



Infrastructure
and Projects
Authority



UK Government

Project Development Routemap

for Infrastructure Projects

International Module

Organisational Design
& Development

International version of UK Government's Project Routemap



Interactive
document

Rationale	Governance	Systems Integration	Execution Strategy	Organisational Design & Development	Procurement	Risk Management	Asset Management
Ra	Gv	SI	ES	OD	Pr	RM	AM
01	02	03	04	05	06	07	08

Handbook

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Preface

The UK Infrastructure and Projects Authority (IPA)¹ is proud to present this international module on the Project Development Routemap for Infrastructure Projects.

Projects that enhance and expand access to infrastructure are critical to achieving inclusive, sustainable growth and reducing poverty. However, infrastructure projects often encounter problems in their early stages. Poor project development constrains project delivery and limits the benefits it can drive from investment.

The Project Development Routemap (Routemap) is a structured and tested methodology used to set up projects for success. It ensures best practice and learning about the most common causes of project failure are considered at crucial early stages of development. In this module, we use the term 'project' to encompass projects, programmes and portfolios.

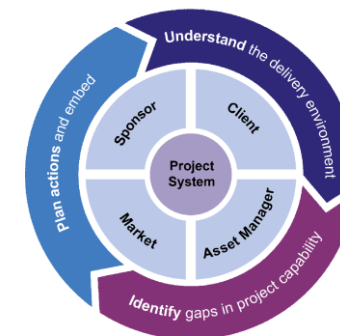
Routemap principles are core to any infrastructure project, and especially helpful where project teams undertake complex projects that test the limits of their organisational capability. It is a structured approach that brings project stakeholders together, to improve project-specific capabilities, enable governments and supply chains to maximise value for money and, where appropriate, increase opportunities for international investment. It gives confidence to people developing projects, those approving them, and those investing in them.

¹ 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.

² The Project Development Routemap has been adapted from the UK Project Initiation Routemap, 2016, now replaced by Project Routemap, 2021: <https://www.gov.uk/government/publications/improving-infrastructure-delivery-project-initiation-routemap>.

Since 2012, Routemap has been applied in the UK to projects totalling over £300bn, with significant and sustained impact on public policy, professional practice and economic benefit.²

Routemap aligns with the G20 Principles for the Infrastructure Project Preparation Phase (the G20 Principles), the United Nations Sustainable Development Goals (in particular, supporting environmental and social sustainability) and was identified by the Global Infrastructure Hub as a leading practice in good project preparation.



This international module was produced as part of the Global Infrastructure Programme³, sponsored by the UK's Prosperity Fund⁴ to provide practical instruction on the Routemap. It builds on both UK and international experience and is tailored to the needs of audiences in a broad range of countries. The IPA would like to thank the United Kingdom's Foreign, Commonwealth and Development Office and embassies, and the governments of Colombia and Indonesia who have provided invaluable assistance in the development of the Routemap for international use.

We hope this guidance is useful, practical and will improve the quality of infrastructure development in your country.

³ This was a UK cross-government programme delivered by the FCDO, the IPA and the Department for Business Energy and Industrial Strategy. It aimed to enable the provision of sustainable and resilient infrastructure, as a critical enabler for economic development in middle-income countries.

⁴ The Prosperity Fund supported the UN Sustainable Development Goals and the 2015 UK Aid Strategy by promoting growth and prosperity in developing countries.

Introduction: Routemap Modules

The Routemap modules (modules) help you to identify and address gaps in capability across seven commonly challenging areas of project development. You should use these modules alongside the *Project Development Routemap for Infrastructure Projects: International Handbook*.⁵

The Handbook explains the Routemap methodology and describes the 10-step process for its application to projects, which results in a detailed action plan to close the gaps in project capability.

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

- Rationale
- Governance
- Execution Strategy
- Organisational Design & Development
- Procurement
- Risk Management
- Asset Management
- Systems Integration (UK module, included due to relevance for international audiences)

The module content applies to all types of infrastructure projects, including PPP and publicly funded projects. It supports project teams to identify risks to project outputs, and wider economic, environmental and social outcomes. It helps align projects to the G20 principles of

‘quality infrastructure’,⁶ internationally recognised standards like the International Finance Corporation Performance Standards,⁷ and the United Nations Sustainable Development Goals.

There are also examples of good practice to help project teams plan and improve project development. They come from the experience of UK public sector-driven infrastructure projects and from international authorities. Examples have been specifically selected for relevance to international audiences.

Routemap modules can be:

- useful when applying the Routemap 10-step process which is described in the Routemap handbook (the following diagram shows how the sections of the module support different steps in the process)
- a stand-alone resource to identify potential risks and improvements in project capability development, and relevant good practice from other projects

The modules are not a complete guide to project development, nor a substitute for business case development.⁸ They are based on real-world experience from large infrastructure projects and complement best practice found elsewhere. You need to consider each project’s individual characteristics and context and then you can identify what will be most helpful to the project.

⁵ Infrastructure and Projects Authority’s Project Development Routemap for Infrastructure Projects: International Handbook, 2023: <https://www.gov.uk/government/publications/project-development-routemap>

⁶ These non-binding principles reflect the G20’s common strategic direction and aspiration for quality infrastructure investment: https://www.g20-insights.org/related_literature/g20-japan-principles-quality-infrastructure-investment/

⁷ See Section 1 and Appendix E of the Routemap Handbook for further detail on the importance of sustainability.

⁸ For detailed guidance on infrastructure business cases and their development process, see: Infrastructure and Projects Authority’s Infrastructure Business Case: International Guidance, 2022.

The Routemap modules are useful when applying the Routemap 10-step process which is described in the Handbook. The diagram below shows how the different sections of the modules (listed in the left column) can support the different steps in the process.

Module sections	Setup				Diagnosis			Action planning		
	Whether to apply the Routemap 01	When to apply the Routemap 02	Routemap strategy 03	Planning the application 04	Information gathering 05	Conducting a gap analysis 06	Agreeing the findings 07	Developing recommendations 08	Action planning 09	Integrate and capture benefits 10
Characteristics of good practice			Comparing your project information with these characteristics of good practice may help you to identify areas of interest in the Routemap scope			Comparing your project with these characteristics of good practice may help you identify areas for improvement.				
Useful documents			You may find it helpful to review these types of project documents , to define the areas of interest in the Routemap scope.		You may find these documents helpful to develop interview questions.	You may find it helpful to cross-check this document list against existing project documents, to help identify capability gaps.				
Typical findings						You may find helpful to review these when identifying issues and articulating your findings		If your findings contain statements like these, this Module could help strengthen capability.		
Considerations					This section lists a series of questions or considerations that can help you to validate the effectiveness of existing arrangements.			Working through these questions or considerations can help you understand the root causes of the findings and develop solutions.		
Good practice examples and suggested reading									You may find these good practice examples and suggested reading useful in developing actions to address capability gaps..	

Organisational design & development, and why it is important

Projects are delivered by people working in temporary teams. The skills, performance and interactions of those people determine the project's effectiveness, so it is important to think about how to organise and develop them in the context of the specific project they are delivering. *Organisation* refers to everyone involved in delivering the project and may cross the boundaries of existing parties.

To deliver its intended benefits, a project needs the right team structure, with the necessary skills and experience. In turn, this relies on processes to maintain capability and development throughout the project life cycle, and a strong culture which reflects the corporate and project values. There must also be clear and transparent communication and collaboration with affected stakeholders.

An organisation has responsibility/opportunity to impact social value directly, through the type of entity it seeks to be and how it treats its people. It is important to recognise that having a diverse, inclusive, and well-looked after workforce has a positive impact on society and project performance.

The good practice in this module will help you determine and improve the structure and organisational capability of the project, including the boundaries for in-house and external resource provision. This module can support you to determine where there might be gaps in the existing organisational design & development strategy, and where there is scope for improvement. It also supports you to identify transition points in the project lifecycle, and a change management approach to help develop the organisational capability required.

⁹ Agile is an umbrella term for a range of methodologies and advocates flexible behaviours throughout project delivery: <https://www.apm.org.uk/resources/find-a-resource/agile-project-management/>

Organisational design and organisational development are two related, but separate, requirements for successful project establishment and delivery.

- Organisational design covers the structure, resources, responsibilities, skills, practices and culture required to deliver a project.
- Organisational development deals with the changes you need to make to deliver the agreed organisational design. It also encompasses subsequent changes required at, or ahead of, any key transition points in a project's life. For example, when a project moves from development to implementation, or from implementation to operation, you may need to increase the capability in specialist environmental and social safeguarding.

The need for a structured approach to organisational design & development increases when:

- The project may need a new or different client model, requiring new or different organisational boundaries
- The project may need a new or different delivery method, e.g. Agile⁹ or off-site construction, requiring new or different behaviours
- Two or more parties need to collaborate, so need to organise their resources to act as a single team. This collaboration could be managed formally or informally between the parties
- The host organisation is new to project-based working, so needs a new project team

- You need to make efficiencies
- The project has significant environmental and social risks

This structured approach works equally well, whether the organisation that is delivering the project is newly created for that purpose, or if it is well established. It is particularly important for multi-organisation projects with complex delivery arrangements, like PPP, public-funded, and consortium-led projects.

Good and effective organisational design & development comes through careful planning. The IPAs *Infrastructure Business Case: International Guidance*¹⁰ also highlights steps and activities required to plan, implement and manage the organisation and its resources (largely within the Management Case), through the business case stages.

¹⁰ IPA Infrastructure Business Case: International Guidance, 2022

Characteristics of good organisational design & development

An effective organisational design & development strategy should ensure:

- There is a clear understanding of the capability building and development required
- You have considered good practice on organisational structure, managing environmental and social risks, labour and working conditions
- The organisational design is aligned with governance and procurement decisions and agreed sustainability and safeguarding standards
- Key transition points in the project's life are identified and understood, especially the evolving requirements for organisational and workforce capabilities and capacity, e.g. management of existing or emerging environmental and social risks and issues
- You select an appropriate approach to develop capability and have a robust plan for implementation as the project transitions through delivery stages
- There is on-going monitoring and review of capability development, which you can adjust as appropriate
- The delivery and management approach explicitly considers environmental and social issues, and that the project team and its advisors have access to specialist skills to assess and manage the associated risks, impacts and practicalities as the project transitions through the different delivery stages

It is important that the organisations and stakeholders involved in the project take an inclusive approach to building and developing their own teams and structures, and so should their supply chain. This might involve actively implementing non-discrimination practices through identifying, encouraging and supporting the growth and progression of individuals from excluded and/or marginalised groups, e.g. women, migrant workers, people with disabilities. Project teams should also ensure they establish strict anti-harassment policies and worker grievance mechanisms to ensure the creation of a safe workplace.

Characteristics
of good practice

Useful documents

Typical findings

Considerations

Good practice examples and suggested
reading

Pillars of effective organisation design and development:

Three key components underpin effective organisational design & development for infrastructure projects. If one pillar is missing or out of balance, this will likely be ineffective or inefficient. The pillars are expanded in the *Considerations* chapter of this module.

Pillar 1: Context of the organisation

- The corporate context, including any external drivers or priorities, e.g. political or shareholder, sustainability
- The organisation's core strengths, weaknesses, opportunities and threats (SWOT analysis)
- The organisation's approach to risk and reward
- The organisation's approach to inclusive people development, and planning people resources for the future
- The culture required to deliver success, aligned with the commercial model and organisational design

You may find it useful to review these documents to identify the 'areas of interest' when scoping a Routemap **(Step 3)** – *Routemap strategy*.

In Routemap, these pillars support **(Step 6)** - *Gap analysis*. Considering them in the context of your current risk management arrangements can help you to identify areas for improvement.

Pillar 2: Design of the organisation

- The work and expertise that must be retained in-house and work that should definitely not be done by the organisation
- Relevant good practice, tools and frameworks to be considered and/or adopted
- The resource forecast for the project, in context of the organisation's resourcing strategy
- The current supply-chain environment including capability, capacity, collaboration and preferences
- The project organisation structure
- The organisational culture and leadership behaviours should be considered when selecting potential partners, though the procurement process

Pillar 3: Development of the organisational capability

- An understanding of the capability gap, including where new capabilities might be required (as opposed to building on existing capability)
- The amount of change necessary to achieve the required capability and key transition points in the project lifecycle
- The organisation's capability in delivering internal change management
- A framework for the development and assessment of organisation and team performance

Characteristics
of good practice

Useful documents

Typical findings

Considerations

Good practice examples and suggested
reading

Useful documents

These documents, components or reports usually contain information on the project organisation design & development. They may be helpful when reviewing and developing the organisation design & development for your own project:

- Organisational design & development strategy
- Target operating model
- Delivery model
- Project execution strategy
- Asset management strategy
- Governance arrangements
- Procurement strategy
- Organisational chart
- Information on organisation resources
- Succession plans
- Sustainability strategy/plan
- Corporate policies, including the equality, diversity and inclusion strategy/policy
- Recruitment process
- Health, safety and wellbeing strategy
- Skills matrix

You may find it useful to review these documents to identify the 'areas of interest' when scoping a Routemap **(Step 3)** – *Routemap strategy*.

These documents may also be helpful in **(Step 6)** – *Gap analysis*. When cross-checked against existing project documentation, they may help to identify capability gaps.

Typical findings related to organisational design & development

This list describes typical issues that might arise during project development, and would indicate that the approach to organisation design & development needs improvement:

- ☐ There is a lack of understanding of the extent of new capability required by the client to deliver the project.
- ☐ The approach for implementing the capability enhancement is inappropriate, or the scale of change is underestimated.
- ☐ The approach to organisational development does not meet agreed standards relating to environmental and social safeguarding, non-discrimination, equal opportunities and/or inclusion of marginalised groups.
- ☐ A client model, is being proposed that the client/supply chain organisations do not have previous experience of applying successfully, so they may need capabilities that they currently do not have.
- ☐ Insufficient resources have been allocated to develop capabilities that are required for the successful delivery of the project.
- ☐ Changes to capability requirements at transition points are not identified, anticipated or prepared for, e.g. transitioning from design phase to build phase.

- ☐ Changes required at key transition points do not include specific environmental and social risk management capability requirements, which can lead to failure to manage/mitigate emerging areas of risk.
- ☐ Poor development and retention of asset management capability may lead to inadequate asset management, and so the whole-life value of the asset may not be realised.
- ☐ Competency and responsibility relating to delivering economic, environmental, and social value, and compliance with ESG criteria is managed by separate teams with no coordination, rather than integrated throughout the organisational design
- ☐ Insufficient training and development is provided, to ensure teams are aligned to corporate and project values.

During Routemap, these example findings may be helpful when identifying issues and articulating your own findings **(Step 6) – Gap analysis**.

If your findings contain statements like these, this Module could help you to develop recommendations to strengthen capability **(Step 8) – Developing recommendations**.

Characteristics
of good practice

Useful documents

Typical findings

Considerations

Good practice examples and suggested
reading

Considerations for effective organisational design & development

The **considerations** questions help you understand the root causes of the capability gaps and suggest improvements. You may not need to review all the considerations, just use the most relevant ones for your project.

These questions will help you:

- to review and validate the effectiveness of your organisational design & development strategy
- to target areas for improvement
- to test the design of a new strategy

The considerations are grouped around the three pillars of effective organisational design & development: context; design and development.

Organisational design & development arrangements will probably evolve as the project progresses through its lifecycle, introducing new team members or skillsets, so you should revisit the considerations at major transition points or approval points.

During Routemap, working through these considerations can help you to validate the effectiveness of existing arrangements **(Step 5)** – *Information gathering*.

They can also help you identify reasons for the findings and ways to address them in **(Step 8)** – *Developing recommendations*.

Characteristics
of good practice

Useful documents

Typical findings

Considerations

Good practice examples and suggested
reading

Pillar 1: Context of the organisation

Key areas/considerations

Corporate context

- Who has overall accountability and responsibility for the project? Who owns the business case?
- Is there more than one sponsoring authority? Are their objectives aligned? Is the co-sponsorship formalised?
- Is there strong departmental/corporate oversight? Does the project team allocate resource to manage and respond to oversight?
- How will the organisational design be assured by the department/corporate organisation?
- What corporate policies are in place that will affect organisational decision making, e.g. human resources policies, environmental and social policies, safeguarding, non-discrimination.
- What are the corporate requirements or expected standards in relation to environmental and social risks and sustainability, e.g. sustainable use of resources, travel policies, health and safety.
- Is there a mutually agreed definition of success, and are measures in place to manage delivery of the benefits? Is the definition of success aligned to the principles of sustainable development?
- Are there clear corporate reporting arrangements?
- What are the corporate monitoring and escalation arrangements for sexual exploitation, abuse and harassment involving workers or community members and reports of child labour and modern slavery? Do these arrangements cascade to the project level and the supply chain?
- How is the project aligned with the client's business plan and strategic objectives/intent?

Strengths, weaknesses, opportunities and threats (SWOT)

- Do the governance bodies have the technical capability and understanding to make informed decisions? Do they have the capability to effectively challenge? Do they have specific technical capacity and skills in environmental and social risk management?
- Are there other projects in the organisation (or externally) that will be competing for the same people and the same skills as the project? Are there projects that will be releasing people with the skills that the project needs?
- What is the client's track record in attracting high performing staff and suppliers?

Characteristics
of good practice

Useful documents

Typical findings

Considerations

Good practice examples and suggested
reading

Key areas/considerations

- What is the client's track record in delivering organisational change?
- What is the client's track record in collaborative working?
- What is the client's track record in managing environmental and social risks?
- What system is in place for worker or community grievances? How do they document and manage sensitive cases?

Risk and reward

- What is the organisation's approach to risk and reward?
- How does the organisation develop its capabilities to appropriately allocate the assessment and management of project and organisational risks, to capable individuals and teams? Are risks allocated through appropriate management and organisational structures?
- Is capability to manage risk considered when risks are allocated between organisations involved in project development and delivery?
- How will the governance arrangements encourage accurate reporting and management of project progress?
- Does the organisation foster a culture of escalating issues appropriately and sharing bad news?
- Do the corporate mechanisms for monitoring and rewarding performance help to motivate teams to deliver the project's objectives?
- Do commercial incentives encourage compliance with environmental and social standards?

People development

- What is the organisation's approach to people development? This includes training, preparing them for new roles/promotion and planning so all roles within the organisation are filled by appropriately skilled people, e.g. when people are promoted.
- Is the approach inclusive? Is it based on principles of non-discrimination and equal opportunity, particularly for marginalised groups e.g. people with disabilities or women?
- Does the organisation proactively support the progression, retention and promotion of female workers, e.g. through flexible working policies and/or childcare provisions?
- Is there a requirement for the proposed organisational design to be sustained after this particular project has been completed, and/or repeated for another similar project?

Characteristics
of good practice

Useful documents

Typical findings

Considerations

Good practice examples and suggested
reading

Key areas/considerations

- Does the organisation attempt to increase institutional awareness of environmental and social issues? Does the organisation provide training on environmental and social risk management?

Culture and environment

- Will delivery of project requirements depend on creating enabling behaviours, e.g. collaboration, challenge, ownership? If so, have these behaviours been explicitly covered in the organisational design & development strategy?
- Has the culture of the organisation been considered and set out, this could include aspects such as customer focus, inclusive and gender-sensitive, open and collaborative, continuous improvement, predictable, innovative?
- Is there an organisational code of conduct in place that all staff, volunteers, interns and workers (including sub-contractors) must sign? Does it clearly set out prohibited behaviours such as sexual harassment or abuse?
- Is the code of conduct communicated to all employees? Is there evidence of acknowledgement of the code of conduct by employees?
- Is the culture of the organisation aligned with the culture and behaviours required to deliver the project and meet agreed environmental and social standards?
- Is the leadership style of the organisation understood? Does it align with the culture and behaviours required for delivery of the project? Does it align with the approach to risk and reward so that people are motivated to perform?
- Are the required culture and behaviours understood and set out, e.g. are co-location or supply chain integration part of the proposed way of working?
- Have the commercial and procurement models been designed to encourage the behaviours required for success?
- Does the organisation have appropriate policies in place that ensure fair wages, decent labour and working conditions, gender equality, disability, and other inclusive practices?

Characteristics
of good practice

Useful documents

Typical findings

Considerations

Good practice examples and suggested
reading

Pillar 2: Design of the organisation

Key areas/considerations

Working practices

- Does the project require specific work practices, regulations or standards that will affect organisational design? How will these be addressed?
- If there are multiple organisations involved in delivery, are their different cultures and working practices compatible?
- If cultural/behavioural changes are required for delivery, has a business change project been set up to run alongside the delivery of the infrastructure project?
- What training is in place to ensure that all parties understand and comply with the agreed code of conduct, standards and behaviours relating to gender equality, non-discrimination and safeguarding against sexual exploitation, abuse and harassment?
- Are there clear procedures in place and handling sensitive information e.g. reports of sexual harassment linked to the project or organisation staff?
- Has environmental and social sustainability been considered in the development of working practises?

Client model

- Has a functional analysis been carried out (current and future state)?
- Have the functions which should be retained in-house been identified; and have the functions which should be outsourced been defined?
- Does the client model align with corporate policies regarding insourcing and outsourcing?
- Is the appetite for third party involvement understood?

Resourcing

- Is there a work breakdown structure that identifies the types of resources that will be required?
- How is the size of the team likely to change through the life of the project?
- Is there a pipeline of projects, following this one, that the project resources obtained can move to, once this project has finished?
- What are the organisation's requirements for optimising resources and for managing / reallocating resources as the project comes to an end?

Characteristics
of good practice

Useful documents

Typical findings

Considerations

Good practice examples and suggested
reading

Key areas/considerations

- How will the transition to operations be managed and what impact will it have on operational resources? After the transition to operations, will there be adequate resources to manage changing environmental and social risks?
- Is the resourcing strategy appropriate for the importance, complexity and scale of the project, including in relation to environmental and social issues?
- Is there a need for co-location of resources?

Structure

- What is the best structure for success? Does the structure optimise use of resources?
- How will existing organisational hierarchies impact the project team structure?
- Are the accountabilities and responsibilities clear?
- Is the investment managed better as a project or as a programme?
- Do the client and any third parties who will form an integral part of the organisational structure, e.g. a delivery partner, agree to the organisational design and how it will work?
- What is the impact of the structure, required for the project, on the existing organisation and interfaces?
- How does the structure align to corporate governance requirements?
- How does the structure align to corporate sustainability targets, e.g. environmental and social standards?

Supply chain

- Does the project team have a clear understanding of the current supply chain environment including capability, capacity and collaboration practices? Do they understand how that aligns with the proposed client model?
- Will the project require the supply chain to change its current practices and preferences, including regarding environmental and social standards?
- Are there procedures in place to ensure the supply chain actors have sufficient knowledge and capacity to comply with environmental and social standards?
- Are there mechanisms in place to ensure efficient use of people's time, efforts and skills?

Characteristics
of good practice

Useful documents

Typical findings

Considerations

Good practice examples and suggested
reading

Key areas/considerations

Efficiencies

- Is there a need/target for efficiency savings through the project lifecycle?
 - Does the design include continuous improvement and development of the organisational structure, for future growth and change, in line with the strategic and sustainability objectives?
-

Procurement process

- Are the selection criteria, used in the procurement process, aligned with the behaviours set out in the organisational design & development plans, e.g. if the plans specify the use of local labour with quotas for women workers, is that requirement incorporated into the criteria for selecting the supply chain?
 - Does the selection criteria, used in the procurement process, reflect expected standards of behaviour/conduct, by organisation staff, workers, subcontractors and partners, e.g. workplace sexual harassment?
 - Does the selection criteria reward organisations and individuals with successful track records of compliance with environmental and social standards?
 - Will the procurement process align partners with the behaviours required during implementation?
 - Will the procurement process identify leadership from partners to enable the required change?
-

Characteristics
of good practice

Useful documents

Typical findings

Considerations

Good practice examples and suggested
reading

Pillar 3: Development of organisational capability

Key areas/considerations

Capability gap

- How are the skills/capability requirements likely to change through the life of the project?
- Are the changes to required capability through the project lifecycle understood? What impact will the transition or stage gates in the project have on organisational development and resource requirements?
- Is there an understanding of the type and level of specialist skills required, e.g. related to economic, environmental and social risk management capabilities?
- What is the most appropriate framework(s) for assessing competence and performance?
- Is there a defined approach for evaluating and monitoring competence and performance?
- How will organisational capability be monitored (actual capability versus required capability)?

Capability enhancement plans (focused on organisational development)

- What is the size and/or type of capability change required? How should it be managed? Should it be managed as a project in its own right?
- Is the change management capability of the organisation understood? Is it enough?
- How much change is already occurring? Is there a danger of change fatigue?
- Is there enough time to deliver the size of capability enhancement (change) required? Is there an agreed enhancement plan?
- Has leadership contributed to the enhancement plan?
- Have environmental and social advisors been consulted on the enhancement plan to ensure there is adequate provisions for enhancing environmental and social risk management capabilities?
- Is there a business case for the enhancement plan?
- Is there enough budget allocated for the enhancement plan? Are there appropriate resources to deliver the capability enhancement actions or are arrangements in place to procure any additional supporting resources?

Characteristics
of good practice

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Considerations

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reading

Key areas/considerations

- Is there an appetite to include key personnel from partners/suppliers in organisational development activities? Will the enhancement plans deliver everything in the organisational design & development strategy?
- Have field trips/pilot projects/lessons learned from other projects (internal and external) been considered?

Delivery of Project Development Routemap action plans (see also considerations listed under *Capability enhancement plans*, above)

- Is there agreement of what constitutes success, and are measures in place to manage delivery of the capability enhancement?
- How will the achievement of the changes in capability be monitored? Will they be reviewed regularly by leadership?
- Are action plans updated to reflect any changes arising from the performance data?
- Can plans be altered to reflect changes in the project environment?

Impact of change

What is the impact of change on:

- Process – is there a process for process change and approval?
- Policy – who creates it and is there a process and approval mechanism?
- People – is there a training and communication process in place and is it linked to / able to support process and policy change?
- Systems – what is the impact on information systems and technology?

Developing team performance

- Are the organisational behaviours required for success reflected in the approach to developing teams?
- Have the characteristics of high-performance teams been identified and included in the organisational development strategy?
- Is there a process for developing teams that aligns with the project requirements to be delivered, including sustainability requirements? Does it align with the commercial strategy and procurement models?

Good practice examples

This section offers supporting material to plan improvements for effective organisational design & development.

We give examples of good practice to help you understand the client model when:

1. Considering whether core project functions should be kept in-house or outsourced
2. Plotting the level of involvement required from the sponsor, client and asset manager over the life of the project
3. Embedding equality, diversity and inclusion into organisational design

These examples will not be relevant to every project. They are a collection of good practice that may be helpful, in specific circumstances. It is important to assess and tailor any good practice to the specific project and its wider context.

Likewise, the suggested reading is a starting point for further research. You should look for other sources relevant for your project, to support capability strengthening.

Within Routemap, the examples of good practice support capability strengthening in **(Step 9)** – *Action planning*.

Characteristics of good practice	Useful documents	Typical findings	Considerations	Good practice examples and suggested reading
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1. Good practice: Client model decision tool (i)

This tool demonstrates which core project functions should be kept in-house or outsourced – informing the client delivery model.

Delivery of each project function (project management, design, build, etc.) could be provided in-house by the client organisation, outsourced to specialist providers or transferred to the supply chain. This is referred to as a client model.

The client model below shows how to consider the delivery functions as part of an overall organisational design, with the blue/purple bars representing the expected balance between in-house and outsourced responsibility; and the core functions that should never be outsourced.

The project must align:

- the organisation’s forecast for resource demand/capacity
- its capability
- the key risks identified.

Together, these components provide the basis for defining the most appropriate balance of permanent in-house staff and external support.

It is inevitable that resource requirements will fluctuate. An organisation is unlikely to meet the peaks of demand with entirely permanent resources, which would otherwise restrict flexibility.

Example client model – in-house and outsourced

Core functions critical to organisation (e.g. Programme director, assurance, risk management, health and safety, commercial, estimating, environmental and social oversight)	Never outsource		
Project management	In-house ↔	Outsource	Project management: Indicates the level of which the responsibility for overall management of the project is or could be outsourced.
Specialist support	In-house ↔	Outsource	Specialist support: Some areas will require specialist support to be brought in e.g. environmental and social, legal, land acquisition, community engagement and communications. These specialists will carry out analysis on a case-by-case basis.
System integration	In-house ↔	Outsource	Systems integration: Some products of projects will require integration work in order for them to be fully functional with the existing assets of the client organisation, and therefore to function correctly for the client. The dark blue bar indicates the level to which this work could be provided by external resources.
Design services	In-house ↔	Outsource	Design services: Indicates the level of technical design and drawing responsibility that is provided by external resources.
Construction management	In-house ↔	Outsource	Construction management: indicates the level to which projects require construction to be directly managed by external resources.
Direct construction work	In-house ↔	Outsource	Direct construction work: Indicates up to what level manual work is outsourced to the market (temporary agency staff contracted by the client organisation are considered to be in-house staff as their standard work and availability is the responsibility of the client organisation). N.B. The balance of in-house/outsourced labour should be considered alongside the procurement module, as this may not be a function provided by the client, depending on what decisions are made in terms of procurement strategy.

2. Good practice: Client model decision tool (ii)

How to plot the level of involvement required from the sponsor, client and asset manager over the project lifecycle.

Organisational design aligns the capability of the project organisation with its objectives over time. Whilst aligning the complexity and project/organisation capabilities during the early stages of your project will set you up for success, the level of capability required by the project will fluctuate through its lifecycle.

The diagram on the next page demonstrates the most critical periods for strong sponsor, client and asset manager involvement.

Emerging best practice increasingly includes a dedicated project asset manager – someone with the skills and time to oversee the project from a longer-term business perspective. This person is integrated in the project team throughout the lifecycle of the project, programme or delivery portfolio.

The project asset manager has an ongoing working relationship with operations, supports the development of asset lifecycle strategies, and ensures that not only the asset, but also as-built information and lifecycle strategies are handed over to operations. They also lead the post-delivery review.

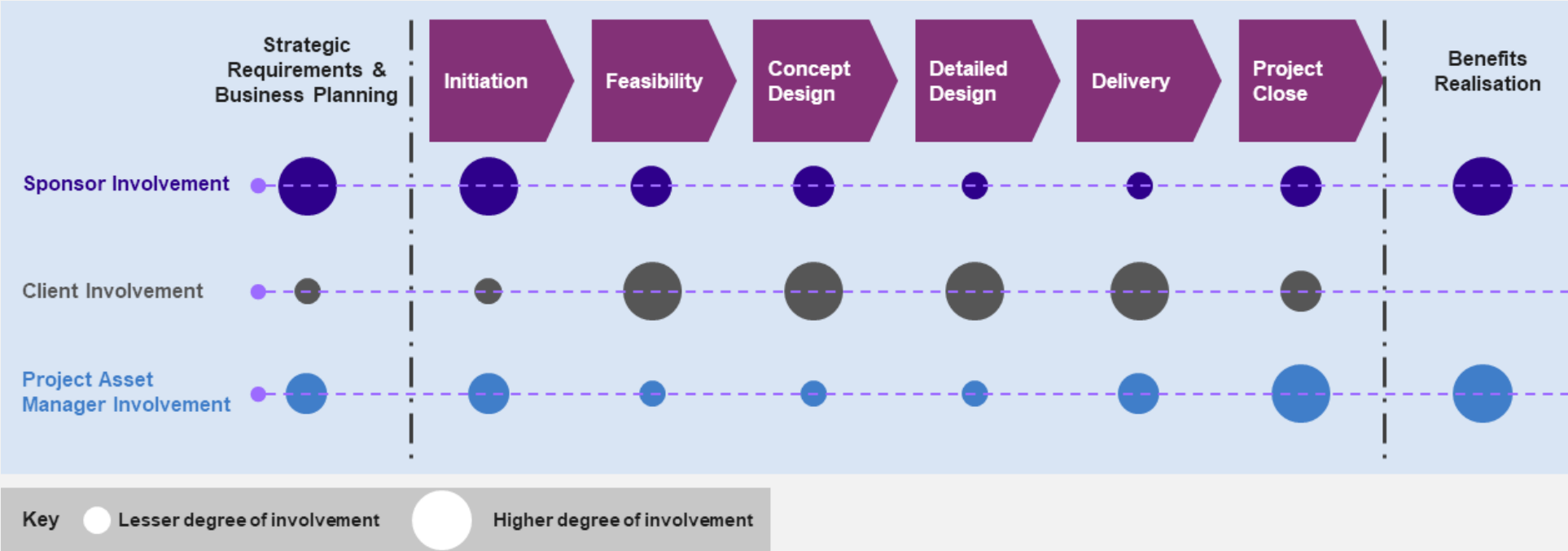
Ensuring that a specific capability is available from the outset is key to ensuring that operational requirements are properly captured.

Example project asset manager role description

- Approval of specifications and designs for the project, to ensure that the end state product meets its objectives for maintainability and reliability.
- Development of project asset management policy in accordance with international standards and best practice, so that the project is managed in accordance with its whole life objectives in line with the corporate asset management strategy.
- Development of maintenance standards and procedures.
- Development of an inspection and maintenance policy, identifying plant buy or hire solutions, including business cases for capital expenditure and the subsequent design, development and procurement.
- Organisational development for the infrastructure management operation, including organisation design, competency development, recruitment and training of the infrastructure management team in time for the start of commissioning.

Characteristics of good practice	Useful documents	Typical findings	Considerations	Good practice examples and suggested reading
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The level of involvement required from the sponsor, client and asset manager over the project lifecycle:



3. Good Practice: Embedding equality, diversity and inclusion into organisational design and development

Organisations with a diverse workforce are more innovative, resilient, and productive. Diversity takes many forms, including balanced gender representation, minority groups representation (such as people from indigenous communities or with disabilities), and a wide range of ages, educational backgrounds, personalities, and beliefs. There are several reasons why diversity and inclusion are good for business¹¹:

- Diversity of skills, thought and experiences often leads to innovation
- Important perspectives are not missed: across many industries, projects, products or services can fail to deliver good outcomes for everyone because the people that design them do not reflect the users adequately
- Talent is drawn from a wider pool: if you place unnecessary exclusions on who can work for you, you could miss out on a large talent pool - organisations are more likely to find the right person for the job if they draw from the biggest pool possible.
- An inclusive workplace is better for everyone, and therefore productivity and staff retention are higher

As well as driving benefits for organisational performance and ensuring that projects deliver on their goals and outcomes, having a diverse and inclusive workforce directly impacts society and economy for the better, helping to drive forward many of the UN Sustainable Development Goals. For example:

- Goal 3: Good Health and Well-being
- Goal 5: Gender Equality
- Goal 8: Decent Work and Economic Growth
- Goal 10: Reduced Inequalities



¹¹ For more information, see suggested reading: CIPD, Inclusion and diversity in the workplace, 2021.

Characteristics
of good practice

Useful documents

Typical findings

Considerations

Good practice examples and suggested
reading

The table below sets out some key, high level considerations for each element of the model. Organisations will also need to consider their own local communities, which groups are underrepresented, and how specifically they can make adaptations.

Valuing Diversity	<ul style="list-style-type: none"> • Addressing conscious/unconscious bias • Definition of organisational design and competencies needed • Culture of actively seeking diverse voices and experiences
Attracting and Recruiting	<ul style="list-style-type: none"> • 'Branding' the organisation – what attracts people to work there? Do they see signs of inclusion from the outside? • Considering where to advertise – e.g. recruitment agencies that work specifically with minority groups • Wording of job adverts to attract diverse talent • Selection process – ensuring you are testing for the skills you need and not the ones you think you need
Induction and Onboarding	<ul style="list-style-type: none"> • Communication of organisational vision, values and behaviours, including the importance of diversity and inclusion • Comprehensive induction, including full health and safety induction, which also ensures that people are sign-posted to where they can find support and any necessary training • Promotion of any employee network groups as part of induction • Buddy system to help new starters integrate into the business
Working Environment	<ul style="list-style-type: none"> • Commitment to health, safety and well-being, ensuring people feel comfortable highlighting when their health (including mental health) or safety is at risk • Flexibility as far as possible, e.g. allowing flexible or part-time working/job share where possible • Accessible offices, facilities and IT equipment • Presenting / disseminating information in a way that is accessible to all
Performance Management & Progression	<ul style="list-style-type: none"> • Strength-based performance review, where employees are encouraged to focus on how they can improve their strengths as well as their weaknesses • Open and transparent progression process • Multiple career pathways open, including for both leadership and subject-matter expertise
Governance, Reporting & Accountability	<ul style="list-style-type: none"> • Tracking of diversity metrics • Board accountability for diversity and inclusion • Grievance and whistleblowing processes

Collated and adapted from a variety of sources, including Steven AJ Cox, Diversity and Inclusion – the employee lifecycle, 2018.

Characteristics
of good practice

Useful documents

Typical findings

Considerations

Good practice examples and suggested
reading

Suggested reading

Within Routemap, the suggested reading supports **(Step 9) - Action planning**.

Here are some sources of good practice information and guidance on organisational design & development:

Project Development Routemap for Infrastructure Projects:
International Handbook, Infrastructure and Projects Authority, 2020
<https://www.gov.uk/government/publications/project-development-routemap>

Business Case Development for Infrastructure Projects:
International Guidance – Infrastructure and Projects Authority, 2020
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1062669/Infrastructure_Business_Case_International_Guidance.pdf

ISO44001 Collaborative Business Relationships Management
System, 2017
<https://www.bsigroup.com/en-GB/Collaborative-Business-Relationships-ISO-44001/>

Directing Change - A guide to governance of project management,
Association for Project Management, 2011
<https://www.apm.org.uk/media/7577/directing-change-sample-chapter.pdf>

Designing and Delivering Major Capital Programmes,
Major Projects Association, 2016
<https://majorprojects.org/highlights/407majorcapproj>

Global Client Models: A study of trends and lessons learned from
international major projects, Major Projects Association, 2017
<https://majorprojects.org/resources/global-client-models-study-trends-lessons-international-major-projects/>

Global Trends in Client Models in Major Projects, Major Projects
Association, 2018
<https://majorprojects.org/highlights/466highlightsclientmodels>

Competency Frameworks, Association for Project Management,
2015
<https://www.apm.org.uk/resources/find-a-resource/competence-framework/>

Characteristics
of good practice

Useful documents

Typical findings

Considerations

Good practice examples and suggested
reading

Portfolio, Programme and Project Management Maturity Model (P3M3), Axelos

<https://www.axelos.com/best-practice-solutions/p3m3/what-is-p3m3>

Steven AJ Cox, Diversity and Inclusion – the employee lifecycle, 2018

<https://www.stevenajcox.com/diversity-and-inclusion-employee-lifecycle/>

Institute of Civil Engineers Competency Framework, 2011

<https://www.gedcouncil.org/sites/default/files/ICE-Competency-Framework.pdf>

CIPD, Inclusion and diversity in the workplace, 2021

<https://www.cipd.co.uk/knowledge/fundamentals/relations/diversity/factsheet#>

Managing Successful Programmes (MSP), Axelos, 2011

<https://www.axelos.com/best-practice-solutions/msp/what-is-msp>

Managing Successful Projects with PRINCE2, Axelos, 2017

<https://www.axelos.com/best-practice-solutions/prince2/what-is-prince2>

Chartered Institute of Personnel and Development

<http://www.cipd.co.uk>

IPA: Project Delivery Diversity & Inclusion Strategy

<https://www.gov.uk/government/publications/project-delivery-diversity-and-inclusion-strategy-2020-2023>

Glossary

This glossary identifies key terms for the Routemap Organisational design & development module. The *Project Development Routemap for Infrastructure Projects: International Handbook* contains a comprehensive glossary of terms related to the Project Development Routemap generally.

Asset manager: 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.

Capability gap: The difference between the existing organisational capability, and the capabilities required to successfully deliver the proposed project or programme.

Client: The client is the organisation that is responsible for undertaking the work to fulfil the sponsor's requirements and deliver the benefits. The client translates the requirements from the sponsor and manages the delivery outcomes. The client selects the most appropriate supplier/s to meet project objectives. The client organisation may be referred to as the Implementing Agency or the Government Contracting Agency. The client may be internal or external to the department or line ministry.

Client model: The Client Model refers to how the Client organisation structures and resources the project execution activities between the client, advisors/partners and supply chain (e.g. in-house vs. external). This is a key consideration in determining organisational design and procurement strategies.

Commercial strategy: the long-term plan for the management of commercial arrangements.

Corporate context: Incorporates all characteristics and circumstances which influence the project or organisation's actions, capability and capacity, aligned with its commercial model and organisational design. These include: external drivers; core strengths; weaknesses; opportunities and threats; approach to risk and reward; approach to people development and planning; and its operating culture.

Culture: An organisation's culture is how its people, process and assets regularly work together, including their expected behaviours and shared knowledge.

Equator Principles: A risk management framework for environmental and social risk management in project finance that has been adopted by a number of financial institutions.

Economic, environmental 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 (e.g. improved transport link) and from by-products of delivery (e.g. 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 (e.g. 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.

Environmental and Social Impact Assessment (ESIA): An environmental and social impact assessment is conducted to identify and evaluate environmental and social risks in projects.

Environmental and Social Management Plan (ESMP): An environmental and social management plan contains mitigation measures and actions in order to mitigate environmental and social risks and to maximise potential environmental and social benefits over the life of a project.

Grievance Mechanism: Processes that can be used by workers, community members and services users to make complaints or report concerns relating to any aspect of the project development process.

International Finance Corporation (IFC) Performance Standards: An international benchmark for identifying and managing environmental and social risk that has been adopted by many organizations as a key component of their environmental and social risk management.

Organisational capability: An organisation's ability to manage and focus resources, such as employees, processes, and assets to deliver and realise its objectives.

Organisational design: The structure, resources, responsibilities, skills, practices and culture required to deliver a project.

Organisational development: the changes required to deliver the agreed organisational design, at or ahead of any key transition points in a project's life, e.g. moving from development to implementation or from implementation to operation.

PPP: Public Private Partnerships (PPP) is a form of contract between public and private sector whereby, characteristically, the private sector design, build, finance and operate a publicly provided service against payment by the Sponsor (for an Availability based PPP) or by users (for a Concession based PPP). There are many different possible definitions.

Procurement model: The approach taken and the contracting model used to purchase goods and services from the supply chain.

Risk and reward: An organisation's strategy, appetite and capacity to balance expected returns against the corresponding risk. High potential reward is often associated with a linked increase in risk.

Safeguarding: The organisational system in place to prevent harm or unethical behaviour being perpetrated by individuals [engaged in project development and delivery].

Sexual Exploitation and Abuse (SEA): Sexual exploitation is any actual or attempted abuse of a position of vulnerability, differential power or trust for sexual purposes, including, but not limited to, profiting monetarily, socially or politically from the sexual exploitation of another (UN Glossary on Sexual Exploitation and Abuse 2017, World Bank 2019). Sexual abuse is the actual or threatened physical intrusion of a sexual nature, whether by force or under unequal or coercive conditions (UN Glossary on Sexual Exploitation and Abuse 2017, World Bank 2019)

Sexual Harassment: Any unwelcome sexual advances, request for sexual favours, and other verbal or physical conduct of a sexual nature.

Sponsor: The Sponsor organisation 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 from the same organisation.

SWOT Analysis: A strategic planning tool used to analyse an organisation's current position in the context of its internal strengths and weaknesses and its external opportunities and threats.

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.

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 recognize that action in one area will affect outcomes in others, and that development must balance social, economic and environmental sustainability.



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