NEW ZEALAND
INFRASTRUCTURE
COMMISSION
Te Waihanga

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Guide to Deliverability Assessments

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Infrastructure Priorities Programme

New Zealand Infrastructure Commission / Te Waihanga

The New Zealand Infrastructure Commission Te Waihanga seeks to transform infrastructure for all New Zealanders. By doing so our goal is to lift the economic performance of Aotearoa and improve the wellbeing of all New Zealanders.

We are an autonomous Crown entity, listed under the Crown Entities Act 2004, with an independent board. We were established by the New Zealand Infrastructure Commission/Te Waihanga Act 2019 on 25 September 2019.

Information on the Commission is available at **www.tewaihanga.govt.nz/**

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1. Introduction

1.1 Context

The Infrastructure Priorities Programme (IPP) is designed to assess and prioritise infrastructure projects from proponents across the country. The process for inclusion on the IPP is guided by our Assessment Framework.

This assessment framework is designed to help us identify projects that meet three key criteria:

- They are **strategically aligned** with the Commission's *Rautaki Hanganga o Aotearoa: The New Zealand Infrastructure Strategy 2022–2052* (Infrastructure Strategy) and other government strategies and agency plans.
- They offer **value for money** to ensure that we are getting the most for our infrastructure dollars.
- They are **deliverable** by the project's proponents and the construction industry.

The IPP assesses projects during three stages of their planning process. At all three of these stages, all three assessment criteria will be considered. At different stages, the relative importance of each criterion will shift, as projects further in their planning will need to have a greater emphasis on their deliverability than strategic alignment.

This document provides further information on how we will review **deliverability** at all stages in the assessment process**.**

1.2 Who should use this document?

This document is designed to assist proponents making submissions and can also assist users of the IPP.

1.3 What this document contains

This document contains information for applicants and users about how our assessment teams will review a project's deliverability. This document's primary goal is to give information to applicants about the process we will use to assess whether a proposal supports future infrastructure priorities.

2. How deliverability is assessed at different stages

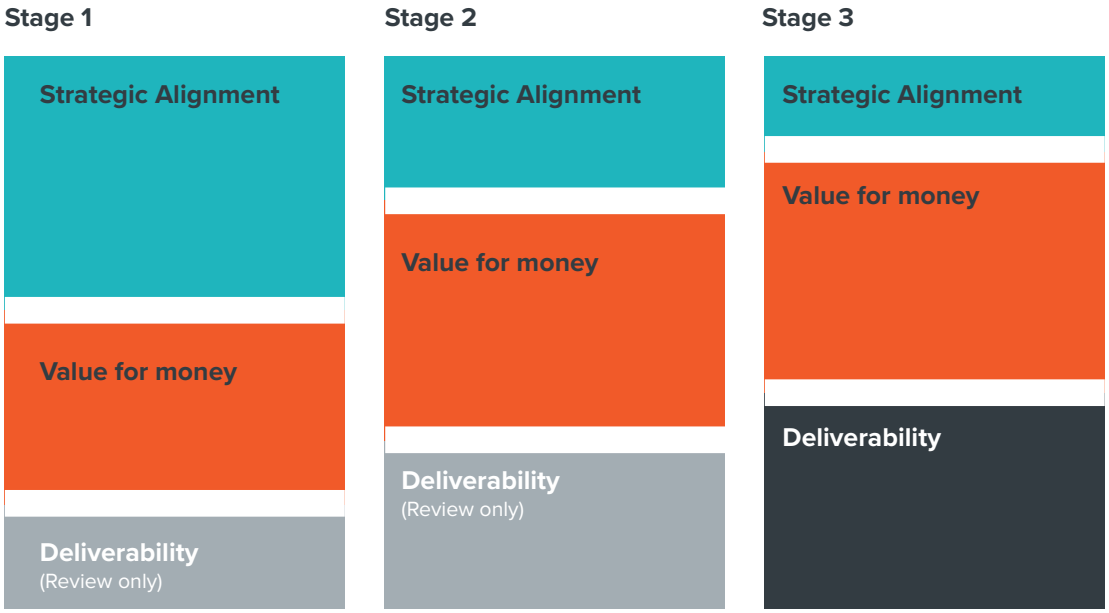
The overall assessment score for a project is based upon a holistic assessment across the three criteria. Deliverability is assessed alongside the other criteria and is considered equally important. A strong Deliverability proposal does not offset weak scores in the other criteria.

These criteria are assessed at three stages in a project's planning process, aligned with the New Zealand Treasury's Better Business Case guidance:

- **Stage 1** assesses a Strategic Assessment submission that identifies a problem or opportunity that may require an infrastructure solution
- **Stage 2** assesses an Indicative/Programme Business Case submission that identifies and assesses a set of options for addressing the problem or opportunity
- **Stage 3** assesses a Detailed Business Case submission that identifies a preferred option for addressing the problem or opportunity. This stage can be followed by a decision about whether to proceed with the project.

Deliverability assessments are completed at each stage in this Framework. As a project progresses, deliverability will become increasingly important (Figure 1).

Figure 1: Assessment focus evolves as proposals proceed through stages



2.1 Defining Deliverability

The term deliverability is sometimes thought of as being synonymous with “difficulty to deliver”, with the connotation that an investment with greater technical complexity is less deliverable. While this can be true, there are also many other factors that affect deliverability of an investment proposal, such as the quality of project planning and design and the capability of the organisation that is planning and delivering the project.

Deliverability should therefore be assessed in a holistic way, considering what an investment proposal requires for successful delivery, the ability of project teams and organisations to meet those requirements, the factors which can undermine a proposal, and how those factors are managed.

For example, a unique and complex investment that is delivered by a highly experienced team with sufficient time to undertake extensive planning activities may be considered more deliverable than a standard investment that is delivered by an inexperienced team with insufficient time to undertake planning activities.

This guide provides an outline of the key elements of deliverability that we look at in our assessment process and how they can be demonstrated in a proposal. Deliverability is assessed by considering the following three elements:

1. **Project scoping:** Has the proposal been developed sufficiently to adequately understand the proposal’s needs?
2. **Commercial case:** Is the investment viable and achievable in the delivery market?
3. **Project controls and project management:** Is the investment supported appropriately to deliver scope and realise the intended benefits?

These elements are assessed holistically rather than separately. This is because how each component is demonstrated influences the expectations of what is required to be demonstrated in the others. For instance, a highly technical and bespoke project scope may require more substantive project controls.

In this way, deliverability can be considered analogous to risk. Where risk is a function of likelihood, consequence, and controls; deliverability is a function of scoping, the commercial case, and controls.

The subsequent sections provide further detail on each of these components and how they can be demonstrated in proposals.

3. What makes a strong proposal

There are three broad considerations for assessing the deliverability of a proposal in the planning stages.

3.1 The project is appropriately scoped

Proposals should have detailed the scope to an appropriate level for their current stage of planning. Proposals at later stages of development should be scoped in more detail, reflecting the fact that more work has been done on them and that they are closer towards a decision about whether to fund and deliver them.

The core components of appropriately scoping proposals at all stages are:

1. Identifying how the investment proposal will deliver the desired strategic objectives, including considering factors and dependencies which may influence benefits realisation. For instance, this may include considering whether any investments or activities are required to occur before, during, or after the proposed investment to realise the full benefits.
2. Ensuring the level of scope development undertaken is suitable to identify any fatal flaws or substantial risks which may affect feasibility and decision-making. The New Zealand Construction Industry Council Guidelines may offer useful support for determining which activities are appropriate for various stages of project development.[1] They should be considered within the context of a specific project by experienced practitioners. When comparing alternative options for a project, it important they are progressed to comparable levels of development. Any differences in scope maturity should be recognised as uncertainty during decision-making.
3. Quality cost estimates should not be systematically biased, for example, due to optimism bias about how cheaply a project can be built and recognise the risks and inherent uncertainties associated with a proposal. This can be achieved in a range of ways, for instance by using two different approaches to cost estimation and also considering "best" and "worst" case scenarios for delivery. Cost estimates can be developed "bottom-up" (for example, through Should Cost Modelling which breaks a proposed project down into in its constituent elements, then uses benchmarking data to calculate the cost of each element and add these up to a total "should cost"), or "top-down" (for example, through Reference Class Forecasting which uses actual outcomes from similar previous projects to estimate the range of potential outturn costs for a proposed project).

3.2 The commercial approach is demonstrably viable

A business case should outline a commercial approach that includes a viable procurement approach and a well-structured arrangement between the delivery organisation and its service providers.

Strong proposals will demonstrate that the capacity and capability to deliver these arrangements exists within the delivering organisation (client) and its service providers. This will generally require considering the following points:

1. Understanding what a given commercial approach requires, i.e. what skills, capabilities, or other resources are required to successfully deliver under that approach.
2. Evaluating the client's ability to meet the requirements of a given commercial approach.

[1] https://nzcic.co.nz/resources/nzcic-guidelines/

3. Analysing the supplier market to demonstrate whether it is likely to be able to deliver what is required under a given commercial approach.

By engaging early and regularly with your supplier market, you can demonstrate the presence of experience, availability of resources, and desire to fulfil the required services.

Further information on analysing your supplier market can be found through New Zealand Government Procurement.[2]

Further information on market engagement can be found through the Commission's market engagement guidance.[3]

3.3 Project controls and project management are robust

In a business case, the management case should demonstrate that the intended outcomes and benefits can successfully be delivered within the anticipated timescales and spend. This requires providing evidence that the project is being managed in accordance with best practice, subjected to independent assurance and that it has the necessary arrangements in place for change and contract management, benefits realisation and risk management.

A strong management case will identify the requirements for successful delivery, undertake a realistic self-assessment of an agency's capability and track record in delivery, and put in place appropriate project controls based on the requirements and self-assessment. It will also consider the interrelationship between project scope, commercial approach, and project controls.

The core components for robust project controls and project management at all stages are:

- Governance structures which are appropriate for the investment and for the organisation delivering the investment.[4] Demonstrating robust governance will necessitate that:
    a. Governance structures have appropriate representation. This should include representation from operations, where an investment has an operational component or where it would influence or be affected by operations, or representation from other entities, where an investment proposal may substantially impact their service delivery.
    b. Appropriately skilled people have been committed to each governance role. These people should have sufficient availability to fulfil their designated role and should not hold other conflicting roles.
- Risk management which takes a proactive approach to managing causes, consequences, and controls which are appropriate for the stage of the investment and are responsive to the scope and commercial approach.

Ideally, proposals should be developed by agencies that have the capability to deliver them. However, in some circumstances it may be appropriate for a project to initially be developed by an agency without the capability to ultimately deliver it, prior to transferring it to another entity with capability at a later stage in project development. A skills and capability gap analysis can assist in determining whether an agency possesses sufficient capability to deliver the proposal.

[2] https://www.procurement.govt.nz/procurement/guide-to-procurement/plan-your-procurement/analysing-the-market/
[3] https://tewaihanga.govt.nz/our-work/project-support/guidance/market-engagement
[4] https://tewaihanga.govt.nz/our-work/project-support/guidance/project-governance

3.4 Stage 1

A Stage 1 proposal identifies a problem or opportunity that may require an infrastructure solution.

At Stage 1, Deliverability assessments will be focused on evaluating whether the submitter sufficiently understands their investment intention, i.e. the desired outcome they are seeking to achieve from the proposal, what is required to progress the project efficiently, and what is required to manage it successfully through delivery.

Scoping	In Stage 1 there should be no development of solutions. Therefore, strong scoping will – in conjunction with the problem statement – explore the "limits" of the investment by defining the outcomes sought along with the expected "area of benefit" or beneficiaries. This forms the guiding foundation for determining when activities should be considered out-of-scope in subsequent stages.
Commercial Approach	No commercial approach required for Stage 1.
Management Case	In Stage 1, the focus should be on the skills and capabilities required to plan and deliver the proposed project and the risks associated with scheme planning and development. A strong management case ensures that an appropriate governance structure is established for the investment. It is comprised of suitably experienced members and represents parties who have a role in the problem definition or outcomes sought, for example: • the ultimate asset owner • the operator/service delivery provider • other agencies involved in resolving the problem or delivering the intended outcomes. As the strategic assessment does not deal with specific investment proposals, risk management must remain at a high level. It should focus on identifying the sources of risk the investment is likely to face as it develops.

3.5 Stage 2

A Stage 2 proposal identifies and assesses a set of options for addressing the problem or opportunity.

At Stage 2, the Deliverability assessment should check that the project planning approach and scope of the options under consideration will achieve the desired outcomes. It should focus on identifying the resources required for delivery, testing and validating the feasibility of delivery options, and ensuring appropriate capability with sufficient oversight and management structures in place. Sources of risk should be identified and monitored, with appropriate risk management in place.

Scoping	At this stage, project scoping should be aimed at minimising systematic biases in cost and deliverability estimation (such as optimism bias or the familiarity principle). This is important to enable options to be appropriately developed and compared in an "apples to apples" way. Strong scoping develops all options to a suitable level of maturity while ensuring equivalence between options in terms of: • **Design and operational feasibility:** Option should not omit critical requirements for design, construction or operation to deliver the desired benefits. • **Quality of cost estimation:** All options should ideally be costed by a similar form of cost estimation, supported with validation, and risk-adjusted. • **Risk analysis:** A novel option may carry with it substantial unknowns due to lack of experience – and hence present as a "riskier" option. While risk profiles don't have to be normalised during optioneering, suitable allowances (for example, increased cost) should be made to recognise riskier/less risky options to allow fair comparison. Finally, dependencies that are outside of the scope and influence of the project should be identified at the earliest opportunities. For instance, if a project is relying upon another organisation to release a site that is currently in use for another purpose, then this dependency should be identified.
Commercial Approach	At this stage, the proponent should demonstrate there are options to procure and deliver the proposed project that are feasible to deliver through the local or international supplier market. Feasibility of these options should be supported by a preliminary analysis of the available supplier markets and the scale of the proposed investment relative to the size of the market. Where the international market is identified as relevant, it is desirable to outline a preliminary approach for how this market would be engaged. Where a small number of commercial approaches exist for an option, this shall be recognised as a deliverability risk that will need to be managed.
Management Case	At this stage, the proponent should check the suitability of governance structures, risk management, and delivery capability. Risks should be identified as options are developed, with management options explored. Similar to Stage 1, focus should be on the skills and capabilities required and risks associated with scheme planning and development.

3.6 Stage 3

A Stage 3 proposal identifies a preferred option for addressing the problem or opportunity.

The "preferred option" identified at this stage should encompass the preferred solution (as determined through options assessment) coupled with the preferred commercial approach as determined through preparing for Stage 3.

At Stage 3, the deliverability assessment should check that:

- The scope of the preferred solution will fully encompass the works required to deliver the intended outcomes and benefits, including identification and quantification of interdependencies (if applicable).
- The preferred option has been robustly tested and iterated upon to ensure the supplier market is ready, willing, and capable of receiving the investment through the proposed delivery model.
- Risk management will be substantially advanced. Specific sources of risk should be identified, and appropriate risk mitigation and management should be identified or implemented.

Scoping	At Stage 3, what is considered appropriate scoping will primarily be a function of the proposed commercial approach. Depending on the commercial approach proposed, scoping could range from a fully specified detailed design (for example, per NZCIC's Design Guidelines[5]), through to simply preparing a set of Principal's Requirements. Strong scoping therefore will reflect the requirements of the proposed commercial approach and take account of the management case. By way of example, if there are risks which cannot be adequately addressed through the proposed commercial approach or management case, scoping should be furthered to a point of eliminating or appropriately minimising the risk.
Commercial Approach	In Stage 3, the preferred solution will be accompanied by a robust commercial approach. To establish a robust commercial approach, a proposal should have evaluated a number of commercial approaches against the following considerations: • benefits, drawbacks, limitations, and requirements specifically related to the preferred solution • allocation of key risks between the client and suppliers • market assessment of: – capability – track record/experience – capacity – supplier appetite/willingness • a realistic self-assessment of organisational readiness (experience, capability, capacity). An evaluation process should be undertaken and documented to determine a preferred commercial approach. To achieve a robust commercial approach, the preferred commercial approach should then be iterated and refined in conjunction with the management case and project scope.
Management Case	In Stage 3, a strong management case should be developed through an iterative process which addresses the specific governance, delivery requirements, and risks associated with the scope and commercial approach of the preferred option. The management case should assess: • the management requirements of the preferred option (including governance, delivery skills and capabilities, risks, etc.) • the client organisation's track record and likely ability to meet these requirements • how any difference between requirements and capability will be managed. The focus at this point should be on the skills and capabilities required and the risks associated with delivery of the preferred option.

[5] https://nzcic.co.nz/resources/nzcic-guidelines/

Appendix A Resources

Project Scoping

New Zealand Construction Industry Council. *NZCIC Guidelines.* https://nzcic.co.nz/resources/nzcic-guidelines/

Te Whatu Ora (2023). *Cost Estimating Guide.* https://www.tewhatuora.govt.nz/assets/Our-health-system/Infrastructure-and-investment/Information-for-Industry/IIG-CostGuideline-FINAL.pdf

Flyvbjerg, Bent. (2008). *Curbing Optimism Bias and Strategic Misrepresentation in Planning: Reference Class Forecasting in Practice*. European Planning Studies. 16. 3-21. 10.1080/09654310701747936. https://www.researchgate.net/publication/233258056_Curbing_Optimism_Bias_and_Strategic_Misrepresentation_in_Planning_Reference_Class_Forecasting_in_Practice

Reference Class Forecasting

Reference class forecasting is a form of project cost estimating. At its simplest, a project's forecasted costs are based on what has occurred on similar previous projects. It is often referred to as a top-down approach to cost estimation.

Reference class forecasting involves creating a reference class of past, similar projects and using their actual costs and characteristics to forecast the cost of your current project. The approach develops a total estimate which is based on the actual performance of similar past projects. The process involves three key steps:

- identify a reference class of past, similar projects
- establish a probability distribution for the selected reference class for the parameter being forecast
- compare the specific project with the reference class distribution, to establish the most likely outcome for the specific project.

United Kingdom Cabinet Office. *Should Cost Modelling: Tools and Templates.* https://www.gov.uk/government/publications/should-cost-modelling-tools-and-templates

Should Cost Modelling

Should-Cost models are a bottom-up approach to cost estimation.

They break a proposed project down into in its constituent elements, then use benchmarking data to calculate the cost of each element and add these up to a total "should cost".

These models incorporate the whole-life costs and risks associated with different options and scenarios, which can enhance understanding of the impact of risk and uncertainty on both cost and schedule.

The approach can help inform the appropriate commercial strategy, including methods to incentivise the supply chain to focus on whole-life cost.

Commercial Approach

New Zealand Government Procurement. *Construction Procurement Guidelines*. https://www.procurement.govt.nz/procurement/specialised-procurement/construction-procurement/construction-procurement-guidelines/

New Zealand Infrastructure Commission (2019). *Market Engagement Guidance*. https://tewaihanga.govt.nz/our-work/project-support/guidance/market-engagement

New Zealand Government Procurement. *Analysing the market.* https://www.procurement.govt.nz/procurement/guide-to-procurement/plan-your-procurement/analysing-the-market/

Project Controls

New Zealand Infrastructure Commission (2019). *Major Infrastructure Project Governance Guidance*. https://tewaihanga.govt.nz/our-work/project-support/guidance/project-governance