



Infrastructure
and Projects
Authority

Benchmarking Capability Tool Guidance





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Contents

4	Foreword
5	Introduction
7	Organisational capability
9	How the tool works
11	How to apply the tool
11	Case study – Highways England
12	Recommended approach
14	The Benchmarking Capability Tool
14	Benchmarking Strategy
20	People, Culture and Process
26	Data and Systems
31	Insights and Analysis

Foreword



The wellbeing and prosperity of everyone in the UK depends critically on how we rebuild our economy, and transform our infrastructure and public services, for the future. The new, unprecedented and unexpected challenges posed to both government and industry by COVID-19, mean that delivering our major projects successfully and consistently has never been so important.

The success or failure of a project is often determined in its early stages. It is much harder to turn a project around further down the line. That is why we need to ensure that projects are set up for success from the beginning. We need to improve and become more consistent at estimating costs and we need to develop benchmarking capability within our departments and delivery organisations.

Benchmarking – the process of comparing projected or actual project cost and performance information against data from similar projects – is critical to selecting the right projects and setting them up for success.

Inaccurate estimates can lead to unrealistic expectations, which can ultimately lead to selecting and investing in projects that will fail to deliver the expected benefits. This often comes at the expense of investing in other projects and harms confidence in future investment.

That is why the Infrastructure and Projects Authority (IPA), in collaboration with the Royal Institution of Chartered Surveyors (RICS), has developed the Benchmarking Capability Tool. This is free to use and will enable infrastructure organisations to identify and score their benchmarking capability.

By adopting this capability tool, it will become increasingly possible to compare benchmarking practices like for like across the industry. This will provide opportunities to share lessons learned, insights and best practice, ultimately creating a step change in performance.

If we improve benchmarking practice, we will not only improve the performance of infrastructure projects – we will also deliver them more productively, with greater efficiency, more sustainably and at less cost.

Nick Smallwood

Chief Executive Officer, Infrastructure and Projects Authority

Introduction

The IPA is the government's centre of expertise for infrastructure and major project delivery. The IPA supports the successful delivery and continuous improvement of all types of infrastructure, working with government and industry to ensure projects are delivered efficiently and effectively.

In December 2017, the IPA set out an ambitious plan for transforming infrastructure and the construction sector over the long term through its Transforming Infrastructure Performance programme.¹ As part of the programme, the IPA committed to supporting sponsors and clients to use cost and schedule benchmark data consistently when scoping and designing major projects.

Benchmarking for infrastructure projects involves using data from other projects to better inform project development and decision making. Too often, inaccurate estimates on capital and life-cycle cost and expected benefits can lead to spiralling costs, missed deadlines and a failure to deliver desired outcomes.

The IPA established a benchmarking team in 2018 to promote the effective use of cost and performance benchmarking in three ways:

1. Support projects to access suitable and reliable benchmark data against which projects can compare their whole life cost and schedule estimates.
2. Use the IPA's assurance process to ensure major projects have benchmarked their whole life cost and schedule estimates during the development of business cases.
3. Work with the Treasury to provide constructive challenge to ensure that estimates are made with due regard to comparator data.

In 2019 the IPA published guidance on Best Practice in Benchmarking.² Here the IPA committed to developing a 'benchmarking maturity tool' which would allow infrastructure organisations to identify and score their benchmarking capability and maturity, to then make the necessary changes and improvements.



Benchmarking is an essential activity if we are to learn from past project experiences and improve time and cost certainty on infrastructure projects. The Benchmarking Capability Assessment Tool is an essential means to help organisations understand where they are and what practical steps they can take to improve. RICS are delighted to be working with the IPA on this important initiative to drive economic value in the infrastructure sector.

James Fiske, Global Director and Data and Information Products, RICS

¹ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/664920/transforming_infrastructure_performance_web.pdf

² www.gov.uk/government/publications/best-practice-in-benchmarking

Ahead of developing the tool, the IPA convened a steering group of benchmarking experts from across industry. This group helped to support and drive the development of a tool for organisations who wish to measure and improve their benchmarking capability against industry best practice.

This document outlines the resulting Benchmarking Capability Tool and provides a step-by-step guide of how to use it. It also includes a case study from Highways England, highlighting the benefits of using the tool to improve project performance. For many large and complex projects, the Benchmarking Capability Tool can act as a valuable aid to build understanding and confidence in delivering project outcomes from the start.

This guidance intends to promote and develop the function of benchmarking across the industry. The Benchmarking Capability Tool can be used by both public and private sector organisations and will be free to use and access. It can be applied to an organisation using any set of benchmark metrics that are relevant to the project being measured. The tool will not provide benchmarks for project assets, but will help build capability in benchmarking across the organisation.

If organisations adopt the benchmarking capability matrix described in this document, then it will become increasingly possible to compare benchmarking practices across the industry and provide opportunities to share lessons learned, insights and practices from across organisations.



I am pleased that Highways England was able to work with the IPA and be the pilot for the Benchmarking Capability Tool. Having worked for 20+ years in the manufacturing sector I fully appreciate the importance of using robust benchmarking data to improve performance as well as developing a continuous improvement culture within the business. The tool will help identify further opportunities within both Highways England and its supply base as suppliers start to adopt these techniques to improve their performance.

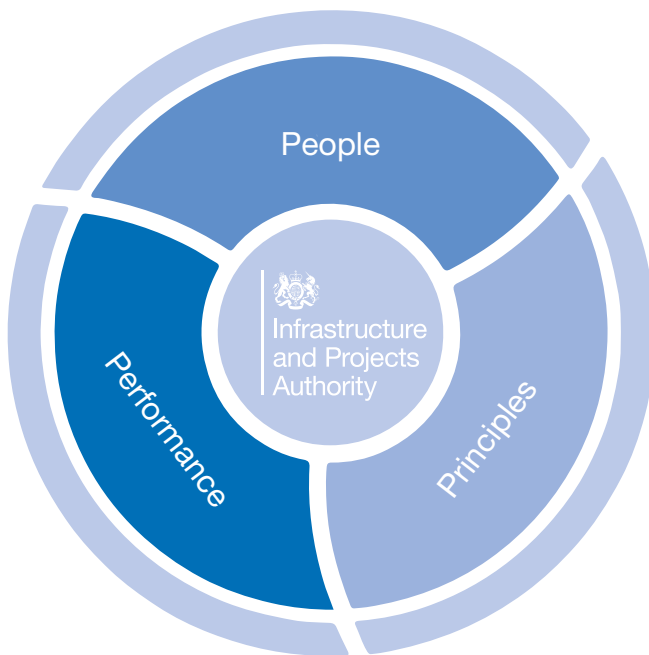
Malcolm Dare, Executive Director,
Commercial and Procurement,
Highways England

Organisational capability

Projects and programmes are not delivered in isolation. They are delivered within a complex system managed by one or more organisations. The capability level of each organisation will have an impact on how well the overall system delivers these projects, and programmes and benchmarking is a core capability in setting up projects for success.

The benefits of being an expert or intelligent client are recognised by industry, but the organisation has to ensure that the core elements of benchmarking are done capably and consistently and then build on this platform. Only once this is established can the organisation transition towards being an intelligent client. This benchmarking capability tool sets out five capability levels to assist organisations in managing this development.

The IPA's 3 P's



IPA's Benchmarking Capability Tool provided the Canal and River Trust with a basis for discussing our benchmarking maturity across the Asset Improvement Directorate. The tool is simple to use, and facilitates group discussions with experts and non-experts interested in improving benchmarking performance. Following the early implementation of the tool, the Trust now has a set of clear objectives to improve our capability in benchmarking – which is now measurable.

Amritpal Singh Agar, Cost and Estimating Manager, Canal and River Trust

Getting the basics right is crucial for any organisation and for project success. The IPA will focus on **People, Performance and Principles**³ (the 3 P's) as the keystones of project delivery. If real system-wide reform is to be delivered, it is essential that it is targeted on all three fronts. Focusing on these key elements will unlock and drive positive change in the project environment and system, improving the effectiveness of delivery and providing better outcomes for citizens.

The Benchmarking Capability Tool compliments the 3 P's, as each pillar within the capability tool neatly supports and underpins one of the 3 Ps:

- Principles = **Benchmarking Strategy and Data and Systems**

Successful projects rigorously apply fundamental principles and get the basics right for every project, regardless of size, even when there is pressure to take shortcuts.

- People = **People, Culture and Process**

We need to equip our people with the tools and capability they need to deliver. We need to build strong, flexible, professional and capable teams.

- Performance = **Insights and Analysis**

We need to drive a step change in industry performance so we can meet future challenges. Understanding how projects and programmes deliver against promises is crucial. This is the ultimate core of what project delivery is all about – delivering something for the time, cost and outcome that we set out at the start.

Organisations that operate in both the public and private sector must be proactive in assessing their own capability and fitness and finding opportunities to compare and challenge themselves against other organisations. The Benchmarking Capability Tool provides a framework that allows organisations to:

- measure and consistently compare their own performance and capability
- seek opportunities and advantages from other organisations in the absence of market forces

³ <https://ipa.blog.gov.uk/2019/09/24/people-performance-and-principles-the-ipas-priorities-for-2020/>

How the tool works

The Benchmarking Capability Tool is designed to measure the benchmarking capabilities of an organisation. It can be applied to any type of organisation that wants to better understand their current benchmarking capability against a 'best in class' standard framework. The tool has been designed to improve an organisation's overall capability for benchmarking so it can make informed decisions on performance, environmental, schedule as well as cost metrics.

The tool encourages improvements in benchmarking by defining best practice. Through measuring the level of an organisation's benchmarking capability, it becomes easier to set development goals using the capability statement provided for a higher level. The model in this document is designed to measure the maturity of the benchmarking capabilities of organisations, specifically for capital project performance in infrastructure (physical assets such as road, rail and energy infrastructure). It can be applied to an organisation using any set of benchmark metrics that are relevant to the project being measured. For example, it could be applied to capabilities that benchmark cost, schedule, environmental or project performance metrics. Each statement in itself is a description of what evidence is required to meet the next level of capability.

The tool breaks down the capability into four key pillars for assessment:

- **Benchmarking strategy:** strategic approach to benchmarking and its use in different aspects of the organisation
- **People, process and culture:** the people, process and culture that supports your benchmarking work
- **Data and systems:** the data and systems that support your benchmarking work
- **Insights and analysis:** the analysis behind benchmarking outputs and how its insight is use

Each pillar contains a set of questions for the user to answer. For each question there is an introduction statement, a capability question with five capability statements as answers ranging from the minimum level of 1 (basic) to maximum level of 5 (innovative). The user answers by selecting the capability level and statement that best reflects, in their opinion, their views on their organisation's benchmarking capability.

Benchmarking capability levels:

Level 1 – Basic: Limited or no benchmarking capability that can be demonstrated.

Level 2 – Developing: Pockets of good benchmarking practices are identified within the organisation. However, these are not fully embedded, consistent, developed, or fully utilised as part of organisational decision making.

Level 3 – Established: Benchmarking capability is key and consistent across the organisation and is used to support decision making.

Level 4 – Advanced: Advanced benchmarking practices are used to drive decision making. Additional services and products are unlocked through the foundation of good and consistent benchmarking practices.

Level 5 – Innovative: The organisation is considered sector leading. They are fully unlocking the benefits of benchmarking and it is leading to a step change in how benchmarking is utilised to deliver projects.

Once the assessment is completed, the capability score for each pillar is provided as well as an overarching organisational benchmarking capability score, ranging between levels 1 to 5.

The outputs from the tool and the capability statements provided can then be used as a roadmap and development plan for the organisation to consider. The maximum level of capability (level 5) measured by the tool may not be appropriate for all organisations. The purpose of the tool is to help organisations reach a level of capability that supports their strategic goals and project and programme pipeline.

Completed assessments will also help identify best practice and increase capability across industry. If organisations adopt the tool described in this document, it will become possible to compare benchmarking practices and capability across the industry. The more valid data points there are to compare, the more meaningful the analysis and the better the overall outcome.



The outputs from the Benchmarking Tool will actively shape and develop our benchmarking capabilities and inform our data transformation programme in order to place more data and benchmarks at the heart of our decision making to deliver better outcomes for our customers.

Martyn Gannicott, Director of Commercial Services, Commercial and Procurement, Highways England

How to apply the tool

The tool is designed to be completed by a range of stakeholders from across the organisation and it should take approximately 30 minutes each to complete.

For optimum results, it is recommended that the assessment is completed by multiple stakeholders from across the organisation who are involved in the activity or outputs of benchmarking to reduce any possible bias and to provide an assessment of the whole organisation's benchmarking capability.

The tool can be completed online (recommended for easier aggregation of results), using the Excel workbook or alternatively using the paper tool enclosed within this guidance document.

Case study – Highways England

The IPA ran a pilot of the assessment tool with Highways England to provide them with a rounded view of the company's benchmarking capability. 10 individuals from across the company took part in the pilot, ranging from project managers to senior directors.

The review revealed opportunities for better communication and improved visibility of the benchmarking products and services that are available within Highways England; particularly to those in front-line delivery roles. The pilot findings will support Highways England to develop and implement new methods for benchmarking and data processes.

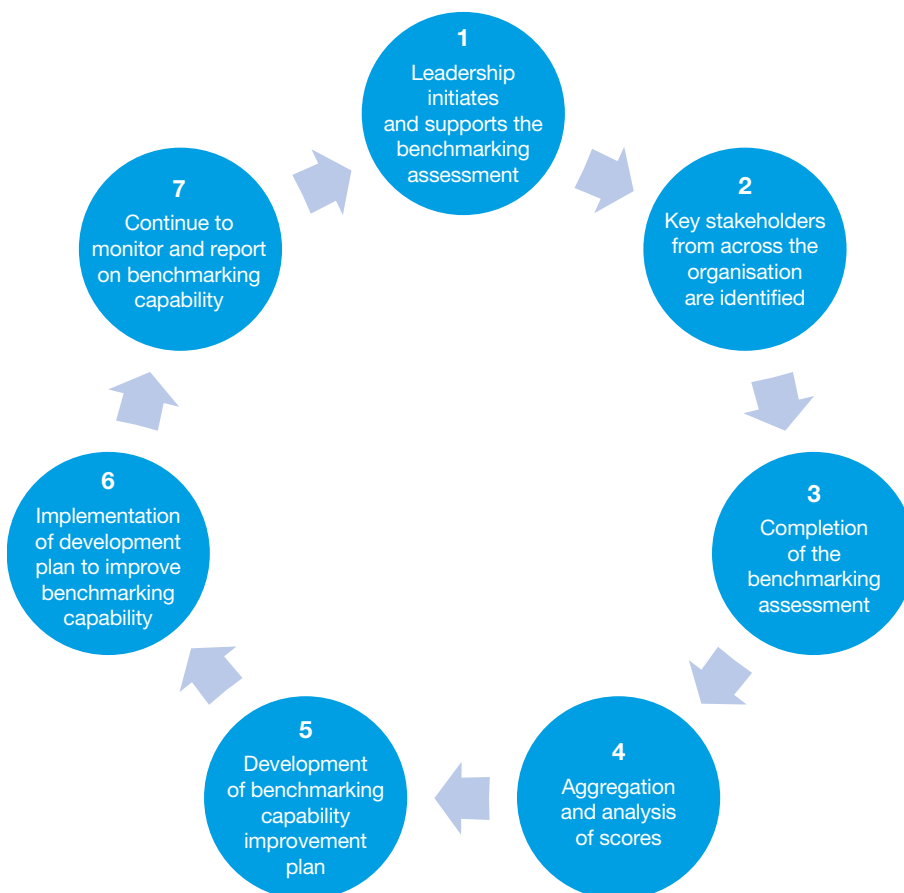
Highways England will use the IPA tools and capability levels to inform a roadmap to shape and improve the company's benchmarking capability – and to support an ongoing internal transformation programme placing data at the core of business decisions.



Recommended approach

The IPA, working with industry, has developed a seven-step approach to maximise the benefits of the tool for organisations that wish to undertake an assessment.

This approach was tested through the case study with Highways England and refined to provide a structured methodology. Organisations can amend this as appropriate to their business. The IPA would welcome feedback on the implementation.



1. Leadership initiates and supports the benchmarking assessment: It is recommended that a member of the senior leadership team supports and acts as the Senior Responsible Owner (SRO) for the benchmarking assessment. This endorsement will encourage full engagement from within the organisation.

The SRO sets up an assessment team and ensures the team has sufficient knowledge of both the organisation and the benchmarking processes to manage the process and apply the improvement plan following the assessment.

The SRO should also set out the level of capability required that supports their strategic goals.

2. **Key stakeholders from across the organisation are identified:**

The benchmarking assessment should involve stakeholders from across the organisation who participate in the life cycle of benchmarking data.

This is likely to include:

- project managers
- programme managers
- head of cost estimating / benchmarking
- commercial teams
- senior leadership

This will help to identify any differences in the perception of benchmarking capability across the organisation, including those that derive and use benchmarks regularly, versus those that do not. It reduces any bias and ensures a more balanced organisational view of benchmarking capability

3. **Completion of the benchmarking assessment:** The benchmarking assessment can be completed via the offline or online tool. Completing the benchmarking assessment via the online tool is recommended as it allows for quicker aggregation of data.

4. **Aggregation and analysis of scores:** The data should be aggregated across the organisation and reviewed to provide an organisational capability score. This also provides an opportunity to identify any trends within the data. For example, do project managers or key decision stakeholders have the same view as other roles with the organisation?

The IPA recommends short interviews with selected participants to understand the reasons behind the scoring. Any key differences in scoring should be particularly explored. This can be undertaken internally or externally, and the IPA recommends a level of independence in the assessment from the benchmarking process to remove any bias.

5. **Development of benchmarking capability improvement plan:**

A discussion with the SRO should be used to confirm the objectives in terms of the desired benchmarking capability for the organisation. The assessment team will design an improvement plan that will propose interventions to develop benchmarking capability to reach the desired level of capability. It is suggested that these be aligned to the four pillars of the benchmarking capability, providing clarity to the actions and stepping up in capability.

6. **Implementation of improvement plan:** The improvement plan is implemented to deliver the desired improvement in benchmarking capability. The SRO continues to lead the required transformation.

7. **Continue to monitor and report on benchmarking capability:**

Once the planned interventions to enhance the benchmarking capability have been implemented, it is recommended that another assessment is undertaken to determine whether the organisation's benchmarking capability has improved. The Benchmarking Capability Tool can be used to track the development of benchmarking capability over time.

The Benchmarking Capability Tool

Benchmarking Strategy		
<p>Benchmarking is an important process for organisations involved with major capital projects and programmes. It can lead to better programme productivity and performance as well as improved whole life asset value. Benchmarking is a strategic capability for infrastructure organisations. It should have clear objectives, operating model / method / approach and a mindset of continuous improvement. It is important for organisations to have a defined benchmarking strategy which sets out their organisation’s approach to benchmarking and its improvement over time.</p>		
Question S1:	Do you have a benchmarking strategy in place?	Please Select
Level 1 – Basic	A benchmarking strategy exists but is not documented in detail or widely communicated. Performance against strategy is not tracked.	
Level 2 – Developing	Benchmarking strategy is documented in some detail but is not widely understood. There is ad-hoc engagement and the strategy makes no reference to broader strategic goals.	
Level 3 – Established	Benchmarking strategy is documented in detail and relates to corporate / organisational objectives. Staff involved in benchmarking are aware of the strategy and it has clear ownership but it is not used broadly in decision making. It is reviewed periodically and performance is targeted.	
Level 4 – Advanced	Benchmarking strategy is directly linked to organisational / corporate strategy, is widely understood and influences decision making. Performance is monitored but reported only to benchmarking management. It is reviewed annually and updated accordingly.	
Level 5 – Innovative	There is conclusive evidence that the benchmarking strategy is guiding consistent benchmarking activity across the organisation. It is fully integrated with and aligned with the organisational strategy and key strategic objectives. It is subject to a process of continuous improvement and management with changes made regularly to improve benchmarking performance. Performance is measured as part of a strategic scorecard.	

Benchmarking Strategy

As per IPA's best practices in benchmarking, good benchmarking practices are integral to accurately monitoring a project as it develops. They recommend project outputs and performance should be considered against identified benchmarks throughout the project life cycle, rather than as a one-off exercise. This should cover all dimensions / components that benefit the organisation / project, such as cost, schedule, asset / design (as designed, as built, as operated, as maintained), environmental / sustainability, social, risk and commercial / contractual.

Question S2:	Does your organisation undertake benchmarking analysis across the project life cycle and in all required dimensions to support decision making at the various project gateways?	Please Select
Level 1 – Basic	We undertake ad-hoc, high-level benchmarking to determine the funding envelope for the project and do not use during any other stage of the project life cycle.	
Level 2 – Developing	The team is aware of the need for benchmarking involvement across the project life cycle, but there is no formal approach to implementation planning or management. There are plans in place to create this and some isolated examples of partial practice.	
Level 3 – Established	The cost / risk team has a benchmarking capability that produces benchmarks at more than one major milestone within the overall project life cycle. However, most effort is focused on tendering activities covering cost and risk.	
Level 4 – Advanced	There is a benchmarking team that undertakes benchmarking analysis at each project gateway and uses the data and outputs as part of the gateway decision process. The approach follows the UK Five Case Business Model (Ref. 2 below).	
Level 5 – Innovative	Benchmarking is a continuous process where benchmarks are available if needed at any point across the project life cycle thanks to holistic and near real-time access to all benchmarking metrics for the programme. As a result, programme performance outside of benchmark norms can be addressed as soon as issues arise or risks emerge. Multiple dimensions are covered, including cost, schedule, asset / design (as designed, as built, as operated, as maintained), environmental / sustainability, social, risk and commercial / contractual.	

Benchmarking Strategy		
<p>The IPA recommends the use of Balanced Scorecards for every project. These require (and help ensure) that key performance metrics are tracked across the project / programme life cycle from initiation to completion. Benchmarking can then be used to set ambitious and stretching targets for the project delivery team across relevant metrics (economic, sustainability, social etc.).</p>		
Question S3:	Does your organisation use Balanced Scorecards to set project targets and use those in benchmarking?	Please Select
Level 1 – Basic	Only cost and time are tracked using a ‘baseline vs outturn’ metric at the end of the project life cycle.	
Level 2 – Developing	As per level 1. In addition, sustainability and social KPIs are set at the procurement stage for supply chain partners. These are reported against at the end of projects and used to measure supply chain performance.	
Level 3 – Established	As per level 2. In addition, metrics are set that align to corporate / organisational objectives from the start of the project and report across the project life cycle to ensure consistency in reporting. Processes are in place to measure performance periodically. Supply chain performance is measured with the same metrics.	
Level 4 – Advanced	As per level 3. In addition, metrics cover financial, employee and environmental performance. These are set at the start of the project and are measured across the life cycle.	
Level 5 – Innovative	Every project reports via a Balanced Scorecard with the ‘vital few’ metrics identified for the front page. Metrics appropriately measure the delivery and performance of the organisation’s infrastructure asset strategy. Scorecard metrics are objectively measurable, variable, controllable , and ideally forward looking . Metrics, KPIs and Critical Success Factors are adjusted to the current life cycle stage of the programme. Throughout the project life cycle, financial and employee metrics are present. In initial stages of planning, social, economic, customer and environmental variables will be measured. In design, delivery and operation, metrics are likely to focus on process, data quality and customer metrics. Objectives, critical success factors and KPIs are cascaded through the organisation. Targets are set for key metrics for each project gateway to determine if the project is ready to continue. All of the above is available on a near real-time basis due to continuous capture of data.	

Benchmarking Strategy

The Outsourcing Playbook (Ref. 1, below) sets out the importance of having cost models. Having a clear understanding of the cost of delivering a service, the cost of transforming a service and / or the likely cost of procuring a service from an outside supplier is best achieved by producing a 'should cost model'. These models rely on cost benchmarks.

Question S4:	Does your organisation utilise 'should cost' models and use them in benchmarking?	Please Select
Level 1 – Basic	Initial budgets exist but are not robust enough (or simply not used) to drive negotiations. Historical cost data may exist but is of poor quality, making comparisons difficult.	
Level 2 – Developing	High-level outcome-based measures are used to establish project cost ceiling at inception. Asset-level cost data is captured against a defined structure for repeatable work items with basic attribute information and used for cost prediction. Cost model outputs are ad-hoc/unstructured, e.g. Excel workbooks.	
Level 3 – Established	Outcome-based models based on historical actual costs are used at inception to set the funding ceiling, define high-level direct and indirect budgets and subsequently drive negotiations with suppliers. Models are reviewed and updated throughout the project life cycle. Tendered and actual cost data is harvested across the project life cycle in order to update models. However, models are not comprehensive across categories, particularly for heavily unique assets.	
Level 4 – Advanced	Collaborative procurement drives supply chain buy-in to regular supply of cost data for modelling, with the majority of target costs based on should-cost models. A limited number of model outputs are challenged and adjusted when further evidence is provided by the supply chain for abnormal costings. 'Should cost' is integrated within change control procedures both to assure and validate costs of change events and to understand extent of change over the baseline. An organisation-wide common breakdown structure is in place and continually maintained. Systems, structures and processes are integrated with up- and down-stream functions.	
Level 5 – Innovative	A significant historical dataset exists based on tendered and actual costs (including capex, opex and carbon) collected against a comprehensive asset breakdown structure that facilitates estimating at all levels of project scope / detail / maturity, including setting the initial funding ceiling or business plan allocation. Dataset includes multiple contextual asset attributes including detail of scope and cost changes over the project life cycle. Whole life costs including capex, opex and multiple-capitals are considered in investment decisions. Parametric 'should cost' models allow cost driver metrics to be adjusted to give an instant estimate (the model will typically have used advanced statistical modelling, machine learning or other artificial intelligence techniques). The dataset is maintained on a continuous basis, allowing for near real-time updates to models.	

Benchmarking Strategy

Benchmarking the sustainability of a programme is a critical best practice in today's infrastructure environment. The supply chain, materials used, construction methods, energy consumption and approach to waste management all have a significant impact. Leading organisations are clear on their impact and are able to benchmark their capability to manage and reduce this impact both short and long term. This creates reputational and other organisational benefits as well as sustainability benefits.

Question S5:	Is your organisation able to benchmark the sustainability of its infrastructure programmes?	Please Select
Level 1 – Basic	There is some awareness of how sustainability risks could present a business or organisational threat, but there are no activities to address them.	
Level 2 – Developing	It is understood how sustainability risks can damage the reputation / supply etc. of an organisation, but it is not understood where these risks manifest. Work is underway to develop the benchmarking capability to measure these risks.	
Level 3 – Established	There is an understanding of sustainability risks that exist within the supply chain and these are benchmarked to drive improvement activities.	
Level 4 – Advanced	Comprehensive understanding of sustainability risks within the supply chain with effective mitigating actions and ongoing review plan in place.	
Level 5 – Innovative	Comprehensive sustainability risks are monitored and benchmarked continuously across all project stages via near real-time controls that allow rapid response and mitigating actions to an emergent threat. The controls framework is regularly reviewed and benchmarks refreshed to allow constant leading edge performance.	

HM Treasury's 'Project Initiation Routemap, Procurement Model presents 'Six Pillars of Procurement' (Ref. 3 below) highlights the importance of determining the capability and capacity of the client organisation and its ability to embrace alternative models for delivery, prior to solution development.

Understanding the technical and behavioural capability of their people and the size of teams required to service future delivery models is key. Without this visibility, a smooth transition from procurement to delivery may be compromised.

Question S6:	Does your organisation measure its capability, capacity and use of alternative delivery models, and use this in benchmarking?	Please Select
Level 1 – Basic	Client organisation capability, capacity, and ability to embrace alternative models for delivery is understood to an extent but not formally measured or benchmarked.	
Level 2 – Developing	Client organisation capability, capacity, and delivery model usage is mapped and measured within a framework and work is underway to benchmark this against peers and leading practice.	
Level 3 – Established	Benchmarking of client organisation capability, capacity and use of a range of alternative models for delivery is undertaken on a regular basis and used to inform the delivery model prior to solution development.	
Level 4 – Advanced	Benchmarking is undertaken prior to solution development to understand the technical and behavioural capability of people and the size of teams available. This is done across a wide range of delivery models and monitored across the entire project life cycle.	
Level 5 – Innovative	Capability and capacity for all known delivery models is available on a near real-time basis and monitored to detect trends and emerging risks (typically using some form of artificial intelligence) so that risks are always avoided or their impact minimised where they do materialise. A wide range of delivery models are used depending on the needs of the project. This decision is based on an extensive history of previous projects and their performance.	

Benchmarking Strategy

The holistic behaviours and culture of organisations involved in infrastructure and capital programmes are a critical marker of their current and future performance. It is considered best practice to measure overall behaviours and culture (such as levels of collaboration) and use this within your benchmarking framework.

Question S7:	Does your organisation measure overall behaviours and culture across the integrated team, and use this in benchmarking?	Please Select
Level 1 – Basic	Management are inherently aware of behaviours in their organisation (and to a degree across the supply chain) but have no benchmark or formal way of measuring / influencing / improving them.	
Level 2 – Developing	There is an emerging behavioural measurement framework being developed, along with growing awareness of the benefits of influencing positive and collaborative behaviours across an integrated infrastructure project delivery team.	
Level 3 – Established	Benchmarking of behaviours is in place and baselined across various parts of the organisation. Desired behaviours are understood and encouraged (and vice versa). There are a number of success stories where project performance has been improved through awareness (and eradication) of poor behaviours and/or encouragement of positive and collaborative behaviours.	
Level 4 – Advanced	Benchmarking extends outside the organisation across the entire integrated team and across other similar infrastructure programmes / organisations, all using the same framework to allow for like-for-like comparisons. Substantial historical data has been collected, allowing the detection of trends and preventative measures. This data also allows for clear demonstration of the difference made.	
Level 5 – Innovative	The historical data collected on behaviours has been mapped to all other metrics and data. This has allowed for the prediction of holistic programme risks / issues where typical human behaviours are a root cause – for example, where a particular combination of supply chain partners / individuals / types has resulted in non-collaborative behaviours in the past and led to poor programme performance. This concept has been extended into near real-time monitoring where documents, communications and data representing human behaviour are monitored against benchmarks to predict and prevent issues.	

Reference 1: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/816633/Outsourcing_Playbook.pdf

Reference 2: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/749086/Project_Business_Case_2018.pdf

Reference 3: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/529340/Prourment_Module.pdf

People, Culture and Process

Benchmarking is reliant on consistency as it requires consistent data and information to allow for accurate 'like for like' comparisons, so it lends itself to being delivered within a defined process framework. However, benchmarking processes need to have an owner and be executed by competent people, otherwise they will not be executed efficiently or effectively.

Question P1:	Is <i>ownership</i> of benchmarking processes and procedures clear and effective?	Please Select
Level 1 – Basic	No process owner is defined for the majority of benchmarking processes. Ownership is de-facto aligned to functional leaders but is not officially recognised.	
Level 2 – Developing	An individual takes responsibility for definition of most benchmarking processes (for example as a named author) but is not recognised as part of their formal role. However, a process mapping and ownership initiative is planned or underway which will formalise ownership of benchmarking processes.	
Level 3 – Established	A custodian is defined and given responsibility for the process and its performance as part of their formal role. This is part of an established benchmark process ownership framework.	
Level 4 – Advanced	The benchmarking process has an owner or custodian who reviews and improves the process at defined (set) frequencies. Process performance is measured against defined metrics and targets. This is fully documented within an established benchmarking process framework.	
Level 5 – Innovative	As Level 4, but in addition, performance against both automated and non-automated benchmarking processes is measured and monitored in near real-time by process owners who are able to take action immediately an opportunity, risk or issue is identified.	

People, Culture and Process

A benchmarking strategy typically defines the approach and method used in benchmarking, together with the aspirations and roadmap in place to improve the benchmarking capability. Once ownership is in place, processes and procedures must be defined in order to generate and exploit benchmarking data and information. Having a set of defined benchmarking processes in use is helpful in delivering best practice benchmarking as it encourages consistency of information, captured in a timely manner.

Question P2:	Do benchmarking processes follow a written and well understood procedure that is clear on what is produced for customers and how quality is to be measured?	Please Select
Level 1 – Basic	Benchmarking is carried out according to a broadly similar process across the organisation but it is not documented.	
Level 2 – Developing	Some documented process is in place, but it is still largely informal or unwritten. Staff involved in benchmarking may not be aware of the process they should be following and rely on working with those who have process knowledge in their heads. A process framework is being developed which includes documentation of processes.	
Level 3 – Established	The benchmarking process is documented, available and established in its use. It is defined typically as a set of high level steps but without detailed step-by-step procedures.	
Level 4 – Advanced	Written benchmarking processes are in place, with clear and defined reference to the purposes for which the benchmarks are used, clear guidance on quality standards (data, inputs / outputs, procedure compliance) as well as detailed step-by-step procedures. There is regular monitoring of compliance with procedure. There is evidence that the process is followed and that changing customer requirements are fed back into the process.	
Level 5 – Innovative	Benchmarking processes are defined and managed from a central point, but deployed pervasively across the organisation across multiple channels in near real-time. For example, systems reflect defined process and all standards are 'built-in' by default, minimising the risk of non-compliance. All processes that can be automated are automated, leaving humans to do the most challenging or 'human' tasks such as interpreting insights, managing stakeholder relationships and making complex decisions in the context of benchmarking insight.	

People, Culture and Process

IPA 'Best Practice in Benchmarking' (Ref. 4 below) highlights that effective benchmarking requires expertise and understanding of benchmarking across organisations. Subject matter experts are critical to the success of benchmarking. Unfortunately, understanding what benchmarking is and learning and developing the skills for effective application is often applied in an ad-hoc manner with limited formal development. Organisations rely on existing knowledge with the result that application is inconsistent and not fully effective.

Question P3:	Does your organisation measure benchmarking knowledge and skill levels and has it embedded a training and development programme?	
Level 1 – Basic	Knowledge and skill in benchmarking relies on existing knowledge within the organisation. Training and development is on an ad-hoc basis.	
Level 2 – Developing	The organisation has assessed its current skill and expertise levels and developed a plan to formally train and develop people in benchmarking skills.	
Level 3 – Established	Organisation has an established learning and development programme to ensure all of its people involved in benchmarking participate in a recognised and accredited training programme.	
Level 4 – Advanced	The benchmarking learning and development programme is regularly assessed to ensure continuous improvement. Benchmarking training is kept up to date and incorporated into the development plans for new entrants.	
Level 5 – Innovative	All the requirements of Level 4. In addition, benchmarking learning and development is integrated with wider estimating and cost planning skill development. Benchmarking subject matter experts are developed and maintained as a core part of the organisation's culture. Benchmarking capability levels per individual are fully understood and current, allowing advanced analysis to predict the need for learning interventions and match roles and project opportunities to individual needs automatically as they arise. Technology allows 'just in time' access to micro-training modules in the context of benchmarking delivery, so training is delivered as and when it is needed in bite-sized chunks tailored to the task in hand.	

People, Culture and Process		
You can have the most advanced benchmarking capability in the world – but if sponsors, planners, cost managers etc. do not understand it, then it will never deliver its full potential. A marker of maturity in infrastructure organisations is the extent to which their benchmarking capability is understood.		
Question P4:	Is benchmarking capability and culture communicated internally and fully understood by the organisation?	
Level 1 – Basic	The benchmarking team exists and produces benchmarks but they are little known across the organisation and have a limited number of customers for their outputs.	
Level 2 – Developing	Use of data analysis and comparator data is recognised as a skill at junior / analyst levels of the organisation. Senior leaders may not yet recognise what good looks like in benchmarking, but there is awareness at all levels of the organisation of the importance of data-based decision making. It recognised that more needs to be done and a communications strategy is in development.	
Level 3 – Established	A communications strategy has been executed and there are ongoing internal communications. Their effect has been positive: the benchmarking capability is known and trusted to the extent that comparator analysis and benchmarks are regularly used in the evaluation of project costs. The organisation has a culture that recognises the central importance of using project experience to gather and manage data for future use in comparator and benchmarking studies. Multi-disciplinary teams (including, for example, civil engineers, data analysts and major project management specialists) are involved in the development of benchmarks.	
Level 4 – Advanced	The communications strategy has advanced to the point where the benchmarking capability is known and respected as a single ‘source of truth’ for testing cost and schedule estimates, when planning and designing capex work and at all other stages of the project life cycle. Analysts, managers and leaders see it as a core part of their responsibility to collect, manage and use this data and have a deep understanding of the benchmarking capability. There is a good understanding of the importance of multi-disciplinary working in benchmarking projects.	
Level 5 – Innovative	In addition to 1-4, innovative internal communications have established benchmarking as being recognised as a core capability. There is a cultural recognition of the need to validate all cost and schedule estimates via internal and external benchmarks and comparators, as well as a range of other dimensions such as sustainability and behaviours. The internal data management and collection process exceeds external standards and is innovative compared to industry-wide norms. There is a deep understanding of the limits of benchmarking and its role in the control framework of a mature infrastructure client organisation.	

People, Culture and Process

Your organisation may have clear ownership, defined processes, all the skills and a fully understood benchmarking capability, but if it does not execute the processes, you do not have a working benchmarking function. A benchmarking culture and adoption of ways of working that generate good benchmarks as well as intelligent use of benchmarks is essential. Measurement of these behaviours and culture is a mark if an organisation with a mature benchmarking capability.

Question P5:	Does your organisation measure benchmarking behaviours and culture across the integrated team?	
Level 1 – Basic	Management are inherently aware of benchmarking behaviours in their organisation (and to a degree across the supply chain) but have no way to compare or formal way of measuring / influencing / improving them.	
Level 2 – Developing	There is an emerging behavioural measurement framework for benchmarking being developed, along with growing awareness of the benefits of benchmarking across an integrated infrastructure project delivery team.	
Level 3 – Established	Measurement and comparison of benchmarking behaviours is in place and baselined across various parts of the organisation. Desired behaviours are understood and encouraged (and vice versa). There are a number of success stories where project performance has been improved through awareness (and eradication) of poor benchmarking behaviours and/or encouragement of positive benchmarking behaviours.	
Level 4 – Advanced	Measurement and comparison of benchmarking behaviours extends outside the organisation across the entire integrated team and across other similar infrastructure programmes / organisations, all using the same framework to allow for like-for-like comparisons. Substantial historical data has been collected, allowing the detection of trends and preventative measures. This data also allows for clear demonstration of the difference made.	
Level 5 – Innovative	The historical data collected on behaviours has been mapped to all other metrics and data. This has allowed for the prediction of holistic programme risks / issues where typical human benchmarking behaviours are a root cause. For example, where a particular combination of supply chain partners / individuals / types has resulted in poor quality benchmark data. This concept has been extended into near real-time monitoring of benchmarking data or related behaviours. A process is in place to predict, correct and prevent further poor benchmarking behaviours.	

People, Culture and Process

The benchmarking capability might be fully understood by the organisation and even be a core part of its culture. However, external communication and engagement are critical to maximise the extent of benchmarking data and the benefits it offers.

Question P6:	Does your organisation fully communicate benchmarking externally?	
Level 1 – Basic	The benchmarking team advertises its services and requirements largely by word of mouth to a limited external audience on an ad-hoc and infrequent basis.	
Level 2 – Developing	Communications externally are sporadic but do use a range of channels (e.g. email and website). Website content and documentation are not kept up to date. However, a plan is in place to develop the maturity of external benchmarking communications.	
Level 3 – Established	Key industry and supply chain stakeholders / groups are mapped by category, assessed and communications are tailored to their needs. Engagement and relationship management is planned and strategies are in place to move perceptions of benchmarking externally. The benchmarking team provides regular and well-crafted communications on project and supplier news relative to benchmarks in an effort to encourage collaboration on benchmark data sharing.	
Level 4 – Advanced	Communications use a wide range of channels externally to the supply chain and broader industry. Industry-wide discussion groups meet to establish market-wide benchmarks and share data. There are internal communities that meet and always have external guests to discuss various aspects of benchmarking.	
Level 5 – Innovative	In addition to 1-4, industry-wide meetups happen regularly to share and collaborate on benchmark driven performance and productivity improvement. Collaborative communications are commonplace, such as with the use of digital tools to support community development (e.g. Slack). There are regular events and several benchmarking 'clubs' with related digital platforms used for sharing benchmarks widely using common frameworks and standards. These initiatives promote 'open benchmarks' but also provide a significant revenue stream for the organisation from access to more specialist and detailed data (while preserving confidentiality and security).	

Reference 4: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/783525/6.5341_IPA_Benchmarking_doc_FINAL_Web_050319.pdf

Data and Systems

Benchmarking relies on the ability to compare different projects and assets on a 'like for like' basis. In order to achieve this, there must be consistently defined ways to measure and describe assets and projects. This is not always the case and lack of consistent evidence significantly limits the ability to benchmark.

One area for comparison is the metrics and objectives of each project, as defined in Step 1 of the IPA Benchmarking Methodology (Ref. 4 below).

Question D1:	Do you have an agreed definition of project metrics and objective categories by asset / project type that you apply to every project?	
Level 1 – Basic	We do define objectives and metrics uniquely for some projects but we do not have a standard approach or framework across all projects.	
Level 2 – Developing	We have a broad framework in development for setting out general objectives and metrics which is used as the basis for many projects.	
Level 3 – Established	We have a comprehensive and established framework that supports all sectors of interest and defines objectives and metrics at multiple levels (hierarchies).	
Level 4 – Advanced	As for 3, but this framework is defined down to attribute and entity level (with relationships), aligned fully with data specifications and data dictionary.	
Level 5 – Innovative	We have a fully adopted framework for metrics and objectives; we define specific drivers, metrics and spaces for each type of asset and project as part of our benchmarking data specification which is documented and integrated into our project delivery platform.	

Benchmarking relies on the ability to compare different projects and assets on a 'like for like' basis. In order to achieve this, there must be consistently defined ways to measure and describe assets and projects. This is not always the case and lack of consistent evidence significantly limits the ability to benchmark.

Another area for comparison is the components of each project and asset, as defined in Step 2 of the IPA Benchmarking Methodology.

Question D2:	Do you have an agreed definition of components across cost, schedule, asset, risk, social, environmental and commercial dimensions that you apply to every project?	Please Select
Level 1 – Basic	We do define components of a project uniquely for some projects. However, we have no standard approach or framework applied to all projects.	
Level 2 – Developing	We have a broad framework in development for setting out general components which is used as the basis for many projects.	
Level 3 – Established	We have a comprehensive and established framework that supports all sectors of interest and defines components at multiple levels (hierarchies) in up to two dimensions in the following list: cost, schedule, asset / design, environmental / sustainability, social, risk and commercial / contractual.	
Level 4 – Advanced	As for 3, but this framework is defined down to attribute and entity level (with relationships), aligned fully with data specifications and data dictionary, and covers three or more dimensions in the list above.	
Level 5 – Innovative	We have a fully adopted data architecture that we use on every project (via our integrated project delivery platform) that defines the relationship and breakdown of cost, schedule, asset / design (as designed, as built, as operated, as maintained), environmental / sustainability, social, risk and commercial / contractual dimensions consistently across projects and assets.	

Data and Systems

Once the metrics, objectives and components are agreed, it is necessary to translate them into a technical specification so that data can be collected in the correct format. Without this, data that looks fit for purpose from a business perspective can be interpreted very differently from a technical perspective. Data can also be very difficult and time-consuming to collect and integrate due to differences in technical format. This approach is described in Step 3 of the IPA Benchmarking Methodology.

Question D3:	Do you have an agreed data specification and template for data capture?	
Level 1 – Basic	We do define data specifications but this done uniquely for every project. There is no standard in use across the organisation.	
Level 2 – Developing	Common data items are defined in a document that is often used across different projects. We have a generic data capture template that is often used as the basis for data capture. An initiative is underway to broaden the specifications and templates.	
Level 3 – Established	We have a comprehensive data specification document that clearly defines the data formats required for all data items encountered to date. This is mirrored in a data capture template that can be used for consistent data capture across different projects and has built-in data validation to prevent capture of poor quality data.	
Level 4 – Advanced	As for 3, but the data specification is presented in an online form with high-quality UX and where changes to the specification automatically update the template and data validation checks. There is also a link to a business data dictionary where the technical specification of each attribute is also available in non-technical form so that business users can be clear on the meaning and provenance of each attribute.	
Level 5 – Innovative	Our data specification is fully aligned with our data architecture and fully built-in and integrated in with our project delivery platform so that benchmarking data is automatically collected through the life cycle of the project (seamlessly as part of our delivery process, or via a fully functional Application Programming Interface (API) or high user experience (UX) online product for data from other sources). Data quality is fully enforced at source.	

Data and Systems

Having defined the data specification, it is necessary to gain access to data that matches that specification. This can be from internal systems, or from external sources. The data may not naturally be in the correct format. It may not match the specification exactly either. Hence there is generally a step required to extract, transform and load source data into your target benchmarking system. This approach is described in Step 4 of the IPA Benchmarking Methodology.

Question D4:	Do you have a defined set of sources of data and a way of capturing it?	
Level 1 – Basic	We define benchmarking data sources individually for each project and capture data manually into spreadsheets or text files.	
Level 2 – Developing	We have one or more regular sources that are clearly described and have some level of automation allowing capture and processing of data so it is ready for quality assurance and benchmarking.	
Level 3 – Established	All our regular data sources are clearly described and have some level of automation allowing capture and processing of data so it is ready for quality assurance and benchmarking.	
Level 4 – Advanced	All our regular data sources are clearly described and are fully automated allowing capture and processing of data so it is ready for quality assurance and benchmarking.	
Level 5 – Innovative	All data sources we have ever encountered are fully defined and implemented via automated feeds using modern Application Programming Interfaces (e.g. RESTful) into our project delivery platform and supply data in near real-time, on demand or as it becomes available. New sources, or sources not suited to APIs, are interrogated automatically for metadata and set up via a highly intuitive user interface (for example, browser-based app using material design) which is integrated directly into our platform.	

Data used for benchmarking must be fit for its purpose. If it is not, it will invalidate results and potentially lead to poor decisions. Importantly, data does not need to be perfect every time – this can be prohibitively expensive or time consuming. Imperfect data can still deliver an acceptable result as long as it is within defined tolerances. So, it is important to define what good enough looks like so that you can assure the quality of benchmarking activities and make prioritised interventions on quality where necessary (either for immediate issues or emerging problems with data quality). This approach is described in Step 5 of the IPA Benchmarking Methodology.

Question D5:	Do you have a framework in place to assure the fitness for purpose of the data (data governance)?	Please Select
Level 1 – Basic	We have checks in place to test for the quality of data captured but this is not standardised.	
Level 2 – Developing	We check source data using standardised data quality metrics, rules and tolerances where they exist and are developing them to cover all data encountered.	
Level 3 – Established	We have an established data quality management framework which includes standardised data quality rules, checks and tolerances that we apply to all regular data sources.	
Level 4 – Advanced	As for 3, but the process is automated with rejected data easily identified and fixed as well as a data quality dashboard with the ability to investigate issues and trends as well as plan resolution. We also do regular checks outside of defined rules to investigate potential emerging issues.	
Level 5 – Innovative	We have a data governance framework fully defined and adopted which includes organisation-wide understanding and engagement, data quality rules fully embedded at source (i.e. checked on entry) plus metrics and measurement post capture at several control points. We also have discovery analysis to predict and prevent emerging data quality issues. We fully understand the value of our data and its meaning so that we can easily prioritise and define data quality activities.	

Data and Systems

Once you have a full set of available, fit for purpose data describing current and historical projects and assets, you are ready to perform the analysis needed in order to compare your project with others (and draw on previous benchmarking studies where appropriate). This analysis can be supported by a range of analytics tools, visualisation tools and other systems functionality to generate outputs that are most useful to support decision making. This approach is described in Step 6 of the IPA Benchmarking Methodology.

Question D6:	Do you have a way to retain history of source data and benchmarking exercises as well as a way to reliably, efficiently and effectively execute and continuously improve the benchmarking process?	
Level 1 – Basic	The benchmarking process for the people executing it and the data used is inefficient and not repeatable or reliable. Spreadsheets and local filestores are used to hold data, carry out benchmarking exercises and present the result manually in Word / PowerPoint / Excel or similar in a different way each time.	
Level 2 – Developing	We have a simple workflow tool or template to help users through the generation of benchmarking reports.	
Level 3 – Established	We have a workflow tool that manages the process end to end for both data collection and generation of reports. Data is held in a central data store and accessed seamlessly via the workflow tool.	
Level 4 – Advanced	We have a tool that allows us to create a benchmark exercise, select and refine datasets, analyse data points using visual tools, develop insight and generate a report to a defined and consistent standard using a highly intuitive user interface. Data is held in a central data store and accessed seamlessly via the workflow tool with automated adjustments to allow use of historical data in different timeframes and regions.	
Level 5 – Innovative	We have an automated benchmarking and modelling product built in to our integrated delivery platform. It encapsulates a standardised process that supports semi and fully automated execution. It holds and processes data consistently, supports both supervised and unsupervised analytics and simulation / modelling which is predictive, descriptive and diagnostic. There is some use of prescriptive methods. It produces high-clarity visualisations and allows us to view and model outputs using a highly intuitive user interface. Reports are generated and can be viewed in many different formats (such as extracted in document form as a snapshot, or via an interactive app presented via a modern web-based interface).	

Data and Systems		
<p>Good construction data is highly valuable. The supply chain is the main source of this data. So, it is important that the supply chain provides data in an agreed approved format and quality at the right stage. This should be mandated as part of any commercial or framework agreement with a clause that enables the organisation to withhold payment(s) if data is not provided to the agreed specification.</p>		
Question D7:	Is there a commercial agreement with the supply chain to provide data for benchmarking within service level agreements?	
Level 1 – Basic	If asked for data, the supply chain does generally answer the request. However, this can vary in terms of format, structure, quality, consistency and response time. No formal agreement exists.	
Level 2 – Developing	Currently there is no standard commercial agreement to provide data within agreed service level agreements. However, one is in development (e.g. included in our next framework refresh with our supply chain). The supply chain provides data on a regular basis using our standard specification / template for some of our assets.	
Level 3 – Established	There is a commercial process in place to collect data and a mandate to penalise the supply chain if they do not complete and provide back as required. There is a specification / template for most of our key assets / projects but not for all. We generally only collect data on the large and significant projects.	
Level 4 – Advanced	A commercial framework agreement exists with our supply chain to provide data to agreed format, specification / template, quality and timeframe, otherwise payments can be (and are) withheld. Templates exist for the majority of assets / projects. Data is collected on every project procured to the supply chain.	
Level 5 – Innovative	A commercial framework agreement exists with our supply chain to provide near real-time data to agreed format, quality and specification via a direct system integration (API, Application Programming Interface). Payments are automatically withheld for non-compliance. Specifications exist for all assets / projects (our delivery method includes activities to create them where they don't already exist). We collect data on every project that is procured to the supply chain. We have a data completion rate of 100% as suppliers have to be able to integrate to our platform in order to be on the framework.	

Reference 4: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/783525/6.5341_IPA_Benchmarking_doc_FINAL_Web_050319.pdf

Insights and Analysis

Benchmarking depends on data and analytics to be of value to infrastructure project organisations. Part of benchmarking maturity is the capability of an organisation to perform data analytics in order to derive insights from benchmarking data and then take appropriate action. There are a number of levels of sophistication of analytics ranging from purely descriptive (charts and graphs) to prescriptive (recommending action).

Question A1:	How do benchmarking analytics influence decision making?	
Level 1 – Basic	Data is used, but not fully exploited for benchmarking purposes. Benchmark data is held in silos and not linked.	
Level 2 – Developing	Data analytics for benchmarking focus on descriptive measures and reporting what has happened. More sophisticated techniques are in development.	
Level 3 – Established	Data analytics for benchmarking is established in the organisation, primarily through use of descriptive and diagnostic measures, reporting why things have happened.	
Level 4 – Advanced	Data analytics for benchmarking use descriptive, diagnostic and predictive measures, informing what is likely to happen.	
Level 5 – Innovative	Data analytics for benchmarking use descriptive, diagnostic, predictive and prescriptive measures to recommend action or offer options in decision-making.	

Benchmarking requires an analytical mindset in an organisation. One where decisions are based on benchmarking insight rather than gut feeling.

Question A2:	To what extent does benchmarking analytics underpin your organisational decision making?	Please Select
Level 1 – Basic	Decisions are made based on experience driven perceptions of benchmarks and unverified beliefs.	
Level 2 – Developing	The benefits of supporting decision making with evidential benchmarking analytics is recognised, but rarely applied in practice. A project exists to broaden use of benchmarking analytics in organisational decision making.	
Level 3 – Established	Benchmarking analytics are an established technique and consistently embraced in decision-making processes within teams or departments.	
Level 4 – Advanced	Business decisions are underpinned by cross-organisational benchmarking analytics which connect relationships.	
Level 5 – Innovative	Organisational leaders proactively search for and implement new and innovative ways of analysing benchmarking data to support and improve decision making.	

Insights and Analysis

Benchmarking requires specialist skills in the benchmarking process, but these must be backed up with deep analytical skills, whether that be in statistics, machine learning, natural language processing or computer simulation and modelling. All these can enhance the effectiveness of benchmarking. Leading organisations treat (benchmarking) analytics as a profession and have defined career pathways to support capability development.

Question A3:	How have benchmarking analytical skills been professionalised within your organisation?	
Level 1 – Basic	Limited analytical resources are employed in the benchmarking team with minimal / no leadership buy-in to the benefits of benchmarking data analysis skillsets. Approach to benchmarking data analytics is reactive and poorly organised. Perception that reporting historical benchmark performance equates to analytics.	
Level 2 – Developing	There is partial understanding of benefits of benchmarking analytics but is project is underway to develop this. Where done, activities are siloed and unstructured. Development of benchmarking analytics is slow and constrained. Departments are seeking to improve, but are inconsistent and misaligned in this.	
Level 3 – Established	Leadership has established a culture where benchmarking analytics capabilities are thriving. It seeks to bring approach into alignment through standardisation and/or centralisation. There is a culture of promoting best-practice and sharing lessons.	
Level 4 – Advanced	Benchmarking analytical capabilities are formalised and communicated through technical career development structure which identifies clear career paths and objectives to benchmarking data analysts.	
Level 5 – Innovative	The organisation uses benchmarking analytics to identify and realise innovative future performance improvement opportunities. Advanced benchmarking analytics techniques are used with a culture of continuous improvement and innovation.	

Most organisations measure overall performance using tabular / written reports. Leading infrastructure project organisations incorporate benchmarking closely into their wider reporting practices.

Question A4:	How have benchmarking analytics and insight been incorporated into reporting practices?	Please Select
Level 1 – Basic	Organisational reports are produced ad-hoc, providing limited consistency in terms of content or frequency. They rarely incorporate benchmarks.	
Level 2 – Developing	Reporting structure and timetable is managed within each department, but remains decentralised with reports often being out of date when reviewed against other department reports for the same period. Benchmarking metrics and analysis are occasionally incorporated into reports. A project is underway to improve this.	
Level 3 – Established	Reporting is centralised with aligned timetables. Reporting is available in near real-time where required. Benchmarking metrics are and established part of standard reporting suites.	
Level 4 – Advanced	Reports are tiered, with key information climbing to inform decision making at various organisational levels. Level of detail at each level is tailored to maximise effectiveness. Benchmarking metrics are always included and are summarised (according to a defined taxonomy) along with tiered levels in order to ensure level of detail is appropriate for the audience.	
Level 5 – Innovative	A mature suite of interconnected reports is maintained where content and insights are identifiable across the suite. Reports are continually reviewed, focused to support key organisational decision making and strategy, and evolve as improved information or technology becomes available. Benchmarking plays a key role in recommended decisions and options based on prescriptive analytics.	

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