



Infrastructure  
and Projects  
Authority

# Project Routemap

Setting up projects for success

Handbook

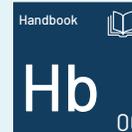


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## Cover image

By 2030, offshore wind capacity is set to quadruple and the Walney Windfarm will eventually power 1,000,000 homes with renewable electricity. As well as environmental benefits, investment in the Port of Barrow, where the windfarm infrastructure will be operated and maintained, has created 12,000 jobs, funded education and training, and helped people find work in engineering industries.

**Acknowledgements**  
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# Preface

**Project Routemap is the Infrastructure and Projects Authority's (IPA) support tool for novel or complex major projects. It helps sponsors and clients understand the capabilities needed to set up their project for success, incorporating learning from other major projects and programmes.**

**The IPA is the centre of expertise for infrastructure and major projects, sitting at the heart of government and reporting to the Cabinet Office and HM Treasury in the UK.**

Over the coming years there will be more investment in infrastructure and major projects than ever before, backed by both public and private sectors. This investment will be a catalyst to building back better and stronger. Infrastructure and major projects will play a critical role in fuelling economic growth and improving the lives of people right across the country.

With greater investment comes greater responsibility and we must ensure we have a strong delivery record that demonstrates real value. This means setting projects up for success from the very start, so that they come in on time and budget, and deliver on their promises - to the benefit of the citizens of the UK.

Although setting up projects for success can take more time at the start, this will be repaid many times over in the delivery phase. Projects that focus enough attention on the early stages are much more likely to achieve their intended outcomes later on and display world-class delivery standards.

That's why the IPA developed the Project Routemap ("Routemap") - a support tool that provides practical advice based on learning from other major projects and programmes.

There is no doubt that complex projects can test the limits of organisational capability, but if applied in the most crucial early stages of project development, Routemap will ensure that best practice and learning about the most common causes of project failure and principles for project success are incorporated. This will result in benefits ranging from selection of the most appropriate delivery model, to clearer governance arrangements, proper risk allocation and accelerated decision-making.

Routemap has been used by many of the UK's biggest, most complex and high-profile projects since its first publication in 2014 and more recently it has also been applied to projects internationally. However, the project delivery system and the way projects are delivered have evolved. That is why the UK Routemap handbook and accompanying modules have been updated to incorporate new and emerging best practice in project delivery and to align with standards, including the Government Functional Standard for Project Delivery and the UN Sustainable Development Goals.

Building on its success with economic infrastructure, Routemap has also been expanded to cover social and defence-related infrastructure projects and includes guidance for application to other types of projects.

Applying Routemap to more of our projects will be another step towards realising our ambition of world-class delivery standards. Whatever the project, applying Routemap will give confidence to the people delivering them, those approving them, and those investing in them.

The IPA would like to thank all those organisations and individuals who have contributed to the development, of both the original, and the updated UK Routemap handbook and accompanying modules.

## Nick Smallwood

Chief Executive Officer of the Infrastructure and Projects Authority and Head of Government's Project Delivery Function



# How to use this handbook

The handbook is divided into two main sections, with a number of supporting appendices:

## Section 1 - Introducing Routemap

This section explains what Project Routemap (Routemap) is, when to use it, the key benefits it offers, and who will find it useful. It also explains the different ways you can apply Routemap, whether as a structured exercise or simply as a rich source of good practice that you can refer to at any time.

This section tells you everything you need to know if you're thinking about using Routemap to support project set up.

## Section 2 - Applying Routemap using the 10-Step process

This section sets out a step by step process to follow if you want to apply Routemap to your project though a structured exercise.

This section is useful for those individuals responsible for Routemap planning and facilitation.

## Appendices

The appendices contain useful templates and additional supporting guidance:

- Routemap assessments: **Appendices A and B** contain the complexity and capability assessments. These are useful for facilitators and participants in the 10-Step process.
- **Appendix C** sets out the relationships between organisations delivering some well-known UK projects.
- Routemap templates: **Appendix D** has a blank Routemap report template, which you will complete iteratively throughout the course of a structured application of Routemap. **Appendix E** has an implementation plan template to help you track your progress, and **Appendix F** has an action planning template. These will help you document the outputs of the 10-Step process.
- Sample interview questions in **Appendix G** are useful to explore potential gaps in capability. These prompts will help you complete **Steps 5 and 6** of the 10-Step process.
- **Appendix H** contains an interactive map showing how the Routemap modules interface with each other.
- **Appendix I** contains guidance on how Routemap supports business case development.

## Routemap modules

Eight Routemap modules have been developed which accompany this handbook. They will help you to build project capability by exploring best practice and learning from common causes of project success and failure over the past decade.



### Requirements

Delivering strategic project outcomes and realising the benefits.



### Governance

Establishing clear accountability and empowering effective decision-making.



### Systems Integration

Making multiple systems work as one.



### Organisational Design & Development

Organising the project team to deliver successfully.



### Procurement

Understanding how the project will buy goods and services.



### Risk Management

Managing uncertainties and opportunities.



### Asset Management

Balancing costs and risks to maximise whole life benefits.



### Delivery Planning

Readying the project for transition into delivery.

## Other Routemap resources

Other helpful resources available on [gov.uk](https://www.gov.uk) include:

- **A two page factsheet** A quick way to find out about Routemap.
- **A video animation** of the 10-Step process, described in Section 2 of this handbook (3mins).
- **A short film** of Routemap practitioners explaining the benefits that Routemap can bring to your project (4mins).

In this handbook, we use the term project to encompass projects and programmes. Much of the good practice and lessons learned contained in the Routemap modules is also applicable to portfolios.

Steps

# Section 1 – Introducing Routemap

*Project Routemap is the IPA's support tool for novel or complex major projects. It helps sponsors and clients understand the capabilities needed to set up their project for success. Routemap captures best practice and learning about project failures and successes from over £300bn of government investment in major projects and programmes.*

For most organisations, developing viable projects that benefit the economy, societies and the environment is a major undertaking. But whilst successful project development can take more time at the start, this will be repaid many times over later on in delivery.

Routemap is a structured and tested methodology used to set up projects for success. It ensures that best practice and learning about the most common causes of project failure are considered at crucial early stages of development. It provides a collaborative way for stakeholders to work together, towards practical solutions to enhance key project capability.

Applying Routemap, with appropriate support and commitment from across the project team (and perhaps with some external support) will give you an in-depth understanding of the current state of your project's development. This will help you to set up your project for success by building capability across the sponsor, client, asset manager and market organisations.

Routemap was developed by UK government in collaboration with industry and academia. The best practice and learning contained in Routemap reflects the collective experience of public and privately funded projects from the infrastructure and defence sectors. However, this handbook and most of the principles in the modules apply to all projects, including digital and transformation projects. Routemap has also been adapted for use internationally, as the Project Development Routemap.

Routemap is a powerful tool for aligning with other government publications and products, from strategies and guidance, through to standards and other tools and techniques. It brings these together in an easy way for projects to engage with (see **Table 1** and **Figure 1**).

Table 1 - Examples of how Routemap brings together the essentials of other UK government publications

Government publication	Examples of practical support provided by Routemap
<p><b>Government functional standards</b></p> 	<ul style="list-style-type: none"> <li>All of the Routemap modules can help you to implement the project delivery standard.</li> <li>The Procurement module can help you to implement the commercial standard.</li> <li>The Asset Management module can help you to implement the property standard.</li> </ul>
<p><b>Principles for project success</b></p> 	<p>The principles are baked into all the Routemap modules, for example:</p> <ul style="list-style-type: none"> <li>The Requirement and Procurement modules support principle 1 - focus on outcomes.</li> <li>The Organisational Design &amp; Development module supports principle 3 – prioritise people and behaviour.</li> <li>The Systems Integration and Risk Management modules support principle 6 - manage complexity and risk.</li> </ul>
<p><b>Transforming Infrastructure Performance: Roadmap to 2030 (TIP)</b></p> 	<p>Routemap helps project teams put TIP into practice, for example:</p> <ul style="list-style-type: none"> <li>the Requirements and Procurement modules support the drive for improved outcomes.</li> <li>the Organisational Design &amp; Development module provides more information on longer term collaborative delivery models.</li> <li>the Procurement module supports value based procurement.</li> <li>the Asset Management module encourages a 'whole life value' perspective.</li> <li>the Systems Integration module supports a systems-based approach to designing, constructing and operating a built environment that is more resilient, adaptive and sustainable.</li> </ul>
<p><b>The Construction and Consultancy Playbooks</b></p> 	<ul style="list-style-type: none"> <li>The Requirements module offers good practice on an outcomes-based approach to developing specifications.</li> <li>The Organisational Design &amp; Development module helps you to decide on the best delivery model.</li> <li>The Procurement module provides further advice on risk allocation and helps with the design of an effective tender process.</li> <li>The Asset Management module supports the development of long term plans for key asset types to drive greater value for money.</li> </ul>

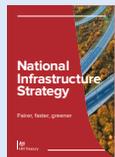
# Section 1 – Introducing Routemap

Figure 1 - How Routemap fits with other related government publications and products (this graphic contains links)

## Strategies



**Transforming Infrastructure Performance: Roadmap to 2030** sets out a vision and strategy for transforming how government and industry intervene in the built environment to drive a step change in infrastructure performance. Routemap is a powerful tool to help people put this into action in their project.



The **National Infrastructure Strategy** is the government's response to the **National Infrastructure Assessment**. The strategy requires projects to invest more time on upfront planning. It mandates that all major government infrastructure projects that are complex or novel should apply the Routemap methodology.



**Net Zero Strategy** sets out the UK Government's ambition to end our contribution to climate change by reducing our emissions to net zero. Sustainability is a cross-cutting theme throughout all Routemap modules.



The **Green Book** outlines how to appraise policies, programmes and projects. It supports the Five Case model, the government's recommended framework for developing business cases.

The **Guides to Developing the Project and Programme Business Case** provide practical "step by step" guidance, using the Five Case model in a scalable and proportionate way. Routemap supports the business case development process and **Appendix I** lists those modules most useful to developing each of the five cases.



The Risk management module is fully aligned with the **Orange Book** which provides an introduction to the concepts of risk management, and the development and implementation of risk management processes.

## Guidance and codes of practice



The **Construction Playbook** provides guidance on sourcing and contracting public works projects and programmes.

The **Consultancy Playbook** provides guidance on how to commission and engage with consultants more effectively. The Routemap modules help you to apply this guidance in practice.



The **Principles for project success** are baked into all of the Routemap modules.

Routemap is a powerful tool aligned with other government publications and products, bringing together the essentials for projects and programmes to use.

**Opportunity framing** is a facilitated discussion that helps you to align stakeholders and consider the different ways to progress an opportunity and create a high-level plan to deliver, with a focus on the key decisions and milestones needed. Routemap can then help you make sure you have the right capabilities in place to deliver on that high-level plan.

## Standards and frameworks



GovS 002: Project Delivery



GovS 004: Property



GovS 008: Commercial

Routemap provides useful guidance and best practice to help projects implement the **Government Functional Standards**, in particular the **Project Delivery, Property and Commercial Standards**. Routemap also helps projects meet the requirements of the **Government Project Delivery Framework**.



The **Project outcome profile** helps projects to explore how they will support delivery of government's priority outcomes and use metrics to document their contribution. Maintaining clear alignment between your project and broader national and strategic priorities is central to the Requirements module.



The **Cost estimating guidance** describes a process for producing evidence-based, assured and transparent cost estimates, an essential part of your project baseline. More information on developing a robust project baseline can be found in the Delivery Planning module.

## Tools and techniques

Steps

# Section 1 – Introducing Routemap

## What is Routemap?

Routemap is the IPA's support tool that helps you build the capability needed to deliver your project.

In the context of Routemap, capability describes the ability of the sponsor, client, asset manager and market to deliver a specific project efficiently and effectively. It refers to the capability of all or part of an organisation (including its people, processes and technology) and not that of the individual.

Routemap shares good practice and lessons from other major projects. These are captured in the Routemap modules which, as standalone documents, are useful reference guides that you can refer to whenever you like.

Alternatively you can follow Routemap's tried and tested 10-Step process. This will help you to better understand the complexity of your project's delivery environment and to diagnose any gaps in project capability. The process also provides you with a structured way of taking on board the good practice and lessons from the modules. You'll work together with key stakeholders to develop practical solutions to build the capability needed to succeed.

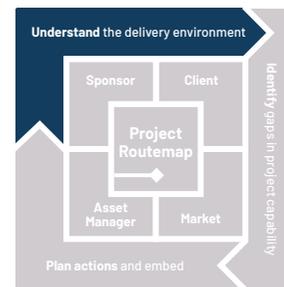
Identifying capability gaps can be uncomfortable. However, the Routemap process is collaborative, constructive and designed to support project teams to build consensus. Users find the way it identifies delivery challenges and helps overcome them invaluable. The process is summarised in **Figure 2** and described in full in section 2 of this handbook.

## What is it not?

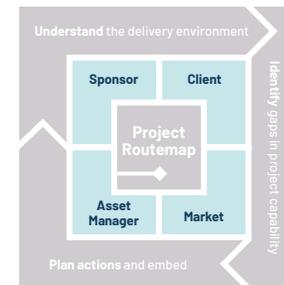
Routemap does not:

- lead to a single solution nor provide a pass/fail rating. Instead, it recognises that there are common characteristics associated with successful and unsuccessful project delivery
- substitute for good project management skills and techniques (for example, as set out in the UK government functional standard). It is a capability development tool
- measure individual or overall organisational capability on a stand-alone basis. It looks at the required capability for a specific project which may come from a number of different organisations
- replace or duplicate existing assurance or review processes. You may wish to seek independent support but the Routemap process must be owned by the project team

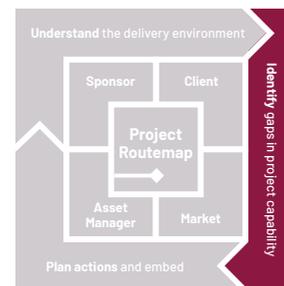
Figure 2 - Summary of the Routemap process



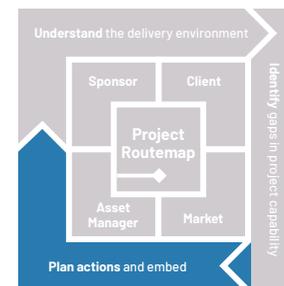
Assess the complexity of the project's wider delivery environment and context.



Assess the capability of the project sponsor, client, market and asset manager to carry out their roles effectively.



Understand the challenges and identify gaps in the capabilities required to deliver the project successfully (complexity/capability gap).



Apply best practice and develop recommendations to close the capability gaps.

# Section 1 – Introducing Routemap

## Who is Routemap for?

Routemap is primarily aimed at sponsor or client organisations that develop and deliver projects. It is for anyone responsible for these projects, including project owners, directors and managers.

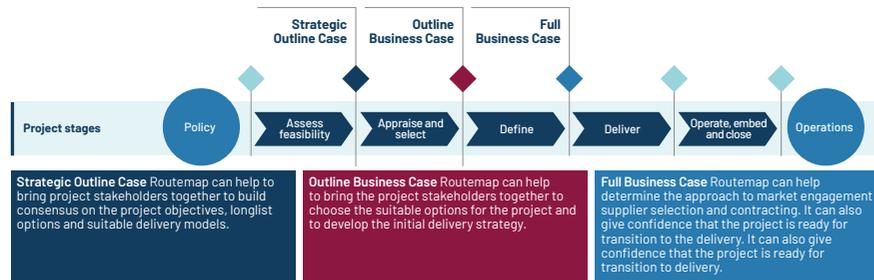
## When to use Routemap?

Routemap is intended to address issues early in the project life cycle. It is especially useful when you are:

- delivering something new
- working in a different way or at larger scale than usual
- part of a new team lacking in experience of delivering similar projects
- working through critical aspects of the business case
- trying to learn from other projects and sectors to improve delivery
- experiencing substantial change, for example, following a project reset
- preparing to transition from one project phase to another

One way of implementing Routemap is by integrating it into the strategic planning and business case development processes. This helps you to incorporate best practice and lessons from other major projects from the outset. **Appendix I** provides further detail on how Routemap can support you in developing your business case, and is summarised in **Figure 3** below.

**Figure 3 – When to apply Routemap to support the business case development process**



## What are the benefits?

Routemap supports project teams in thinking through the long-term implications of their decisions. The benefits will vary depending on the project. These are some of the benefits reported by users:

*"It's a really collaborative tool, helping you get under the skin of challenging problems during the early stages of development."*

*"Applying the Routemap helps to identify and start to resolve big questions, decisions and issues for their projects sooner than is otherwise the case."*

*"It provides an excellent support tool when preparing stage business cases."*

*"The modules provide tangible learning points from previous projects and programmes."*

*"Routemap stimulates collaboration between stakeholders and helps them better understand each other's expectations and success criteria."*

*"The Routemap process covers the entire project system – from sponsor through to supply chain and asset managers."*

*"It can be used flexibly, either with support or as part of a self-assessment. Its principles are applicable to portfolios, programmes and projects of any size."*

## What are the core components of Routemap?

Routemap provides best practice and lessons from other major projects. This is captured in the Routemap modules. As standalone documents, these modules are useful reference guides to prompt your own thinking, and make sure you're asking yourself the 'right' questions about the capabilities needed to make your project a success.

Alternatively, you can take a more structured and collaborative approach to understanding the capabilities needed and applying the good practice and lessons in the modules. You can do this by following the 10-Step process described in this handbook.

The IPA recommends that all novel or complex projects in early stages of development begin by applying the 10-Step process.

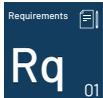
Steps

# Section 1 – Introducing Routemap

## Routemap modules

The Routemap modules provide practical advice to help set up projects for success. The modules have been developed by the UK government in collaboration with industry and academia. They capture best practice and learning from common causes of project failure and success over the past decade from £300bn of capital programmes.

There are eight modules, one covering each of the following areas:

	<p><b>Requirements</b> Delivering strategic project outcomes and realising the benefits.</p>		<p><b>Procurement</b> Understanding how the project will buy goods and services.</p>
	<p><b>Governance</b> Establishing clear accountability and empowering effective decision-making.</p>		<p><b>Risk Management</b> Managing uncertainties and opportunities.</p>
	<p><b>Systems Integration</b> Making multiple systems work as one.</p>		<p><b>Asset Management</b> Balancing costs and risks to maximise whole life benefits.</p>
	<p><b>Organisational Design &amp; Development</b> Organising the project team to deliver successfully.</p>		<p><b>Delivery Planning</b> Readying the project for transition into delivery.</p>

The modules are aligned with the Government Project Delivery Framework and Capability Framework and help projects comply with the Government Functional Standard for Project Delivery. They also help projects to align with other recognised standards and guidance, including the UN Sustainable Development Goals

The modules contain prompting questions (referred to as considerations). The considerations are grouped beneath pillars which summarise the tenets of good practice for that particular module. The considerations help you understand the root causes of capability gaps and suggest improvements. You may not need to review all the considerations, just use the most relevant ones for your project. The modules also contain real life case studies, useful models and suggested further reading.

The modules are not a complete guide to project development, nor a substitute for business case development. Instead, they provide considerations to challenge your thinking and to launch your project on the path to success. The project team will need to consider their project's individual characteristics and context and identify what will be most helpful to them.

### Applicability to other types of project

The best practice in Routemap reflects the collective experience of public and privately funded projects from the infrastructure and defence sectors. However, the major of this learning is equally applicable to other types of projects.

Indeed, some of the module content is particularly useful for transformation projects, which typically focus on improving people, processes or technology-based capabilities. For example, there is useful guidance on managing ongoing change within the Organisational Design & Development module, or empowering decision-making in the Governance module. You can also find further guidance within the 7 Lenses of Transformation – Infrastructure and Projects Authority 2018.

Steps

# Section 1 – Introducing Routemap

## The six cross-cutting themes of the Routemap modules

In updating Routemap, six cross-cutting themes emerged from engagement with major projects and industry. These place complex demands on project teams and, if overlooked during set up, can create issues during the later stages of the project life cycle.

These themes run as ‘golden threads’ through all eight modules, and include the need for focus on behaviours and culture, consideration of wider economic, environmental, and social value and the increasing use of digital systems and tools to enable a systems-focused approach.

Planning ahead for the right skills, experience and capacity to address these themes is key to success.

To help you navigate these themes, we have developed a series of prompts. You can use these prompts during your application of Routemap to check whether your project is set up to meet the challenges ahead.



### Benefits and outcomes focus

adopting a whole life perspective whilst managing the project

- Have you got a clear vision of the target outcomes, which is aligned across the sponsor, client, asset manager and market?
- Have the project outcomes been effectively communicated to key stakeholders and the supply chain?
- Has the project set realistic and transparent targets?
- Are you able to measure the realisation of benefits throughout the whole life cycle? Including any potential early releases?
- Have you considered the disbenefits and how to minimise them?



### Economic, environmental and social value

taking in a wider view of the project's impact

- Have you considered how the project will generate economic, environmental, and social value, both through its intended outcomes and/or as a by-product of delivery? Has this been hardwired into the business case, with a clear link to the UN Sustainable Development Goals?
- Is your project aspiring to leave a “net positive” and climate resilient impact on the natural environment?
- How are you maximising benefits and minimising risk and disbenefits for project affected communities and contributing to levelling up?
- Is there clear accountability for the economic, environmental, and social benefits and outcomes?



### People and skills

planning ahead for the right skills, experience and capacity to deliver the project

- Have you undertaken activity-based resource planning to ensure you have the people with the right skills, knowledge, experience and behaviours at the right time to deliver the project?
- Are these plans reviewed on an ongoing basis? And do they incorporate skills development and succession planning to ensure continuity in key roles and to meet evolving needs?
- Have you considered the time commitment of your project leaders to ensure they have the right capacity to deliver the project?
- If using delivery partners or third parties, do they have the capacity and expertise to support the project as required?



### Digital and technology

embedding systems and approaches at the front end to maximise project productivity

- Have digital and modern methods been considered at the earliest point in the life cycle to maximise their impact on benefits?
- How has the project assessed and addressed digital capability within the sponsor, client, asset manager and market?
- Has the project considered how information, data and knowledge will be shared across the project including with the supply chain?
- What consideration has been given to potential changes in technology that may influence benefits realisation?



### Behaviour and culture

realising project success with a capable, diverse and integrated team

- Is there a plan for how desired behaviours and values will be cascaded and embedded through the sponsor, client, asset manager organisations and the supply chain?
- How are the desired behaviours and culture promoted in the project?
- Does the project have a culture that empowers constructive challenge and diversity of thought?
- How is the project planning to build relationships and invest in creating the right environment to realise project outcomes?



### Transitions

planning for change and developing the required capability before progressing to the next life cycle stage

- Does the project have a clear plan for how they will transition from one life cycle stage to the next?
- Does the plan set out the changes needed to organisational and governance arrangements?
- Does the project have the necessary capability to transition to the new organisational and governance arrangements for the next life cycle stage? Including the change management capability required to embed the changes?
- Is the project clear on how the relevant documents and people will carry knowledge and learning across life cycle stage boundaries?

# Section 1 – Introducing Routemap

## How do I find what I'm looking for in the modules?

Good project management comprises many disciplines, all of which are interrelated. For example, you cannot consider project governance without thinking about organisation design, and you cannot consider procurement without thinking about project requirements. There are dedicated modules for eight of these disciplines and six cross-cutting themes, which run as 'golden threads' through all the Routemap modules. **Table 2** can help you to navigate the modules and to find information on the cross-cutting themes and other important topics which don't have their own dedicated module.

**Table 2 - Finding useful information within the Routemap modules**

● Primary module    ● Other relevant modules

This table helps you find information on the cross-cutting themes and other important topics which don't have their own dedicated module	Routemap modules							
	Requirements	Governance	Systems Integration	Organisational Design & Development	Procurement	Risk Management	Asset Management	Delivery Planning
<b>Cross-cutting themes</b>								
Benefits and outcomes	●		●		●		●	●
People and skills			●	●		●	●	
Behaviours and culture		●		●	●	●		●
Economic, environmental and social value	●	●		●	●		●	
Digital and technology	●		●				●	●
Transitions (including change management)		●		●				●
<b>Other important topics</b>								
Leadership		●	●	●			●	●
Stakeholder management	●	●						●
Scheduling and cost estimating						●		●
Information management		●	●				●	●
Assurance		●	●			●		●

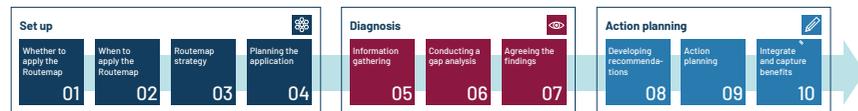
Steps

# Section 1 – Introducing Routemap

## A structured 10-Step process

If you decide to take a more structured and collaborative approach to using Routemap, you can do this by following the 10-Step process summarised below and described fully in Section 2 of this handbook.

Figure 4 – Routemap 10-Step process



In Set-up, these steps help you decide whether applying Routemap would be beneficial to your project, and if so, how best to plan it.

In Diagnosis, you will gather information from the participants, using the complexity and capability assessment tools. These diagnostic tools are an important part of the 10-Step process. They are quick to complete, and are based on recurring indicators of project success and failure over many years of experience.

The information gathered is analysed in a structured way, to diagnose any issues with the project and gain agreement on these findings from project stakeholders.

In Action Planning, participants will design actions to overcome the issues. In the final steps, you will develop a plan to implement these actions, and then integrate this plan into existing project processes.

The 10-Step process is very flexible and you can apply it in different ways, for example, depending on whether your area of interest is broad or more targeted (see **Table 3**).

The IPA recommends that all novel or complex projects in early stages of development should begin with a Full Project Review. This is the best way to get a comprehensive understanding of the most important capabilities needed for your project to succeed.

Table 3 – Three approaches to applying Routemap

Approach	Full Project Review	Modular Deep Dive	Tracking Project Capability
Purpose	Applying Routemap across the full scope of the project to develop a capability plan for project set up or reset	Applying Routemap in a targeted way, to enhance capability in a specific area of the project	Using the Routemap assessments periodically to track maturity of the project capability and the complexity of the delivery environment

## Complexity assessment

It is important to have a good understanding of the wider context in which a project is being delivered. This can be a significant contributing factor to project success. It is especially important where the project is complex, on a larger scale, or being delivered differently to previous projects.

The complexity assessment builds an overall picture of the challenges and risks to the delivery of the project. It helps you to understand the impact of wider factors, including the political, environmental and social context in which the project is to be delivered. It does not assess the project's technical complexity in detail.

The complexity assessment uses the National Audit Office's Delivery Environment Complexity Analytic (2013). It considers 12 factors, each of which can impact the successful delivery of a project. Evidence has shown these factors to be recurring predictors of success. Applying the Routemap process, participants will review the project against each factor and decide if the potential impact of each factor is low, medium or high.

# Section 1 – Introducing Routemap

Table 4 – The 12 complexity factors

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

## Capability assessments

In addition to understanding the complexity of the project and its wider context, you need to understand the capability of the parties involved in delivering the project. This is to confirm they have (or will have) the capabilities they need to deliver a project of this level of complexity. Assessing the difference between the current and needed capabilities helps you to understand the project's capability gap. The capability gap can show you where action is needed to enhance capabilities.

Routemap assesses capability across four areas of responsibility: sponsor, client, market and asset manager (Figure 5). In the context of Routemap, capability describes the ability of the sponsor, client, asset manager and market to organise for effective and efficient delivery. It refers to all or part of an organisation, and not the individual, as most barriers to effective practice are rooted in systemic issues, not individual action.

Each capability assessment lists a set of observable characteristics that represent the organisational capability as it applies to the project. These characteristics can be used to understand the current and required capabilities for successful delivery. The assessments are specific to the project to which Routemap is being applied, and not representative of overall organisational maturity. The characteristics are grouped into three types (Table 5).

Table 5 – Three types of capability characteristics

Type 1 - Limiting	Type 2 - Adequate	Type 3 - Optimised
These characteristics hold an organisation back, regardless of other good practice. You must either address them, or at least be aware of their possible consequences.	These characteristics are found in organisations that are performing acceptably. The organisational arrangements may be in place but not fully optimised.	These characteristics are indicative of an effective and efficient organisation, optimised for delivery of the project. Not all projects will require these characteristics to be successful.

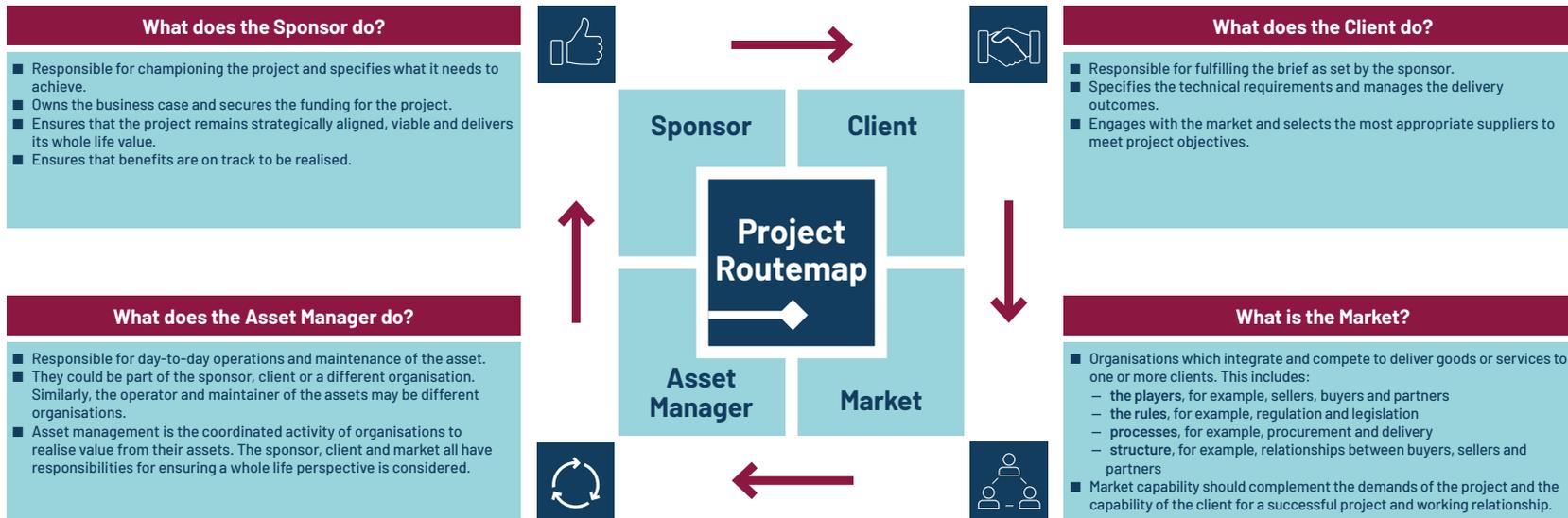
These three types of characteristics are not a progressive scale; an organisation can demonstrate some characteristics of all three types at the same time. The completed capability assessments represent a snapshot of capability across the project system as a whole.

**Appendix C** sets out the relationships between the sponsor, client, market and asset manager roles for some well-known UK projects, programmes and portfolios.

# Section 1 – Introducing Routemap

Figure 5 – Areas of responsibility

## Capability areas



## Section 2 – Applying Routemap

All projects can benefit from applying Routemap but before you go ahead, it's important to think about the most suitable approach for your project at this point in its lifecycle.

The Routemap modules provide good practice and lessons from other major projects. As standalone documents, these modules are useful reference guides to prompt your own thinking, and make sure you're asking yourself the 'right' questions about the capabilities needed to make your project a success.

Alternatively, you can choose to take a more structured and collaborative approach to understanding the capabilities needed and applying the good practice and lessons in the modules. You can do this by following the 10-Step process described in this section of this handbook.

Figure 6 – Routemap 10-Step process



The 10-Step process is very flexible and you can apply it in different ways, for example, depending on whether your area of interest is broad or more targeted.

### Alternative approaches to applying the 10-Step process

Routemap has been used by many of the UK's most complex and high-profile projects and more recently it has also been applied to projects internationally. Responding to feedback from users, three alternative approaches have been developed which allow projects to apply the 10-Step process in different ways depending on their needs (see **Table 6**).

The IPA recommends that all novel or complex projects in early stages of development should begin with a Full Project Review. This is the best way to get a comprehensive understanding of the most important capabilities needed for your project to succeed.

Table 6 – Three approaches to applying Routemap

Approach	 <b>Full Project Review</b>	 <b>Modular Deep Dive</b>	 <b>Tracking Project Capability</b>
<b>Purpose</b>	<p>Applying Routemap across the full scope of the project to develop a capability plan for project set up or reset.</p> <p>For example, when you:</p> <ul style="list-style-type: none"> <li>■ have a newly formed team</li> <li>■ are tackling something with a greater level of complexity or scale</li> <li>■ 'don't know what you don't know'</li> <li>■ need to develop several aspects of your business case</li> <li>■ need to demonstrate readiness for a transition</li> </ul>	<p>Applying Routemap in a targeted way, to enhance capability in a specific area of the project.</p> <p>For example, when you:</p> <ul style="list-style-type: none"> <li>■ want to explore and build good practice in a particular area</li> <li>■ are developing thinking for a specific aspect of your business case</li> <li>■ assurance or feedback has identified a particular issue or concern</li> </ul>	<p>Using the Routemap assessments periodically to track maturity of the project capability and the complexity of the delivery environment</p> <p>For example, when you:</p> <ul style="list-style-type: none"> <li>■ want to measure and demonstrate progress against your capability development plan</li> <li>■ want to identify systemic issues and possible interventions across a portfolio</li> <li>■ need a framework to tackle challenges in a collaborative way</li> </ul>

**Table 7** on the next page shows how the three approaches have been applied in practice.

## Section 2 – Applying Routemap

Table 7 – Practical examples of how Routemap may be applied

		 <b>Full Project Review</b>	 <b>Modular Deep Dive</b>	 <b>Tracking Project Capability</b>
<b>Approach description</b>		Applying Routemap across the full scope of the project to develop a capability plan for project set up or reset.	Applying Routemap in a targeted way, to enhance capability in a specific area of the project.	Using the Routemap assessments periodically to track maturity of the project's capability and the complexity of the delivery environment.
<b>Project examples</b>	<b>Situation</b>	A UK government department was developing a project to demonstrate the technical, commercial and practical feasibility of clean renewable energy sources.	A public sector arm's-length delivery body was developing a coastal management project to improve the resilience of a section of coastline, by modifying existing or creating new assets, for example reinforcing beach walls or importing sand.	An infrastructure asset owner was undertaking a transformational change project which would develop supply chain capability and improve operational practices.
	<b>Task</b>	The project team wanted to develop their thinking to inform critical aspects of their outline business case and to prepare for an upcoming gateway review. These included their project management structures and governance, capacity, roles and responsibilities and approach to strategic risk management.	Key criteria for selecting the optimal solution were environmental sustainability and whole life value. The project team wanted to make sure they had the right capabilities in place to prioritise and manage project requirements and benefits in line with these criteria.	A Full Project Review had been carried out prior to outline business case. As the project transitioned from development to delivery, a new project manager joined the team. The project manager wanted to track the project's progress against the findings of the previous Routemap application to understand whether the right capability was now in place to deliver the change required.
	<b>Action</b>	The team decided to carry out a Full Project Review with the support of external facilitators. Stakeholders completed the complexity and capability assessments and were interviewed. The interview questions were open and broad to ensure any significant capability gaps would be identified but included the particular areas of interest outlined above. Through three virtual workshops, the stakeholders together developed an action plan to address the capability gaps identified through the assessments and interviews.	The project team completed the complexity and capability assessments. They focused on the sponsor and asset manager roles in particular to understand which areas of prioritisation, benefits realisation and asset integration needed improvement. The results of the assessments were explored with the Requirements module in an action planning workshop to examine how they could select and prioritise project outcomes and create benefit realisation measures.	They used the complexity and capability assessments to understand how the current team viewed the project's risk profile for delivery and their own strengths and weaknesses. The results were used to support a team workshop, where they discussed the results, and how well equipped the team were to meet the demands placed upon them.
	<b>Response</b>	The Routemap application gave the project team confidence they had a good grasp of the capabilities they needed to build, in particular the types and mix of skills required. It informed a recruitment strategy that addressed resource requirements in a holistic and forward-looking way. Knowing where their uncertainties were, and having a plan to address them, also put the team in a strong position for the upcoming assurance review.	Using this approach, the project team came to a collective understanding on how to prioritise requirements and link them to benefits. This helped them to clearly communicate the project's priorities to their supply chain in order to develop solutions for their strategic outline business case. The project was then able to gain approval of their business case and proceed to the next stage.	The assessments and workshop discussions provided evidence that capability had improved in the areas of concern raised by the Full Project Review and was now of the maturity required to successfully deliver the change project. The collaborative approach meant the team were more open to discussing their challenges and subsequently brought in subject matter experts, where they could not deliver themselves.

## Section 2 – Applying Routemap

The three approaches all apply the 10-Step Routemap process, as shown in **Table 8** but the techniques used (see **Step 3**) and amount of work for each step will vary depending on the approach selected. Qualifying checklist 2 in **Step 1** will help you select the most appropriate approach for your project.

**Table 8 – Application of the three Routemap approaches**

	 <b>Full Project Review</b>	 <b>Modular Deep Dive</b>	 <b>Tracking Project Capability</b>
<b>Approach description</b>	Applying Routemap across the full scope of the project to develop a capability plan for project set up or reset.	Applying Routemap in a targeted way, to enhance capability in a specific area of the project.	Using the Routemap assessments periodically to track maturity of the project capability and the complexity of the delivery environment.
<b>Setup</b> 1 Determine the scope and timing of the Routemap, which can be project wide or targeted to specific areas of capability	Determine if there is value in using Routemap to support capability development. This approach will help you to determine which areas of capability require enhancement. If so, agree the scope and document in Routemap strategy.	Determine if there is value in using specific Routemap modules to support development of a specific area of capability. Undertaking this approach requires you to already have a clear idea of the particular area of capability requiring enhancement. If so, agree the scope and document in Routemap strategy.	Determine if there is value in using Routemap capability and complexity assessments to track maturity of capability and complexity of the delivery environment. If so, agree the scope and document in Routemap strategy.
 <b>Qualifying checklists</b>	Use the qualifying checklists in <b>Step 1</b> to select the best approach (Full Project Review, Modular Deep Dive or Tracking Project Capability) for your application of Routemap.		
 <b>Routemap strategy</b>	You should develop a Routemap strategy for your selected approach. This will ensure that all those involved in your application of Routemap understand the 'scope' and how it will support project development.		
<b>Diagnosis</b> 2 Gather information and identify where capabilities need to be enhanced	Assess the challenges related to project set up and delivery. Evaluate the gap between the current capability and the capability required for success. Determine which modules may help.	Assess the challenges related to the selected area of project set up or delivery. Evaluate the gap between the current capability and the capability required for success. There are likely to be one or two modules in particular that focus on your selected area of capability. However, there may be value in consulting other interfacing modules too.	Compare the current capability of the project against previous assessments and target levels of capability. Determine whether the capability development plan is on track.
 <b>Complexity and Capability assessments</b>	✓	If there is already good awareness of where project capability requires enhancement, you should focus on those tools and techniques, for example the capability assessments for particular areas of responsibility, which develop your understanding of the specific area of capability to be enhanced.	✓
 <b>Routemap findings</b>	✓		✓

## Section 2 – Applying Routemap

Table 8 - Application of the three Routemap approaches - continued

	 <b>Full Project Review</b>	 <b>Modular Deep Dive</b>	 <b>Tracking Project Capability</b>
<b>Action Planning</b> <b>3</b> Collaborative development of practical solutions to enhance capability	Apply best practice and learnings from the modules. Plan activity to enhance capability and increase potential for success.	Apply best practice and learnings from the modules in the selected area of capability. Plan activity to enhance capability and increase potential for success.	Refine the capability development plan to reflect the findings. If capability development is not on track or there are significant shortfalls in capability then there may be value in commissioning a Full Project Review or Modular Deep Dive approach.
 <b>Routemap modules</b>	You can use the pillars of effective practice in the modules as a guide during the action planning stage. For example, where you are seeking to enhance existing processes by incorporating wider industry best practice.		×
 <b>Recommendations and action plan</b>	✓	✓	×

Steps

## Section 2 – Applying Routemap

### Time commitment

The time and effort required to complete a Routemap application will depend on:

- the project's characteristics
- the amount of project information to be reviewed
- the number of stakeholders to be engaged and their availability
- the nature of the findings
- how many improvement opportunities you identify, and how complex they are

When applying Routemap, you should allow enough time and avoid imposing artificial deadlines. Often the most difficult aspect of delivering Routemap is securing the time of the participants. For this reason, a Full Project Review can take anywhere between two weeks and a few months (further information on timescales is contained in **Step 3**).

Key roles normally involved in applying the Routemap process, and used in Section 2 to describe the 10-Steps, are outlined in **Table 9**.

### Making use of support

You can undertake Routemap as a self-assessment, for example facilitated by representatives from the sponsor or client organisation. This approach would avoid costs being payable to external facilitators. However, there is a risk that those who are heavily involved in the project are less objective. In these circumstances, Routemap could add more value if it is independently facilitated, for example by another government agency or an external consultancy firm. This may involve external costs but has the advantage of being independent from start to finish. It may also be the best approach if the in house teams are resource constrained.

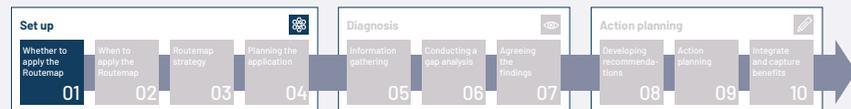
**Table 9 - Who needs to be involved in applying Routemap?**

Role	Description
<b>Commissioning body</b>	<ul style="list-style-type: none"> <li>■ This body commissions the application of Routemap.</li> <li>■ They approve the deliverables to enable progress through the Routemap process.</li> <li>■ They will ensure the Routemap process gets senior-level buy-in and the outputs are actioned.</li> <li>■ The commissioning body will usually be from the project sponsor, for example a government department, or the client organisation. They may also be an independent authority.</li> </ul>
<b>Routemap lead</b>	<ul style="list-style-type: none"> <li>■ The person responsible for setting the scope of the Routemap application and planning the detail.</li> <li>■ The best person to take on the role of Routemap lead will vary depending on the context, scale and type of project.</li> <li>■ To identify the Routemap lead for your project, you should consider whose involvement will drive the best value for money, taking into account their knowledge of the project, influence with key stakeholders and other responsibilities.</li> <li>■ This may be the project director and/or project manager leading the development of the business case or external resource brought in.</li> </ul>
<b>Routemap support</b>	<ul style="list-style-type: none"> <li>■ The people supporting the Routemap lead to engage with stakeholders, review project documentation, conduct the assessments, and contribute to the gap analysis.</li> </ul>
<b>Participants</b>	<ul style="list-style-type: none"> <li>■ The project stakeholders who provide information, complete the assessments and attend interviews and workshops.</li> <li>■ Participants will be representatives from, or provide insight on, the sponsor, client, asset manager and market organisations. For example, officials from the relevant organisations, delivery consultants, contractors or specialist advisors. Participants may also be selected from organisations external to the project, for example regulatory agencies.</li> <li>■ It is useful to select participants from both leadership and operational levels as this may uncover divergent views and perspectives.</li> <li>■ There will likely be other key stakeholders who may not participate in Routemap but are influential in incorporating its outputs into project development. It is important to identify and engage appropriately with these stakeholders.</li> </ul>
<b>Subject matter experts (recommended)</b>	<ul style="list-style-type: none"> <li>■ Specialists like external consultants, specialist units or industry experts, who can provide relevant experience from previous projects.</li> <li>■ The subject matter experts use their expertise and knowledge to guide participants on best practice (as found in the modules), and how to incorporate this into project delivery.</li> </ul>



## Step 1 – Whether to apply Routemap

### Overview of Step 1



**Aim:** To determine whether applying Routemap in a structured way will benefit your project, and which of the three alternative approaches is most suitable

**Key roles:** The Routemap lead and the commissioning body

**Input:** Use the qualifying checklists to understand the value in using Routemap for the project and the most suitable approach

**Output:** A decision on whether to proceed with Routemap and which approach you will adopt

All projects can benefit from applying Routemap, but it is important to think about the best approach before you go ahead. The qualifying checklists (**Tables 10** and **11**) help you to identify which approach would most benefit your project. You should use each checklist in sequence.

Table 10 – Qualifying checklist 1

Is Routemap useful for you?	Y/N
Is the project delivering something new, on a larger scale than usual or in a different way than usual?	
Could the project benefit from the lessons learned by other projects or sectors that have faced similar challenges?	
Does the project team need support working through some critical aspects of the business case?	
Are there known areas of misalignment or inefficiency in the way the project is being set up or managed?	
Do the organisations involved have a history of failing to deliver the intended project outcomes? Or overrunning on time or cost?	
Is the project approaching or been through a substantial change? For example, is it approaching a transition or has the strategic direction recently been reset?	
Does the project need to demonstrate maturity or provide confidence to stakeholders that the project is set up for success? For example, an upcoming assurance review.	

If you have ticked 'Yes' to any of the questions above, then applying Routemap would be a good investment of effort.

Table 11 - Qualifying checklist 2

Capability concerns		Y/N
 Rq 01	Does everyone agree on problems and opportunities the project is trying to tackle? Especially the environmental and social benefits.	
 Gv 02	Do you get decisions when you need them? Is it clear how decisions were made and who was involved?	
 SI 03	Does everyone understand how the new or improved assets will integrate with existing physical, digital and natural systems?	
 OD 04	Is there recognition that it is people who will deliver the project? Have you got the right resources, structures, culture and ways of working to empower delivery rather than hinder it?	
 Pr 05	Are you selecting suppliers based on a balanced appraisal of capability to deliver outcomes and cost?	
 RM 06	Are you actively managing risks, as opposed to just monitoring them? Are risks allocated on the basis of capability rather than convenience?	
 AM 07	Is the project aligned with an overarching asset management strategy? Are you optimising performance for the future?	
 DP 08	Is your plan focused on delivering the required outcomes efficiently? Rather than just delivering as quickly as possible?	

- If you have answered 'No' to several of the questions in Qualifying checklist 2, then you will likely derive best value by adopting a Full Project Review approach.
- If you have answered 'No' to only one or two of the questions, then the Modular Deep Dive approach *may* be a more effective investment of time and effort.
- If project set up is already well advanced and a Full Project Review has already been undertaken, you can use the Tracking Project Capability approach to demonstrate progress against your capability development plan.

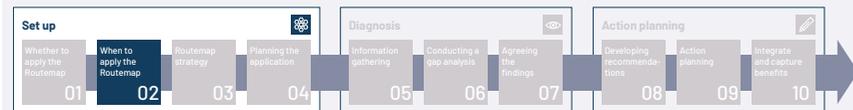
The above criteria are provided as guidance only. You should exercise your own judgement when selecting the best approach for your project at this point in time.

As a general rule, the IPA recommends that all novel or complex projects in early stages of development should begin with a Full Project Review. This is the best way to get a comprehensive understanding of the most important capabilities needed for your project to succeed.

You should confirm the chosen approach with the commissioning body and document it in the Routemap strategy.

## Step 2 – When to apply the Routemap

### Overview of Step 2



**Aim:** To determine when will be the best point in the project development life cycle to apply Routemap

**Key roles:** Routemap lead and commissioning body

**Output:** A decision on when to apply Routemap

Routemap can add value throughout the project life cycle, but it's most effective at the early stages when the ability to influence project success is greatest, and the cost of making changes is lowest (**Figure 7**). It can also be used to confirm a project's readiness to progress to the next stage.

The commissioning body and Routemap lead need to agree the timing and secure the necessary resources for the exercise.

**Table 12** will help you decide when you can usefully apply Routemap within the wider project and business case development cycle.

You can find further detail on how Routemap aligns with the five case model described in the Guide to developing the project business case - HM Treasury 2018 in **Appendix F**.

Figure 7 – When is Routemap most effective?

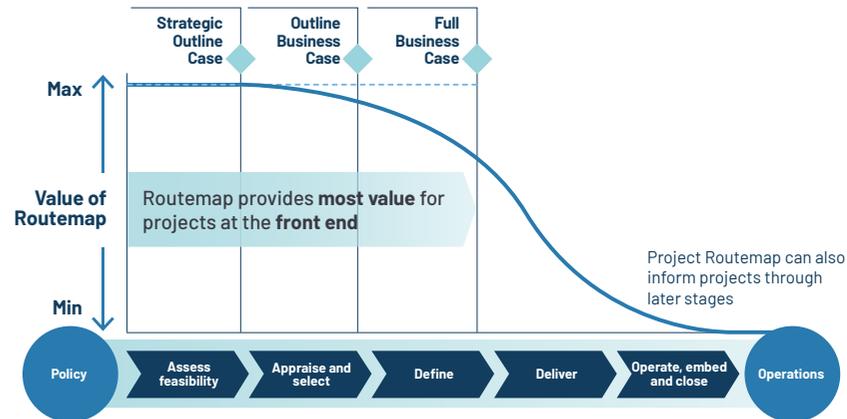


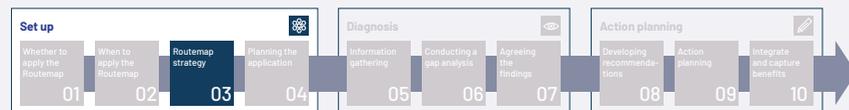
Table 12 – Deciding when to use Routemap

Stage	When to use the Routemap
<p><b>Strategic Outline Case</b> - establishing the case for change and providing a preferred way forward for senior management's approval prior to going onto the more detailed planning stage.</p>	<p><i>If you apply Routemap while developing the strategic outline case, you can use it to influence key strategic decisions, explore options and test how achievable your goals are. However, you may not have all your key stakeholders in place at this point.</i></p> <p><b>Example</b></p> <p><b>Situation:</b> A public body responsible for protecting and improving the national environment committed to reducing the risk of flooding and coastal erosion. They planned to do this through a series of interfacing projects worth over £2.6bn.</p> <p><b>Task:</b> The team were considering a different commercial and procurement approach for the flood defence investment.</p> <p><b>Action:</b> They used Routemap at an early stage to build evidence to support their preferred approach.</p> <p><b>Result:</b> Routemap informed the commercial and procurement strategy for the project. It provided comfort that the team was pursuing the right solution, before going for approval. Routemap also generated action plans for the development of organisational capability to manage the complex interfaces.</p>
<p><b>Outline Business Case</b> - identifying the investment option which optimises Value for Money (VfM), - preparing the scheme for procurement and putting in place the necessary funding and management arrangements for the successful delivery of the scheme.</p>	<p><i>If you apply Routemap while developing the outline business case, it can focus a discussion on project implementation, and give confidence that the project is ready to proceed to procurement.</i></p> <p><b>Example</b></p> <p><b>Situation:</b> A rail organisation aimed to improve the use of its existing stations to align with their new strategic asset management plan.</p> <p><b>Task:</b> The project team wanted to create a new client model that could effectively manage all the station enhancements.</p> <p><b>Action:</b> Using Routemap allowed the project to better understand the capability required to engage with their supply chain in a different way. It also highlighted the potential risks if they did not allow enough time to properly implement and embed the new client model into their ways of working.</p> <p><b>Result:</b> Routemap provided confidence that the new client model was fit for purpose. It demonstrated how the supply chain would need to align with their strategy, highlighted opportunities to improve project governance and the number and type of resources that would be needed for the new client model.</p>
<p><b>Full Business Case</b> - identifying the marketplace opportunity which offers optimum Value for Money (VfM), setting-out the commercial and contractual arrangements for the negotiated deal, confirming the deal is still affordable and putting in place the detailed management arrangements for the successful delivery, monitoring and evaluation of the scheme.</p>	<p><i>Applying Routemap while developing the full business case can help inform the market engagement and the supplier/partner selection and contracting process. However, it gives you less ability to influence strategic outcomes.</i></p> <p><b>Example</b></p> <p><b>Situation:</b> A regulated water company wanted to re-procure their strategic alliance.</p> <p><b>Task:</b> The company wanted to improve alignment and integration of their own business and the supply chain.</p> <p><b>Action:</b> They used Routemap to support preparation for the next work stage with the alliance. As part of the action planning phase, the project team mapped the entire supply chain from strategic subcontractor to equipment suppliers. This highlighted the different capabilities needed to deliver the new ways of working and included capabilities outside the traditional water industry supply chain.</p> <p><b>Result:</b> Routemap resulted in a procurement project that could assess and develop cross-market capability and introduce new supply chain partners more easily. Routemap helped the stakeholders to identify appropriate commercial models for each part of the supply chain and laid foundations for better collaboration and incentivised contracts.</p>



## Step 3 – Develop the Routemap strategy

### Overview of Step 3



- Aim:** To develop the Routemap strategy, setting out the scope, the participants and which techniques you'll use.
- Key roles:** Routemap lead and Routemap support, liaising with key stakeholders. Commissioning body for approval.
- Input:** The starting point for this step is the Routemap approach selected in **Step 1** and the timing decided in **Step 2**. Expand this thinking to determine the scope of the Routemap, who will be involved and how.
- Output:** An approved Routemap strategy, documented in section 1 of the Routemap report template.

Building on **Steps 1 and 2**, the **Routemap strategy** sets out:

- What it will be applied to, and why (the scope)
- Who needs to be involved
- How it will be applied

All relevant stakeholders should be involved in developing the strategy so that they understand why and how Routemap will be applied, including the resource requirements, timescales and work involved. This is important so that they can explain the process to their respective organisations.

The Routemap report template in **Appendix B** helps you document each output produced from **Step 3** onwards. Section 1 of the Routemap report template documents the Routemap strategy.

### What and why – scope of the Routemap

In **Step 1**, you will have already decided whether you are going to apply Routemap across the full breadth of the project with a Full Project Review, apply it in a more targeted way to a specific area of the project through a Modular Deep Dive, or use Routemap's Tracking Project Capability approach.

The output of **Step 1** is a high-level decision on the approach you'll adopt, but now you need to clearly specify and document the 'scope' by setting the boundaries for this application of Routemap, confirming why it is necessary and what it will achieve. The responses to the qualifying checklists (**Step 1**) will help with documenting the why.

The scope should also set out the particular 'areas of interest'. These are both opportunities and concerns, which will be explored through this application of Routemap. The areas of interest should be developed through conversations with key stakeholders and a review of key project documents.

### Document review

Here are some examples of key project documents that may highlight specific improvement opportunities and potential concerns. Reviewing these documents will help you to define the areas of interest for your Routemap application.

- Business case
- Project delivery strategy
- Target operating model
- Asset management plan
- Sponsor's requirements (Brief)
- Stakeholder map and engagement plan
- Resourcing plan
- Procurement strategy
- Risk management plan and register
- Integrated assurance and approval plan

You can find other examples in the key project documents sections of the modules.

The Routemap lead may also wish to review the considerations and examples of good practice in the modules while drafting the scope. This will help to build an understanding of what good practice looks like and identify potential gaps in capability, which can be explored as areas of interest.

The Routemap lead and commissioning body should consider how much time and what resources are available, and be realistic about the scope of the application of Routemap and the number of areas of interest (five or six areas of interest is common).

### An example scope statement

"We will conduct a Full Project Review of PROJECT A. This includes all the activities to develop, construct and handover PROJECT A and its dependencies with PROJECT B. This Routemap application will not include considerations related to the national strategy for PROGRAMME C."

#### Particular areas of interest are:

**Project objectives:** Routemap will confirm whether there is a common understanding of the purpose of the project and how the project requirements align with wider priorities, value for money and environmental and social considerations.

**Frameworks to support the delivery strategy:** Routemap will explore how achievable the delivery of this project is and will take legislative considerations into account.

**Governance:** Routemap will confirm how clear roles, responsibilities and delegated authorities are, as well as the decision-making processes. It will also test how information flows from Project B to Project A, and how the dependencies are managed.

**Risk management:** Routemap will explore the risk management approach and how risks are identified, valued and mitigated across the project organisations.

**Financing and procurement:** Routemap will consider the effectiveness of funding mechanisms and the structure of the work packages.

**Asset management and operations:** Routemap will consider the efficacy of contract monitoring arrangements and determine how the project works with the contractor, including any escalation processes.

Once it has been drafted and approved by the commissioning body, the scope should be shared with relevant stakeholders, in particular those who will participate directly in Routemap.

### Who – Participants

The **Routemap scope** informs who should be involved in the Routemap. The key areas of responsibility for the project (from which participants should be drawn) are the sponsor, the client, the asset manager, and the market (if appropriate). Refer to **Section 1** for role descriptions.

You should also consider any other relevant participants by reviewing your stakeholder lists and engagement plans. For example, technical consultants, environmental and social impact advisors and representatives from regulatory bodies or project affected communities. It is good to involve a range of perspectives, both at the strategic and working level. You should be conscious of potential sensitivities relating to the participants, and so the list of participants should be approved by the commissioning body.

### How – Routemap techniques

To apply Routemap, you need to engage participants so you can collect information about the complexity of the delivery environment and capabilities of key project organisations. Participants will also need to agree what recommendations and actions are required to address the issues and opportunities that will be identified through the gap analysis.

You should document the techniques for engaging with participants.

## Information gathering (Step 5)

Participants should complete the Routemap complexity and capability assessments in **Appendix A**, as a minimum. The Routemap strategy outlines how to complete the assessments, and how you will gather any additional information, to better understand stakeholder perspectives.

The complexity and capability assessments can either be completed:

- individually by each participant (and collated by the Routemap lead)
- at a workshop

In addition to these assessments, interviews are a useful way to gather more in-depth information on opportunities, risks, challenges and potential areas for capability improvement. You can interview all or a selection of participants.

If you intend to interview your participants individually, then they should complete their complexity and capability assessment forms beforehand, so you can analyse the responses and then explore them in more detail during the interview. You can also seek to understand the reasons behind any inconsistencies between responses from different participants.

If you intend to complete the assessments through workshops, you should interview some of the key participants beforehand, so that the Routemap lead and Routemap support have sufficient understanding of the context to facilitate group discussions.

To select the right mix of techniques (individual self-assessment, interviews and workshops), the Routemap lead should consider:

- the input required from participants to fulfil the aims of the Routemap application
- the availability of participants
- whether participants are comfortable sharing their opinions in a group with others that may challenge their views, or with senior people present
- the resource available to lead interviews and/or facilitate workshops
- the optimal mix of virtual and in-person techniques

## Interviews

### Selecting interviewees

If you are only interviewing a sub-set of Routemap participants (see Who – Participants above), you should be sure to select interviewees from a range of project stakeholder groups.

If you have time and resources, it is useful to interview more than one person from each organisation, for example, someone in leadership and someone operational. This can uncover divergent views and perspectives, for example, the strategic concept may be very different to what is actually being implemented. It is also important to ensure that there is an equal gender balance amongst those being interviewed, as far as possible.

You may also consider interviewing representatives from project affected communities. Canvassing these perspectives early on will ensure opportunities and risks to project development are understood.

Note, interviews are a useful way to gather info from stakeholders who it may not be appropriate to include in the workshops.

### Useful interview techniques

Each Routemap participant should preferably be interviewed alone, to encourage an open and honest discussion. It is important to build a welcoming and trusting interview environment. You should begin by:

- briefing the interviewee on the Routemap process,
- confirming their organisation, role and association with the project, and
- reassuring them that outputs from the interview will not be directly attributable to them.

Open-ended questions encourage a better discussion with the interviewee, rather than a closed question and answer format. A useful opening question is to ask the interviewee to explain what stage the project is at and what the priorities are right now. This will help you to gauge the interviewee's understanding of the project and their breadth of interest before progressing on to more detailed questions.

You should ask permission from the interviewees if you would like to record and transcribe the interview. Recording the interview will allow the team to revisit and recheck their notes. Any recordings should be treated confidentially. If you include quotes in your reporting, these should be anonymised and non-attributable to the interviewee.

Refer to the interview guidance provided in **Step 5** for more support.

## Agreeing findings, recommendations and action planning (Steps 7, 8 and 9)

Once you have captured the findings then the participants should work together to agree capability gaps (Step 7), develop recommendations to address them (Step 8) and plan improvement actions (Step 9). Workshops are an ideal way to do this.

### Workshops

Running workshops can be an effective way to build consensus and shorten the Routemap timescale. You can use half-day, one-day or two-day workshops throughout the application of Routemap:

- To collectively undertake the Routemap assessments (Step 5)
- To agree the findings (Step 7)
- To develop recommendations (Step 8)
- To plan actions (Step 9)

It may be helpful to divide the participants into groups, for example, representing the views or requirements of the sponsor, client, asset manager and market; or the area to be discussed, for example, governance, procurement, asset management or any of the other areas. It is better to have more than one person from each organisation in each group, for example, someone in leadership and someone operational. Try to gender-balance each group if possible, and include at least one environmental and social specialist, or a representative who has been briefed on these issues ahead of the workshop. This way, a comprehensive range of information, recommendations and proposed actions flow from strategy into practice.

### Timescales

Based on previous experience, the duration of an application of Routemap may depend on:

- whether the application of the Routemap is facilitated by members of the project team or external providers
- the techniques employed (self-assessment, interviews, workshops)
- participant availability
- the number of interviews and workshops
- logistics
- upcoming project milestones
- the time taken to generate agreement on the Routemap findings (Step 7) and action plan (Step 9)

Table 13 shows some indicative timescales, which you can use for planning purposes.

Table 13 – Time required for various Routemap tasks

Task	Indicative participant commitment	Indicative Routemap lead and support commitment
Document review	n/a	Scalable dependent on number of documents.
Complexity assessment	30 minutes for a participant to complete the assessment	0.20 day per assessment, for collation and analysis
Capability assessments	60 minutes for a participant complete all four assessments	0.25 day per assessment, for collation and analysis
Interview	60 to 90 minutes for an interview	0.5 day per assessment, for preparation and analysis
Workshops	Half to full day per workshop <i>It is recommended that at least two workshops are held to allow adequate time to gain consensus on the findings and generate a meaningful action plan.</i>	1.5 days per half-day workshop or 2.5 days per full-day workshop, including preparation, facilitation and processing
Reports	n/a	5 days per report including drafting, gaining approvals and consultations <i>The duration is an average, some reports may take less or more time depending on stakeholder engagement required and scope.</i>

Agreeing outline timescales for activities and communicating those with the participants in advance means they will understand what to expect, and when they will need to engage. Deciding at which points the Routemap lead needs to seek approvals from the commissioning body should also be agreed in advance, so the process is not delayed.

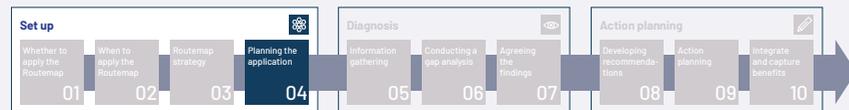
The completed Routemap strategy should be approved by the commissioning body.

The implementation plan (Step 4) will help you to plan in detail and monitor the application of Routemap.



## Step 4 – Plan how to implement the Routemap strategy

### Overview of Step 4



**Aim:** To plan the Routemap implementation.

**Key roles:** Routemap lead liaising with participants. Commissioning body will need to approve.

**Key roles:** Work through the implementation plan template, to plan Routemap tasks.

**Output:** An approved implementation plan for Routemap application.

An implementation plan helps to drive and monitor progress of the Routemap. It should capture all Routemap activities in detail, so the time and resource requirements are clear.

There are various tasks to complete during your application of Routemap. You will find these under each process step in this handbook.

For each task:

- Agree who is responsible
- Determine when it needs to be completed

You can use the Routemap implementation plan template, in **Appendix E**, to help develop your plan. It is pre-populated with the tasks for each process step, but you can amend as required.

The Routemap lead should refer back to the Routemap strategy (**Step 3**) and check that all the tasks are relevant. For example, you may have decided not to interview people, so you will not need to complete those tasks.

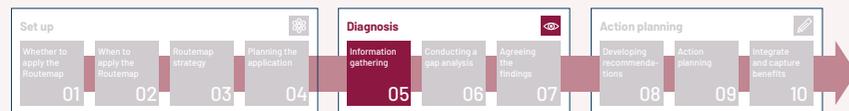
The commissioning body needs to approve the implementation plan, including the timescales.

You will need to monitor progress against each task in the approved implementation plan to ensure any problems are identified and addressed.

Steps

## Step 5 – Information gathering

### Overview of Step 5



- Aim:** To gather stakeholder perspectives on the complexity of the wider context and capabilities of key project organisations.
- Key roles:** Routemap lead and Routemap support.
- Input:** Gather information by completing the Routemap complexity and capability assessments, and other techniques (interviews and/or workshops) as agreed in the Routemap strategy and detailed in the implementation plan.
- Output:** Completed Routemap assessments and other information gathered.

This step gives more guidance on:

- Carrying out a document review
- How to complete the complexity assessment (**Appendix A**)
- How to complete the capability assessments (**Appendix B**)
- How to interview participants (if you agreed in the Routemap strategy (**Step 3**) to use this technique to gather more information and explore assessment responses in more detail)

### Document review

In **Step 3** you may have used key project documents to assist the development of your Routemap strategy. Key project documents are a useful way to gain insight into a project's context, the way that it has been developed and the expectations of how it will be delivered. You should use the knowledge gained about the project from these documents to prompt initial thinking on potential capability strengths and weaknesses which you can then explore further in any interviews or workshops planned. For example, you could constructively test participants' collective understanding of the outcomes and benefits of the project, which should be documented in the business case. Differing responses may necessitate further investigation.

### How to complete the complexity assessment

There are 12 separate factors in this assessment, each with qualitative statements which describe the complexity of the wider project context.

In **Step 3**, you will have agreed and documented the approach for completing the complexity assessment and approved the list of participants who will complete the complexity assessment.

The participants will use the complexity assessment in **Appendix A** to review the project against each factor and decide if the potential impact of each factor is low, medium or high.

Participants should add comments to their assessment responses to explain the reasoning behind their ratings. This can support the findings (**Step 6**), by providing specific examples that evidence the issues and opportunities identified. It's particularly important if participants are completing assessments without interviews and/or workshops.

Collating and analysing the complexity assessments completed by the participants generates an overall complexity profile (**Table 14**) for the project. This can help the sponsor and client understand the strategic risks and issues that may need addressing at various points in the project life cycle. It can also be used as a framework to demonstrate readiness to move from one point of the project life cycle stage to another.

## Completing the complexity assessment

**Table 14** shows an extract of a typical complexity assessment completed by a participant for a project facing a range of challenges including:

- a more complex investment than any previous projects delivered by the client
- a new project team
- an extensive political and stakeholder landscape
- an immature supply chain, deploying innovative and sizable components
- a compressed procurement and engineering timetable
- installing large components safely and efficiently in a hazardous environment

**Table 14 - Extract of a typical complexity assessment**

Factor	Rating (L/M/H)	Example comment evidencing chosen rating
Stakeholders/ influencers	H	<ul style="list-style-type: none"> <li>■ The project involves several government departments and statutory bodies, which have a great deal of influence on the project.</li> <li>■ Local business groups, landowners, businesses and individuals, are influencing project delivery.</li> </ul>
Stability of overall context	H	<ul style="list-style-type: none"> <li>■ The overall context of project delivery is very uncertain because it relies heavily on changing political will and opinion.</li> <li>■ We also interact with, and rely on, many areas of government, which are not aligned with each other.</li> <li>■ We must also deal with world markets for purchasing our equipment and services, the costs of which can fluctuate significantly.</li> </ul>
Range of disciplines and skills	H	<ul style="list-style-type: none"> <li>■ The project is pushing the boundaries of the supply chain, both in capacity and capability, particularly in respect of the innovative procurement strategy.</li> <li>■ The project requires specialist knowledge of health and safety in an offshore environment.</li> </ul>
Organisational capability: performance to date	M	<ul style="list-style-type: none"> <li>■ We have built one similar project with a partner and we are building another similar project alone. So we have some evidence of capability to date, and we have a strong organisational culture of learning and sharing experiences between projects.</li> </ul>

## How to complete the capability assessments

Each capability assessment identifies observable characteristics in the sponsor, client, market and asset manager organisations. These may support effective and efficient delivery of the project or may undermine it. The participants will complete the capability assessments in **Appendix B** to help determine what the current and needed capabilities are for successful project delivery.

The assessments are specific to the project to which Routemap is being applied, and not representative of overall organisational maturity.

The characteristics are grouped into three sets:

Type 1 - Limiting	Type 2 - Adequate	Type 3 - Optimised
These characteristics hold an organisation back, regardless of other good practice. You must either address them, or at least be aware of their possible consequences.	These characteristics are found in organisations that are performing acceptably. The organisational arrangements may be in place but not fully optimised.	These characteristics are indicative of an effective and efficient organisation, optimised for delivery of the project. Not all projects will require these characteristics to be successful.

In developing the Routemap strategy (**Step 3**), you will have agreed and documented the approach for completing the capability assessments and approved the list of participants who will complete the capability assessments.

Each of these participants will need to complete all four capability assessments (sponsor, client, market and asset manager):

- Identify what organisation or function is, or should be, fulfilling the role of the sponsor, client and asset manager, and what constitutes the market, including the supply chain
- Review each characteristic and identify:
  - those in only the current column that the organisation currently demonstrates
  - those in only the needed column that the organisation requires, but does not currently have, to successfully deliver the project
- If a participant is unsure whether a particular area of responsibility demonstrates a characteristic (maybe their role means they are not in contact with that area of responsibility) they should leave both the current and needed columns blank and note down the reason why.
- Capturing the reasons and assumptions behind the ratings is important, as it can support the findings (**Step 6**). It is also important to make a note of characteristics which are current, but will remain vital for continued project development: for example if there is a change in project partner, steps should be taken to ensure that the project does not also lose the capability.

**Table 15 - Extract of completed sponsor capability assessment**

Type 1 - Limiting		
What characteristics do you recognise?	Current	Needed
Strategic decision-making is relatively short term in the context of the overall project timeframe.	<input checked="" type="checkbox"/>	n/a
There is a lack of continuity of investment and/or inflexible funding cycles.	<input checked="" type="checkbox"/>	
....		
Type 2 - Adequate		
What characteristics do you recognise?	Current	Needed
Projects are assessed and selected with reference to the relevant strategies, including the organisational business strategy, nationally determined contributions to the Paris Agreement and/or the UN SDGs.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Sponsor requirements are clearly set out and key risks to their delivery are identified.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
....		
Type 3 - Optimised		
What characteristics do you recognise?	Current	Needed
The project has an identified sponsor who provides visible and consistent support and ownership of the vision.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
There is continuity of investment that gives confidence to all organisations for planning purposes.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
....		

Steps

## How to use interviews to gather information

In your Routemap strategy (**Step 3**) you will have already specified whether you will interview participants to support the application of Routemap, and who those interviewees will be.

You should plan to interview participants after they have completed the complexity and capability assessments. This allows you to discuss and better understand their responses during the interview.

The interview questions must reflect the agreed scope in the Routemap strategy (**Step 3**). You should have consistent interview questions that you use as the starting point for each interview, so you can easily compare and identify areas of difference in responses. You can tailor these questions to the project. The interviewer can also add some questions specific to each interview participant.

Using a consistent questionnaire means that the Routemap lead does not have to conduct all the interviews themselves. You can use other interviewers (Routemap support) provided they have the appropriate level of experience and understanding to probe and challenge interview responses. If you do choose to use a team of people to do this, you must make sure that there is a way for them to share and compare opinions and perspectives on the additional information gathered. It is important that the interviewee feels comfortable to speak openly and honestly to the person conducting the questionnaire. Refer to the interview guidance provided in **Step 3** for more support.

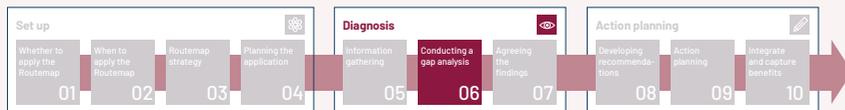
Depending on the areas of interest in the scope, the Routemap lead may find the guiding questions in **Appendix D** useful for developing interview questions. Working through the considerations tables in the modules can also help you to understand the effectiveness of existing arrangements.

During **Step 6**, you will analyse all the information you collected in **Step 5**. Therefore, it is important to document the interview responses in a way that allows you to compare them across all the participants. This will mean you can identify common themes, areas of misalignment, issues and opportunities.

Including quotes from interviews can strengthen the findings, but these should be anonymised and not attributable to the participant.

## Step 6 – Conduct gap analysis

### Overview of Step 6



**Aim:** To identify opportunities to improve project development.

**Key roles:** Routemap lead (and Routemap support if required). Subject matter experts to guide.

For this step, you may benefit from the advice of an expert who has analytical skills, with knowledge of good practice in this area of project development.

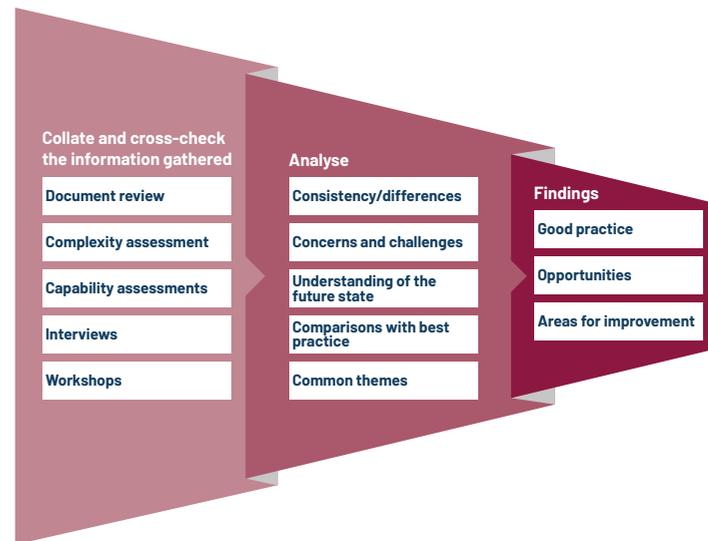
**Input:** Analyse the information collected through **Step 5**, then identify and document the capability gaps and opportunities.

**Output:** A proposed set of findings in the Routemap report template.

In the previous steps, you have collected a large amount of information. Now you need to collate, cross-check and analyse it, to identify differences between the current and required capabilities (the capability 'gaps'). This will give you an overall picture of the shortfalls and opportunities for development. To complete **Step 6**, you will need strong analytical skills. You may also find it helpful to consult with subject matter experts.

The output of this step will be a key section of the Routemap report (the findings).

Figure 8 - The complexity/capability gap analysis



The tasks in the complexity/capability gap analysis include:

- Collating the participant complexity assessments to create a project complexity profile
- Collating the participant capability assessments
- Summarising the assessment results, and cross-checking these with the additional information you have – document review and interview/workshop notes – to identify the complexity/capability gap
- Identifying the Routemap findings, which express the gap between current and good practice and the areas for improvement.

## Creating a complexity profile

The complexity profile summarises the challenges of project implementation and improves team understanding of the strategic risks that may arise at different points in the project lifecycle. It also gives you an overall complexity rating for the project. Stakeholders each provide a low/medium/high rating for each of the 12 complexity assessment factors. Stakeholders may give different ratings depending on their own perspective. The assessments are collated to highlight different perspectives, areas of risk, and an overall picture of the project's complexity.

**Table 16 – Example complexity profile**

Factor	Assessment Data			Profile
	Low	Medium	High	
Strategic importance	0	1	17	H
Stakeholders/influencers	0	6	12	H
Requirements and benefits articulation	10	7	1	L
Stability of overall context	1	12	6	M
Financial impact and value for money	0	5	13	H
Execution Complexity (including technology)	1	7	10	H
Interfaces/relationships	0	9	9	M/H
Range of disciplines and skills	0	3	15	H
Dependencies	3	10	5	M
Extent of change	1	12	5	M
Organisational capability: performance to date	3	13	2	M
Interconnectedness	6	10	2	M

This project example is of high strategic importance, and complex due to the number of stakeholders, the financial investment required and the breadth of technology options.

The assessment data columns show the number of people who scored each factor at each level of complexity. The profile column gives the overall complexity rating for each factor, which is the level of complexity indicated by the most participants.

If the number of ratings for a particular factor is the same, or very close, for example an equal number of participants scoring the factor low and medium or medium and high, you can assign an overall rating of low-medium or medium-high. See the 'Interfaces/Relationships' factor in **Table 16**.

The Routemap lead must judge if the overall project complexity is low, medium or high. Rather than taking an average of the factors, you must consider the relative importance of each factor; some factors will carry more weight in certain projects than others.

Your interview and workshop discussion notes will help you understand the relative importance of each factor. For example, five highs, three mediums and four lows may look like a fairly even spread across the factors. However, averaging these might give too little importance to the high factors when identifying the capability gap later in the Routemap process. It's important to record and explain why you have made decisions on how the factors are weighted, for example, by referencing interview/workshop discussion notes.

In the example in **Table 16**, there were equal numbers of high and medium ratings. However, the interview and workshop notes identified the particular significance of some of the factors which had been scored high, notably its strategic significance, so this project was assigned an overall complexity of high.

## Collating the capability assessments

You need to collate the capability assessments (completed either individually or in workshop groups). They will show you common themes, characteristics that may be blockers to success (Type 1), and good practice that you can build on (Types 2 and 3).

The collated assessments provide a cross-stakeholder perspective of potential gaps between current capabilities and those you need to manage the complexity of and deliver the project. On reviewing the collated responses, the Routemap lead must make a judgement on the overall capability of each area of responsibility (Type 1 - Limiting, 2 - Adequate or 3 - Optimised), based on the number of responses, supported by feedback from any interviews and workshop discussions.

**Table 17** provides an example of a collated set of asset manager capability assessments for a particular project. The numbers in the current and needed columns represent how many people observed each characteristic. The shaded boxes highlight characteristics that were observed by one third, or more, of the people involved in completing the assessment.

**Table 17 - Example collated asset manager capability assessments**

Asset manager - Type 1 - Limiting	Current	Needed	Asset manager - Type 1 - Limiting - continued	Current	Needed
Decision-making mechanisms (planning, capital and operational) fail to consider the whole asset life and value.	1	n/a	Engagement with asset operators is not sufficient for the project's life cycle stage.	6	n/a
There is no strategic asset management plan and/or it is not aligned with the organisation's corporate objectives.	0		There is a poor understanding of the activities required to manage ongoing economic, environmental and social benefits enabled by the assets.	5	
The project requirements, business case and design indicate a lack of future thinking and/or inadequate links to the strategic asset management plan.	3		It is unclear who is accountable for making key decisions.	0	
Poor decision-making, governance structures and processes undermine the asset management plans.	0		There is mistrust and/or poor communication between key organisations.	1	
The target operating model isn't owned by the asset manager, nor do they have the requisite capabilities to operate it effectively.	0		There is an over-reliance on technology without addressing the underlying organisational issues.	2	
There is a failure to ensure that the project delivers a resilient solution for the long-term that considers its evolving external environment.	7		Unnecessary bureaucracy compromises delivery of outcomes and benefits realisation.	2	
Bespoke solutions are developed to address specific challenges rather than adopting standard approaches.	1		There is poor strategic awareness of market capacity and capability in relation to future operational needs.	1	
Asset life cycle parameters such as reliability, availability, cost of maintenance, or operability, are not well defined in the project requirements.	0		There is poor development and retention of asset management capability which leads to inadequate asset management (and, in turn, to sub-optimal whole-life value).	2	

Asset manager - Type 2 - Adequate	Current	Needed
There is a whole life asset management strategy that delivers the right assets and capability to meet the organisation's corporate objectives.	12	1
Interfacing assets are considered as a system to optimise their delivery, operations and maintenance.	6	5
Asset performance is measured and monitored to support decision-making and to evaluate progress against economic, environmental and social management targets.	11	0
Assets and the target operating model are designed to accommodate emerging future technologies and evolving requirements, including economic, environmental and social expectations.	7	2
There are formalised whole life asset management processes, functions and roles.	5	5
There is a plan for operational readiness that ensures smooth handover of the asset from project delivery to operation, which includes reassessment of economic, environmental and social risks and impacts.	10	2
There is active stakeholder engagement, including with communities that are affected by the future operation of the assets.	10	2
Operational capacity and competency requirements have been defined, both for the life of the project and the asset. Staff with asset management responsibilities are involved from the outset.	6	6
Data usage and information management is encouraged.	12	1

Asset manager - Type 3 - Optimised	Current	Needed
Use of assets is aligned to organisational goals. This leads to optimal management of physical assets over their lifecycle, to achieve the stated business objectives.	12	5
Continuity of performance throughout the asset life is achieved.	11	4
Effective governance and leadership ensure that whole life considerations are factored into project decision-making and there is a continual focus on the target end state.	10	3
Investment in assets is effective (producing the desired benefits, for example, reliability, required levels of service) and efficient (providing good value for money) as it is underpinned by reliable asset information.	10	2
A system-wide view of assets is taken, including interfaces and interdependences with other assets, their digital representations and the natural environment.	9	2
There is an effective operational readiness strategy, for the newly created or modified assets.	8	2
The necessary enhancements to operational capability, including environmental and social risk management, are part of project plans.	7	2
Intelligent data usage and knowledge management leads to optimal performance of the assets, including performance against environmental and social targets.	10	1
Contract incentives are aligned to the sponsor's whole life asset requirements.	5	3
The asset manager understands the organisation's strategic objectives and risk appetite, and if appropriate challenges what and how the project is delivering.	4	3

Based on the collated responses to the capability assessment, and considering feedback in interviews and workshops, the current asset manager capability is between Type 2 and Type 3. The needed capability to deliver the project successfully is also between Type 2 and Type 3. So, there is a relatively good level of existing asset management capability to deliver this project.

Steps

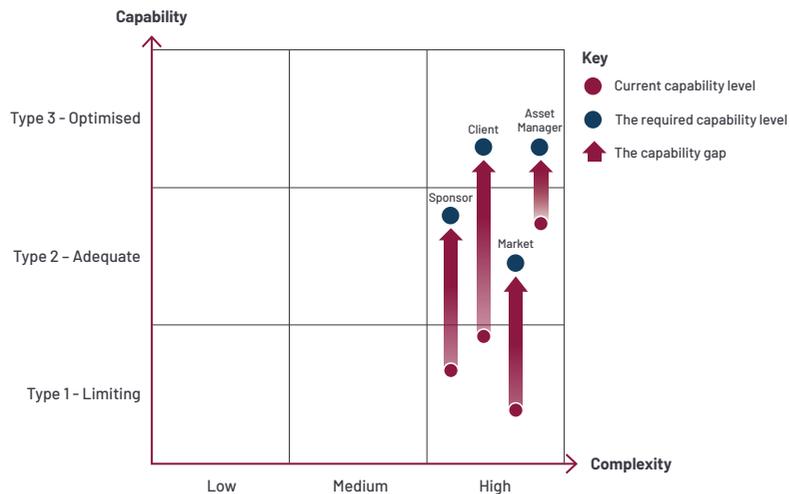
## Identifying the complexity/capability gap

The additional information gathered from the document review, interviews and workshops (including records of discussions, thinking and assumptions behind the ratings), helps the Routemap lead build a rich understanding of the current and required capability levels across the project.

You should cross-check the analysis of additional information with the outputs of the complexity and capability assessments. The additional information will either support the outputs of the assessments or challenge them – which may then warrant further discussion with participants. Unexplained differences in the assessments of different participants may also warrant follow up discussions.

You need to analyse this to identify common themes, emerging capability gaps and specific challenges to develop the Routemap findings. **Figure 9** below can be used to help stakeholders visualise the complexity-capability gaps.

**Figure 9 – Complexity/capability gap analysis chart**



In this example, the current asset manager capability is nearly at the required level. However, the current client capability is characterised as Type 1 - Limiting, so there is a larger gap in capability for this area of responsibility. There is also a significant gap in capability for the sponsor and market. This means the project needs to either improve capability for these areas of responsibility or reduce complexity.

## Identifying the Routemap findings

The Routemap findings document the complexity/capability gap as a series of statements, or findings. These statements identify areas of existing good practice (to be continued) and issues or opportunities relating to successful delivery.

At this stage you should not attempt to develop solutions, this comes later during action planning (**Step 9**).

Experience of using Routemap shows there are key areas related to project development where complexity-capability gaps often occur. Best practice on these areas is included in the Routemap modules.

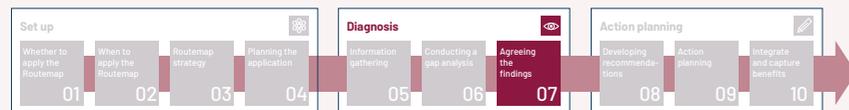
The pillars of effective practice and typical findings sections of the modules may help you to articulate your own Routemap findings. Indeed you may find it helpful to organise your findings by grouping them by the same areas as the Routemap modules.

**Appendix G** provides a list of key questions extracted from each of the modules. Comparing this list to the information you have collected may help you to identify gaps. The modules expand on these lists and can help you to better define these gaps and build a picture of the ideal future state for the project.



## Step 7 – Agree the findings

### Overview of Step 7



**Aim:** To obtain feedback on and approval of the proposed findings.

**Key roles:** Routemap lead to facilitate with Routemap support, commissioning body and any other relevant stakeholders for approvals.

**Input:** Circulate and seek approval of findings.

**Output:** Approved findings, documented in the Routemap report template.

Project teams often report that reviewing the findings can feel like holding a mirror up to the project. Complex projects will test the limits of organisational capability, so you can expect that the application of Routemap will uncover challenges. Indeed some findings may be sensitive, and stakeholders may feel that they are being criticised. You should remind them that the findings are a snapshot of the project at a particular moment in time and that the purpose of Routemap is to help the project team to have the best possible chance of success.

Those responsible for commissioning and overseeing the Routemap must agree the findings before you can move to the next step. All parties need to be clear about the project's current status, and agree which areas need improvement. The Routemap lead is responsible for:

- obtaining feedback on the findings
- ensuring that participants and key stakeholder views on the findings are heard and have been properly considered
- ensuring the findings reflect the feedback received

When agreed, the findings should be documented in the Routemap outputs section of the Routemap report template (see [Appendix D](#)).

### Using the Routemap modules

Here are some typical example findings, relating to the Organisational Design & Development module area:

There are a number of challenges associated with appropriately resourcing the project, both in terms of capability and capacity, some of which are influenced by factors outside of the client organisation's control.

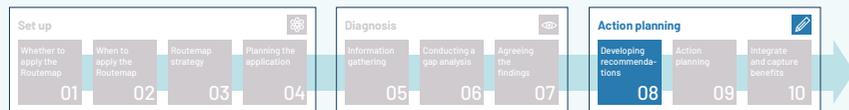
- The stop-start funding has caused resource to be reallocated to other projects. Once go ahead for the project was given, this left a lack of resource, and now team members are over-stretched.
- Existing staff with required specialist experience and capability are currently working on other projects.
- Due, in part, to time constraints, there is a risk that new people joining the team do not have the opportunity to integrate properly.
- Corporate governance and HR processes have impacted on the ability to recruit in a timely manner.
- The behaviour of a new project supplier is causing conflict detracting from delivery.

Steps



## Step 8 – Develop recommendations to improve the project

### Overview of Step 8



**Aim:** To develop high-level solutions for improving project development.

**Key roles:** Routemap lead to facilitate, with Routemap support. Subject matter experts to guide. Participants to input. Commissioning body and any other relevant stakeholders for approvals.

**Input:** Develop a series of recommendations that will address the findings.

**Output:** An agreed set of recommendations documented in the Routemap report template (see **Appendix D**).

The gap analysis (**Step 6**) highlights good practice and areas for improvement, which you document as the findings. The next step is to identify high level solutions, or recommendations, that will address the findings. Recommendations should not be detailed – participants will plan how the recommendation will be implemented in action planning (**Step 9**).

The modules will help you to develop the recommendations. In particular the module considerations can help you to understand the underlying causes of the capability gaps set out in the findings.

### Approach

The Routemap lead should refer to the Routemap strategy (**Step 3**) and confirm that the intended approach to developing the recommendations remains appropriate. A workshop, or series of workshops is often the best way. In addition to participants, you should invite the commissioning body and any other key stakeholders to ensure the recommendations have senior-level support and are achievable.

You may wish to group workshop participants by area of responsibility, to co-develop recommendations which relate to their roles.

Subject matter experts can also be useful to guide the participants to develop recommendations. They can provide a different perspective and introduce real world examples of best practice that they may have used previously.

### Developing recommendations

To move from findings to recommendations, you should:

- Identify which modules could support the activity and group the findings by module area. If your findings resemble the statements in the typical findings of a particular module, then this module may help. You may not need all the modules.
- Develop at least one recommendation to address each finding and its underlying cause. Sometimes you will address one finding with a range of recommendations, and sometimes one recommendation can address multiple findings.
- Develop the recommendations in the form of broad, positive statements (you will undertake the detailed action planning in **Step 9**).
- Document the statements in the Routemap recommendations section of the Routemap report template (see **Appendix D**).
- Seek approval of the recommendations from the commissioning body.
- **Table 18** example demonstrates how a recommendation could be developed based upon findings agreed (**Step 7**).

Steps

Table 18 – Example of recommendation development

**Example Finding:**

The extent of new capability required to deliver the project is not clearly understood.

**Organisational design & development module:**

Refer to considerations related to the **designing the organisation pillar**

**Example recommendation:**

Benchmark the project's organisational design and size against other comparable projects

**Using the Routemap modules**

Once the project team has agreed its findings (**Step 7**), they check the typical findings section of each module to see which modules can provide relevant insight into the issues they face. They find that the following typical findings from the Organisational Design & Development module closely align with the findings they identified in **Step 7**:

- Changes to capability requirements at key transition points are not identified, anticipated or prepared for.
- The project organisation design and culture are not evolving to reflect the changing needs of the project. For example, as new project partners join or as the project progresses from one life cycle stage to the next and to operation.

This suggests that the Organisational Design & Development module will help them develop recommendations. They read through the relevant considerations from the Organisational Design & Development module, including:

- Are there policies or requirements (corporate or statutory) that will affect organisational decision-making or people development practices? For example, safety critical obligations, trade union agreements, safeguarding, pay and reward or travel policies. If not, are these required by the project?
- Has the project benchmarked its organisational design and size against other comparable projects?
- Are alternative options considered to build in-house capability, including redeployment of existing staff from elsewhere in the organisation or bringing in staff on fixed term contracts?
- Are the changes to required capability and capacity through the project's life cycle understood? Particularly as the project moves from one stage of the life cycle to the next?
- Is the resourcing strategy appropriate for the importance, complexity and scale of the project?
- Do corporate mechanisms for monitoring and rewarding performance help to motivate teams to deliver the project's objectives?

Referring to the "what may help" section associated with these considerations, the project team reviews relevant suggested further reading and good practice examples. These provide further useful context and real-life experience from other major projects. Based on their review, the team developed the following recommendations:

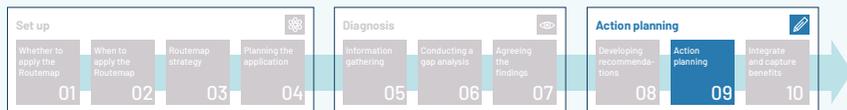
- Develop a clear resourcing strategy aligned with corporate requirements, which provides flexibility for different project phases.
- Establish a stable core team
- Identify where flexible resources can be used, for example, consultants, agencies
- Put administration support with appropriate capability in place to manage these
- Develop the approach to reward, development and incentivisation, taking into account the specific business environment.

Steps



## Step 9 – Plan how to implement the recommendations

### Overview of Step 9



**Aim:** To develop detailed activities for implementing the recommendations.

**Key roles:** Routemap lead to facilitate, with Routemap support. Subject matter experts to guide. Participants to input. Commissioning body and any other relevant stakeholders for approvals.

**Input:** Development of an action plan.

**Output:** A proposed action plan documented in the Routemap report template.

In this step you will develop a detailed action plan for improving project development.

The Routemap lead should refer to the Routemap strategy (**Step 3**) and confirm that the intended approach to action planning remains appropriate. A workshop, or series of workshops, is often the best way. In addition to participants, you should invite the commissioning body and any other key stakeholders, to ensure the actions have senior-level support and are achievable.

You may wish to group workshop participants by area of responsibility, to co-develop actions which relate to their roles.

Subject matter experts can also be useful to guide the participants to plan actions. They can provide a different perspective and introduce real-world examples of best practice that they may have used previously.

Steps

## Action planning

Table 19 below sets out a good practice approach to action planning, that has been employed on previous Routemap applications. You can tailor this to your own project.

Table 19 – Typical action planning process

Step	Action	Tips
1	<b>Print a large version of the action planning template in Appendix F</b>	<ul style="list-style-type: none"> <li>A minimum of size A0 is recommended.</li> <li>You can use sticky notes to add information to the template as you progress through the following steps.</li> </ul>
2	<b>Establish the key project milestones</b>	<ul style="list-style-type: none"> <li>These will determine when the improvements in capability are required.</li> <li>Plot these milestones as dates across the top of your action plan.</li> </ul>
3	<b>Develop and agree a success statement for improving project delivery</b>	<ul style="list-style-type: none"> <li>A success statement should describe, in high level terms, how the project will run once the project has addressed the findings from Routemap.</li> <li>Success statements should be meaningful to all areas of responsibility (sponsor, client, market and asset manager).</li> </ul>
4	<b>Group the recommendations into themes</b>	<ul style="list-style-type: none"> <li>Together, the themes will help achieve the above success statement. It may be useful to agree an objective for each theme.</li> <li>The recommendations will usually fall into a small number of themes, perhaps four or five, that build capability across the project team and stakeholders. In <b>Figure 10</b>, one of the themes identified is governance, and an objective has been agreed for this theme of 'Authority is assigned for effective and timely decision-making'.</li> </ul>
5	<b>Determine step-by-step actions</b>	<ul style="list-style-type: none"> <li>Develop actions to implement the recommendations. You can use the modules to help you with this, in particular the good practice examples and suggested further reading. In <b>Figure 10</b>, the actions are illustrated by the blue circles. It is useful to provide a description for each action (<b>Table 20</b>).</li> </ul>
6	<b>Agree the timescales for each action</b>	<ul style="list-style-type: none"> <li>Consider the key project milestones (see above) when determining the timescales for completing the actions.</li> </ul>

Step	Action	Tips
7	<b>Capture dependencies</b>	<ul style="list-style-type: none"> <li>Record where completion of one action is dependent on one or more other actions. These are illustrated by the blue arrows in <b>Figure 10</b> and recorded under the dependencies heading in <b>Table 20</b>.</li> </ul>
8	<b>Identify critical actions and actions that are critical to many others</b>	<ul style="list-style-type: none"> <li>Consider which actions might have a high impact on the project if they are delayed.</li> </ul>
9	<b>Agree theme and action owners</b>	<ul style="list-style-type: none"> <li>Theme owners should be agreed and assigned in the workshop.</li> <li>If there are time constraints, individual action owners may be assigned after the workshop.</li> </ul>
10	<b>Document the actions</b>	<ul style="list-style-type: none"> <li>Record the actions and key information from above, including timescale, owner, risk level and dependencies, in the Routemap action plan section of the Routemap report after the workshop.</li> </ul>
11	<b>Agree actions</b>	<ul style="list-style-type: none"> <li>Actions should be agreed with key stakeholders who may be absent from the workshop, as appropriate.</li> </ul>
12	<b>Seek approval</b>	<ul style="list-style-type: none"> <li>Seek the approval of the final Routemap report, including the Routemap action plan, from the commissioning body.</li> </ul>

Steps



The action plan in **Table 20** documents further detail from the action planning workshop and provides a framework to assign owners to individual actions and monitor progress:

**Table 20 - Extract of an example action plan**

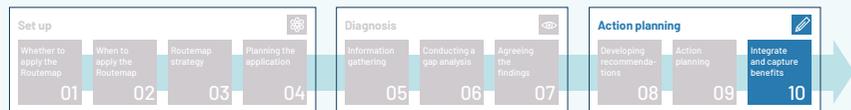
Theme	Action ID	Action	Description	Timing	Dependencies	Owner	Status	Notes
<i>Theme title and owner</i>	<i>Reference number for tracking</i>	<i>Action title</i>	<i>A description of the action within the workstream</i>	<i>When the action is due</i>	<i>Note down any other actions that may impact this action</i>	<i>Identify a named individual</i>	<i>Progress of the action (red/amber/green)</i>	<i>Any specifics worth documenting</i>
<b>Theme A:</b> Market capability <b>Theme owner:</b> Government agency	A.1	Identify key stakeholders	Identify key procurement stakeholders to build understanding of the new approach	March	n/a	Jane Doe	Completed	Supplier X omitted due to availability
	A.2	Risk allocation	Understand which project risks will significantly affect procurement and financing	July	A.1	John Smith	In progress	New procurement policy note

Steps



## Step 10 - Integrate improvement plans into project development activity

### Overview of Step 10



**Aim:** To integrate the Routemap action plan into existing project development activity.

**Key roles:** Routemap lead and commissioning body.

**Input:** Circulate the agreed action plan to stakeholders involved in delivering the improvements.

**Output:** An agreed action plan, documented in the Routemap report template.

When Routemap comes to a close, you will need to incorporate the Routemap action plan into existing project delivery plans and other documentation. That way, the actions will become an integrated part of project development. If you keep them separate, it will make them seem like an 'optional extra' to the project. You can do this by incorporating actions into existing project workstreams which aim to:

- improve project capability, for example, in project resourcing plans
- track project performance, for example, incorporating target delivery dates for actions into the project schedule, and incorporating risk mitigations into the project risk register
- shape the project delivery strategies, for example, in the commercial and procurement strategy documents
- improve corporate capability, for example, in corporate recruitment strategies

### Following Routemap

The Routemap lead will share the action plan section of the completed Routemap report with the project team. The commissioning body should review and approve the final, complete Routemap report. It should also ensure the project team integrates the action plan into existing activity and monitor progress.

### Capturing the benefits

You will have documented the anticipated benefits from undertaking Routemap in the Routemap strategy. You should discuss, capture and share what benefits Routemap has delivered. This way, other projects teams can benefit from your experience and what you have learned.

Views to capture include:

- comparing the early expectations with what was actually achieved
- recording participant and wider stakeholder views of what they learned, and what changed for them/their work through using Routemap

Steps

# Glossary

## Accountability

The accountable person is the individual who is ultimately answerable for an activity or decision. This includes 'yes' or 'no' authority and veto power. Only one accountable person can be held to account. An accountable person has to be accountable to someone for something. Accountability cannot be delegated or shared.

The responsible person is the individual who actually undertakes the task: in other words, they manage the action/implementation. Responsibility can be shared. The degree of responsibility is determined by the individual with the accountability.

## Asset

Anything tangible or intangible that is owned or controlled with the expectation of present or future benefit.

## Asset manager

In the context of Routemap, the asset manager is the organisation (or parts of) responsible for day-to-day operations and maintenance of the asset. The asset manager may be a part of the sponsor or client organisations, or a separate entity. Similarly, the operator and maintainer of the assets may be separate entities.

## Benefits

In the context of project delivery, benefit is the measurable value or other positive impact resulting from an outcome perceived as an advantage by one or more stakeholders, and which contributes towards one or more objectives.

## Capability

In the context of Routemap, capability describes the ability of the sponsor, client, asset manager and market to organise for effective and efficient delivery. It refers to all or part of an organisation, and not the individual.

## Client

In the context of Routemap, the client is the organisation that is responsible for undertaking the work to fulfil the sponsor's requirements. The client translates the requirements from the sponsor and manages the delivery. The client selects the most appropriate suppliers. In some contexts, the sponsor and client could be from the same organisation.

## Complexity

In the context of Routemap, project complexity is a measure of the inherent difficulty of delivering a project. This is assessed on factors such as the stability of the wider delivery environment, the level of innovation required, and the number of stakeholders involved.

## Contracting model

The contracting model refers to how risk is allocated between the client and suppliers. It should align with each parties' risk appetite, their ability to manage risks and the delivery model.

## Delivery model

The delivery model is the form of structural and commercial arrangements to be deployed to meet the sponsor's requirements. The selected model should be the best option from those available, taking into account the capabilities and constraints of the project. For example, the creation of an arm's-length body like High Speed 2 or the formation of a special purpose vehicle as has been used to deliver Thames Tideway Tunnel.

## Delivery strategy

The delivery strategy describes how the selected delivery model will be implemented and how it will need to change over time.

## Environmental, economic and social value

The impact a project has on the environment, economy, and society. This may be global or localised, and may result both from meeting the project's objectives (for example, improved transport links) and from by-products of delivery (for example, job creation). It relates to reducing negative impacts as well as increasing positive impacts, and it is important that value delivered against one category is not at the expense of another (for example, delivering economic development but at significant cost to local biodiversity).

## Environmental, social and governance (ESG) criteria

These are key criteria for sustainability reporting, in response to widespread investor and consumer demand. They are also increasingly used to inform investment decision making.

## Governance

Governance defines relationships and the distribution of rights and responsibilities among those who work with and in the organisation. It determines the rules and procedures through which the organisation's objectives are set and provides the means of attaining those objectives and monitoring performance.

## Market

In the context of Routemap, the market comprises organisations which integrate and compete to deliver goods or services to one or more clients. This includes:

- the players, for example, sellers/buyers/partner
- the rules, for example, regulation, legislation
- processes, for example, procurement, delivery
- structure, for example, relationships between buyers, sellers, partners

# Glossary

## Optimism bias

The demonstrated and systematic tendency to overemphasise positive benefits and opportunities and undervalue the costs and negative risks of projects. This bias should be quantified when developing cost plans and schedules.

## Outcomes

The result of change, normally affecting real-world behaviour or circumstances. Outcomes are desired when a change is conceived. Outcomes are achieved as a result of the activities undertaken to effect the change; they are the manifestation of part or all of the new state conceived in the target operating model.

## Requirements

Requirements are the project stakeholders' wants and needs, clearly defined and with acceptance criteria.

## Risk

The effect of uncertainty on objectives. Risk is usually expressed in terms of causes, potential events, and their consequences.

- a cause is an element which alone or in combination has the potential to give rise to risk
- an event is an occurrence or change of a set of circumstances and can be something that is expected which does not happen or something that is not expected which does happen.
- the consequences are the outcomes of an event affecting objectives, which can be certain or uncertain, can have positive or negative direct or indirect effects on objectives, can be expressed qualitatively or quantitatively.

## Risk appetite

The nature and extent of risks that an organisation is willing to take.

## Senior Responsible Owner (SRO)

All UK government projects will have a senior responsible owner. They are accountable to the sponsor organisation for a programme or project meeting its objectives, delivering the projected outcomes and realising the required benefits. The senior responsible owner is the owner of the business case and accountable for all aspects of governance. The senior responsible owner of a government major project is ultimately accountable to Parliament.

## Sponsor

In the context of Routemap, the sponsor is an organisation that secures the funding, owns the business case and is responsible for specifying the requirements to the client. In some contexts, the sponsor and client could be the same organisations.

## Stakeholders

Any individual, group or organisation that can affect or be affected by, or perceive itself to be affected by an initiative (programme, project, activity, or risk).

## Sustainability

This means making the necessary decisions now to stimulate economic growth, maximise wellbeing and protect the environment, without affecting the ability of future generations to do the same.

## Target operating model

The target operating model refers to how the asset or change will be funded, owned, operated and maintained once the project has closed.

## Transition Points

Points at which a project moves from one stage to another. For example, delivery to operations.

## Value for money

Value for money is a balanced judgment based on the whole life benefit cost ratio, which brings together social costs and benefits, together with significant unquantified deliverables, and unmonitised risks and uncertainties.

## UN Sustainable Development Goals (SDGs):

Adopted by the United Nations in 2015 as a universal call to action to end poverty, protect the planet, and ensure that by 2030 all people enjoy peace and prosperity. The 17 SDGs are integrated and recognise that action in one area will affect outcomes in others, and that development must balance social, economic and environmental sustainability.



# Appendix A: Routemap – Complexity assessment

*“We found striking patterns in the reasons for projects failing, which all related to the importance of understanding the delivery environment and complexity of the project when making a decision whether to proceed. Organisations which really understood the inherent challenges of their project were able to create an environment for success at the earliest stages of its design, while those which did not set themselves up for failure at a later stage.”*

The DECA: Understanding challenges in delivering project objectives – National Audit Office 2013

The complexity of your project may be assessed using the UK National Audit Office (NAO) Delivery Environment Complexity Analytic (DECA), which is set out below. A downloadable version is also available as part of the workbooks. The tool was written for public sector projects but is equally applicable to private sector projects.

Helpful tips based on the most recent update of the Routemap modules have been added to the factor descriptions in *italics*. Most of these tips relate to sustainability (one of the cross-cutting themes running through all the Routemap modules) and systems integration (the topic of the new Routemap module published in 2021).

Reference	Impact statement Level 1 complexity	1 Low	2 Med	3 High	Impact statement Level 3 complexity
<p><b>1 Strategic importance</b></p> <p>The extent to which the project supports delivery of the department’s objectives, the level of ministerial and wider public interest.</p> <p><i>Tip: You should consider whether the project supports delivery of national or regional policies, strategies and plans. For example, the UK’s National Infrastructure Strategy, UN Sustainable Development Goals and nationally determined contributions to the Paris Agreement.</i></p>	<ul style="list-style-type: none"> <li>Low priority operational level project/programme.</li> <li>Expected benefits are necessary but low in value relative to organisation’s/government’s overall ambitions.</li> <li>Externally there is little political, media or public interest and failure would not have significant impact outside the organisation.</li> </ul>				<ul style="list-style-type: none"> <li>Critical to delivery of key strategic objectives or legal obligations, with very high expectation of benefits.</li> <li>High level political or public interest with strong media attention.</li> <li>Failure would have major impacts and consequences outside the organisation.</li> </ul>
<p><b>2 Stakeholders/influencers</b></p> <p>The groups or individuals with an interest in the project and the level of influence they have on it.</p> <p><i>Tip: This may include project affected communities to be consulted on project design and development.</i></p>	<ul style="list-style-type: none"> <li>Low number of stakeholders or level of influence.</li> <li>Stakeholders are aligned with the business objectives, supporting the project and agreeing on the expected outcomes.</li> <li>Key stakeholders and influencers are unlikely to change.</li> </ul>				<ul style="list-style-type: none"> <li>Significant number of stakeholders with high levels of influence and differing or misaligned objectives/expectations.</li> <li>Stakeholders/influencers may change.</li> </ul>
<p><b>3 Requirements and benefits articulation</b></p> <p>Are the sponsoring body and delivery team clear about their requirements and how these requirements will lead to the objectives being met?</p> <p><i>Tip: This should include the intended economic, environmental and social benefits and how these will be realised.</i></p>	<ul style="list-style-type: none"> <li>Requirements and expected benefits are clear and linked to business policy.</li> <li>Key performance measurements linked to goals, vision and values.</li> </ul>				<ul style="list-style-type: none"> <li>Ambiguity around requirements and how the expected benefits contribute to the realisation of the goals, vision and values.</li> <li>High uncertainty on project impact.</li> </ul>

Steps

# Appendix A: Routemap – Complexity assessment

Reference	Impact statement Level 1 complexity	1 Low	2 Med	3 High	Impact statement Level 3 complexity
<p><b>4 Stability of overall context</b></p> <p>Will the requirements and environment remain stable for the foreseeable future?</p> <p><b>Tip:</b> <i>This may include the direction of public policy, for example relating to climate change, and its impacts on the target operating model.</i></p>	<ul style="list-style-type: none"> <li>■ Requirements, governance and delivery modes are clear and unlikely to change.</li> <li>■ No significant risk of change in scope, structure, external requirements or economic/political landscapes.</li> <li>■ High degree of confidence in planning, estimates and/or governance.</li> <li>■ Necessary approvals/investment already received or guaranteed.</li> </ul>				<ul style="list-style-type: none"> <li>■ High risk of scope, structure, external requirements or economic/political landscapes changing.</li> <li>■ Low level of certainty within key estimates, planning and/or governance.</li> <li>■ Uncertainty over whether necessary authorisations will be received.</li> </ul>
<p><b>5 Financial impact and value for money</b></p> <p>How significant is the project financially to the sponsoring body/supplier and are the expected benefits proportional to the projected costs?</p> <p><b>Tip:</b> <i>This should include the economic, environmental and social benefits (including disbenefits) that may be realised beyond the scope of the project.</i></p>	<ul style="list-style-type: none"> <li>■ Investment is not significant relative to the sponsoring body's capital expenditure, or comparable investments.</li> <li>■ Project/programme not material to key suppliers.</li> <li>■ Anticipated revenues, efficiencies or returns on investment are not fundamental to the business.</li> <li>■ High level of assurance over key estimates.</li> </ul>				<ul style="list-style-type: none"> <li>■ Investment is significant for the sponsoring body.</li> <li>■ Investment expected to deliver significant value for money, efficiencies or returns.</li> <li>■ Highly involved type/source of investment anticipated. Low level of assurance over key estimates.</li> </ul>
<p><b>6 Execution complexity (including technology)</b></p> <p>How complex are the objectives to deliver, due to factors including technology, approach and tight timescales? How difficult is the project to deliver?</p> <p><b>Tip:</b> <i>Another important factor is the need to integrate multiple (new and existing) systems, and don't forget that new technologies may emerge during the life of the project or the resulting asset.</i></p>	<ul style="list-style-type: none"> <li>■ No new or untested business practices or technologies form part of the scope.</li> <li>■ There is front end loading for phased implementation and piloting if required.</li> <li>■ Organisation or its partners has past experience of all practices, key technologies and methods used.</li> </ul>				<ul style="list-style-type: none"> <li>■ New/untested business practices or technology required.</li> <li>■ Wide scope and challenging objectives with limited scope for risk management such as phased implementation or piloting due to immovable deadlines and demanding targets.</li> </ul>

# Appendix A: Routemap - Complexity assessment

Reference	Impact statement Level 1 complexity	1 Low	2 Med	3 High	Impact statement Level 3 complexity
<p><b>7 Interfaces/relationships</b></p> <p>How many different bodies are involved in delivery?</p> <p><b>Tip:</b> <i>Don't forget the bodies responsible for systems outside of the project control (for example transport systems, power systems, local natural habitats etc), but with which the project must interface effectively to successfully deliver.</i></p>	<ul style="list-style-type: none"> <li>Project/programme spans few boundaries (organisational, political, and regional) and success is not dependent on relationships.</li> <li>Governance is not complex and supports decision-making and reporting.</li> <li>Success is not dependent on factors outside control of the organisation.</li> </ul>				<ul style="list-style-type: none"> <li>Project/programme spans many boundaries with internal and external partners.</li> <li>Success is dependent on factors mainly outside control of the organisation and is dependent on relationship management.</li> <li>Governance is complex.</li> </ul>
<p><b>8 Range of disciplines and skills</b></p> <p>Are specialist skills required for delivery, and are these available within the organisation?</p> <p><b>Tip:</b> <i>Examples might include ecological experts for sites of special scientific interest or social advisors for economic regeneration.</i></p>	<ul style="list-style-type: none"> <li>Delivery involves few specialist disciplines or skill requirements.</li> <li>Acquiring the skills for implementation is straightforward and readily available in the market.</li> </ul>				<ul style="list-style-type: none"> <li>Large number of disciplines and skills and/or potential for strain on the supply chain capacity and capability.</li> </ul>
<p><b>9 Dependencies</b></p> <p>Is the work critical to the delivery of objectives elsewhere or dependent upon other projects for its own success?</p> <p><b>Tip:</b> <i>You should also consider whether the project is expected to contribute to shared outcomes and benefits, perhaps as part of a wider portfolio or system. For example, regional development goals.</i></p>	<ul style="list-style-type: none"> <li>Project/programme is not critical to delivery of other projects.</li> </ul>				<ul style="list-style-type: none"> <li>Project/programme is critical to the delivery of other projects.</li> </ul>
<p><b>10 Extent of change</b></p> <p>Does the project/work involve a significant change in the way the organisation conducts its work, or is it business as usual?</p> <p><b>Tip:</b> <i>You may also need to consider the impact of change beyond the project organisation.</i></p>	<ul style="list-style-type: none"> <li>Business as usual.</li> </ul>				<ul style="list-style-type: none"> <li>Large amount of organisational change required to deliver desired outcomes and benefits.</li> <li>Delivery represents a fundamental change to the organisation.</li> </ul>

# Appendix A: Routemap – Complexity assessment

Reference	Impact statement Level 1 complexity	1 Low	2 Med	3 High	Impact statement Level 3 complexity
<p><b>11 Organisational capability: performance to date</b></p> <p>Has the organisation demonstrated the capability and capacity to deliver its objectives? Has it learnt lessons from the past?</p> <p><i>Tip: Remember this includes success in realising the intended benefits, including economic, environmental and social benefits.</i></p>	<ul style="list-style-type: none"> <li>■ Demonstrated capability to deliver project/programme through delivery of similar successful projects/programmes.</li> <li>■ Culture promotes 'intelligent client' attributes.</li> </ul>				<ul style="list-style-type: none"> <li>■ Has not demonstrated key capabilities in delivering major projects/programmes and/or has not delivered under similar arrangements in the past.</li> </ul>
<p><b>12 Interconnectedness</b></p> <p>How well does the organisation understand the links between the elements in its external environment, the complexity and its own capability?</p> <p><i>Tip: Don't forget about the relationships between new and pre-existing built and digital systems, the natural environment, and the critical role of people in making these interactions work.</i></p>	<ul style="list-style-type: none"> <li>■ Consideration of the required alignment and relationships between policy, culture, practices, technology, people, processes and procedures.</li> <li>■ Interrelationships inform decision-making and risk management.</li> </ul>				<ul style="list-style-type: none"> <li>■ Consideration of the required alignment and relationships between policy, culture, practices, technology, people, processes and procedures has not been investigated, captured or communicated.</li> </ul>

## Appendix B: Routemap – Capability assessments

Each capability assessment identifies observable characteristics in the sponsor, client, market and asset manager organisations. These characteristics may support effective and efficient delivery of the project or may undermine it. The assessments can help determine what the current and needed capabilities are for successful project delivery. A downloadable version is also available as part of the workbooks.

The assessments are specific to the project to which Routemap is being applied, and not representative of overall organisational maturity.

The characteristics are grouped into three types:

Type 1 - Limiting	Type 2 - Adequate	Type 3 - Optimised
These characteristics hold an organisation back, regardless of other good practice. You must either address them, or at least be aware of their possible consequences.	These characteristics are found in organisations that are performing acceptably. The organisational arrangements may be in place but not fully optimised.	These characteristics are indicative of an effective and efficient organisation, optimised for delivery of the project. Not all projects will require these characteristics to be successful.

Steps

## Appendix B: Routemap – Capability assessments

### Sponsor – Type 1 – Limiting

What characteristics do you recognise?	Current	Needed
Strategic decision-making is relatively short term in the context of the overall project timeframe.	<input type="checkbox"/>	n/a
There is a lack of continuity of investment and/or inflexible funding cycles.	<input type="checkbox"/>	
Undue interference from senior stakeholders compromises good practice.	<input type="checkbox"/>	
The sponsor doesn't have a clear understanding of the target operating model or fails to communicate this consistently to key stakeholders.	<input type="checkbox"/>	
The approach to infrastructure investment is reactive rather than adhering to a long-term plan.	<input type="checkbox"/>	
Insufficient planning results in inefficiency and a failure to maximise opportunity.	<input type="checkbox"/>	
Alternative solutions are not sufficiently considered.	<input type="checkbox"/>	
Projects are assessed or selected without reference to the relevant strategies, including the organisational business strategy, nationally determined contributions to the Paris Agreement or the UN Sustainable Development Goals (SDGs).	<input type="checkbox"/>	
Projects are assessed or selected without proper consideration of potential economic, environmental and social risks and opportunities.	<input type="checkbox"/>	
The business case is unclear and does not set realistic and justified sustainable development objectives.	<input type="checkbox"/>	
Projects are handled in isolation, instead of as part of a portfolio that is aligned to the long-term organisational needs.	<input type="checkbox"/>	
There is little or no reference to a project sustainability strategy or consensus on sustainability standards, climate risk or net zero.	<input type="checkbox"/>	
Risk is not allocated to the party best able to manage it.	<input type="checkbox"/>	
There is a lack of clear accountability for key decisions.	<input type="checkbox"/>	
There is mistrust and/or poor communication between key organisations.	<input type="checkbox"/>	
There is an over-reliance on technology, without addressing underlying organisational issues.	<input type="checkbox"/>	
Unnecessary bureaucracy compromises delivery of outcomes and benefits realisation.	<input type="checkbox"/>	
There is a low level of awareness of market capability and capacity.	<input type="checkbox"/>	
There is poor development and retention of sponsor capability.	<input type="checkbox"/>	
The project fails to adequately consider diversity and inclusion.	<input type="checkbox"/>	

## Appendix B: Routemap – Capability assessments

### Sponsor - Type 2 - Adequate

What characteristics do you recognise?	Current	Needed
Projects are assessed and selected with reference to the relevant strategies, including the organisational business strategy, nationally determined contributions to the Paris Agreement and the UN SDGs.	<input type="checkbox"/>	<input type="checkbox"/>
Sponsor requirements are clearly set out and key risks to their delivery are identified.	<input type="checkbox"/>	<input type="checkbox"/>
An accurate and frequently validated baseline of risks and benefits, including economic, environmental and social impacts, is maintained.	<input type="checkbox"/>	<input type="checkbox"/>
There is a common level of understanding of the key project risks and possible unintended consequences (including economic, environmental and social) between the sponsor and client organisations.	<input type="checkbox"/>	<input type="checkbox"/>
Scenario planning to examine the impact of alternative future situations is undertaken; and/or other approaches to anticipating future needs are adopted.	<input type="checkbox"/>	<input type="checkbox"/>
The need for investment in project development/front end planning is recognised, to ensure that the project is set up to be successful.	<input type="checkbox"/>	<input type="checkbox"/>
The project is justified and a 5 Case Model approach has been adopted.	<input type="checkbox"/>	<input type="checkbox"/>
The investment case is reviewed by the appropriate authorities before progressing to implementation.	<input type="checkbox"/>	<input type="checkbox"/>
It is clear who is accountable for decision-making related to each aspect of the project.	<input type="checkbox"/>	<input type="checkbox"/>
There is clear governance for sustainability decisions and visible KPIs for sustainability performance	<input type="checkbox"/>	<input type="checkbox"/>
The 'right' set of projects are identified, that together will deliver the required outcomes, realise the intended benefits and meet the long term organisational needs.	<input type="checkbox"/>	<input type="checkbox"/>
The interface between the sponsor and client organisations has been clearly defined, with means for information sharing and management established.	<input type="checkbox"/>	<input type="checkbox"/>
There is active stakeholder and community engagement (including with project affected communities and representative groups) to capitalise on opportunities for maximising the positive, and mitigate against any negative, economic, environmental or social impacts.	<input type="checkbox"/>	<input type="checkbox"/>
Lessons learned are fed back into the decision-making process, including feedback from stakeholder engagement on economic, environmental and social issues.	<input type="checkbox"/>	<input type="checkbox"/>
The sponsor has access to relevant expertise (including environmental and social) to assist with setting requirements and assurance of client responsibilities.	<input type="checkbox"/>	<input type="checkbox"/>
The sponsor looks forward to future issues and welcomes any bad news early.	<input type="checkbox"/>	<input type="checkbox"/>
The sponsor has clear aspirations and targets around becoming Net Zero, and uses carbon accounting to assess the carbon impacts.	<input type="checkbox"/>	<input type="checkbox"/>

## Appendix B: Routemap – Capability assessments

### Sponsor - Type 3 - Optimised

What characteristics do you recognise?	Current	Needed
The project has an identified sponsor who provides visible and consistent support and ownership of the vision.	<input type="checkbox"/>	<input type="checkbox"/>
There is continuity of investment that gives confidence to all organisations for planning purposes.	<input type="checkbox"/>	<input type="checkbox"/>
It is clear that the project is viable and will deliver the intended business objectives.	<input type="checkbox"/>	<input type="checkbox"/>
The sponsor's requirements are clearly defined, and benefits are measurable including considerations for social value.	<input type="checkbox"/>	<input type="checkbox"/>
There are effective and clear decision-making processes that challenge assumptions.	<input type="checkbox"/>	<input type="checkbox"/>
There is active risk management which remains focused on benefits realisation, including wider economic, environmental and social benefits.	<input type="checkbox"/>	<input type="checkbox"/>
An agile and adaptive culture is in place.	<input type="checkbox"/>	<input type="checkbox"/>
The sponsor takes a system-wide perspective. They leverage or optimise value-adding interdependencies between projects, by flexing timings and their investment profile.	<input type="checkbox"/>	<input type="checkbox"/>
There is a clear programme of stakeholder engagement and support, including with project affected communities.	<input type="checkbox"/>	<input type="checkbox"/>
The sponsor has the autonomy and capability to enable delivery and manage resources.	<input type="checkbox"/>	<input type="checkbox"/>
High quality project information including performance data, lessons learned and benchmarking is used to inform decision-making.	<input type="checkbox"/>	<input type="checkbox"/>
The sponsor ensures there is a clear operational plan for measurement and delivery of asset performance.	<input type="checkbox"/>	<input type="checkbox"/>

## Appendix B: Routemap – Capability assessments

### Client – Type 1 – Limiting

What characteristics do you recognise?	Current	Needed
There is a lack of clarity and direction causing incomplete or unclear requirements.	<input type="checkbox"/>	n/a
It is unclear who is responsible for making key decisions.	<input type="checkbox"/>	
Risk management is compromised by its reactive nature, blame culture and inappropriate risk allocation.	<input type="checkbox"/>	
Unnecessary or excessive standards are imposed without consideration of their relevance to the project.	<input type="checkbox"/>	
Bespoke solutions are developed to address individual issues, rather than adopting standard approaches.	<input type="checkbox"/>	
Competitive procurement processes do not incorporate economic, environmental and social considerations and do not result in desired outcomes from the project.	<input type="checkbox"/>	
There is a highly risk-averse approach, which does not take market capability into account.	<input type="checkbox"/>	
The client organisation does not adapt or change behaviour to suit the selected client model.	<input type="checkbox"/>	
The client does not incentivise long term investment by the supply chain.	<input type="checkbox"/>	
There is no investment in the development of client capability.	<input type="checkbox"/>	
The client does not have internal economic, environmental and social specialist capabilities or seek to engage external specialists as required.	<input type="checkbox"/>	
The project focuses on capital delivery, to the detriment of wider sustainable development outcomes and associated asset management goals.	<input type="checkbox"/>	
The interfaces between new and existing systems are not well understood or proactively managed.	<input type="checkbox"/>	
The project has not adequately allowed for “optimism bias”.	<input type="checkbox"/>	

## Appendix B: Routemap – Capability assessments

### Client – Type 2 – Adequate

What characteristics do you recognise?	Current	Needed
The client organisation knows what is needed and prioritises accordingly, placing sustainable development at the centre of decision-making alongside economic considerations.	<input type="checkbox"/>	<input type="checkbox"/>
Project purpose, principles and roles are established before the detailed delivery plan.	<input type="checkbox"/>	<input type="checkbox"/>
Sponsor requirements are translated into clear functional and technical requirements by the client.	<input type="checkbox"/>	<input type="checkbox"/>
The client constructively challenges requirements changes from the sponsor.	<input type="checkbox"/>	<input type="checkbox"/>
Sponsor or supplier proposals for unique solutions and specialist requirements are constructively challenged.	<input type="checkbox"/>	<input type="checkbox"/>
Appropriate measurements, metrics and targets for success are established, including social and environmental performance, for example, carbon accounting.	<input type="checkbox"/>	<input type="checkbox"/>
Client benchmarks cost and performance and applies industry comparators as appropriate.	<input type="checkbox"/>	<input type="checkbox"/>
Procurement process, including market engagement, explicitly emphasises economic, environmental and social considerations at each stage.	<input type="checkbox"/>	<input type="checkbox"/>
The client implements appropriate business processes and understands their benefits.	<input type="checkbox"/>	<input type="checkbox"/>
The client has access to environmental and social expertise, and integrates this expertise into the team as appropriate.	<input type="checkbox"/>	<input type="checkbox"/>
The client invests in information management to support decision-making.	<input type="checkbox"/>	<input type="checkbox"/>
The client has clearly allocated risk, and in a way that appropriately balances risk and reward with the supply chain.	<input type="checkbox"/>	<input type="checkbox"/>
The client demonstrates consistent, fair and ethical behaviours.	<input type="checkbox"/>	<input type="checkbox"/>
The client makes timely decisions.	<input type="checkbox"/>	<input type="checkbox"/>
Governance and management arrangements define clear accountability for economic, environmental and social impacts from senior to working levels.	<input type="checkbox"/>	<input type="checkbox"/>
Governance arrangements provide clear accountability to the sponsoring organisation.	<input type="checkbox"/>	<input type="checkbox"/>
The client understands their accountability for systems integration and allocates responsibilities and risks appropriately.	<input type="checkbox"/>	<input type="checkbox"/>
The project team considers all the different options for the project, and conducts cost benefit analysis on a short list.	<input type="checkbox"/>	<input type="checkbox"/>
Project timetables are realistic.	<input type="checkbox"/>	<input type="checkbox"/>

## Appendix B: Routemap – Capability assessments

### Client – Type 3 – Optimised

What characteristics do you recognise?	Current	Needed
Prioritises long-term efficiency and economic, environmental and social sustainability over short-term commercial gain.	<input type="checkbox"/>	<input type="checkbox"/>
Objectively challenges the sponsor's requirements, including associated cost and schedule expectations.	<input type="checkbox"/>	<input type="checkbox"/>
The client understands and applies whole life cost, carbon reduction principles and sustainable use of natural resources, in line with net zero.	<input type="checkbox"/>	<input type="checkbox"/>
The client effectively bridges interfaces between organisations.	<input type="checkbox"/>	<input type="checkbox"/>
The client ensures that any new or changing stakeholder demands are prioritised in the context of the overall project objectives.	<input type="checkbox"/>	<input type="checkbox"/>
Risk and reward/payment deliver optimum outcomes, explicitly incentivising fair and ethical practices.	<input type="checkbox"/>	<input type="checkbox"/>
Procurement process makes informed use of competition to procure partners and suppliers.	<input type="checkbox"/>	<input type="checkbox"/>
The client organisation advocates on behalf of the team and establishes a no blame culture.	<input type="checkbox"/>	<input type="checkbox"/>
The client organisation is adaptive and recognises the need to change as the project progresses through its life cycle.	<input type="checkbox"/>	<input type="checkbox"/>
The client assesses and closes any capability gaps on an ongoing basis, including for economic, environmental and social management.	<input type="checkbox"/>	<input type="checkbox"/>
The client possesses strategic awareness of market appetite, capacity and capability.	<input type="checkbox"/>	<input type="checkbox"/>
The client has established processes for making sure the supply chain comply with any relevant ESG criteria.	<input type="checkbox"/>	<input type="checkbox"/>
The client has effective processes to gather the information needed to meet ESG reporting requirements.	<input type="checkbox"/>	<input type="checkbox"/>

## Appendix B: Routemap – Capability assessments

### Market - Type 1 - Limiting

What characteristics do you recognise?	Current	Needed
The market is either highly consolidated or extremely fragmented, comprising many small organisations.	<input type="checkbox"/>	n/a
One party often dictates the relationship, for example, the client or supplier dominates.	<input type="checkbox"/>	
Work is normally awarded based on lowest price.	<input type="checkbox"/>	
There is little interaction between the client and suppliers prior to contract award.	<input type="checkbox"/>	
The client has limited understanding of the market's capability and capacity to deliver.	<input type="checkbox"/>	
The market has limited understanding of the need to align with the UN SDGs, and what's needed to meet expected environmental standards and any relevant ESG criteria.	<input type="checkbox"/>	
Suppliers do not understand the client business and therefore cannot offer business-oriented solutions.	<input type="checkbox"/>	
There is limited capability and capacity for the management of environmental and social risks associated with the project.	<input type="checkbox"/>	
The supply chain is hierarchical with highly transactional behaviour and with inappropriate terms being imposed on sub-tier suppliers.	<input type="checkbox"/>	
Supplier subcontracts have no regard for local employment or social value objectives.	<input type="checkbox"/>	
The supply chain performs inconsistently resulting in unfulfilled outcomes.	<input type="checkbox"/>	
There is a trend of unfair/unethical labour practices.	<input type="checkbox"/>	
Contract incentives appear misaligned to sponsor's requirements or client model, which may mean the supply chain performs contrary to expectations.	<input type="checkbox"/>	

## Appendix B: Routemap – Capability assessments

### Market - Type 2 - Adequate

What characteristics do you recognise?	Current	Needed
The market works closely together up and down the tiers of the supply chain.	<input type="checkbox"/>	<input type="checkbox"/>
Clients manage suppliers strategically, encouraging collaboration and innovation.	<input type="checkbox"/>	<input type="checkbox"/>
Agreements between suppliers and/or customers enable long-term investment in measurable performance improvement, including environmental and social targets.	<input type="checkbox"/>	<input type="checkbox"/>
The market demonstrates an understanding of how to deliver economic, environmental and social value through the way they deliver projects.	<input type="checkbox"/>	<input type="checkbox"/>
Suppliers understand the client business and offer business-oriented solutions to mutual benefit, which enables more effective incentivisation	<input type="checkbox"/>	<input type="checkbox"/>
The client team work on an integrated basis with key suppliers, where appropriate for the project needs.	<input type="checkbox"/>	<input type="checkbox"/>
Suppliers aim to optimise whole life value by involving parties responsible for operations and maintenance.	<input type="checkbox"/>	<input type="checkbox"/>
The market collaborates to find ways of getting more benefit for the same cost, thus adding value.	<input type="checkbox"/>	<input type="checkbox"/>
Suppliers form multi-skilled joint ventures and consortia for the delivery of specific projects, with diverse and inclusive working practices in place.	<input type="checkbox"/>	<input type="checkbox"/>
Time, cost, and quality requirements are generally met.	<input type="checkbox"/>	<input type="checkbox"/>
Performance across the supply chain is measured, understood, communicated and acted upon.	<input type="checkbox"/>	<input type="checkbox"/>
Suppliers are engaged early to determine their risk appetite and risks are allocated to those best placed to manage them.	<input type="checkbox"/>	<input type="checkbox"/>
Supplier responsibilities for systems integration are clearly understood and the commercial structure allows the client to manage their performance in fulfilling these responsibilities.	<input type="checkbox"/>	<input type="checkbox"/>
The market understands, and applies relevant technical standards (eg ISO), and complies with necessary ESG criteria	<input type="checkbox"/>	<input type="checkbox"/>

## Appendix B: Routemap – Capability assessments

### Market - Type 3 - Optimised

What characteristics do you recognise?	Current	Needed
The whole industry is interconnected, including small and medium-sized enterprises (SMEs), and those interconnections are understood and maximised.	<input type="checkbox"/>	<input type="checkbox"/>
Suppliers bring forward supply chain partners they feel will add the most value to successful delivery and realisation of sustainable benefits.	<input type="checkbox"/>	<input type="checkbox"/>
Established and long-term joint ventures and new companies are formed to offer integrated solutions.	<input type="checkbox"/>	<input type="checkbox"/>
Organisations regularly participate in repeat activity where many partners at all levels move from project to project and/or customer to customer. This leads to performance improvement, efficiencies and adoption of lessons learned.	<input type="checkbox"/>	<input type="checkbox"/>
Organisations recognise the importance of ensuring that all parts of the supply chain understand the goals and aspirations of the project, including sustainable development.	<input type="checkbox"/>	<input type="checkbox"/>
Organisations ensure that all parts of the supply chain integrate environmental and social risk management into business practices.	<input type="checkbox"/>	<input type="checkbox"/>
The project structure, and associated management arrangements, are agreed by all organisations in the integrated project team.	<input type="checkbox"/>	<input type="checkbox"/>
There is a market focus on removing unnecessary duplication and wastage, thus adding value.	<input type="checkbox"/>	<input type="checkbox"/>
There is long-term investment to building market capability, for example, research and development, facilities, and skills development.	<input type="checkbox"/>	<input type="checkbox"/>

## Appendix B: Routemap – Capability assessments

### Asset manager – Type 1 – Limiting

What characteristics do you recognise?	Current	Needed
Decision-making mechanisms (planning, capital and operational) fail to consider the whole asset life and value.	<input type="checkbox"/>	n/a
There is no strategic asset management plan and/or it is not aligned with the organisation's corporate objectives.	<input type="checkbox"/>	
The project requirements, business case and design indicate a lack of future thinking and/or inadequate links to the strategic asset management plan.	<input type="checkbox"/>	
Poor decision-making, governance structures and processes undermine the asset management plans.	<input type="checkbox"/>	
The target operating model isn't owned by the asset manager, nor do they have the requisite capabilities to operate it effectively.	<input type="checkbox"/>	
There is a failure to ensure that the project delivers a resilient solution for the long-term that considers its evolving external environment.	<input type="checkbox"/>	
Bespoke solutions are developed to address specific challenges rather than adopting standard approaches.	<input type="checkbox"/>	
Asset life cycle parameters such as reliability, availability, cost of maintenance, or operability, are not well defined in the project requirements.	<input type="checkbox"/>	
Engagement with asset operators is not sufficient for the project's life cycle stage.	<input type="checkbox"/>	
There is a poor understanding of the activities required to manage ongoing economic, environmental and social benefits enabled by the assets.	<input type="checkbox"/>	
It is unclear who is accountable for making key decisions.	<input type="checkbox"/>	
There is mistrust and/or poor communication between key organisations.	<input type="checkbox"/>	
There is an over-reliance on technology without addressing the underlying organisational issues.	<input type="checkbox"/>	
Unnecessary bureaucracy compromises delivery of outcomes and benefits realisation.	<input type="checkbox"/>	
There is poor strategic awareness of market capacity and capability in relation to future operational needs.	<input type="checkbox"/>	
There is poor development and retention of asset management capability which leads to inadequate asset management and, in turn, to sub-optimal whole-life value.	<input type="checkbox"/>	

## Appendix B: Routemap – Capability assessments

### Asset manager – Type 2 – Adequate

What characteristics do you recognise?	Current	Needed
There is a whole life asset management strategy that delivers the right assets and capability to meet the organisation's corporate objectives.	<input type="checkbox"/>	<input type="checkbox"/>
Interfacing assets are considered as a system to optimise their delivery, operations and maintenance.	<input type="checkbox"/>	<input type="checkbox"/>
Asset performance is measured and monitored to support decision-making and to evaluate progress against economic, environmental and social management targets.	<input type="checkbox"/>	<input type="checkbox"/>
Assets and the target operating model are designed to accommodate emerging future technologies and evolving requirements, including economic, environmental and social expectations.	<input type="checkbox"/>	<input type="checkbox"/>
Climate risk is considered in investment decisions and asset design.	<input type="checkbox"/>	<input type="checkbox"/>
There are formalised whole life asset management processes, functions and roles.	<input type="checkbox"/>	<input type="checkbox"/>
There is a plan for operational readiness that ensures smooth handover of the asset from project delivery to operation, which includes reassessment of economic, environmental and social risks and impacts.	<input type="checkbox"/>	<input type="checkbox"/>
There is active stakeholder engagement, including with communities that are affected by the future operation of the assets.	<input type="checkbox"/>	<input type="checkbox"/>
Operational capacity and competency requirements have been defined, both for the life of the project and the asset. Staff with asset management responsibilities are involved from the outset.	<input type="checkbox"/>	<input type="checkbox"/>
Data usage and information management is encouraged.	<input type="checkbox"/>	<input type="checkbox"/>

### Asset manager – Type 3 – Optimised

What characteristics do you recognise?	Current	Needed
Use of assets is aligned to organisational goals. This leads to optimal management of physical assets over their lifecycle, to achieve the stated business objectives.	<input type="checkbox"/>	<input type="checkbox"/>
Continuity of performance throughout the asset life is achieved.	<input type="checkbox"/>	<input type="checkbox"/>
Effective governance and leadership ensure that whole life considerations are factored into project decision-making and there is a continual focus on the target end state.	<input type="checkbox"/>	<input type="checkbox"/>
Investment in assets is effective (producing the desired benefits, for example, reliability, required levels of service) and efficient (providing good value for money) as it is underpinned by reliable asset information.	<input type="checkbox"/>	<input type="checkbox"/>
A system-wide view of assets is taken, including interfaces and interdependences with other assets, their digital representations and the natural environment.	<input type="checkbox"/>	<input type="checkbox"/>
There is an effective operational readiness strategy for the newly created or modified assets.	<input type="checkbox"/>	<input type="checkbox"/>
The necessary enhancements to operational capability, including environmental and social risk management, are part of project plans.	<input type="checkbox"/>	<input type="checkbox"/>
Climate risk is integral to investment decision-making and asset design, with climate risk mitigation plans in place where relevant.	<input type="checkbox"/>	<input type="checkbox"/>
Intelligent data usage and knowledge management leads to optimal performance of the assets, including performance against environmental and social targets.	<input type="checkbox"/>	<input type="checkbox"/>
Contract incentives are aligned to the sponsor's whole life asset requirements.	<input type="checkbox"/>	<input type="checkbox"/>
The asset manager understands the organisation's strategic objectives and risk appetite, and if appropriate challenges what and how the project is delivering.	<input type="checkbox"/>	<input type="checkbox"/>

Steps

## Appendix C: The role of the sponsor, client, market and asset manager

The table below shows the relationships between the sponsor, client, market and asset manager roles for some well-known UK projects, programmes and portfolios. In UK public sector terms, the sponsor is nearly always the relevant government department (except for a small number of cases where a separate standalone body is set up to take on the sponsor role).

	Sponsor	Client	Market	Asset manager	Description
Crossrail	Jointly sponsored by <b>Department for Transport</b> (government department) and <b>Transport for London</b> (a local government organisation responsible for most aspects of London's transport system)	<b>Crossrail Ltd</b> (a wholly owned subsidiary of Transport for London)	<b>Private sector organisations</b>	<b>Network Rail</b> (a government owned arm's length body), <b>London Underground Ltd</b> and <b>Rail for London Ltd</b> (Transport for London subsidiaries) – for different parts of the line.  The Crossrail service is operated by <b>Rail for London Ltd</b> via a concession let to MTR Corporation (Crossrail) Ltd.	The Elizabeth line (Crossrail) will stretch more than 60 miles from Reading and Heathrow in the west through central tunnels across to Shenfield and Abbey Wood in the east.
London Olympics – Venues and Infrastructure	<b>Department for Culture, Media and Sport</b> (government department) <b>Greater London Authority</b>	<b>Olympic Delivery Authority (ODA)</b> (non-departmental public body of Department for Culture, Media and Sport established in 2006 by an Act of Parliament)	<b>CLM</b> , a consortium of CH2M Hill, Laing O'Rourke and Mace appointed as delivery partner by the ODA. Many organisations in the supply chain.	<b>London Legacy Development Corporation</b> (a mayoral development corporation) is responsible for the future development of the Olympic Park.	The London 2012 Games were centred around the Olympic Park in east London, which is the site of a number of new sports venues. Up to 180,000 spectators a day entered the Park to enjoy the Games, making it the principal focus of Olympic activity.
Highways England – 5 Year Roads Investment Strategy	<b>Department for Transport</b>	<b>Highways England</b> (non-departmental public body, established by statute, in the form of a government owned company)	<b>Private sector organisations</b>	<b>Highways England</b>	5-year funding settlement which allows Highways England and its supply chain to plan their work efficiently and provided the confidence needed for them both to invest in people and equipment.
High Speed 2	<b>Department for Transport</b>	<b>High Speed 2 Ltd</b> (non-departmental public body, sponsored by the Department for Transport)	<b>Private sector organisations</b>	The High Speed 2 line will be operated by the <b>West Coast operator</b> , currently the West Coast Partnership.	High Speed 2 is a major programme to deliver a new high speed rail network across the UK. It comprises multiple phases (1, 2a and 2b), with a new railway running from London, Birmingham and Manchester, including construction of new stations and refurbishment of existing assets.
Thames Estuary Asset Management 2100 (TEAM 2100) Programme	<b>Department for Environment, Food and Rural Affairs</b> (government department)	<b>Environment Agency</b> (non-departmental public body, sponsored by the Department for Environment, Food and Rural Affairs)	<b>Jacobs and Balfour Beatty</b> (private sector organisations) contracted partners to provide programme management, engineering and construction services. Other organisations in the wider supply chain.	<b>Environment Agency</b>	Climate change, an ageing asset base and population growth mean that tidal flood risk is increasing, the TEAM2100 programme aims to protect 1.3 million people and £275 billion worth of property and infrastructure from this increasing risk.

# Appendix D: Routemap report template

This report template is designed to be completed iteratively as you progress through the **10-Step** process.

- Section 1, the Routemap strategy should be approved by the commissioning body once **Steps 1-4** are complete.
- Section 2, the Routemap findings should be approved by the commissioning body once **Steps 5-7** are complete.
- Section 3, the Routemap action plan should be approved once **Steps 8-10** are complete.

Once you have progressed to the findings or action plan sections, you may wish to prioritise the new report content for readers by putting some or all of the Routemap strategy (for example, the approach, milestones and participants sections) in an appendix.

## Introduction

*Insert any relevant background information (for example, the project objectives, project stage, project history, who the commissioning body is and whether the project is part of the Government Major Projects Portfolio).*

## Section 1 – Routemap strategy

### Routemap scope

Those aspects of the project which are in scope for this Routemap application are/were as follows:

*Insert agreed scope and areas of interest for the Routemap application. The scope may be the full breadth of the project (Full Project Review) or specific areas of capability only (Modular Deep Dive). You should also document why Routemap is being used – this will align with the answers to the qualifying checklists in **Step 1**.*

Steps

## Appendix D: Routemap report template

### Routemap organisations

The Routemap uses the terms sponsor, client, asset manager and market to describe the organisations fulfilling certain project responsibilities. For the purpose of this Routemap application, these organisations are:

Routemap organisation	Organisation fulfilling that role
Sponsor	<i>Insert the name of the organisation and/or team fulfilling these responsibilities for this project.</i>  <i>If the organisation fulfilling or who will fulfil these responsibilities is unknown, perhaps because the project is still at an early stage, please insert the name of the organisation considering the capabilities that will be required. For example, even before a supply chain is procured, the client will be considering what capabilities are required from the market.</i>
Client	
Market	
Asset Manager	
Other key stakeholders who should be involved in the Routemap application	

### Routemap approach

The agreed approach for this Routemap application is/was as follows:

Routemap step	Agreed approach to completing this step
<b>Step 5</b> Information gathering – Assessments	<i>Insert note on how the Routemap assessments will be completed</i>
<b>Step 5</b> Information gathering – Additional activity	<i>Insert note on whether interviews will be used to further investigate the Routemap focus areas</i>
<b>Step 8</b> Develop recommendations	<i>Insert note on how recommendations will be developed, for example workshops</i>
<b>Step 9</b> Action planning	<i>Insert approach to action planning, for example workshops</i>

Steps

# Appendix D: Routemap report template

## Routemap participants

To implement the above approach the following participants are to be/were engaged from across the Routemap organisations and other key stakeholders

Name	Role	Organisation	Routemap area of responsibility	Interview Y/N	Attend workshops Y/N	Notes

## Routemap timescales

The overall timescales for the Routemap are/were agreed as follows:

*Insert relevant milestones.*

Steps



# Appendix D: Routemap report template

## Section 3 - Routemap action plan

*Insert any required background information, for example, the approach to developing the recommendations and action plan and who was involved, including any subject matter experts.*

### Routemap recommendations

The agreed recommendations are as follows:

Findings	Recommendations
<i>Copy and insert findings from previous section</i>	<i>Insert agreed recommendations developed to address this finding.</i>

Steps

## Appendix D: Routemap report template

### Routemap action plan

The agreed plan for enhancement is as follows:

Workstream	Action ID	Action	Description	Timing	Dependencies	Owner	Status	Notes
<i>Workstream title and owner</i>	<i>Reference number for tracking</i>	<i>Action title</i>	<i>A description of the action within the workstream</i>	<i>When the action is due</i>	<i>Note down any other actions that may impact this action</i>	<i>Identify a named individual</i>	<i>Progress of the action (red/amber/green)</i>	<i>Any specifics worth documenting</i>

Additional remarks on the action plan:

*Insert a short description of how the actions will be governed and integrated into current project activity. This should include including how, when and by whom progress against the action plan will be monitored.*

Steps

# Appendix E: Routemap implementation plan template

## Introduction

*Insert any relevant background information.*

## Implementation plan – Planning and monitoring the Routemap

Refer to the approach outlined in the Routemap strategy and edit the following table to assist you in planning and monitoring the Routemap.

Application Step/task	Related template/supporting material	Who	By when	Progress
<b>Step 3 – Develop the Routemap strategy (support options/workshop/interviews)</b>				
Complete the document review	Document list in <b>Step 3</b>			
Prepare the Routemap strategy	Routemap report template			
Obtain approval for the Routemap strategy	Routemap report template			
<b>Step 4 – Plan how to implement the Routemap strategy</b>				
Complete the first draft of the implementation plan (planning and monitoring table, assessment schedule, interview schedule, workshop schedule, application requirements)	Implementation plan template			
Obtain approval for the implementation plan				
Implementation plan review and monitoring				

## Appendix E: Routemap implementation plan template

Application Step/task	Related template/supporting material	Who	By when	Progress
<b>Step 5 – Information gathering (if this step is to be done in a workshop, consider the additional/alternative tasks required)</b>				
Briefing of Routemap support and participants	Refer to Routemap strategy			
Manage completion of the assessments	Complexity and capability assessments			
Preparation of interview questions (if applicable)	Example interview questions			
Undertake interviews (if applicable)				
Manage review of interview notes (if applicable)				
<b>Step 6 – Conduct gap analysis</b>				
Create complexity profile	<b>Step 6</b>			
Collate capability assessments	<b>Step 6</b>			
Complete complexity-capability gap analysis	<b>Step 6</b>			
Development of the findings	Example findings/Routemap report template			

## Appendix E: Routemap implementation plan template

Application Step/task	Related template/supporting material	Who	By when	Progress
<b>Step 7 – Agree findings</b>				
Share and obtain approval for the findings	Routemap report template			
Share the findings with relevant stakeholders (if applicable)	Refer to Routemap strategy/Routemap report template			
<b>Step 8 – Develop recommendations to improve the project (if this step is not done in a workshop, consider the alternative tasks required)</b>				
Agree workshop date(s) and participants				
Management of workshop participation (stakeholder participation and requirements)				
Management of workshop logistics (venue, timings)				
Management of workshop facilitation (agenda, presentation material, note taking)	Routemap report template			
<b>Step 9 – Plan how to implement the recommendations (if this step is not done in a workshop, consider the alternative tasks required)</b>				
Agree workshop date(s) and participants				
Management of workshop participation (stakeholder participation and requirements)				
Management of workshop logistics (venue, timings)				
Management of workshop facilitation (agenda, presentation material, note taking)	Routemap report template			

Steps

## Appendix E: Routemap implementation plan template

Application Step/task	Related template/supporting material	Who	By when	Progress
Step 10 – Integrate improvement plans into the project development activity				
Finalise the action plan and obtain approval	Routemap report template			
Agree with workstream/action owners how the action plan will be integrated into existing activity/plans				
Share the action plan and approach to integration with relevant stakeholders (if applicable)				

Steps

## Appendix F: Routemap action planning template



# Appendix G: Guiding questions to ask during a Routemap application

This appendix lists important questions that will help you to identify potential capability gaps. You can ask yourself these questions when reviewing project documentation in **Step 3** or use them to develop interview questions in **Step 5** or to support gap analysis in **Step 6**.

The considerations listed in the modules expand on the questions below. They are useful to probe further on the underlying causes of capability gaps and to develop recommendations to address them.

Routemap module	Example questions
<div data-bbox="68 325 177 426"> <p>Requirements </p> <p><b>Rq</b> 01</p> </div> <div data-bbox="182 331 472 426"> <p><b>Requirements</b> Delivering strategic project outcomes and realising the benefits.</p> </div>	<ul style="list-style-type: none"> <li>■ Has success been clearly defined and documented? For example, in a vision statement. Does this align with national and corporate strategies and policies?</li> <li>■ Is there a clear process for gathering and tracking stakeholder requirements? Are there clear criteria for prioritising these requirements?</li> <li>■ Can you demonstrate a clear link between the project's outputs, outcomes and the benefits? Including those related to economic, environmental and social sustainability?</li> <li>■ Are objective measures and data sources defined for all benefits? Does the data exist? If not, what steps need to be taken to obtain it?</li> </ul>
<div data-bbox="68 473 177 575"> <p>Governance </p> <p><b>Gv</b> 02</p> </div> <div data-bbox="182 480 472 575"> <p><b>Governance</b> Establishing clear accountability and empowering effective decision-making.</p> </div>	<ul style="list-style-type: none"> <li>■ Does the governance framework clearly define who is accountable for setting the project's objectives and for successful delivery?</li> <li>■ Are decision-making routes clear and efficient? Is authority assigned to empower and facilitate effective decision-making?</li> <li>■ Can the project be delivered within the existing corporate governance framework? Do the governance arrangements align with key stakeholder interests?</li> <li>■ Does the reporting process provide the right information to the right people to enable timely and effective decision-making?</li> </ul>
<div data-bbox="68 622 177 723"> <p>Systems Integration </p> <p><b>SI</b> 03</p> </div> <div data-bbox="182 628 472 723"> <p><b>Systems integration</b> Making multiple systems work as one.</p> </div>	<ul style="list-style-type: none"> <li>■ Have all the systems to be delivered by the project been defined? Including how they will be operated together with existing systems within and outside of the asset manager's control?</li> <li>■ Are the impacts of the systems being delivered by the project on the current operating model understood? Including the changes necessary to make the project a success?</li> <li>■ Have the interfaces been identified within and between existing and new systems? Are responsibilities for managing integration across these interfaces clear?</li> <li>■ Does project leadership maintain focus on the end state and how systems will need to operate together effectively? Is there a plan to build and evolve the systems integration capabilities needed?</li> </ul>
<div data-bbox="68 812 177 914"> <p>Organisational Design &amp; Development </p> <p><b>OD</b> 04</p> </div> <div data-bbox="182 819 472 914"> <p><b>Organisation Design &amp; Development</b> Organising the project team to deliver successfully.</p> </div>	<ul style="list-style-type: none"> <li>■ Is it clear who has overall accountability and responsibility for the project? And who owns the business case?</li> <li>■ Is there a work breakdown structure that identifies the types of capabilities that will be required? Has the organisation design and size been benchmarked against other comparable projects?</li> <li>■ Are the changes to required capability and capacity through the project's life cycle understood?</li> <li>■ Is any change in the organisation design supported by a robust change process and transparent and timely communication?</li> </ul>

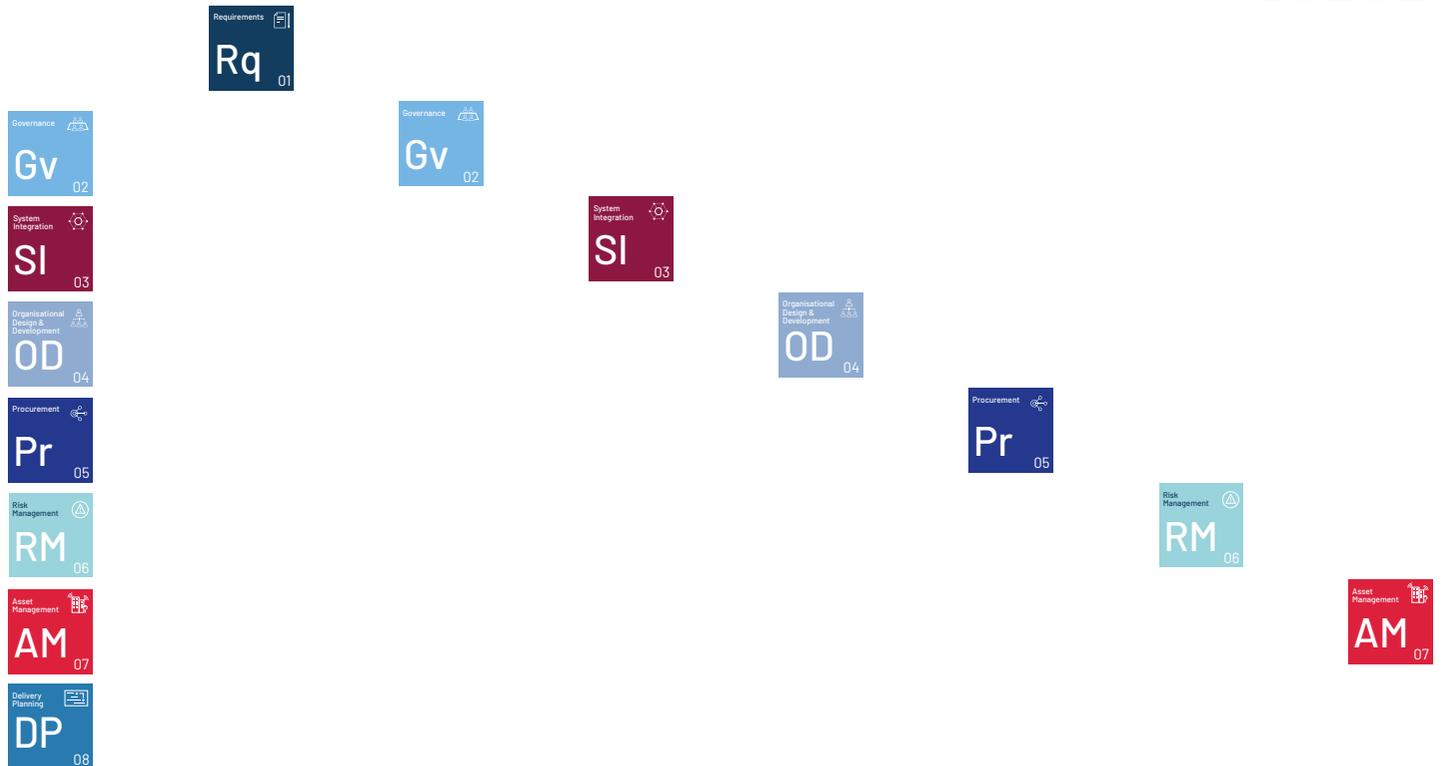
# Appendix G: Guiding questions to ask during a Routemap application

Routemap module	Example questions
<p><b>Procurement</b> Understanding how the project will buy goods and services.</p> <p><b>Pr</b> 05</p>	<ul style="list-style-type: none"> <li>■ Does the procurement strategy drive the project's intended outcomes and benefits? Has it been developed as an integral part of the project's delivery strategy?</li> <li>■ Has the client established its approach to market engagement?</li> <li>■ Are the work packages sized appropriately for the client and market's risk appetite and capability?</li> <li>■ Does the contracting model align with each party's risk appetite, their ability to manage risks and the client model?</li> <li>■ Do the evaluation criteria focus on overall value rather than solely cost? Are the desired behaviours and cultural alignment assessed?</li> <li>■ Is there a plan to progressively review performance as part of a structured supplier relationship management strategy?</li> </ul>
<p><b>Risk Management</b> Managing uncertainties and opportunities.</p> <p><b>RM</b> 06</p>	<ul style="list-style-type: none"> <li>■ Is there clear accountability for the management of risk between the sponsor, client and market?</li> <li>■ Are the desired risk behaviours and culture understood, defined, communicated, and promoted?</li> <li>■ Are risks and opportunities allocated to those suitably capable and empowered to manage them?</li> <li>■ Are processes in place to manage risk in a timely and effective manner? Does routine reporting include the extent, nature and changes in risk profile?</li> </ul>
<p><b>Asset Management</b> Balancing costs and risks to maximize whole life benefits.</p> <p><b>AM</b> 07</p>	<ul style="list-style-type: none"> <li>■ Is there a strategic asset management plan that's aligned with corporate objectives and values? Does the proposed project fit with this plan?</li> <li>■ Is there an appropriate method for assessing risks, costs and benefits over the whole life of the asset? Does the method of assessment include economic, environmental and social risks, costs and benefits?</li> <li>■ Have whole life performance measures been included in the project requirements? Are these used to measure the success of the project?</li> <li>■ How will the project's leadership evolve to ensure that requisite knowledge and experience are available for each stage of the project life cycle? For example, composition of senior management at definition versus various delivery stages, such as main construction works and operational testing.</li> <li>■ Does the project leadership ensure that effective asset management is considered with the same level of importance as other delivery factors? For example, ensuring that speed of project delivery does not compromise asset performance due to poor quality construction.</li> </ul>
<p><b>Delivery Planning</b> Readying the project for transition into delivery.</p> <p><b>DP</b> 08</p>	<ul style="list-style-type: none"> <li>■ Does the delivery strategy align with other key project documents such as the asset management strategy and the business case?</li> <li>■ Is there alignment of behaviours and culture between organisations delivering the project? Are any actions required to manage differences?</li> <li>■ Is there a clear link between the project baseline and the business case outcomes and benefits? For example, the timelines required by the business case are reflected in the agreed baseline schedule.</li> <li>■ Have forward-looking metrics been adopted to forecast outcomes and inform decision-making?</li> </ul>

# Appendix H: How the Routemap modules interface

Some topics of good practice are covered in more than one Routemap module. This module map shows how the modules work together, highlighting Routemap pillars which are inter-related. Using this module map can help make sure you don't miss relevant guidance you might find useful.

Rq Gv SI OD Pr RM AM DP

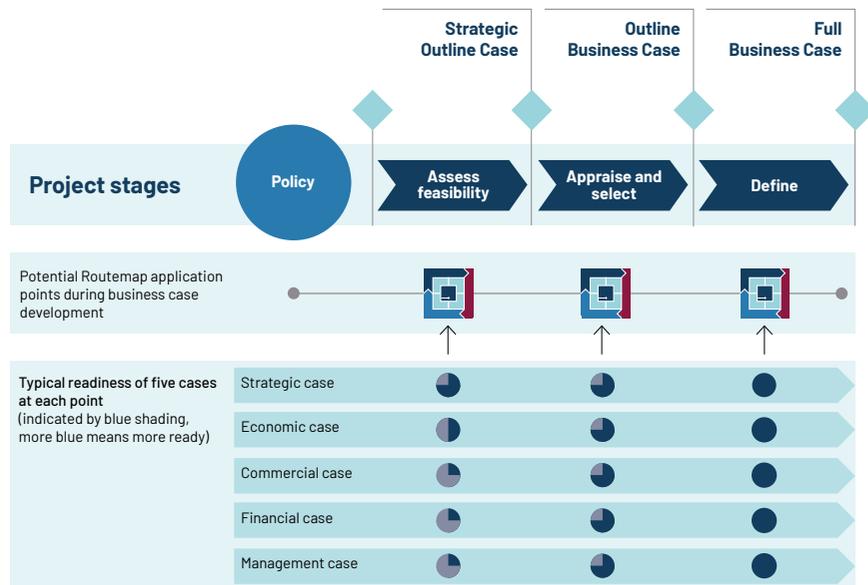


Steps

# Appendix I: How Routemap supports business case development

The application of Routemap can support the business case development process, however its focus will likely be different depending on whether you are working on the Strategic Outline Case (SOC), Outline Business Case (OBC) or Full Business Case (FBC).

The figure below shows the readiness of the five cases during business case development.



## Business case development

The purpose of the Strategic Outline Case (SOC) is to establish the case for change and to provide a preferred way forward for senior management's approval prior to going onto the more detailed planning stage.

The purpose of the Outline Business Case (OBC) is to:

- identify the investment option which optimises Value for Money (VfM)
- prepare the scheme for procurement
- put in place the necessary funding and management arrangements for the successful delivery of the scheme.

The purpose of the Full Business Case (FBC) is to:

- identify the marketplace opportunity which offers optimum Value for Money (VfM)
- set out the commercial and contractual arrangements for the negotiated deal
- confirm the deal is still affordable
- put in place the detailed management arrangements for the successful delivery, monitoring and evaluation of the scheme.

[Guide to developing the project business case - HM Treasury 2018](#)

# Appendix I: How Routemap supports business case development

The table below highlights the Routemap modules most useful for the development each of the five cases of the business case. The considerations and examples of good practice within the modules can help stimulate discussion with stakeholders as the contents of the cases are created. The modules can also serve as a check that your project is set up for success, incorporating current best practice.

Business case	Case	Where use of the Routemap can add value	Some examples of key case components	Most relevant Routemap modules
<b>Strategic</b> – making the case for change and demonstrating strategic fit.	Strategic Outline Case	<ul style="list-style-type: none"> <li>Establishing the 'case for change' and strategic fit with the organisation's overall strategy and other projects or programmes.</li> <li>Identification of high-level probable benefits and risks.</li> <li>Agreeing the project's strategic objectives and explaining how the project benefits would translate into user requirements.</li> </ul>	<ul style="list-style-type: none"> <li>Strategic context</li> <li>Organisational overview</li> <li>Business strategy and aims</li> <li>Other relevant strategies</li> <li>Case for change</li> <li>Spending objectives</li> <li>Existing arrangements</li> <li>Business needs – current and future</li> <li>Potential scope and service requirements</li> <li>Main benefits and risks</li> <li>Constraints and dependencies</li> </ul>	
	Outline and Full Business Case	<ul style="list-style-type: none"> <li>Helping the sponsor and client to update and enhance the requirements and objectives, if necessary.</li> </ul>		
<b>Economic</b> – identifying the option that delivers best public value to society, including wider social and environmental effects.	Strategic Outline Case	<ul style="list-style-type: none"> <li>Supporting options workshops by working with the sponsor and client to produce and test a longlist of options and establish a shortlist.</li> </ul>	<ul style="list-style-type: none"> <li>Critical success factors</li> <li>Long-list options</li> <li>Preferred way forward</li> <li>Shortlisted options (including the 'Business As Usual' (BAU) and 'do minimum')</li> <li>Net present social value/Net present social cost findings</li> <li>Benefits appraisal</li> <li>Risk assessment</li> <li>Sensitivity analysis</li> <li>Preferred option</li> </ul>	
	Outline Business Case	<ul style="list-style-type: none"> <li>Reviewing options shortlist and subjecting them to cost benefit analysis, assessing potential value for money.</li> <li>Identifying and quantifying the project risks for each option in the shortlist.</li> <li>Carrying out cost benefit analysis and assessing the potential value for money as part of the economic appraisal.</li> </ul>		
	Full Business Case	<ul style="list-style-type: none"> <li>Assisting the sponsor and the client to review and reconsider any economic case options, and to conduct any economic appraisals based on the data received from bidders.</li> </ul>		

# Appendix I: How Routemap supports business case development

Business case	Case	Where use of the Routemap can add value	Some examples of key case components	Most relevant Routemap modules
<b>Commercial</b> – showing that the preferred option will result in a viable procurement and a well-structured deal between the client and supply chain.	Strategic Outline Case	<ul style="list-style-type: none"> <li>Supporting the sponsor and client in considering the possible procurement options as well as contractual agreements.</li> </ul>	<ul style="list-style-type: none"> <li>Procurement strategy and route</li> <li>Service requirements and outputs</li> <li>Risk allocation</li> <li>Charging mechanism</li> <li>Key contractual arrangements</li> <li>Personnel implications</li> <li>Accountancy treatment</li> </ul>	
	Outline Business Case	<ul style="list-style-type: none"> <li>Helping the sponsor and the client to develop the risk management strategy.</li> <li>Defining the project specifications and outputs by engaging with the market. For example, through technical specification.</li> </ul>		
	Full Business Case	<ul style="list-style-type: none"> <li>Evolving the procurement plan based on outputs of the Outline Business Case to then determine the best and final offer.</li> <li>Undertaking a competitive procurement process to select and develop the best value for money tender for the required services.</li> </ul>		
<b>Financial</b> – demonstrating affordability and funding of the preferred option, including the support of stakeholders and customers, as required.	Strategic Outline Case	<ul style="list-style-type: none"> <li>Helping the sponsor to indicate the level of cost and funding requirements and consider the various financing options.</li> </ul>	<ul style="list-style-type: none"> <li>Capital and revenue requirements</li> <li>Net effect on prices</li> <li>Impact on balance sheet</li> <li>Impact on income and expenditure account</li> <li>Overall affordability and funding</li> <li>Confirmation of stakeholder and customer support</li> <li>Cost and schedule baseline</li> </ul>	
	Outline Business Case	<ul style="list-style-type: none"> <li>Supporting the sponsor and the client in determining the affordability for the project against the possible financing options that have been developed in the Strategic Outline Case.</li> </ul>		
	Full Business Case	<ul style="list-style-type: none"> <li>Assisting the sponsor to determine risk mitigation measures where the client and the market both have low capability with regards to the project.</li> </ul>		
<b>Management</b> – demonstrating that robust arrangements are in place for the delivery, monitoring and evaluation of the scheme, including feedback into the organisation's strategic planning cycle.	Strategic Outline Case	<ul style="list-style-type: none"> <li>Supporting the sponsor and client to identify the project team as well as the relevant stakeholders.</li> <li>Helping the sponsor to develop an initial stakeholder engagement plan and risk management plan.</li> </ul>	<ul style="list-style-type: none"> <li>Governance arrangements (roles, responsibilities, plans etc.)</li> <li>Project management approach</li> <li>Delivery strategy and demonstration of capability</li> <li>Use of specialist advisors</li> <li>Change and contract management arrangements</li> <li>Benefits realisation arrangements (including plans and register)</li> <li>Risk management arrangements (including plans and register)</li> <li>Post-implementation and evaluation arrangements</li> <li>Contingency arrangements and plans</li> </ul>	
	Outline Business Case	<ul style="list-style-type: none"> <li>Supporting the sponsor, client and asset manager to identify the expected resources and management arrangements.</li> <li>Developing the governance structure, the delivery plan and the project plan including the budget, the risk management plan, the stakeholder management plan and the change management plan based on the preferred option.</li> </ul>		
	Full Business Case	<ul style="list-style-type: none"> <li>Helping the sponsor and client to enhance the delivery arrangements and measure to evaluate benefits.</li> </ul>		

# Acknowledgements

The IPA would like to thank the following organisations and individuals that contributed time and expertise to the development of the Project Routemap.

---

Anglian Water

Arup

Arnab Banerjee

Asset Management Consulting Ltd (AMCL)

Association of Project Management

BAE Systems

Babcock

Becky Ivers

Crossrail

Crossrail 2

Crossrail International

Department for Transport

Heathrow Airport Ltd

High Speed 2

Mott MacDonald

Highways England

Office of Government Property

Imperial College

International Council on Systems Engineering (INCOSE, UK)

International Project Management Association

Major Projects Association

Martin Buck

Martin Samphire

Ministry of Defence

Philip Wilbraham

PricewaterhouseCoopers (PwC)

Routemap Ltd

Sellafield Ltd

Systra Group

Thames Water

Transport for London

Turner & Townsend

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