Improving Infrastructure Delivery: Project Initiation Routemap
Requirements Module
Infrastructure and Projects Authority and Infrastructure Client Group

Infrastructure shapes the way we live and is the foundation on which a successful economy is built. Transport links get us where we need to be, energy systems power our homes and businesses, and digital networks allow us to communicate. It is vital to improving our quality of life and integral to the creation of a vibrant economy.

The government is committed to delivering the high-quality infrastructure that the UK needs to build and sustain a more productive economy. To achieve this the government has committed to spend £100 billion on infrastructure this Parliament. This investment will create jobs and raise productivity.

To help realise the benefits from this investment the government created the Infrastructure and Projects Authority (IPA) as the government’s centre of expertise for project development and delivery. The IPA’s Cost Review and the NAO report on delivering major government projects identified the early stages of projects as a common source of failure on infrastructure projects. The original Project Initiation Routemap (Routemap) helped address these challenges and this update, which expands to include all construction projects and adds new modules, will enhance that work, helping provide the UK with the infrastructure it needs to thrive.

The Infrastructure Client Group demonstrates the value of effective collaboration between government and industry to support the development and exchange of best practice to improve delivery. Initially brought together by government to support the work of the Infrastructure Cost Review, the membership of this group is representative of the major infrastructure clients. It has been instrumental in setting a common agenda for change and supports a programme of activities and applied knowledge transfer across the public and private sectors. The success of this initiative has been made possible by the continued and valuable support from industry and academic partners.

Preface

Since the launch of the Routemap over 20 major projects across the transport, water, flood defence and energy sectors have undergone a Routemap assessment, helping to drive their successful delivery. Yet there is still work to do as projects continue to face challenges.

The recent NAO report on Delivering Major Projects in Government (2016) and the Infrastructure UK Cost Review (2010) both noted that projects continued to encounter problems in their early stages – and, particularly, that projects often publicly announced timelines and costs before plans have been properly tested. The report also identified a lack of project capability especially at portfolio level. The Routemap will help address these challenges by offering support on strategic decision making during project initiation based on the latest thinking and knowledge acquired from delivery of Major Projects applied in a series of structured exercises. It enables sponsors and those responsible for project delivery to properly align complexity with the necessary capabilities and other enhancements to ensure a more successful outcome.

The Project Initiation Routemap is a product of government working collaboratively with industry and the University of Leeds, through the Infrastructure Client Group.

Building on its success with economic infrastructure, the Routemap is being expanded to cover all construction projects and longer-term transformation projects as well. As part of this expansion two new modules are being added, for Risk Management and Asset Management alongside the existing topics on Requirements, Governance, Procurement, Execution Strategy and Organisational Design & Development. The new Risk Management Module covers the best practice in how to develop the project’s approach to risk management during the initiation phase. The Asset Management Module provides advice on how to structure and manage the interaction between the project team and the corporate asset management function to successfully deliver project outcomes.

Tony Meggs
Chief Executive of the Infrastructure & Projects Authority

Andy Mitchell
Chair of the Infrastructure Client Group
**Introduction: Align for Success - Requirements**

The Project Initiation Routemap (Routemap) is an aid to strategic decision-making. It supports the alignment of the sponsor and client capability to meet the degree of challenge during initiation and delivery of a project*. It provides an objective and structured approach to project initiation founded on a set of assessment tools.

The assessment tools help determine:
- The context and complexity of the delivery environment;
- The current and required sponsor, client, asset manager and market capability;
- Key considerations to enhance capability where complexity-capability gaps are identified.

The Routemap provides further diagnostics on addressing common capability gaps that typically need to be enhanced, such as blurred governance structures, or lack of alignment between benefits and requirements. These areas are explored in more depth in a number of Align for Success modules.

The purpose of each Align for Success module is to help:
- Gain a greater understanding of the complexity-capability results;
- Identify and analyse options to better align complexity-capability;
- Plan for successful achievement of desired outcomes;
- Assure enhancement plans during implementation.

Application of the Requirements module helps to create a shared vision of success through alignment of the expected benefits, outcomes and outputs. The module aims to provide greater clarity and support for the management of risk and the realisation of benefits.

*Throughout this guide the term project is used to mean both project or programme.
Introduction: Whether to use Align for Success - Requirements

**Typical findings relating to Requirements**

If the findings from your complexity-capability assessment identify any of the following issues (or similar ones) then Align for Success - Requirements may help. Use the Considerations tables that follow to diagnose enhancements that may be required.

<table>
<thead>
<tr>
<th>The requirements are poorly articulated resulting, in ambiguity as to the purpose of the project or what it needs to deliver.</th>
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<tbody>
<tr>
<td>The key stakeholders within the sponsor organisation have differing opinions on what the project needs to deliver, or it is not clear that all stakeholders have been consulted.</td>
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<tr>
<td>There is low confidence in the benefits being realised because there are assumptions underpinning the benefits that have not been tested in this context.</td>
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<tr>
<td>It will be difficult to prove success because the benefits are not defined in tangible or measurable terms.</td>
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<tr>
<td>It is not clear how the deliverables align with or contribute to expected benefits, therefore it is unclear whether the totality of the benefits will be realised by the project.</td>
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<tr>
<td>There is likely to be conflict or tension between the participating organisations as the project is not fully aligned with their relevant individual objectives.</td>
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<tr>
<td>The project requirements, business case and design indicate a lack of future thinking and/or inadequate links to a corporate asset management strategy.</td>
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<tr>
<td>Through the life of the project there is little provision for or anticipation of potential scope changes caused by changes to external factors.</td>
</tr>
<tr>
<td>Contract incentives appear to be misaligned to sponsor’s requirements or Client Model, which may mean the supply chain performs contrary to expectations.</td>
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<tr>
<td>There is no clear lifecycle asset management strategy in the asset manager organisation articulated to sponsor or client</td>
</tr>
<tr>
<td>There are no or inadequate lifecycle parameters – such as asset reliability, availability, cost of maintenance, or operability – defined in the requirements</td>
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</table>

**Modules that help**

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Governance</th>
<th>Execution</th>
<th>Strategy</th>
<th>Organisation</th>
<th>Procurement</th>
<th>Risk</th>
<th>Management</th>
<th>Asset</th>
<th>Management</th>
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### Introduction: Whether to use Align for Success - Requirements

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<thead>
<tr>
<th>Findings</th>
<th>Help Modules</th>
</tr>
</thead>
<tbody>
<tr>
<td>The project initiation and delivery focuses on processes to the detriment of outcomes and associated asset management goals</td>
<td>Requirements</td>
</tr>
<tr>
<td>There is no current requirement specified or plan and budget in place to develop lifecycle asset strategies, particularly for maintenance, asset information, and risk management, in the project before handover to operations and maintenance</td>
<td>Governance</td>
</tr>
<tr>
<td>There is no clear role/dedicated resource on the project specifically tasked with providing the whole life asset knowledge and articulating the asset vision so as to optimise achievement of the organisational goals</td>
<td>Execution</td>
</tr>
<tr>
<td>There is no strategic engagement with the operators and/or supply chain to ensure that the project solution is defined, developed, constructed and handed over appropriately</td>
<td>Organisation</td>
</tr>
<tr>
<td>There is limited use of Asset Information in developing project requirements and BIM is not built into project development activity</td>
<td>Procurement</td>
</tr>
<tr>
<td>The project has been assessed in isolation without reference to the business and asset management strategy</td>
<td>Risk Management</td>
</tr>
<tr>
<td>Poor decision-making, governance structures and processes undermine the integrated asset strategy</td>
<td>Asset Management</td>
</tr>
<tr>
<td>Poor development and retention of Asset Management capability leads to inadequate asset management and, in turn, to less than optimum whole life value</td>
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</table>

**Tip:**

This module should not be used in isolation. It is assumed you have already completed the Complexity - Capability Gap Analysis in the Project Initiation Routemap Handbook and have identified issues with Requirements.
Why Requirements Matter
**Why Requirements Matter: What are Requirements?**

The high-level objectives of requirements are to ensure that:

- the strategic case for the project is strong;
- planning, scoping and delivery activities are aligned with the organisation's objectives.

This will provide a sound basis for the quantitative and qualitative measures by which the success of the project will be judged, and help counter over-optimism.

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**Why are requirements important?**

Number one on the Cabinet Office list of common causes of project failure* is the lack of a clear link between the project and the organisation’s strategic priorities. This has also been a key finding across many of the Routemap exercises, as indicated by the following examples:

- "...needs to be able to explain why the Alliance is strategically important to existing and future partners and suppliers..."
- "There is a lack of consistency in the understanding of the business case – is it designed to deliver a programme of works or is it enhanced maintenance to address critical issues?"
- "...attention should be focused around consultation and lockdown of requirements and outcomes."

The level of threat to successful delivery of real benefits increases significantly if prioritised requirements are not agreed with stakeholders. This happens when there is no common view of the expected benefits, the benefits do not align to strategic objectives, it is not clear how a project can deliver those benefits, or the benefits cannot be measured and proved. Where there are ambiguous requirements even though the project might be well executed it will fail as it will be delivering the ‘wrong’ outputs.

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**Characteristics of effective requirements**

Effective articulation of requirements gives senior management a clear understanding of the results to be achieved through a major investment; it gives middle management a clear understanding of the resources required to get these results, and of their role in achieving the goal. There is a common understanding of how all activities and outputs contribute to results.

Experience shows that organisations are more likely to maximise the realisation of benefits when:

- project teams and project stakeholders have a shared vision of success; this has a positive impact on project team performance;
- benefits are owned and championed by influential stakeholders;
- there is an agreed focus on the long-term objectives and how they can be measured; this reduces the risk of a project running out of control.

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* Further Guidance Ref [8]
Considerations
The approach to planning for better requirements consists of three key areas.

**First** is the creation of a **shared vision** of what success will look like. This vision should be realistic, easy to understand and measurable. What success looks like will vary depending on the perspective of the stakeholder, but it should be possible to arrive at some form of alignment and agreed vision. Articulating and communicating the vision is a fundamental part of stakeholder engagement.

**Second** is **benefits mapping and alignment**. The design and planning of a project can be significantly improved by demonstrating how its outputs will lead to particular outcomes, how those outcomes realise wider benefits, and how all three align and contribute to business strategy. Where it is not possible to show alignment from strategy down to project outputs, then the value of the project should be re-examined.

**Third** is to **prove success** using objective measurements. Hence, success needs to be stated and measured in terms of:

- **Benefits (delivery of objectives)**: Measurable improvements that will result from the project and are seen by a stakeholder to be positive and worthwhile. How the project outcomes will add value to the organisation and/or society. Benefit measurements should prove achievement of some aspect of the strategic objectives that are captured in the vision.

- **Outcomes (use of outputs)**: The result of implementing one or more outputs, which may have consequences, both during the project lifecycle and after transfer into operation. The benefits provide measurable proof that the outcomes have been achieved.

- **Outputs (what the project will deliver)**: Output is sometimes referred to as ‘capability’, ‘deliverable’, or ‘product’. Outputs that do not contribute to the achievement of an outcome are of questionable value.

The following tables outline some of the key considerations for identifying and improving requirements, and set these out in the context of the three step approach to planning for better requirements.

These steps, and the prompts within each of the tables, can be used to support and facilitate the engagement with stakeholders. This will help achieve a strong strategic case, together with planning, scoping and delivery activities that are effectively aligned with the organisation’s and stakeholders’ objectives.
### Considerations: Shared vision of success

#### Key prompts

#### Articulation of success
- Has success been clearly articulated, for example in a vision statement? Where is it documented?
- Has the process to identify the vision been collaborative and inclusive?
- How have conflicts been managed and recorded?
- How has this been discussed with relevant stakeholders?
- Has the vision been mutually accepted by the relevant stakeholders?
- Is the vision easily understood and does it provide unified direction?
- Does the vision align with the organisation’s long-term objectives?
- How has the shared vision been tested?

#### Communications strategy
- Does the strategy identify how to engage with stakeholders to establish what their hopes/fears are?
- Does it set out how to deal with conflict to arrive at agreement on the shared vision?
- Is there a project identity that mirrors its vision, objectives, values and benefits?
- Does the communication strategy include tailored messaging in relation to the project’s impact on all stakeholders?
- Does the communications strategy identify appropriate communications and channels for each stakeholder group?
- Is there a corresponding communications plan?

#### What may help
- Supporting Material pg 16
  Ref [1], [2], [7]

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**Tip:**
It may be helpful to review the following documents:
- Business case (strategic justification)
- Communications strategy
- Communications plan

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Note: Further Guidance contains details and links for each document reference - Ref [ ]
### Considerations: Benefits mapping and alignment

<table>
<thead>
<tr>
<th>Key prompts</th>
<th>Considerations</th>
<th>What may help</th>
</tr>
</thead>
</table>
| **Logic map** | - Can you demonstrate a clear link between the project outputs, outcomes and the benefits?  
- Do all outcomes lead to benefits?  
- Have negative impacts been considered?  
- Have you considered how to treat negative impacts that have been identified? | Supporting Material pg 17  
Ref [7] |
| **Outside view** | - Have societal impacts been considered and defined with stakeholders from the outset?  
- Have the users been identified and their needs/wants considered? | Stakeholder maps  
Ref [1], [2] |
| **Testing assumptions** | - Is there evidence to support the cause and effect relationships between outputs, outcomes and benefits?  
- Is there evidence to show that behavioural change is likely to occur, if this is necessary for success?  
- Have stakeholders been involved in testing the validity of assumptions and any potential design issues?  
- Have subject matter experts been used to test assumptions?  
- Has a pilot been considered to test any assumptions?  
- Have external factors that put constraints on the project been identified and allowed for in the requirements?  
- Have dependencies on other projects been identified and allowed for in the requirements? | Ref [1], [7] |
| **Alignment** | - Do expected benefits link directly to strategic priorities/objectives?  
- Have the disbenefits and other unintended consequences of the project been identified and assessed for impact on strategic aims/objectives? | Ref [1] |

**Note:** Further Guidance contains details and links for each document reference - Ref [ ]

**Tip:** It may be helpful to review the following documents:  
- Benefits map  
- Data (and modelling) to evidence assumptions  
- Record of stakeholder/users consultation
# Considerations: Prove Success

<table>
<thead>
<tr>
<th>Key prompts</th>
<th>Considerations</th>
<th>What may help</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Measures</strong></td>
<td>Have suitable measurable benefits been identified at the outset?</td>
<td>Ref [1], [6], [7], [10]</td>
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<td>Have benefits been separately identified, defined and attributed?</td>
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<td>Are benefits documented in the business case?</td>
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<td></td>
<td>Is there a benefit realisation methodology that continuously identifies and measures actual and forecast benefits? How will the achievement of benefits be embedded in the governance arrangements and flow down to commercial incentives?</td>
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<tr>
<td></td>
<td>How will behavioural change be assessed?</td>
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<td></td>
<td>Has measurement been integrated into project planning?</td>
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<tr>
<td><strong>Data</strong></td>
<td>Are measurable data and sources identified? Does the data exist? If not, what steps need to be taken to obtain it?</td>
<td>Ref [4], [5]</td>
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<td></td>
<td>Are tools and methods for quantitative and qualitative measurement in place?</td>
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<tr>
<td><strong>Management</strong></td>
<td>How will benefits be handed over and embedded into business as usual once the project has closed?</td>
<td>Ref [4], [5], [6], [7]</td>
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<td>Is the benefits realisation plan regularly updated? When and how will reviews and assessments be carried out? Have adequate resources been allocated to benefits management?</td>
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<td></td>
<td>Do the benefits profiles clearly articulate how each benefit will be linked to project objectives, how they will be tracked, the timeframe for measuring progress and the owner of each benefit?</td>
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<td>Are outcomes and benefits tracked on a timely basis? How will it be reported within the project?</td>
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<td></td>
<td>Have dependencies between benefits been mapped? Are the dependencies being managed?</td>
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<td></td>
<td>Are organisational drivers, dependencies and other influencing factors identified and tracked?</td>
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<td>Have benefits milestones been defined and agreed?</td>
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<td>Do the expected benefits provide a roadmap for the project that achieves a focus for delivering change?</td>
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<tr>
<td><strong>Ownership</strong></td>
<td>Are the functions, roles and responsibilities for benefits realisation defined?</td>
<td>Ref [7]</td>
</tr>
<tr>
<td></td>
<td>Does ownership of and accountability for outcomes and benefits lie with the project sponsor? Is the Sponsor actively driving the process of realising benefits, including actively measuring, tracing and recording benefits?</td>
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<tr>
<td><strong>Stakeholders</strong></td>
<td>How will benefits realisation progress be reported to external stakeholders and the public?</td>
<td>Ref [7]</td>
</tr>
<tr>
<td></td>
<td>Is a benefits matrix being used to show who is being impacted?</td>
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</tbody>
</table>

Tip: It may be helpful to review the following documents:
- Benefit realisation plan
- Stakeholder communications plan
- Progress reports to the Board
- Performance monitoring system
- Benefit delivery milestones
- Ensure the data you need to evaluate progress is available
- Handover process

Note: Further Guidance contains details and links for each document reference - Ref [ ]
Supporting Material
Supporting Material: Three step approach

The illustration shows the relationship between the three components of requirements (benefits, outcomes and outputs). The arrow in this illustration shows the need for:

- Clear line of sight from benefits to outputs i.e. requirements must flow down from the strategic-level benefits to the project-level outputs, and not the other way – that is when there is a project searching for a business case;
- The measures applied should enable checks back from the project performance and eventual outputs, through the outcomes and back to the benefits.

### Three step approach to assessing requirements and measurement

#### Components of requirements

**Benefits**
- Achievement of strategic aims
- Value added to society
- Realisation of policy

**Outcomes**
- The impact of the outputs
- The extent to which outputs are used

**Outputs**
- Project performance

#### Example measures

**Sustainability**
- Satisfies needs
- Economic effects
- Social benefits
- Stakeholder satisfaction

**Relevance**
- Take-up
- Stakeholder acceptability

**Time**
- Cost
- Quality
- Scope
- Safety
Supporting Material: Creating a Vision Statement

The Public Sector Programme Management Approach (PSPMA) provides a simple technique for articulating a succinct and easily communicated vision. It is called "A Postcard from the Future". It is succinct because it has to fit on a postcard and it is easily understood as it is addressed to the "lay" people who will benefit from the project.

For a fictional example:

Dear road user,

Welcome to the transformed M42. With the increased capacity that we have achieved over the past 5 years, you can now plan your journey around Birmingham with confidence. You are experiencing far fewer traffic jams; your journey times are shorter and you are kept informed of any problems lying ahead.

Happy motoring!
The Highways Agency

Tip:
Managing Successful Programmes (MSP*) lists the characteristics of a good, useful vision statement: these should be used to check the vision statement created for the project.

* Further Guidance Ref [7]
Supporting Material: Benefits mapping

Benefits mapping can demonstrate the links from project outputs to outcomes, to benefits to strategic objectives. The example benefits map below is an early draft that showed the linkage between project outputs, enabled changes, outcomes and types of benefit. The benefits and their associated metrics were later defined and linked to the strategic objectives. The process of mapping benefits in this way is described clearly in the Public Sector Programme Management Approach (PSPMA).

The above diagram has been adapted from PSPMA.
The diagram below outlines a simple route for checking if identified benefits, outcomes and outputs are aligned with organisational objectives.

**Supporting Material: Checking Alignment**

- **Review vision and its communication**
  - Have you got a generally understood and clearly articulated vision of what success looks like?
    - No
    - Yes
  - Can you demonstrate a clear link between the vision and the organisation’s strategic objectives?
    - No
    - Yes
  - Will delivering the benefits contribute to the strategic objectives?
    - No
    - Yes
  - Review options for delivering strategy

- **Review project outputs**
  - Can you demonstrate how the outcomes will lead to realised benefits?
    - No
    - Yes
  - Is there a clear and convincing link between project outputs and the desired outcomes?
    - No
    - Yes

- **You can articulate and measure project success**
## Final Check

*Will the proposed requirements:*

1. Cover the concerns identified by the core complexity-capability gaps? □

2. Cover gaps identified by answering the considerations in this module? □

3. Ensure there is a clearly articulated vision of what success looks like? □

4. Ensure the vision has project team and stakeholder buy-in? □

5. Demonstrate how the expected benefits relate to strategic objectives? □

6. Demonstrate how the project outputs will realise the expected benefits? □

7. Include SMART measures for managing and proving the delivery of benefits? □

8. Include a management plan defining ownership for benefits realisation? □
Further Guidance
<table>
<thead>
<tr>
<th>Guidance</th>
<th>Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>[1] The Green Book - The 5 Case Model <a href="https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-government">https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-government</a></td>
<td>HMT’s Green Book and its supporting guidance (including the 5 Case Model, which deals with the creation of business cases) provides guidance for appraisal and evaluation in the public sector. An important part of these processes is understanding what a piece of work is expected to (or was supposed to) deliver.</td>
</tr>
<tr>
<td>[2] Producing impact assessments - guidance for government departments <a href="https://www.gov.uk/producing-impact-assessments-guidance-for-government-departments">https://www.gov.uk/producing-impact-assessments-guidance-for-government-departments</a></td>
<td>This guidance produced by the Department for Business, Innovation and Skills sets out government policy on the scope and process of Impact Assessments. It encourages policy makers to start with the premise that it is always desirable to identify and as far as possible, assess the impacts of a policy proposal. This will require articulation of what success looks like, and where the effects of a project are targeted. The guidance includes a toolkit outlining how to complete an Impact Assessment and explores the level of impact assessment required for different levels of policy. It is designed to complement the guidance contained within the Green Book.</td>
</tr>
<tr>
<td>[3] Option Appraisal: Making informed decisions in government <a href="http://www.nao.org.uk/report/option-appraisal-making-informed-decisions-in-government/">http://www.nao.org.uk/report/option-appraisal-making-informed-decisions-in-government/</a></td>
<td>This National Audit Office report reviews option appraisal across government. It provides a summary of the option appraisal resources and approaches used by Government, and highlights areas for improvement. Strong option appraisal requires an understanding of the intended outcomes of a project or policy, and should make use of both impact assessments and business cases in reaching a decision. The findings of this report should be considered when making use of the above resources to ensure that the full value is obtained from the work carried out to define success.</td>
</tr>
<tr>
<td>[4] Pushing the boundaries of change: Benefits realisation across local government <a href="http://www.apm.org.uk/news/pushing-boundaries-change-benefitsrealisation-across-local-government">http://www.apm.org.uk/news/pushing-boundaries-change-benefitsrealisation-across-local-government</a></td>
<td>These reports present the findings of the Australian Government’s Assurance Review Process, with a focus on sharing lessons learned. In particular, the fourth edition focuses on Benefits Realisation Management, with the intention to assist agencies to better identify opportunities for improving their Benefits Realisation Management practices, and to assist project and program managers who may not necessarily be well versed or have the necessary expertise or capacity to effectively utilise Benefits Realisation.</td>
</tr>
<tr>
<td>[6] PRINCE2 <a href="http://www.prince-officialsite.com">http://www.prince-officialsite.com</a></td>
<td>This framework developed by the UK Government includes techniques for:</td>
</tr>
</tbody>
</table>
Glossary

**Asset Manager**
The asset manager is the organisation (or parts of) that is 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 might be separate entities.

Asset management is the coordinated activity of organisations to realise value from their assets.

**Capability**
The Routemap uses capability to describe the ability of the sponsor, client, asset manager and market to organise for effective and efficient delivery. It refers to a part of the business and not the individual as most barriers to effective practice are rooted in systemic issues and not individual action.

**Client**
The client is the organisation that is responsible for fulfilling the requirements and delivering 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.

**Complexity**
Project complexity is a measure of the inherent difficulty of delivering a project based on factors such as: stakeholder alignment; interconnectedness of projects; systems & organisations and the level of innovation required etc. The Routemap uses the Delivery Environment Complexity Assessment (DECA) published by the NAO for complexity assessment.

**Client Model**
The Client Model refers to how the client organisation will structure and resource the responsibilities for project execution between the client, advisors/partners and supply chain (e.g. thin/fat client). This is a key consideration in determining organisational design and procurement strategy.

**Delivery Model**
The Delivery Model refers to the organisational entity that will be appointed to deliver the project (e.g. establishment of a special purpose vehicle). This is a key consideration in determining governance arrangements.

**Infrastructure**
Infrastructure includes the networks and systems that supply and support reliable and effective domestic and international transport, digital communications, energy, flood protection, water and waste management.

**Market**
A market is a group of organisations that integrates and competes to provide goods or services to one or more clients. The construction and infrastructure market is often characterised by a large number of suppliers and SMEs.

**Procurement Model**
The approach taken and the contracting model used to procure the supply chain.

**Project**
Throughout this guide the term project is used to mean both project or programme.

**Sponsor**
The sponsor organisation secures the funding, owns the business case and is responsible for specifying the requirements to the client. The Sponsor ensures that the project remains strategically aligned and viable, and that benefits are on track to be realised. In some contexts the Sponsor and Client could be from the same organisation.

**Target Operating Model**
The end state of how the asset will be: used; funded; owned; operated and maintained.
IPA would like to thank the following organisations that contributed time and expertise to the development of the Routemap.

**Infrastructure Client Group**
- Andy Mitchell (Chair)  Thames Tideway
- Adam Green  Carillion
- Nick Baveystock  ICE
- Beth West  HS2
- Denise Bower  University of Leeds and Major Projects Association
- Dale Evans  Anglian Water
- David Rooke  Environment Agency
- Mark Worsfold  South West Water
- Martin Buck  Crossrail
- Miles Ashley  Transport for London
- Nirmal Kotecha  UK Power Networks
- Peter Adams  Highways England
- Phil Wilbraham  Heathrow Airport Holdings
- Simon Murray  Consultant
- Alan Couzens  Infrastructure & Projects Authority
- David Hancock  Cabinet Office
- Martin Arter  Network Rail
- Kenna Kintrea  NDA
- Alasdair Reisner  CECA
- Ian Cartwright  National Grid
- Jonathan Cole  Scottish Power

**Steering Group & Contributors**

- anglianwater
- Cabinet Office
- CONSTRUCTING EXCELLENCE in the built environment
- CROSSES
- HM Treasury
- engine for growth
- ice
- Institute of employment
- Pinsent Masons
- Infrastructure and Projects Authority
- MAJOR PROJECTS ASSOCIATION
- Outperform making strategy work
- Turner & Townsend
- UNIVERSITY OF LEEDS