Matching Capability to Complexity

Construction Procurement Guidelines

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Construction Procurement Guidelines

The purpose of the Construction Procurement Guidelines is to provide government agencies with guidance on the government's standards of good practice for the development of their construction procurement strategy. The Guidelines are intended to support government agencies to improve the quality and consistency of their construction procurement practices.

The Guidelines consist of a suite of sections, each covering a subject matter area. They are considered to be live documents which we may update and add to, from time to time, to ensure they remain current and relevant. You can download the latest version of each section, along with any accompanying tools and templates, from www.procurement.govt.nz.

To provide feedback on the Guidelines, email procurement@mbie.govt.nz.

Major infrastructure project guidance

Major infrastructure projects by their very nature are large scale and complex – they have bespoke issues, risks and challenges that may require more sophisticated project planning, management, procurement and governance approaches. The New Zealand Infrastructure Commission - Te Waihanga, publishes major infrastructure guidance for projects with a total cost of ownership of greater than $50m.

For more information about major infrastructure project guidance and the support provided by the Infrastructure Commission, see www.infracom.govt.nz or contact the Infrastructure Commission at info@infracom.govt.nz.

Disclaimer

New Zealand Government

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Matching Capability to Complexity

Overview

The development and execution of a successful project requires the capability of the key project stakeholders and resources to be matched to the complexity of the project environment. Understanding this dynamic early on gives your project a greater chance of success.

This focus area provides a structured process for your agency's construction projects, covering what you need to do to align delivery capability with project complexity.

> **!** Agencies must assess their delivery capability against the complexity of the project, and document their approach to closing any capability gaps.

The process helps to ensure you ask the right questions at the right time by taking you through a structured approach to identify areas that are well aligned and those that need to be addressed.

This guide is not a substitute for professional advice. It helps inform you about some key issues to address when you develop a procurement strategy for a construction project.

> **Aa**
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> **Definition**
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> **Capability** is the ability of an agency and the market to organise appropriately for the effective, efficient delivery of a project. Most barriers to effective practice are systemic, so this term refers to the agency involved, not the individuals who make it up.

Primary source of content

This section of the guidelines has been adapted from the United Kingdom government's handbook on Improving Infrastructure Delivery: Project Initiation Routemap. Content from the handbook is third party copyright material and has been reproduced and adapted under the terms of the United Kingdom's Open Government Licence v3.0. Refer to the licence for more information on its terms of reuse.

For more information, see Infrastructure Procurement Routemap: A Guide to Improving Delivery Capability.

Context

This focus area assumes that you have developed a business case that indicates either new construction work, or construction work involving refurbishment of an existing asset, is needed.

This guideline is intended for those who may be less familiar with the construction sector and are working on delivering a major construction project. It provides a set of practical tools you can use to assess a project's complexity, and to identify and address any gaps in your agency's (or the market's) capability to deliver. These tools should be used as early as possible while planning a project, to ensure that any decisions you make around buying services to address gaps are an integral part of developing your procurement strategy.

For more information, see Developing your Construction Procurement Strategy

Know when to ask for help

It is not uncommon for agencies to be tasked with undertaking projects which are larger, more complex, or of a different nature than what they are used to.

Often, an individual agency may be tasked with undertaking a project as part of a broader government system responsible for multiple projects of varying types, scales and complexities. Within this system a wealth of knowledge exists.

It is important for agencies to be open to helping each other, and to asking for help when it is needed. Numerous sources of support exist and include New Zealand Government Procurement (NZGP), the Infrastructure Transactions Unit and advisors/consultants.

If you require further information and advice on construction procurement, contact NZGP: procurement@mbie.govt.nz

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Benefits of assessing complexity and capability

Undertaking a complexity and capability assessment helps to:

› link the project and the client's key strategic priorities, including agreed measures of success

› facilitate effective engagement with key stakeholders

› apply the right skills and a proven approach to project and risk management

› break development and implementation into manageable steps

› evaluate proposals on long-term value for money (and delivery of benefits), rather than by initial price

› ensure there is a sufficiently-high level of understanding between the client and the supply industry

› form an integrated and effective project team between the client, the supplier team and the supply chain.

Matching capability to complexity

There are three steps to assessing complexity and capability:
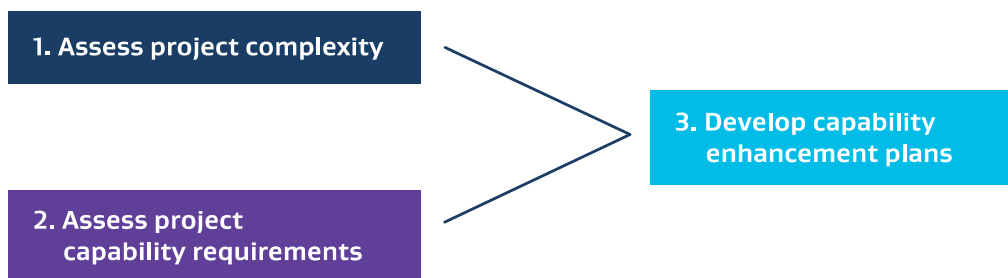
The first two steps can be done in parallel. These steps may also be repeated as the project progresses, circumstances change, or more information becomes known.

Roles and responsibilities of key stakeholders

Successful project delivery requires that you look at the project from several key stakeholder perspectives:

SPONSOR	CLIENT	ASSET MANAGER
Owns the investment and overall business change, and is responsible for securing funding and securing the desired outcomes.	Responsible for translating the requirements of the sponsor, and delivering the project.	Responsible for operating and maintaining the asset.

Each of these roles represents an organisational, system-wide responsibility. They are intended to be broader than a specific individual from within the agency. The following table details the responsibilities of each of the key stakeholders.

Role	Responsibility
Sponsor	• owns the business case • specifies requirements to the client, and in most cases secures funding • ensures the strategic alignment of the project and achievement of optimum whole-of-life value • owner of the investment and overall business change • approves the procurement strategy
Client	• fulfils requirements and delivers benefits • translates requirements from the sponsor and is accountable for delivering outcomes • selects the most appropriate supplier(s) to meet project objectives • manages relationships with suppliers in order to maximise delivered value
Asset Manager	• manages day-to-day operations and maintenance of the asset *Note: Depending on delivery model, the asset's manager/operator/maintainer may be part of the agency or a separate entity.*

Assess project complexity

Purpose

This step is to identify potential risks, consequences and opportunities in a procurement project through internal and external assessments.

Lack of understanding of the context in which a project is being created and delivered is a significant reason for project failure. Understanding the wider project environment is especially important where your project is more complex, on a larger scale than normal, or is being delivered in a way that is new or unique.

Assessment activities

The Delivery Environment Complexity Analytic (DECA) assessment consolidates existing knowledge about twelve key factors that affect project success or failure:

Strategic importance	Financial impact and value for money	Dependencies
Stakeholders/influencers	Execution complexity (including technology)	Extent of change
Requirements and benefit articulation	Interfaces/relationships	Organisational capability – performance to date
Stability of overall context	Range of disciplines and skills	Interconnectedness

The following activities should be undertaken to assess project complexity:

1. **Scan the environment** for good practice methodologies and case studies. Identify key learnings.

2. **Identify and map organisational challenges and opportunities** to understand the size and shape of the project challenge.

3. **Use the Delivery Environment Complexity Analytic (DECA) tool** to rate the project environment against the twelve influencing factors.

> ☆ **Assessing complexity**
>
> There are many ways to assess complexity. This can be done individually, as a team, or using workshops and interviews with stakeholders. It is important to get a range of opinions and validate and moderate results.

4.   **Conduct market engagement** to identify interest and capacity. See [Market Engagement](#) focus area.

5.   Use all the information you have collected to **make an overall assessment of project complexity** (high, medium, low).

⭐ **Complexity – high, medium or low?**

A judgment needs to be made as to whether overall complexity is high, medium or low as different factors will carry more weight in some projects than others.

For example, if you have assessed the twelve influencing factors and have five highs, three mediums and four lows, this may look like a fairly even spread. However, averaging these out to give an overall medium complexity would give too little weight to the high factors when analysing the complexity–capability gap later.

Delivery Environment Complexity Analytic tool

The Delivery Environment Complexity Analytic[1] tool is used to assess the complexity of your project by rating it against the twelve influencing factors.

As well as informing the complexity-capability gap analysis, completion of the DECA generates a profile that can be used by the sponsor and client to check risk and readiness at various points in the procurement lifecycle. It also helps improve your team's understanding of what they will need to deal with during the project. The results of this assessment, combined with capability assessments, feed into the development of a robust project delivery and enhancement plan.

[Delivery Environment Complexity Analytic (DECA)](#)

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[1] The DECA (October 2013) has been developed by the United Kingdom's National Audit Office as part of the Infrastructure Delivery: Project Initiation Routemap.

Assess project capability requirements

Purpose

The purpose of this step is to assess the capability of the sponsor, asset manager, client and market to identify the following:

For the…	Identify…
Sponsor	if capability exists to keep the project viable and aligned to the strategic objectives of the organisation.
Asset manager	key operational constraints and/or requirements that will need to be addressed in the project.
Client	if capability exists to navigate the range of potential delivery models and deliver the complexity of the project.
Market	if capability and appetite exist to deliver the project. If capability is lacking, identify what market development may be required.

Aa

What does capability mean?

The ability of organisations and the market to organise appropriately for the effective and efficient delivery of a project. Most barriers to effective practice are rooted in systemic issues, not individuals, hence this term refers to the organisation involved, and not the individuals.

Assessment activities

The following activities should be undertaken to assess project capability:

1. **Identify who** should complete the assessments and how they should be completed.

Assessing capability

There are many ways to assess capability. This can be done individually, as a team, or using workshops and interviews. It is important to get a range of opinions, and validate and moderate results.

2. **Communicate the project scope and the results of the complexity assessment (DECA)** to the people taking part in the capability assessments.

3. **Request the following tools be used** to make an informed capability assessment:

    - Sponsor capability assessment tool
    - Asset manager capability assessment tool
    - Client capability assessment tool
    - Market capability assessment tool

    Each of the assessments provides levels of observable characteristics that represent the organisational and market capability as it applies to the project (assessed as red, green or blue).

    When undertaking an assessment, consider both the characteristics that are currently observable and those that are needed. This should be based on current understanding of what will be required for a successful project. The differences between current and needed characteristics inform thinking about how to narrow the gaps in capability. The assessment characteristics have been shaped by recognised good practice and are drawn from practical experience of assessment of project failure.

Levels of characteristics

These three levels of characteristics (red, green and blue) shouldn't be seen as a progressive scale. An organisation can demonstrate a mix of all three at any time.

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4. **Use the Capability Assessment Quick Reference** table (which you can find after point 7 below) to reflect upon each role capability assessment and the implications on your project. Consider alignment of the roles. Capability misalignment within or between organisations can be a barrier to effective working relationships. Certain combinations may not promote efficient practices.

5. **Reflect on and consider the implications that the overall assessments** may have on your project:

The colour…	Indicates…
Red	a failing system. Any individual red characteristic will hold an organisation back regardless of other good practice(s). It either needs to be addressed or allowances must be made for the consequences.
Green	a system that is performing acceptably. The system may be appropriately governed but not fully optimised.
Blue	an effective and efficient system that has been optimised. Not all projects will require systems that have blue characteristics to succeed.

6.   **Reflect on both the 'current' and 'needed' capabilities for successful delivery**. This should inform your thinking about how to narrow the gaps in capability.

7.   **Organise a workshop** with key stakeholders to discuss and agree on:

   - the sponsor, asset manager, client and market capability assessment (unless already done)
   - a desired set of procurement principles and requirements
   - critical issues and implications highlighted from assessments
   - gaps in capability with subsequent actions to close the gaps
   - an initial review of delivery models.

Capability Assessment

If the assessment result is largely…	This indicates that the…	
Red	**Sponsor…**	• may provide insufficient direction and strategic guidance • may not show ownership of benefits • may be subject to conflicting sponsor/client priorities.
	Asset manager…	• may demonstrate fragmented asset ownership • may be subject to conflicting sponsor/client priorities • may not be able to show linkage to strategic goals.
	Client…	• delivery environment is not stable • has an unrealistic plan or no formal plan, suggesting immature processes and systems.
	Market…	• has insufficient capacity or capability to meet your project's needs or has instabilities that are likely to be detrimental to your project's success.
Green	**Sponsor…**	• provides direction and policy guidance • demonstrates active stakeholder management • informs and works with the client to manage strategic risks.
	Asset manager…	• provides a clear line of sight to strategic goals and policy • demonstrates clear responsibility for assets • takes a strategic approach to risk management.
	Client…	• is organised and coherent • is likely to provide direction and policy guidance • demonstrates repeatable control methodology and evaluation but tends to focus on objectives rather than outcomes • evaluates processes but has not improved them.
	Market…	• has sufficient capacity and capability to support your project's needs, or demonstrates viable plans to enhance any shortfall.
Blue	**Sponsor…**	• invests in strategic planning, assured governance structures and processes • undertakes structured evaluation of requirements and sets demanding but realistic efficiency targets • actively seeks out good practice and incorporates it into policy/strategy.
	Asset manager…	• invests in strategic planning, assured governance structures and processes • undertakes structured evaluation of requirements and sets demanding but realistic efficiency targets • actively seeks out good practice and incorporates it into policy/strategy.
	Client…	• is able to specify requirements to external parties • participates in and manages the delivery of outcomes.
	Market…	• is mature yet innovative, and likely to deliver efficiencies in addition to meeting your project's needs.

Develop capability enhancement plan

Purpose

To facilitate analysis of the gap between complexity and capability, and the development of plans to address it. This is done by mapping results of the complexity and capability assessments to identify where gaps exist, and show where further work is needed to reduce complexity and/or enhance capability. Closing these gaps creates an environment conducive to success at the earliest stages of the project.

Development activities

The following activities should be undertaken to develop capability enhancement plans:

1. **Review the results** of the previous assessments:

   - Delivery Environment Complexity Analytic (DECA)
   - Sponsor capability assessment
   - Asset manager capability assessment
   - Client capability assessment
   - Market capability assessment.

2. **Produce a grid. To start, mark complexity on a horizontal axis**, (the result of the DECA).

3. **On the vertical axis, plot the current level of capability**, from the results of each completed capability assessment:

   - sponsor
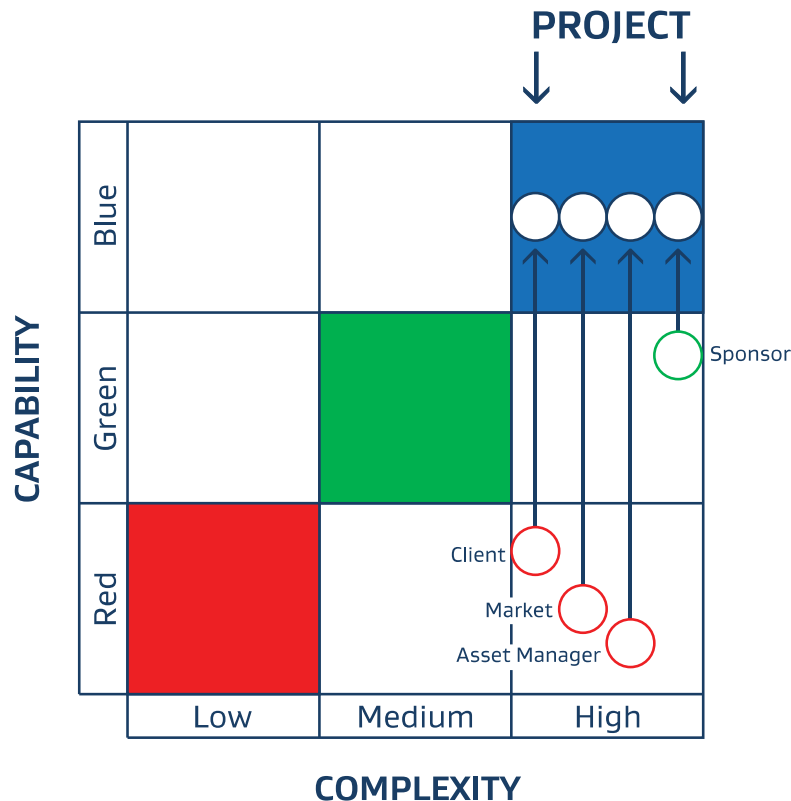   - asset manager
   - client
   - market.

> Plot the lowest value. For example, if the characteristics are mostly green with a few blues and only one red, the capability will be red – unless a 'quick win' can be identified that will immediately lift the capability up to the green zone of the graph.
>
> The minimum capability required must be green, since red signifies a failing system.

4. **On the vertical axis, plot the level of capability** needed for success for each role:

   - sponsor
   - asset manager
   - client
   - market.

Example of project grid, mapping example of steps 2 to 4:

The project in this example has been assessed as having **high** complexity and is plotted on the horizontal axis of the grid. The capability assessments of sponsor, client, market and asset manager need to be blue, to match the capability assessment to the complexity of the project.

However, current capability has been assessed as red for the client, market and asset manager. Red indicates a failing system, so capability must be raised in these areas.

Current capability has been assessed as green for the sponsor, ie being capable of delivering a project of medium complexity. The question is now how to reduce the gap between capability and complexity. It may be easier to close the gap by bringing the complexity of the project down one step from high to medium, since capability must be lifted as a minimum by one step to green. Lifting capability up by two steps to blue may be too big a jump. The initial assessments from the DECA tool and capability tools can be revisited to determine how steps could be taken to change the assessments accordingly.

5. **Organise a workshop** with key stakeholders to discuss and agree on all assessments.

6. **Take a holistic review of the project complexity and capability assessments**. Outputs from the gap analysis may show a variety of findings.

> ### Gap analysis
>
> There are many ways to undertake a gap analysis. These can be done independently, but we recommend this analysis is done as part of a workshop to ensure implications are discussed and challenged. Depending on the complexity of the project, it may be beneficial to obtain a peer assessment (sponsor assessing client and vice versa) or an independent external assessment of both complexity and capability.

7. **Review the project capability results**. Specifically consider how to address the assessment characteristics highlighted as red.

8. **For each of the roles go back and assess results** from each capability assessment. Discuss and challenge the assessment implications. Specifically consider how to address the assessment characteristics highlighted in red in order to close the capability gap.

9. **Identify issues/opportunities** relating to the gaps that require an enhancement plan. Some enhancements will be quick wins that will have little impact on other aspects of the planned project approach. However, other enhancements may be more far-reaching and require further analysis. Typically, these will relate to reducing the complexity, enhancing capability or identifying a different approach.

10. **Consider the possibilities for enhancements** – this may include one or more of the following:

    - Re-scope the project to meet current capability
    - Outsource services to enhance current capability
    - Invest in developing capability – training, improving systems and processes
    - Look to collaborate with other agencies that have experience in delivering similar projects. NZGP may be able to help you identify these.