the *strategy* for the management of all risks related to the recommended solution, including detailed commentary on the main risks (stakeholders affected etc.), reviews of risk ratings and capture of any new risks, and responsibility for ongoing risk monitoring/management.

Risk management is not a static process, therefore risks assessment should continue during proposal development (including the degree of risk sensitivity associated with assumptions used).

Inclusion of a separate Appendix addressing risk issues may be warranted. It could (as appropriate) provide the risk register which lists key risks and, for each risk, indicates its rating, a brief description, mitigation arrangements, who is responsible and date of last review.

Where an investment may involve sharing of risk between the Government and the private sector, the risk management plan should identify how risk might be allocated and comment upon how the sharing arrangements will be managed.

Business case information requirements for the risk assessment and management for the recommended solution:

- A high-level overview of the risk planning methodology for the recommended solution.
- An overview of the risk strategy for the recommended solution, including identification of all relevant risks (risk causes, risk events and risk impacts) of the recommended solution (including procurement and governance), along with associated mitigation strategies. Agencies should provide additional commentary on the risks of the recommended solution noting the impacts on various stakeholders. An outline of plans for risk ratings reviews and capture of any new risks should be included, along with responsibility for ongoing risk monitoring/management.

Commercial and financial – risk assessment and management (fictional example)

The business case should provide details of the process through which the agency will manage project risks. This case study illustrates how a business case might satisfy this requirement.

5.2.2 Risk assessment and management

Ongoing risk monitoring and management

A draft risk management strategy for this project has been developed (see Appendix X), which outlines the process for managing risks and responsibilities. Its purpose is to assist management decisions on how to deliver the objectives of the project within specified constraints (e.g. time, quality and cost).

Risk will be identified and categorised as either strategic or project-level risks. Strategic risks will be those expected to have broader impacts beyond the project, for example, inter-agency risks and state-wide risks. These may have state or region wide significance and require high levels of management and coordination. Project-level risks will be those with specific impact on the project’s ability to meet its objectives or operate within the specified constraints (but will not have broader ramifications).

Key features of the proposed risk identification and management process are:

- All risk treatments will be assigned ownership and treatment actions will be incorporated into the project work plan
- The status of each risk will be assigned as open or closed. When risks are completely mitigated through some form of treatment or completion of a project milestone, these will be listed as closed (but not deleted)
- A risk profile for strategic and project risks will be identified and managed using a dedicated risk register.

Risks will be managed within the governance structure for the project. Within this structure, the Project Control Board (PCB) will be responsible for endorsing treatments for strategic risks and project risks with high consequence and/or likelihood ratings. The project director will be responsible for monitoring and re-assessing risks and risk ratings, maintaining and updating the risk register, identifying potential treatments for risks and escalating risk management to the PCB as appropriate.

5.2.3 Detailed costing

To this point costing data has been at a concept to developed concept estimate level (refer section 1.9). Having identified the recommended solution, departments need to further develop the costing data to a preliminary design estimate level, which will form the basis for the budget funding consideration.

Section 5 of the business case requires agencies to develop robust cost and budget estimates that support sound investment decisions. Investments are undertaken to achieve service outcomes or other benefits over time. Often the capital cost is small relative to the ongoing cost of maintaining the service therefore it is important to consider the ongoing operating costs and the sustainability of the investment upfront. As a result the estimates need to address the following issues:

- financial planning of the investment, linking capital costs in the project budget to whole-of-life costs for service delivery;
- how to accommodate risk and uncertainty in project budgeting and delivery; and
- project governance and sign-off requirements surrounding project budgets.

Step 5: Prove the deliverability

The estimate for the recommended solution needs to be based on preliminary design work and a sound project scope statement. This information will be used to undertake a detailed economic evaluation of the investment.

The estimate needs to include:

- The project budget (capex) - comprising a base cost estimate, a base risk allocation and a contingency amount. The base cost estimate has the greatest impact on the accuracy of the project budget as it is the largest component and the foundation on which the base risk and contingency are developed.
- The whole of life operational costs (opex)- including service delivery costs, equipment cost and asset management costs. In some instances the existing service delivery costs may reduce on a per service basis, but might increase as a result of a service volume increases. Agencies will need to consider how the investment will affect service delivery and the timing of that change; and
- Appropriate cash flow details (distribution of costs over the life of the investment).

Important factors in developing a sound project budget include a well-considered concept/design to effectively deliver the benefits sought; clearly outlined cost assumptions; a good understanding of the market conditions; and availability of valid benchmarking data. For unique, one off projects this is more difficult, requiring a greater focus on design and scope. A competent and experienced estimator will align the estimating process with a comprehensive industry best practice procedure. Refer to the Investment Lifecycle technical guideline on *Preparing project budgets* for further information.

Practical examples of the ways in which the cost can be estimated or verified include:

- benchmarking against other facilities if other similar work has been undertaken before (domestically and internationally);
- reviewing functional specifications or early concept drawings by suitably qualified cost estimators such as quantity surveyors; and/or
- building up of costs by internal or external experts based on initial information (possibly using components such as industry accepted rates or reliable unit costs such as cost/km).

Project risks need to be identified and managed from the outset, consequently risk analysis and adjustment should focus on residual risks. Risk adjustment should not include allowance for poor planning, that is risks associated with flawed or truncated planning processes.

The contingency caters for volatility of the project risks, significant risks that fall outside the norm and sensitivity of the project to underlying risk assumptions.

Where the proposal will result in substantial changes to output costs (increase or decrease) the estimated impact (costs or savings) should be addressed.

Table 10 Examples of costing summary tables

Table 1: Headline project cost element summary

Element	Estimate	Table reference
Base cost estimate	\$XXm	(Table 2)
Base risk allocation	\$XXm	(Table 3)
Project cost estimate	\$XXm	
Contingency	\$XXm	(Table 3)
Project budget	\$XXm	

Table 2: Base cost estimate

BASE COST ESTIMATE		
Effective date of BCE: dd/mm/yy		
Estimated date of commencement of construction: dd/mm/yy		
1	Direct Costs	
1.1	Materials	
1.2	Labour	
1.3	Plant Hire	
	Sub total	\$
2	Indirect Costs	
2.1	Recurrent overheads	
	2.1.1	Site facilities
	2.1.2	Plant & Equipment – site maintenance
	2.1.3	Project management costs
	2.1.4	Commercial
	2.1.5	QA and Safety
2.2	Non-recurrent overheads	
	2.2.1	Establishment and mobilisation
	2.2.2	Disestablishment and demobilisation
	2.2.3	Project insurances
	2.2.4	Professional fees – design, legal, financial, etc
	Subtotal	\$
3	Owner's Cost	
3.1	Contracted professional staff	
3.2	Investigations	
3.3	Land costs & resumptions	
3.4	Authority fees	
3.5	Owner supplied plant and equipment	
	Subtotal	\$
4	Contractor's Fee	
4.1	Profit margin	
4.2	Corporate Overheads	
	Subtotal	
5	Provisional Sums	
5.1		
	Subtotal	\$
TOTAL OF BASE COST ESTIMATE		\$

Table 3: Project risks

BASE RISK ALLOCATION AND CONTINGENCY		
6	Base Risk Allocation	
6.1	Escalation	(period between BCE and construction)
6.2	Project Risk A	
6.3	Project Risk B etc	
	Sub total	\$
7	Contingency	
7.1		
	Subtotal	\$
TOTAL OF PROJECT RISKS		\$

Step 5: Prove the deliverability

Commercial and financial – detailed costing and economic evaluation (fictional health example)

The business case must provide a detailed overview of the costing for the recommended solution. This case study illustrates how TEI, capital and output costs might be presented (for a fictional new hospital facility).

5.2.3 Detailed costing (1)

Estimated capital cost

The Quantity Surveyor for the project has prepared a detailed capital cost estimate for the recommended option. Estimated capital costs are summarised below and the complete Cost Plan is at Appendix D. Base costs include construction works, various allowances, consultant fees and management costs. Capital cost estimates have been reviewed and are approved by the Capital Projects team in DH. The net present value of capital costs (using a nominal discount rate of 8%) is \$67.1 million.

Estimated capital cost of the preferred option (\$'000) from the Cost Plan

Capital cost estimates	Preferred option
Base cost estimate	
Construction works	\$49,330
Allowances	\$7,065
Consultant fees	\$6,025
Management costs	\$1,150
<i>Total – base costs</i>	<i>\$63,570</i>
Base risk allocation	
Cost escalation	\$5,518
Other project risks	\$3,055
<i>Total – base risk allocation</i>	<i>\$8,573</i>
<i>Project cost estimate</i>	<i>\$72,143</i>
<i>Total – contingency</i>	<i>\$5,550</i>
Project budget – gross Total Estimated Investment (TEI)	\$77,693

Estimated operational costs

The recommended option will lead to an increase in operating costs as health services are expanded. The estimated annual increase is shown below for the first four years of operation (2012-13 to 2015-16). The net present value of estimated, operational costs for the recommended solution (incremental to the base case and calculated over a 25-year period) is \$229 million.

Estimated operational cost of the preferred option (2012-13 to 2014-15) (\$'000)

Operating cost estimates	2012-13	2013-14	2014-15	2015-16	4-year total
Operational expenditure	\$262,850	\$273,364	\$284,299	\$295,671	\$1,116,183
Less expenditures (base case)	\$260,000	\$269,100	\$278,519	\$288,267	\$1,095,885
Incremental operational cost	\$2,850	\$4,264	\$5,780	\$7,404	\$20,298

Further information

Refer to the Investment Lifecycle's technical guideline *Preparing Project Budgets*. Note this guideline does not specify an estimating methodology as projects need to use the appropriate methodology for the particular investment type. It does advocate the need for appropriately skilled estimators as well as insightful and meaningful reviews by peers and the senior responsible owner to confirm it represents best in market and is defensible.

5.2.4 Detailed economic evaluation

The economic evaluation undertaken to compare solution options can now be formally tested using the more detailed valuation of costs and benefits developed for the recommended solution.

The measures of costs and benefits need to be compared to a no-policy change - base case over a relevant period of time to capture whole of life impacts. This analysis is used to determine whether the investment makes a positive contribution to society's welfare. The

amount of this contribution will also be used by government as part of the information to help support decisions about which investments should be supported, for example whether to invest in transport initiatives or schools (or which investment to support from a range of options within a particular portfolio). This will include which investment has the potential for the greater impact on society's welfare and what is the likely distribution of that impact.

If the cost-benefit analysis based on detailed costing and valuation of benefits is inconsistent with the solution options analysis of concept estimates conducted in Step 4: Solution options analysis, and no longer presents a value-for-money investment, the solution options may need to be revisited to find a more viable option or the investment may need to be abandoned.

Further information

The Investment Lifecycle technical guideline on *Economic Evaluation* provides useful guidance on valuation techniques and assessment methodologies.

Business case information requirements for the costing and economic evaluation of the recommended solution:

- Provide a detailed overview of the costing for the Recommended Solution, including capital TEI and output costs. Include budget cash flow over a relevant period for both capital and output amounts.
- The project budget estimate including: base cost estimate, base risk allocation and contingency should be based on a project scope statement at the preliminary design estimate level.
- Identify the impact on output funding and the breakdown of operating costs to key components such as staffing, maintenance, depreciation, CAC etc. This detail should extend over a reasonable period of years to allow a whole of life costing perspective.
- Attach appropriate tables in the appendices, refer Appendix B for example tables.
- Departments should consult with DTF to agree costings for the recommended solution before submitting the business case for Budget funding consideration.
- For Asset projects: Refer to the Investment Lifecycle's Project Budget Guideline which provides specific guidance on development of the project budget. The tables below are based on that guidance and may be modified to incorporate appropriate details.
- The Net Present Value estimate should be recalculated based on the refined costs and a more developed assessment of the benefits for the recommended solution. For the recommended solution agencies may need to invest in valuation techniques such as market based valuation, revealed preferences, stated preference or benefit transfer method to better assess the monetary value of benefits. Note: this should only be undertaken if the additional effort and expense incurred in assigning monetary values reflects the likely size of those impacts.
- Based on the detailed costing of capital, outputs and benefits for the recommended solution formalise the economic analysis (e.g. NPV and BCR) to demonstrate the economic impact of the investment.

5.2.5 Funding sources

Business case information requirements for funding sources of the recommended solution:

- Identify the overall funding requirement and in addition to the option of new Budget funding discuss potential funding sources including contributions from other levels of government, private sector, sale of assets etc.
- In providing the cost estimate, agencies should outline any existing capabilities that can be used to complement/subsidise/offset the investment value.
- Any likely Commonwealth support and/or private investment or in-kind contribution that may reduce the state's contribution should be outlined.

Step 5: Prove the deliverability

Commercial and financial – funding sources (fictional health example)

5.2.4 Funding sources

Funding sources for the project must be clearly identified and explained. This case study provides an example of how this might be done, for a fictional new hospital facility.

Detailed costing (2)

Capital cost budget impact

The following table presents estimates on the gross Total Estimated Investment (TEI) for the project and the net contribution required from the Victorian Government. The gross TEI of \$77.8 million would be partly funded by the Australian Government (\$20 million) and fundraising activities (\$15 million), so that the contribution required of the Victorian Government is \$42.7 million. The table also shows the time profile of estimated investment. Further detail on the external sources of funding is provided below.

Estimated capital cost budget impact of the recommended option (\$'000)

Capital cost budget impact	Total	2010-11	2011-12	2012-13
Project budget – gross TEI	\$77,700	\$17,483	\$48,563	\$11,655
Contribution from fundraising	(\$15,000)		(\$7,500)	(\$7,500)
Contribution from the Australian Government	(\$20,000)	(\$10,000)	(\$10,000)	
Victorian Government – net contribution	\$42,700	\$7,483	\$31,063	\$4,155

Output cost budget impact

In relation to the incremental operational costs of the recommended option, Bird Health will continue to source its recurrent clinical revenue from the State Government (through WIES, VACS and other acute and aged care funding models), grants funding, retail and car parking revenue and consulting suites. DH has not yet agreed with Bird Health on the increases in funding associated with the increases in demand for clinical services. This will be resolved on an annual basis following negotiations between parties. Therefore, the specific budgetary impact of changes in operational costs from the recommended option is not estimated at this time.

5.2.6 Commercial and financial – checklist

To assess the extent to which you have addressed commercial and financial aspects, consider how well you have answered the following questions. At this stage of your investment proposal you should be able to confidently answer all the questions below.

Commercial and financial – Investment assessment checklist

Is the recommended solution specified clearly and fully (all business changes and assets)?	Yes	Maybe	No	Not sure
Is the procurement strategy the most appropriate for this investment and attractive to the market?	Yes	Maybe	No	Not sure
Have all significant risks been identified along with strategies for their management?	Yes	Maybe	No	Not sure
Has the recommended solution been appropriately costed (including risk adjustment)?	Yes	Maybe	No	Not sure
Have alternative sources of funding been considered?	Yes	Maybe	No	Not sure

5.3 Management

5.3.1 Governance

Project governance should set a firm framework which guides project success, creating transparency and confidence in decision making, clarity of roles and responsibilities and consideration of stakeholder interests.

For HVHR projects, DTF must be included in the project governance structure.

Agencies are required to establish effective governance of programs and projects in a transparent and robust way.

Agencies must appoint a project sponsor or senior responsible owner (SRO) to be accountable for ensuring their project is effectively delivered and the investment cost effectively realises its expected benefits. This means the SRO needs to have related service delivery responsibility and the skills to take on the responsibilities involved in oversight of the project. **The SRO must reflect specific investment responsibilities and accountabilities in his/her performance agreement.**

Agencies must plan, govern, control and report on all projects through an appropriate and well understood governance and management regime. This means:

- defining and informing all relevant parties of the governance and management expectations.
- ensuring project governance bodies and structures are appropriately scaled and reflect the procurement model proposed;
- selecting the right people for the project steering committee (or project governance board) who are appropriately skilled and authorised. They must be capable of achieving timely and instructive governance to achieve the project's desired outcomes, but which mitigates the impact of project failure where necessary; and
- subject to scaling, creating a project decision making body that is separate to stakeholder management and organisational governance. The size of the committee membership needs to be fit for purpose. [Note: in some instances a project will be of such significance to the entity that it warrants the focus of the organisational governance board.

The business case needs to outline the project governance regime proposed and individuals either already involved or proposed to be involved in key positions such as the SRO and the steering committee. Existing processes for controls and determination of authority and tolerance may already exist as standard practice within the agency, in which case these should be noted. For HVHR projects the roles of DTF and approvals by the Treasurer need to be factored in.

Step 5: Prove the deliverability

Management – governance (fictional energy example)

A business case must detail the proposed governance arrangements for the investment, and explain why these are considered appropriate. This case study illustrates the type of material required, for a fictional project in the energy sector.

5.3.1 Governance

The Senior Responsible Owner (SRO) for the Recommended Solution would be Deputy Secretary, Energy and Earth Resources within the Department. The proposed governance structure for the Recommended Solution includes:

- A Project Control Board (PCB) – the PCB will comprise senior members of government agencies with key roles in implementing the project, plus a technical expert. The departments of Treasury and Finance (DTF) and Premier and Cabinet (DPC) would also be represented (given the High Value/High Risk status of the project), along with the project director and operations manager in DPI
- Several advisory groups – a number of advisory groups (a working group, a technology reference group and an energy business reference group) will be established to provide specialist advice and inputs, and ongoing consultation between important external stakeholders (energy businesses) and the Government. Most of these groups can be readily formed as they will include stakeholders that have already been consulted in the development of this proposal
- A dedicated project team within the department – a new project team comprising 4 full-time equivalent staff will be formed to deliver the project (see section 5.3.3).

This structure is illustrated in Figure X, while the proposed composition and role of each of these bodies is discussed below. Overall, the proposed governance structure is considered appropriate because:

- The success of the project will rely on close coordination across the department and between the department and other Government agencies, along with the various expertise held across these stakeholders and central agencies. The composition of the PCB can ensure this;
- The project has significant technological risks that will need to be closely monitored and subject to ongoing review during implementation. Expert, independent advice in this area (via the technology reference group and the technical expert on the PCB) can help assess and manage these risks;
- Efficient and effective delivery of the program requires the participation of energy businesses, so a forum for close liaison with these (the energy business reference group) is essential.

Further information

The Investment Lifecycle technical guideline on *Project Governance* describes these and other considerations in establishing a governance regime.

5.3.2 Stakeholder engagement and communications plan

This section asks you to provide detailed information about key stakeholders in relation to the recommended solution, this could include:

- identification of specific stakeholder commitments or requirements for the recommended solution e.g. willingness to sign a lease;
- strategies and options to capitalise on social opportunities and manage negative issues;
- an outline of the wider implications, including the impact on any other proposals or opportunities that rely on this proposal or should be jointly considered (to give optimal cross-government outcomes);
- identification of the clients who are the intended end-users of the proposed services (and where appropriate, provide information on the likely demand and any charging policies to recover costs—either in full or in part);
- any unresolved issues that need to be addressed before the recommended solution could proceed in its proposed form and/or to the proposed timetable;
- identification of stakeholder responses to the uncertainties of the project and to the government’s response to those uncertainties in the real options process;

- if a real options approach is being taken to this investment, a plan for communicating the flexible investment pathway (and possible changes to the direction if trigger events occur).
- a list of any current, expected or imminent projects, policies, events or other factors (social, political, economic, environmental etc.) that could impact stakeholder support/opposition to the investment and/or Solution options in the future (refer to section 1.2 'Evidence of the Problem' where necessary to avoid overlap); and
- Note: Some stakeholders may be disadvantaged or not fully informed, and may not support the proposal. Other stakeholders may resist change through fear of the unknown ('not in my backyard'), and actively resist the proposal. In these cases, the communication strategy should address these issues, including possible public communication from the responsible Minister. It is important that designated speakers are nominated and adequately briefed.

Stakeholder engagement and communication plan

A high-level stakeholder engagement and communication strategy for the project should be in existence and most likely will be being rolled out. Agencies are also required to attach as an appendix a high-level overview of this engagement and communications strategy, outlining the key messages and stakeholder plan if the investment were to move to:

- Project announcement
- Procurement; and
- Implementation.
- It is important that the strategy has identified key stakeholders who will be impacted by the recommended solution, and also understand the influence they may have on the project. The strategy should demonstrate:
 - The engagement has been thought out and planned;
 - The agency is preparing to and/or is actively engaging with stakeholders; and
 - The agency has a plan to respond to and measure the engagement.

Business case information requirements for stakeholder engagement and communication plan for the recommended solution:

- detailed information about key stakeholders in relation to the recommended solution by outlining key elements of stakeholder and communications analysis describing stakeholders, their likely position on the project and plans to manage that.
- If available attach as an appendix a proposed high-level stakeholder engagement and communications strategy covering the approach to dealing with stakeholders both upon project announcement and ongoing during the project.

Step 5: Prove the deliverability

This case study highlights the type of information that should be provided in a business case on stakeholder engagement and communication, for a fictional regional development investment.

Stakeholder engagement and communications plan

The key stakeholders for the recommended solution include other Victorian Government agencies (especially Regional Development Victoria (RDV) and Tourism Victoria), the Outback Rural City Council, the Outback Development Corporation, and various businesses and community groups in the region including the local indigenous community. These will be engaged through a number of strategies, reflecting the nature of their interest, the importance to the success of the project of their support and input, and timing considerations. Engagement and consultation strategies are outlined in a high-level, draft stakeholder engagement and communications strategy which has been prepared for the project (see Appendix F). The table below summarises key elements of the draft strategy. The draft strategy will be further developed in the project implementation phase. The proposed project management structure and project budget includes resources for this activity and stakeholder engagement (assigned 0.3 FTE staff in 2012-13 and 2013-14).

Stakeholder	Issues and risks	Future consultation actions
RDV and Tourism Victoria.	The project must align with the programs and strategies of these agencies, to best meet its objectives and deliver on Government policy priorities. There are no issues with these stakeholders, as they have been closely involved in the project and support it.	Ongoing input from RDV and Tourism Victoria is critical to the success of this project. These agencies will therefore be represented on the PCB, which will provide RDV and Tourism Victoria the opportunity to inform and guide the project as it progresses.
The Outback Rural City Council and the Outback Development Corporation	Support from these bodies is important because they are highly influential in the Outback community and especially business circles. Also, their local expertise will be useful in refining the project and local consultation strategies. These agencies support the project in-principle, but will be keen to ensure that they are closely engaged in its development and that the project meets the expectations of the council and businesses. If this does not occur, there are risks of low vacancies rates within the development (which may increase project costs) and general community resistance (which may increase project timelines and costs).	The project director will meet regularly with the Outback Rural City Council and the Outback Development Corporation, to review progress and to gather ongoing input and advice. Meetings will be scheduled around important milestones and activities, such as design development, media campaigns, the commencement of site works and construction completion. As a minimum, the meetings will be held bimonthly. This consultation will complement and inform broader public consultation processes throughout Outback (see below)
Local businesses and community groups and indigenous community.	The commercial performance of the project depends on take-up of leases by local businesses. There are financial risks if the expectations of these (including over consultation, design and rentals) are not met. Several community groups operate from premises that will be impacted by construction, and the site is also adjacent to important community spaces (the riverfront, parks, sites of cultural significance). For these stakeholders, it will be important to minimise disruption during construction, and that the site design is right for the area (including heritage values). Community resistance has potential to increase project timelines and costs.	Local businesses and community groups will be engaged regularly, in a number of ways. Consultation with these stakeholders will have two high-level objectives: to disseminate information; and to solicit input and feedback. A stakeholder advisory group (comprising representative of businesses and community groups) will be formed to consult to the PCB on stakeholder issues (section 5.3). There will also be public information campaigns leading into key project milestones. This will involve media releases, interviews with the local media and media advertisements.

5.4 Project management strategy

This guidance is based on the following key project management principles:

- a project is a finite process with defined start and end
- a project always needs to be managed in order to be successful
- for genuine commitment to the project, all parties must be clear about why the project is needed, what it is designed to deliver, how the outputs and outcomes are to be achieved, and their roles and responsibilities.

At full business case stage, project planning for the investment should already be well advanced. The SRO or project sponsor will have been appointed and the project initiated when the need for the investment was first identified, prior to the development of the strategic assessment or preliminary business case.

The purpose of this section is to outline the proposed project management strategy, framework and plans to support the design, build and implementation of the recommended solution. The strategy should be high-level, but at the same time demonstrate its suitability and robustness, for example identifying specific skills required and how these will be obtained to address project needs.

The strategy for the successful delivery of the recommended solution (the ‘project’) should use recognised best practice project management principles and project management methodologies, and should be appropriate to the characteristics of the project. Detail plans as an appendix if necessary. A robust project management methodology is required to guide the project through visible, controlled and well-managed processes to achieve the investment benefits and deliver the investment as per the specifications outlined.

Where a real options approach has been taken to the project, this section should outline how the project management strategy will respond to a change in the direction of the project, should trigger events be activated that cause the project to be scaled up, down, abandoned, change direction etc. For example, where the Government has decided to scale down a project in relation to lesser climate change impacts than were originally anticipated, the project management strategy should outline how it would update its management processes to ensure smooth transition to the new direction.

Business case information requirements for project management strategy for the recommended solution:

Demonstrate that a robust project management strategy is in place. An up-to-date summary of the project management strategy should be included and address the following areas:

- the suitability of the strategy;
- the deliverables required;
- the activities required to deliver them;
- the activities required to validate the quality of the deliverables;
- the organisational capability and systems and standards which would allow the project to be delivered successfully (this should include resources and time needed for all activities and any need for people with specific capabilities and competencies);
- the dependencies between activities and any associated constraints;
- the points at which progress will be monitored, controlled and reviewed. This includes key points during the business case development, such as Gateway reviews and any health checks; and
- Evidence that the implementing organisation has the capacity and capability to mobilise this investment.

Step 5: Prove the deliverability

The project management strategy for the investment proposal must be outlined in a business case, and its suitability demonstrated. This case study relates to a fictional project in the energy sector.

Project management strategy

Project management responsibilities and day-to-day requirements for the project would be performed by a dedicated project team in the department. The project team would comprise a total of five full-time equivalent (FTE) staff (a headcount of seven) that among other things would be responsible for project management, policy development, stakeholder management, project evaluation and secretariat support for the Project Control Board and the advisory groups.

The team is illustrated in Figure X and would comprise a project director (0.5 FTE), a project manager (1 FTE), a communications manager (0.5 FTE), three policy officers (2.5 FTE) and an administrative assistant (0.5 FTE). The following table provides an overview of the specific roles and responsibilities of each member of the proposed project team, and the rationale for their inclusion. Overall, the level and mix of resources within the proposed project team are considered appropriate because:

- There are a number of policy issues that will need to be subject to ongoing research and review. The project will also require extensive evaluation after its first phase. These tasks will demand significant 'policy' resources
- Effective communications and stakeholder management will be critical to the overall success of the project, because there are many stakeholders (some of which are essential to service delivery) and the project encompasses issues that are sensitive to parts of the community. This warrants dedicated communications resources (0.5 FTE)
- There are several advisory groups that will need to be managed, so the project team will have significant administrative and secretariat responsibilities.

5.4.1 Management – checklist

To assess the extent to which you have addressed management issues, consider how well you have answered the following questions. At this stage of your investment proposal you should be able to confidently answer all the questions below.

Management – Investment decision-maker's checklist				
Is the governance structure identified and is it appropriate for this investment?	Yes	Maybe	No	Not sure
Is there evidence that the implementing organisation has the capability and capacity to mobilise and deliver this investment?	Yes	Maybe	No	Not sure
Have relevant stakeholders been identified along with strategies to manage their engagement?	Yes	Maybe	No	Not sure
Has a robust project management strategy been outlined?	Yes	Maybe	No	Not sure

5.5 Delivery

5.5.1 Change management

Most investment proposals involve change that affects people, processes and resources, and this change needs to be managed by the implementing organisation, and often across multiple agencies. The scope of change can range from elements of service improvement through to major change to the machinery of government. Where change is not the main reason for the investment (e.g a replacement service), a new investment provides an opportunity to think about doing things better and more efficiently. These opportunities should be considered where they improve the value-for-money of the investment.

Step 5 of the full business case process asks you to present a high level overview of the change management strategy. The level of information required in this section should be scaled to the size and complexity of the change (if any) required to implement the recommended solution.

The major objective of the strategy is to assess the potential impact of the recommended solution on the systems, people, processes and culture in the organisation. The size and speed of change depends on the strategic drivers for change, the ability of the organisation to cope, and the level/skills of resources able to manage the change. The agency's choice of change management strategy should be set out at a high level and detailed as is appropriate to the materiality of the change to the delivery of the investment. Note this does not include management of scope changes proposed during implementation.

For significant change management programs, an outline of the change management plan should be provided, together with the communication and development deliverables (for example, training products) required for the implementation phase. It is important that this indicates how relevant personnel within the organisation, including human resources and staff representatives, have contributed or been involved to date. Reference should be made to the communications and stakeholder engagement strategy in the business case which should also set out communication about change necessary to institute the investment.

If responsibility for the delivery of the service change lies with the project steering committee and is a key sub-set of its activities, then the change management framework should be outlined.

Where real options have been built into the recommended solution, this section should provide an overview of the trigger points that would activate real options and how any exit from one option towards a new direction would be managed. This is particularly important where such a change has significant impact on resources, documentation, assets etc.

Business case information requirements for the change management strategy for the recommended solution:

- Outline the scope of organisational/process change management required to manage the project and effectively deliver the benefits. This may involve systems, process re-engineering, staff retraining etc. required to transition from existing arrangements to support the operation of the new investment.
- If change management requirements are significant consider appending an outline of the change management strategy. Note this does not include management of proposed scope changes during implementation.

5.5.2 Timelines and milestones

Decision-makers need to understand the extent of pre-construction activities and lead times, so it is important that you set out the timelines and details about project readiness.

At this stage of an investment's developments agencies should be able to provide a high-level project schedule and list all of the major milestones, including:

- the basis and assumptions used in setting timelines
- advice of independent experts to establish practicality of timelines
- comparison of timelines to similar projects, explanation for variance if it exists
- major risks to achievement of timeframes (referring back to Risk Management section if necessary) (e.g. planning approvals)
- transition/ change management timelines
- critical dependencies
- the timing of uncertainties and real options trigger points and the timing government's response to them.

In a real options-based investment, it will be necessary to outline the timelines and milestones for those real options that are realistic alternatives to the preferred real option.

Step 5: Prove the deliverability

At the timelines and milestones section of the full business case, agencies should be able to, at a minimum:

- List the major milestones and deliverables and their delivery timelines and contingencies. Establish a process that ensures the quality of the project is maintained in the case of any unforeseen delay. Identify any critical timelines which are fundamental for investment success.
- Outline the high-level project schedule, including procurement steps and statutory approvals and key decision points for project progression, termination or otherwise.
- Provide information on potential competing priorities, dependency analysis, skills, capabilities, availability of agency staff etc.
- Provide advice on public communication of project timelines (to be consistent with communications strategy).
- Confirm that you have adequately identified all actions needed to progress the initiative.

This case study highlights how major milestones and project timelines might be summarised in a business case. In this case study (for a fictional sporting facility), the procurement approach selected in this example is a traditional procurement.

Timelines and Milestones

Major Projects Victoria and the capital project managers appointed for the project have developed a detailed project and construction schedule for the Recommended Solution (see *Appendix X*) and recommends a public-private partnership (PPP) approach (see Table 1).

The schedule for the approach approach is framed around standard budget approval processes (culminating in a Budget announcement in early May 2012) and completion of the project by January 2016 (see below).

Table 1: Implementation program – PPP procurement

Milestone	Year	Month
Procurement decision	2011	October
Prepare EOI documentation	2011	October – January
Budget announcement	2012	May
Tendering		
Engage consultants (commercial, legal, technical)	2012	May
Prepare RFP documentation	2012	May – July
Release EOI	2012	May
Shortlist bidders and release RFP	2012	September
Close RFP	2013	February
Appointment of Project Company	2013	April
Design, construct and commissioning		
Commence site works	2013	May
Design development	2014	April
Construction completion	2015	October
Commence operations	2015	November

A critical requirement for the success of the project is that it is completed in time for the Asian Soccer Tournament in January 2016. As meeting this deadline is a key project risk, a number of management strategies are proposed to ensure this is achieved (see section X). For example:

- The tendering process will be expedited, through early engagement of tenderers and preparation of tender documentation
- MPV will make the project a priority of senior staff, and appoint dedicated staff with recent experience in comparable projects (e.g. the Melbourne Convention Centre, Melbourne Showgrounds) to manage implementation.

5.5.3 Performance measures and benefits realisation

Performance management enables agencies to track the success of an investment in achieving the benefits it set out to achieve, and is appropriately addressing the problem. For the purpose of evaluation, it involves the systematic collection of data relating to the financial management and outcomes of the recommended solution during implementation.

Performance measures are an essential source of information in the performance management process, indicating the extent to which project objectives, and investment benefits, are being achieved to ensure success.

Agencies will have already provided information on the investment benefits in *Section 2: Benefits*. This section requires agencies to update the benefit management plan, and to set out project specific performance measures and monitoring systems that will be put in place to track benefits as they relate to the recommended solution.

There are three KPI’s types:

- transactional – concludes in a numeric value
- outcome – concludes in finished process
- output – is used in a further process to provide an outcome

KPI descriptors can be quantitative or qualitative:

- quantitative – objective (capable of verification and validation)
- qualitative – subjective (less capable of verification and validation)

Performance measurement processes should be set up to ensure that:

- projects have defined target benefits and outputs that relate to the overarching investment benefits;
- outputs of an investment remain consistent with government objectives;
- costs are closely managed and monitored;
- action will be initiated when KPIs are not being met;
- forecast costs and benefits are frequently reviewed; and
- targets and achieved benefits are measured, reported to an appropriate forum and communicated.

Most investments will affect output performance measures. The impact on existing outputs and performance measures should be specified indicating both the changes to output metrics relative to current levels and the timing of that impact (adjust dates accordingly).

Table 11 Performance measurement table - outputs

Output name:						
Performance Measures	Unit of measure	Change in target if proposal is endorsed				
		2012-13	2013-14	2014-15	2015-16	2016-17
Quantity						
Quality						
Timeliness						

In the performance measures – deliverability section of the full business case, agencies should be able to, at a minimum:

Provide references to the evidence of benefit delivery identified in section 3 and provide further specific information on *project specific* performance measurement and monitoring systems. This should include detailed information on:

- how well the recommended solution delivers identified investment benefits in a way that achieves value-for-money;
- the management framework and KPIs surrounding the recommended solution’s performance measurement; and
- An outline of the monitoring system to be put in place to track benefits realisation.

Where the investment affects output performance measures. The impact on existing outputs and performance measures should be specified indicating both the changes to output metrics relative to current levels and the timing of that impact.

Step 5: Prove the deliverability

5.5.4 Readiness and next steps

Explain plans to transition the investment to the next stage (*Stage 3: Procure*). Explain the main areas of uncertainty to be resolved in the next stage. Include information for example regarding staffing, approvals, and land acquisition.

5.5.5 Signoff

Signoffs are required by:

- Primary author
- The Senior Responsible Owner (or departmental Chief Financial Officer) on the Project Profile Model (PPM) included to update proposal risks.
- The Senior Responsible Owner (or Chief Financial Officer) and the department's Secretary – these are required for full business cases to be considered by the Government.

In establishing the project budget estimate the SRO should sign off on:

- The statements of the service benefits and project scope.
- The adequacy of the project budget including the base cost estimate, risk assessment, base risk allocation and contingency.
- This should be supported by additional sign offs from:
 - The base cost estimator; and
 - The agency and its advisers on base risk allocation and contingency.
- Provide details of any review process (e.g. for HVHR projects Gateway reviews are mandatory).

So that decision-makers know that the business case is thorough and complete, please provide a quality assurance checklist such as set out in Appendix C of the business case template, with business case submissions seeking endorsement from departmental Secretaries.

5.5.6 Exit strategy

Detail the exit strategy and the factors that would lead to wanting to exit either early or at term. Investments maybe time limited or may involve pilot studies. This section allows for consideration of what termination rights are desirable at key review or decision points for example in lapsing programs.

5.5.7 Delivery – checklist

To assess the extent to which you have addressed delivery issues, consider how well you have answered the following questions. At this stage of your investment proposal you should be able to confidently answer all the questions below.

Delivery – Investment decision-maker's checklist				
Has an appropriate change management strategy been provided to support benefit delivery?	Yes	Maybe	No	Not sure
Are proposed timelines and investment milestones reasonable?	Yes	Maybe	No	Not sure
Has an appropriate benefits management strategy been outlined?	Yes	Maybe	No	Not sure
Has the transition from construction to operation been adequately considered?	Yes	Maybe	No	Not sure

6. Scalability – complexity and size in the full business case

6.1 Required depth of analysis

This section presents a comparison of the relative detail that might be required for simple and more complex business cases. It should be noted that all business cases need to be developed to address the specific issues of the investment in question. As a result some simple investments may need to provide more detail than suggested on specific aspects unique to the particular investment. The depth of evidence should be appropriate to the nature, size and complexity of the investment and should be assessed on a case-by-case basis.

Examples of a simple project:

- Minor refurbishment of a courthouse.
- Simple sports and recreational build.
- Something done many times before.
- Upgrading rolling stock.

Examples of a complex project:

- New freeway project.
- New public transport IT system.
- Major sports centre build.
- Major regional development expansion project.
- Projects that affect a complex group of stakeholders.
- Project where there are many high risks.

Agencies should use their judgement to ensure relevant detail is presented.

Scalability – complexity and size in the full business case

Table 12: Comparison of detail required for simple and more complex investment proposals in the business case

Heading	Purpose	Simple proposal	Complex proposal
Executive summary	Explain the proposal in narrative terms, generally following the main points of the body of the business case.	1-6 pages providing context to the proposal and history of its development and the options considered and recommended solution.	5-10 pages providing context to the proposal, history of its development and the options considered. Identify areas of complexity and significant risks and strategies for these.
Part 1 Problem			
1.1 Background	Provide context of existing services to understand the problem	Set the context necessary to introduce the problem and benefits from addressing the problem	Set the context necessary to introduce the problem and benefits from addressing the problem. Document the existing service related outputs, existing asset base and resource commitments.
1.2 Definition of problem	Explain the problems that the investment is intended to solve in the context of the current service levels. If appropriate, describe the role of government and rationale for government intervention.	Describe problems in terms of the cause of each problem, who is affected, and how they are affected. If appropriate, describe the role of government and rationale for government intervention.	Describe problems in terms of the cause of each problem, who is affected, and how they are affected. Detail the impact of the problem in the broader service context. Describe the role of government and rationale for government intervention.
1.3 Evidence of the problem	Provide the evidence of both the cause and effect of the problem.	Evidence might include demand forecasts with assumptions; KPIs on current performance levels; and facts/examples of the problem	Evidence might include demand forecasts with assumptions; KPIs on current performance levels; and facts/examples of the problem
1.4 Timing considerations	Explain why the problem should be solved by government now rather than later.	Outline the urgency and why this is a problem for government.	Explain the need for government involvement, is it an issue for (or shared with) another level of government. Explain the implications of delaying a response to the problem, is it a problem which can use a staged response.
1.5 Consideration of the broader context	Does a similar need exist either inside or outside your organisation that might be addressed together with this proposal.	Outline any precedents or parallel problems that could be solved more efficiently together	Describe whether the issue is unique or if similar or related problems exist or have been addressed recently which could provide a more efficient overarching solution
Part 2 Benefits			
2.1 Benefits to be delivered	Explain the key benefits that flow if the problem is solved, note any dis-benefits.	Outline the potential benefits (If available extract from the Investment Logic Map and Benefit Map).	Outline the potential benefits (If available extract from the Investment Logic Map and Benefit Map). Benefits should be described with metrics to allow effective assessment of the likely impact of options

Heading	Purpose	Simple proposal	Complex proposal
2.2 Importance of the benefits to Government	Outline how or why the benefits reflect government and/or organisational policies, objectives or priorities.	Show how this investment will help to advance the organisation/government to meet its objectives.	Describe how this initiative connects to government and/or organisational priorities and the department's strategic plans.
2.3 Evidence of benefit delivery	Define the measures to be used to show whether the benefits have been delivered.	Define the measures to be used to show whether the benefits have been delivered, including: KPIs to measure the delivery of the benefits; baseline, interim and target measures and dates; and person/position responsible for delivering the benefits, and the forum for reporting.	Define the measures to be used to show whether the benefits have been delivered, including: KPIs to measure the delivery of the benefits; baseline, interim and target measures and dates; and person/position responsible for delivering the benefits, and the forum for reporting. Some of this information can be presented in an appended benefit management plan.
2.4 Interdependencies	Identify factors critical to achieving benefits outside the immediate proposal	Outline any key interdependencies critical to benefit delivery.	Outline any key interdependencies critical to benefit delivery and strategies required for management. For staged investments this may include successful completion of earlier stages.
Part 3 Strategic response			
3.1 Method and criteria	Detail approach to filtering strategic options	Specify the method and criteria used to select assess and rank strategic options, including assumptions.	Outline the method and criteria used to select the strategic response. Identify assumptions and constraints used to inform the development of strategic options
3.2 Strategic options analysis	Describe the strategic options analysis undertaken, potential strategic interventions, packaging into sensible groupings and analysis to arrive at the recommended strategic response.	List strategic interventions: Explain the potential packages of strategic interventions into strategic options. Detail the evaluation of the strategic options to determine the recommended strategic response.	List and explain potential strategic interventions Explain how the potential strategic interventions can be packaged into strategic options. List (and explain) any strategic options considered but then removed prior to the strategic options analysis. Detail the evaluation of the strategic options to determine the recommended strategic response.
3.3 Recommended strategic option	Present the recommended strategic response.	Present the recommended strategic response.	Summarise the response and the rationale behind its selection. This might include strategies to address uncertainties and allow flexibility for this.

Scalability – complexity and size in the full business case

Heading	Purpose	Simple proposal	Complex proposal
Part 4 Solution options analysis			
4.1 Solution options considered	Describe the potential solution options embraced by the strategic response and those shortlisted for consideration in the business case (including a base case).	Describe the potential solution options embraced by the strategic response shortlisted for consideration in the business case (including a base case).	Describe the potential solution options embraced by the strategic response and those shortlisted for consideration in the business case (including a base case). If appropriate note any excluded options and the rationale for exclusion.
4.2 Stakeholder identification and consultation	Outline of likely relative impact of various solution options on key stakeholders and if known their likely position on options.	Outline of likely relative impact of various solution options on key stakeholders and if known their likely position on options.	Outline of likely relative impact of various solution options on key stakeholders and if known their likely position on options. Where relevant note extent of involvement /reaction and any critical success factor links.
4.3 Social impacts	Provide a high-level overview of the social impacts of the proposal and factors differentiating between the solution options.	Provide a high-level overview of the social impacts of the proposal and identify any significant social issues or opportunities specifically relevant to particular solution options.	Outline the social impacts of the proposal and identify any significant social issues or opportunities specifically relevant to particular solution options. Distinguish the measurable and non-measurable aspects and the relevance of these to the problem/investment.
4.4 Environmental impacts	Provide a high-level overview of the environmental impacts of the proposal and factors differentiating between the solution options.	Provide a high-level overview of the environmental impacts of the proposal and identify any significant environmental issues or opportunities specifically relevant to particular solution options.	Outline the environmental impacts of the proposal and identify any significant environmental issues or opportunities specifically relevant to particular solution options. Distinguish the measurable and non-measurable aspects and relevance to the problem/investment.
4.5 Economic impacts	Provide a high-level overview of the economic impacts of the proposal and factors differentiating between the solution options.	Provide a high-level overview of the economic impacts of the proposal and identify any significant economic issues or opportunities specifically relevant to particular solution options.	Outline the economic impacts of the proposal and identify any significant economic issues or opportunities specifically relevant to particular solution options. Distinguish the measurable and non-measurable aspects and relevance to the problem/investment.
4.6 Socio-economic analysis	Outline the methodology used to undertake the economic evaluation which should be based on estimates surrounding the solution options.	Using concept level costs and benefits to society identified for each project option, outline the economic analysis. Analysis should include reasonable estimates of all costs and benefits involved at an aggregate level. Assumptions should be provided.	Using detailed concept level costs and benefits to society identified for each project option, outline the economic analysis. Analysis should include reasonable estimates of all costs and benefits involved at an aggregate level. Assumptions and precedent projects should be provided to justify costs and benefits used.

Heading	Purpose	Simple proposal	Complex proposal
4.7 Financial Analysis	Provide concept estimate (-30%+60%) to developed concept estimates (-20%+40%) of the capital and output costs to allow comparison of solution options. Level of accuracy provided should be based on size and complexity of investment.	An indicative estimate of the cost (capital and output) of each option with a brief outline of the basis for this estimate and any key cost assumptions.	An indicative estimate of the cost (capital and output) of each option with a brief outline of the basis for this estimate and any key cost assumptions. Estimates should be reasonable and evidence-based, but are not intended to be comprehensively constructed from first principles.
4.8 Risk Comparison	High level risk assessment sufficient to enable relative comparison of options.	Identify option specific risk factors and likely impacts to allow differentiation between options.	Identify option specific risk factors and estimate likely impacts to allow differentiation between options. Highlight any significant uncertainties attaching to particular options.
4.9 Integrated socio-economic analysis and options ranking	Summarised the outcome of the economic analysis Highlight any areas of significance which could not be quantified and integrate these into the analysis. Rank the options.	Summarised the outcome of the economic analysis Highlight any areas of significance which could not be quantified and integrate these into the analysis. Rank the options.	Summarised the outcome of the economic analysis Highlight any areas of significance which could not be quantified and integrate these into the analysis. Undertake sensitivity or scenario analysis, where appropriate, to confirm the ranking of the options.
Part 5 Recommended solution			
5.1 Details of recommended solution	Detail the Recommended Solution, addressing the rationale for its selection based on the integrated assessment, specifying its details.	Detail the Recommended Solution, addressing the rationale for its selection based on the integrated assessment, specifying its details and impacts.	Detail the Recommended Solution, addressing the rationale for its selection based on the integrated assessment, stating its details (including objectives and a project scope statement). Outline features such as significant broader impacts, staging, locational details and service area impacts. Address consistency with public interest issues such as equity, access etc.
Commercial and financial			
5.2.1 Procurement strategy	Outline the recommended procurement method and rationale.	Specify the recommended procurement method justifying why it is the best value-for-money option.	Detail the recommended procurement strategy justifying why it is the best value-for-money option. Outline the organisation's experience and capability to deliver the preferred procurement method as well as key risks and contractual issues.
5.2.2 Risk assessment and management	List the key risks to the success of this investment (refer to the investment concept brief).	List the key risks to the success of this investment. Explain how these risks are to be managed.	List the key risks to the success of this investment. Outline proposed arrangements for ongoing risk monitoring and management. Include appendix with risk management strategy and risk register.

Scalability – complexity and size in the full business case

Heading	Purpose	Simple proposal	Complex proposal
5.2.3 Detailed costing and economic evaluation	Provide a detailed overview of the costing for the Recommended Solution, including capital TEI and output costs and assumptions. Based on refined costing reconfirm economic analysis findings. (e.g. NPV and BCR).	Provide a detailed costing for the Recommended Solution, including capital TEI and output costs and assumptions. Include budget cash flow over a relevant period with the project budget estimate supported by risk and contingencies. The Net Present Value estimate should be recalculated based on the refined cost and benefit details developed for the Recommended Solution.	Provide a detailed overview of the costing for the Recommended Solution, including capital TEI and output costs based on a project scope statement, specify assumptions. Include budget cash flow over a relevant period with the project budget estimate supported by risk and contingencies. The Net Present Value estimate should be recalculated based on the refined cost and benefit details developed for the Recommended Solution.
5.2.4 Funding sources	Specify proposed sources of funding.	Discuss proposed funding sources for capital and output requirements including potential contributions from other levels of government, private sector, sale of assets etc.	Discuss proposed funding sources for capital and output requirements including potential contributions from other levels of government, private sector, sale of assets etc. Identify any conditional impacts of particular sources.
Management			
5.3.1 Governance	Identify governance arrangements in place and proposed to progress this proposal to the next stage.	Outline governance arrangements proposed and project governance structure demonstrating its appropriateness. Outline any existing governance frameworks that the recommended solution could align with.	Outline governance arrangements proposed and project governance structure demonstrating its appropriateness. Note: For HVHR projects, DTF must be included in the project governance structure. Outline existing governance frameworks that should be aligned.
5.3.2 Stakeholder engagement and communications plan	Identify the key stakeholders, their particular interests in relation to the recommended solution and the strategy for managing them.	Map the key stakeholders, their particular interests and likely/actual position in relation to the recommended solution. Present a brief overview of the stakeholder communications plan.	Map the key stakeholders, their particular interests and likely/actual position in relation to the recommended solution. Present a brief overview or attach the stakeholder communications plan. If appropriate identify specific stakeholder involvement required e.g. funding.
5.3.3 Project management strategy	Outline the project management strategy demonstrating its suitability and robustness, describe the organisational capability and capacity to mobilise and deliver this investment.	Outline the proposed project management strategy demonstrating its suitability and robustness. Demonstrate that the implementing organisation has the capacity and capability to mobilise and deliver this investment.	Outline the proposed project management strategy demonstrating its suitability and robustness, appending any detailed plans as an appendix if necessary. Describe the organisational capacity and capability and generic systems, standards and methodology which would allow the project to be delivered successfully.

Heading	Purpose	Simple proposal	Complex proposal
Delivery			
5.4.1 Change management	Outline the scope of organisational / process change management required to effectively deliver the benefits.	Outline the scope of organisational / process change management required to effectively deliver the benefits.	Outline the organisational change management, process re-engineering, staff retraining etc. required to transition from existing arrangements for the operation of the new investment to effectively deliver the benefits.
5.4.2 Timelines and milestones	Identify the major milestones and deliverables and their delivery timelines and contingencies.	Identify the major milestones and deliverables and their delivery timelines and contingencies.	Identify the major milestones and deliverables and their delivery timelines and contingencies. Provide a high-level project schedule, including procurement steps and statutory approvals and key decision points for project progression, termination or otherwise.
5.4.3 Performance measures	Provide specific performance measurement information for the recommended solution, this should be a detailed description of: how well the Recommended Solution delivers identified benefits; and the specific KPIs that relate to the Recommended Solution.	Provide a statement of investment benefits to show how well the Recommended Solution addresses the Problem and key Benefits including the specific KPIs and benchmarks. Appended an updated benefit management plan to inform this section. The impact on existing outputs and performance measures should be specified indicating both the changes to output metrics relative to current levels and the timing of that impact.	Provide a statement of investment benefits to show how well the Recommended Solution addresses the Problem and key Benefits. Provide a detailed description of: how well the Recommended Solution delivers identified benefits; and the specific KPIs that relate to the Recommended Solution. Appended an updated benefit management plan to inform this section. The impact on existing outputs and performance measures should be specified indicating both the changes to output metrics relative to current levels and the timing of that impact.
5.4.4 Readiness and next steps	Explain next steps and key areas of uncertainty to be resolved in <i>Stage 3: Procure</i> .	Explain next steps and key areas of uncertainty to be resolved in <i>Stage 3: Procure</i> .	Explain next steps and key areas of uncertainty to be resolved in <i>Stage 3: Procure</i> . <i>Highlight options to manage uncertainties.</i>
5.4.5 Signoff	Sign-offs by key individuals	Sign offs are required from author, SRO, key contributors to project budget estimates and departmental Secretary.	Sign offs are required from author, SRO, key contributors to project budget estimates and departmental Secretary. Attach a quality assurance checklist.

Scalability – complexity and size in the full business case