

Bristol Beacon: Lessons Learned Report

May 2024

Final Draft

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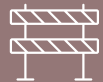
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INTRODUCTION

The Business Advisory department, the management consulting business of Arcadis Consulting (UK) Ltd were appointed to prepare this independent report on the Bristol Beacon Project. This report presents findings developed through interviews with various stakeholders involved in the planning, design, and construction of the Bristol Beacon.

The project experienced programme delays and cost overruns, and this report was commissioned by Bristol City Council (BCC) to highlight the lessons learnt which can be considered for future project delivery.

Our findings indicate that the delivery of the Bristol Beacon was impacted by the inherent challenges associated with the complex stakeholder landscape as well as project specific factors, particularly those focused on project set up and initiation. To support a systematic understanding of the findings, we have classified them into four overarching themes below which encompass the 14 lessons identified:



1. Risk Management, Finance and Controls



2. Project Structure and Governance



3. Procurement and Associated Project Management Activities



4. Leadership, Landscape and Culture

The main body of the report contains a breakdown of each lesson along with actionable future considerations that can enable successful project delivery.

An insights driven approach was used to inform the findings in this report :

Interviewed project stakeholders across

9 Nr. **Organisations**

TO CAPTURE INSIGHTS



Insights were consolidated into

14 Nr. **Lessons**

TO ESTABLISH ROOT CAUSES & LESSONS LEARNED



Aligned to

4 Themes

OF LESSONS LEARNED

Insights from stakeholder were used to attain an understanding of the project landscape



Insights from 18 interviews across 20 stakeholders were collated, analysed and consolidated into several key themes that underpin project success.



A qualitative evaluation was undertaken to determine their impact on the project's trajectory.



A P3M3* lens was applied to gauge greater clarity on project performance and future opportunities for improvement

The below key identifies the applicable P3M3 lens:



Management Control



Benefits Management



Financial Management



Stakeholder Management



Risk Management



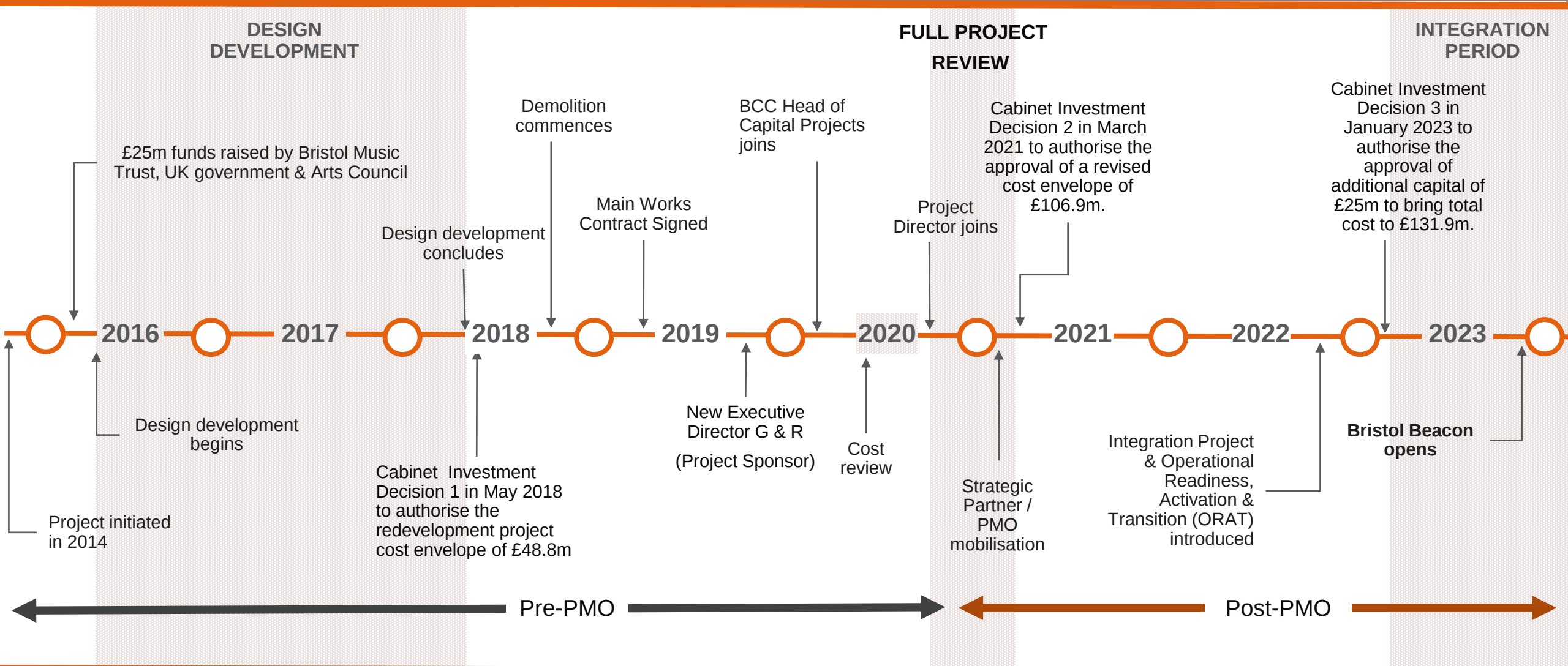
Organisational Governance



Resource Management

*P3M3: Portfolio, Programme & Project Management Maturity Model

BRISTOL BEACON PROJECT TIMELINE



1. RISK MANAGEMENT, FINANCE & CONTROLS



1.1 ROBUST RISK MANAGEMENT

LESSON LEARNED

Effective risk management requires an enterprise level approach at all stages in the project lifecycle to mitigate future risks that may arise.

IMPACT



KEY FINDINGS



- Interviewees advised that formal risk management was present during the pre-PMO phase of the project however the focus was on identification and capture instead of active monitoring of risk and appropriate consideration of detailed mitigation strategies.
- This finding suggests that risk management was focused on supporting governance requirements at the expense of operational risk management. We understand the implementation of a PMO in Jan-2021 led to the improvement in Risk Management processes.

FUTURE CONSIDERATIONS

- Enterprise risk management elevates risk management to the management or corporate level, positioning it as a strategic process that incorporates risk management into council planning and decision-making at all levels of the organisation.
- To effectively anticipate risks throughout the project lifecycle, forward-looking operational risk management must be ingrained within the project culture and governance. It is important to recognise that risks originating in one phase of a project can significantly impact subsequent phases.
- Identified risk owners should be allocated based on their ability to manage the risk. Mitigative actions should be agreed in a regular risk review forum, with responsibility and planned action date documented accordingly.
- Adopt a quantitative approach to risk management and appropriately consider lower probability risks that can occur and derail a project.
- Develop an appropriate contingency budget for high probability/accepted risks at each stage of the project lifecycle to enable a controlled and rapid response in the event a risk materialises

“
The project was
high risk and
complex from the
beginning.”



1.2 SITE CONDITIONS NECESSITATE DETAILED SITE INVESTIGATIONS

LESSON LEARNED

Due to the age, architectural design, and building construction of heritage buildings, it is common to come across unforeseen works that introduce an increased risk of scope change. Hence more detailed due diligence and investigations should be accommodated within the project programme to minimise the associated risks, acknowledging that further items may be uncovered as works progress due to the nature of the building.

IMPACT



KEY FINDINGS

- We understand there was an awareness that the building fabric and structure were in poor condition and risks were raised during the pre-PMO phase that there may be in worse condition than initially assumed.
- Interviewee feedback has noted the extent of surveying was constrained by multiple factors, including maintaining day to day operations, asbestos within the building, and funding constraints.
- In our view the above may have resulted in redesign and contractual consequences to programme delays and increase in costs. However, we note that invasive investigations may not have revealed discovery items such as hollow columns and buried wells, which would only be uncovered during demolition, but they could have focused attention on risk around the poor condition of the building.

FUTURE CONSIDERATIONS

- It is recommended that sufficient time be allocated in the project programme to conduct the necessary intrusive works and detailed investigations when working with heritage buildings.
- If it is not feasible for the client to conduct detailed investigations, it is recommended that allowances be made in the Construction Tender Process to enable suppliers to perform thorough due diligence. This will ensure that the considerations related to gaps in detailed investigations are appropriately factored into their tender price.
- Furthermore, costs and time contingency should be assessed based on un-investigated elements and consider the risk profile and risk bearing capacity of the local authority especially when undertaking works on heritage assets.

“

All interviewees referenced the lack of due diligence as a factor that impacted the trajectory of the project

”



1.3 EFFECTIVE PROJECT PLANNING



LESSON LEARNED

Planning sets the foundation for success by ensuring comprehensive scope definition, feasibility assessment and setting clear objectives. Effective project plans include sufficient contingency based on the risks and provide the base against which overall progress can be measured.

IMPACT



KEY FINDINGS



- Multiple interviewees have noted that the Project team did not adequately appreciate the scope and complexity of the project during pre-PMO phase. In our view, this may have led to more reactive decision making as unanticipated risks emerged. Insufficient Project Management capacity during the early stages of the project contributed to the project challenges.
- Stakeholders advised that systems integration and interface risk between the existing elements of the building and new refurbishments weren't adequately considered during project planning. In our view, this reflects gaps in holistic planning over the project lifecycle.

FUTURE CONSIDERATIONS

- Dedicate adequate time during the feasibility and planning stage to thoroughly assess the project's feasibility and affordability. This allows for a comprehensive evaluation before making firm commitments, mitigating potential risks and ensuring the project's viability.
- Ensure there is suitable budget to enable adequate resourcing at project initiation to understand risk and project scope.
- Develop a detailed project plan that encompasses a holistic view of the project. This serves as a baseline for monitoring progress and helps identify any deviations. Regularly review the project plan to reassess and accommodate for changes in circumstances, including scope, risk, or resource availability.
- Address integration and interface risks from the outset of the project and incorporate the necessary resources and skills to manage these risks into the project plan.

1.4 REALISTIC BUDGET SETTING

LESSON LEARNED

Financial project management needs to balance value for money considerations and realistic project costs with risk. Projects such as this would benefit from value engineering throughout considering the impacts of plan prolongation, scope, and benefit realisation.

IMPACT



KEY FINDINGS



- Findings suggest that there may have been misalignment between the budget allocation, and the understanding of risk associated with the project scope.
- It was identified that some costs or costs risks were not included in budget projections, this includes fees for some consultants.
- Interviewees referenced a modest contingency in the budget and provisional sums in the main works contract.
- Cost savings identified through value engineering exercises were initially used to support the budget in place during the procurement phase, but it has become evident that these targeted savings may have been influenced by optimism bias.

FUTURE CONSIDERATIONS

- A comprehensive budget envelope should be developed using benchmarking from actual outturn costs from comparable projects. Budget assumptions should be documented and considered to be reasonable.
- Budget Cost estimates should ensure that include all project expenditure including consultant and design fees (including allowance for contractual uplifts if fees are not lump sum), internal labour, authority fees, preliminaries, materials, supplies and capital expenditure.
- Budget processes and capital allocation should involve stakeholders possessing the relevant expertise in project delivery to ensure deliverability and financial viability
- Critical assumptions underpinning budgets can evolve over time as project definition improves. Reliability of cost estimates is subject to scope and schedule management discipline.
- Establish an integrated cost reporting which aligns internal council financial reporting with project cost reporting arrangements including clear identification of budget owners and agreed visibility across stakeholders.

1.5 APPROPRIATE ALLOCATION OF COST CONTINGENCY

LESSON LEARNED

The amount of contingency allocated to the project needs to appropriately reflect the risk profile, funding parameters, and maturity of the project

IMPACT



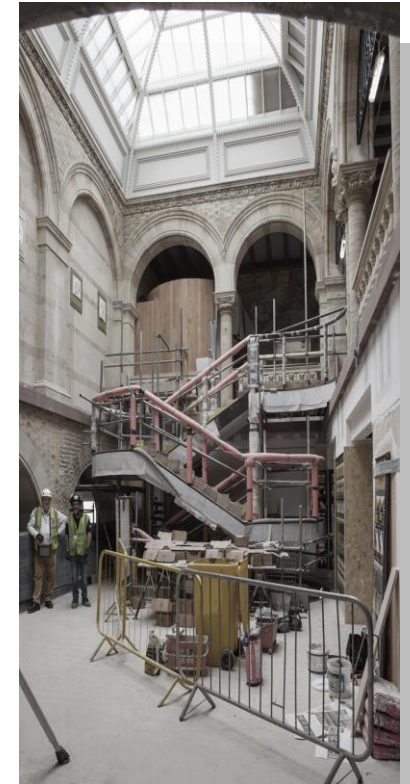
KEY FINDINGS



- Multiple stakeholders referenced that the amount of cost contingency was insufficient for a project of this nature.
- This finding suggests that the contingency allocations were not calculated based on the specific project risks, but more likely based on a set contingency level percentage. This indicates a discrepancy between the project risk profile and the perception of risk.

FUTURE CONSIDERATIONS

- The contingency allocations should be calculated using an appropriate methodology reflective of the nature, value, and risk profile of the project.
- Project risks need to be appropriately quantified in the risk management process, and the cost impacts of the risks should not exceed the contingency.
- Mechanisms should be implemented within the governance process to flag financial risk to Project Boards and Senior Officers in the Local Authority. This process should be integrated with the risk management process and assurance process.



1.6 FUNDING ARRANGEMENTS



LESSON LEARNED

Complex funding arrangements may set funding parameters which must be considered as part of the cost and risk management.

IMPACT



KEY FINDINGS

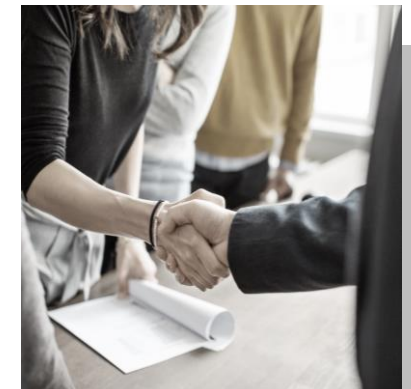


- The funding landscape for the project was complex with funding coming from council capital expenditure budget, grants and partner funding.
- Interviewees have stated the interdependence of functional specifications requirements and funding terms created complexities for the project team when modifying or resetting the project.
- We understand value engineering efforts were limited by specific funding term parameters. This may have impacted the ability to manage budget overspends through de-scoping or initiatives to adjust specifications.

FUTURE CONSIDERATIONS

- Consider the projects risks associated with the funding strategy and the implications on targeted design and the minimum viable product at project initiation.
- Consider incorporating flexibility into future funding arrangements during the drafting of contractual terms and negotiations. i.e. ensuring capital funding remains flexible and is not tied to specific scope components.
- Engage with funding parties to explore options to renegotiate terms of funding agreements to manage challenges associated with increasing costs.

“ Outcomes and certain facilities were tightly interlinked with the funding stream ”



2. PROJECT STRUCTURE & GOVERNANCE



2.1 ACCOUNTABILITY DRIVES DECISION MAKING



LESSON LEARNED

Governance forums such as the Project Board needs to be accountable for decision making aligned with project delivery timelines.

IMPACT



KEY FINDINGS



- Feedback from stakeholders indicated the Project Board comprised of key stakeholder representation and set up with a Terms of Reference (ToR), but it appears it was not operating effectively during the early stages of the project. Insights from interviews suggested that Senior Responsible Officers did not have protected time/capacity to provide sufficient oversight on the early phases of the project.
- Pre-PMO Project Board meetings were used for communication and dissemination of information to key stakeholders, and not for project decision making and the accountabilities of Project Board members were unclear during the early phases of the project.
- The appointment of a new project sponsor in 2019 enabled direct oversight at all project levels, leading to subsequent changes and the commissioning of an independent strategic review of the project in June 2020.

FUTURE CONSIDERATIONS

- Project Board attendance should comprise of individuals with the appropriate expertise and accountability, and time to constructively challenge, shape and drive the project's progress.
- Ensure that individuals participating in governance forums fulfil their accountability by engaging in responsible decision-making processes that are aligned to the delivery of project milestones, budget and intended benefits.
- Implement a RACI matrix to define the roles, responsibilities, and accountabilities of Project Board member and across other project related meetings.
- Alternative forums should be set up to facilitate communications across stakeholder groups.

2.2 PROJECT RESOURCING AND ORGANISATIONAL STRUCTURE



LESSON LEARNED

Successful project execution needs to ensure that project management teams are properly resourced with the required mix of skills and experience and recognise that the team may need to evolve as required through the project lifecycle.

IMPACT



KEY FINDINGS



- Multiple stakeholders have stated the project team was inadequately resourced during the planning phase of the project, and roles and responsibilities of the project team were unclear at times.
- This was recognised by Bristol City Council in 2020 and appropriate controls (PMO) and leadership were subsequently implemented.
- Bristol City Council acknowledged there was a gap in suitable project management resourcing and employed a Strategic Partner in Jan 2021 to set up a Project Management Office to supplement in-house project management capability.

FUTURE CONSIDERATIONS

- Ensure project organisation structure clearly outlines the project team structure, reporting relationships and interfaces, roles and responsibilities and it is clearly communicated to all the stakeholders including to any internal Council teams (E.g. Finance, Procurement).
- Undertake a pre and post contract Resource Capability Needs Assessment to support in identifying the differing client-side expertise required in planning and design phases (pre-contract) versus construction (post-contract) phases.
- Develop and implement a workforce resourcing plan at the outset which considers the scheduling of resources across the project lifecycle, including fluctuations in requirements in line with key milestones and contract selection.
- Ensure workforce resourcing plan is regularly reviewed and an effective process exists to manage workloads of employees to enable effective project management, safeguard well-being, including necessary escalation processes.
- Put in place suitable succession plans and contingency plans for key project resources and supplement internal capability with contract resources to provide a balance between effective project delivery and longer-term knowledge capture.

2.3 ASSURANCE GATEWAYS

LESSON LEARNED

Assurance should be a continuous exercise with gated decision points to assess deliverability and viability before progressing to the next stage.

IMPACT



KEY FINDINGS



- Interviewees have stated Business Case stages and cabinet funding decisions served as natural stage gates during the planning phase of the Bristol Beacon
- The absence of formal assurance gateways as part of the project management governance (beyond Council approvals, as above), coupled with the occurrence of multiple project resets, indicates that project assurance took a reactive approach with point-in-time assurance in response to imminent project challenges.

FUTURE CONSIDERATIONS

- Project governance needs to incorporate assurance gateways or control gates at stage boundaries or key milestones across a project lifecycle. This will ensure that there is continued focus on successful project delivery through an objective assessment of a project's trajectory against the project plan through the iron triangle of cost, scope and time.
- Assurance synergies should be maximised to avoid review overload, and assurance activity should be prioritised according to the specific context and risk profile of the project.
- It is crucial to establish a pre-agreed assurance gateway criteria at the inception of the project to ensure that judgement and benefits realisation is not comprised in the face of delivery challenges.
- Internal assurance should be separate from the Project Management to eliminate bias, and independent assurance from relevant experts should be sought when required.



3. PROCUREMENT & ASSOCIATED PROJECT MANAGEMENT ACTIVITIES



3.1 PROCUREMENT STRATEGY ENABLERS (MAIN WORKS)



LESSON LEARNED

Procurement strategies need to consider the project management capacity and resourcing that act as enablers to the NEC contract form.

IMPACT



KEY FINDINGS



- Multiple interviewees have noted that the project management capacity especially at pre PMO implementation stage was insufficient. This was exacerbated further by the backlog of contract variations which created an overwhelming administrative burden placed by the NEC contract type.
- Drawing upon the guidance presented in the Latham Report* and considering the advantages typically associated with NEC, our assessment suggests that the chosen procurement route was appropriate. However, project management resourcing and capacity are enablers required for NEC which have been identified as insufficient therefore likely contributed to the project challenges especially at pre PMO implementation.

FUTURE CONSIDERATIONS

- Ensure that an appropriately sized and experienced (including project scale, complexity and contract type) team members are in place from the outset of projects. .
- Clients need to be familiar with the hurdles presented by the chosen contract type and ensure measures are implemented to support effective project management and contract administration to ensure the chosen contract delivers its intended benefit.



“

*Underestimated
the resources
needed.*

”

* Latham Report- July 1994, Michael Latham

3.2 PROCUREMENT CONTRACT (MAIN WORKS)



LESSON LEARNED

The contract form needs to consider the project's risk profile and ensure that risk allocation aligns with the risk appetite of each party. Additionally, it should incorporate appropriate project management governance and controls that align with the chosen contract form.

IMPACT



KEY FINDINGS



- Interviewees have stated there was a strong focus on achieving a fixed price on the award of the initial Main Works Contract and BCC retained key risks even after a protracted negotiation period. A fixed price approach supported in de-risking cost; provisional sums still placed risk with the Council. In our view, this reflects a desire to mitigate risks to BCC by transferring risk to the Contractor. However, the emphasis on fixed price failed to appropriately consider the commercial market appetite for risk, based on the tendered scope definition provisional sums and variations. Note – under the NEC contract type the employer (Council) carries the risk of delays and price increase from compensation events which entitles the Contractor to an extension of time and additional payment
- Based on insights from our interviewees we understand no specific concerns around risk were raised in Council procurement governance forums. This reflects a gap in defining the risk profile of the project at commencement, and the consequential impacts of inconsistent understanding of risk across stakeholders.

FUTURE CONSIDERATIONS

- Contracts should reflect an appropriate risk allocation which transfers the risk to the party best placed to manage them. This may have a price implication if price is transferred to the Contractor but will provide more surety over outturn costs.
- Due consideration needs to be given to risk profiling and contingency costs for projects involving heritage / refurbishment works that have not undergone detailed investigation (as outlined in section 1.2).
- The NEC contract typically reduces administration through streamlined processes and early awareness, which promotes proactive risk management and supports project collaboration. To realise the benefits of the NEC form of contract it is critical to ensure that team all stakeholders have a good understanding of the risks across the full lifecycle of projects.



There was a desire for price certainty and fixed price



4. LEADERSHIP, LANDSCAPE & CULTURE

4.1 STRONG LEADERSHIP IS PIVOTAL



LESSON LEARNED

A 'Lead Client' with clear responsibility and capacity to drive strategic direction and decision making at various levels is key to delivery success. Additionally, Project Sponsors across all organisation parties helps drive a one project team culture.

IMPACT



KEY FINDINGS



- Based on interviewee feedback, it appears the lack of effective engagement by the Project Sponsor(s) during the early stages of the project led to challenges such as poor communication and the development of an adversarial team culture.
- There was a systematic improvement in leadership led by the Executive Director of Growth and Regeneration (project sponsor) in 2019 which culminated in improved decision making and prompted a re-assessment of both management and governance structures.
- In early 2020, the appointment of a seasoned Head of Capital Projects to enhance governance leadership and a Project Director to oversee project leadership was crucial. This move aimed to enhance performance through the establishment of a Programme Management Office (PMO), resulting in a proper alignment of the project to accurately represent its scale and complexity.

FUTURE CONSIDERATIONS

- Project Sponsors set strategic direction for the project as strategic ambiguity can lead to project delays and bottlenecks as there isn't an authority figure that can drive critical decision making. This includes an appropriate and suitably resourced 'Project Sponsor' for day-to-day project requirements and an overall 'Executive Project Sponsor'.
- Each project requires Project Sponsors who have an appropriate blend of skills and experience of delivering projects of a similar nature and scale at each level of the Project Structure and the Client Organisation to exemplify best practices as a client.

“

Can't run a project like this by committee, need a project champion from the outset

”



4.2 NAVIGATING A COMPLEX STAKEHOLDER LANDSCAPE



LESSON LEARNED

The broad stakeholder landscape added complexity to the project, and safeguards (e.g. regular project updates and continuous monitoring and feedback) needs to be put in place to manage and address the various stakeholder interests, perspectives and challenges they may bring.

IMPACT



KEY FINDINGS



- Complex stakeholders outside of the project team may have influenced risk management and decision-making timeframes. With heightened pressure contributing to reactive decision making, such as focusing on achieving timescales without due consideration of future risks such as cost.
- Budget certainty may have driven the Project Delivery team to target fixed-price elements points during the procurement phase without due consideration to the wider potential impacts, e.g.: under the NEC contract type the employer (Council) carries the risk of delays and price increase from variations (Compensation Events).
- Interviewees mentioned that more consideration could have been given to stakeholder views and involvement in decision-making.

FUTURE CONSIDERATIONS

- Embed behavioural resilience in the team through appropriate training and development. Provide leadership oversight and support to manage pressure to limit time slippage. Take the time to develop a high level of confidence in the outputs which can reduce the need for a further reset in the future.
- Stakeholder engagement should include sharing and recognise that critical assumptions/risks evolve as project definition gains clarity and that budgets may need to evolve as pricing is provided by supplier market as it reflects the commercial appetite for risk. Regular updates to stakeholders should form a key part of the project governance.
- Stakeholders have varying perspectives that reflect broader considerations through a more strategic lens, ensure these diverse perspectives are appropriately to support informed decision making.
- An effective process needs to be in place to disseminate up to date and accurate information to the project team and all key stakeholders in a controlled and coordinated manner to effectively manage stakeholder expectations.

4.3 COLLABORATIVE CULTURE

LESSON LEARNED

An Intelligent client 'one team approach' is needed to foster a collaborative culture that supports delivery success.

IMPACT



KEY FINDINGS



- Early phases of the project was driven by risk averse behaviour which may have led to a transactional ways of working.
- Stakeholders felt that their input and contributions were not acknowledged or recognised appropriately across the project lifecycle which led to an “us vs. them” mentality.
- Project leadership were pivotal in creating a step change from 2020 onwards which led to the creation of a ‘one team’ approach and focused on collaborative contracting to ensure the viability of the contract
- Increased stakeholder engagement post re-set and PMO implementation phase contributed to a more solution orientated way of working, exemplified in the concurrent sequencing of construction and commissioning in 2023 which enabled the successful opening of the venue on time.

FUTURE CONSIDERATIONS

- Establish appropriate, transparent forums for communication which allow stakeholders to contribute to enable involved parties to provide feedback whilst creating a mutual understanding of key risks, timelines, and milestones.
- Celebrate contributions and successes of each team by showing appreciation for the value and progress that is being collectively created to embed a “one-team mindset”.
- Tap into the knowledge base of stakeholders and experts throughout the decision-making process to co-create solutions to build a sense of inclusiveness and ownership among those affected by risks across teams.
- Draw upon wider resources and knowledge including from suppliers and partners to provide equitable access to necessary documents and expertise to mould stronger relationships and establish a level of respect across each field.

“ From a behaviours point of view, the project went from its lowest level to highest level of teamwork over the integration period which allowed us to achieve our objective and open on time.

”

BCC	Bristol City Council; the client for the Bristol Beacon project.
BMT	Bristol Music Trust.
ORAT	Operational Readiness Activation & Transition; a methodology that de-risks the activation of new services and facilities..
NEC Contract	New Engineering Contract; a type of contract intended to promote partnering and collaboration between the contractor and client.
P3M3	Portfolio, Programme & Project Management Maturity Model; a framework for assessing and benchmarking your organization's current performance and for developing plans for improvement.
PMO	Project Management Office; a group that defines and maintains standards of project management.
Post-PMO	Refers to the timeframe and position of the project following the implementation of a Project Management Office.
Pre-PMO	Refers to the timeframe and position of the project prior to the implementation of a Project Management Office.
Project Board	A senior decision-making group that directs and guides a project.
Project Sponsor	An individual with a respectable level of authority or influence that serves as a proponent of a project, as part of this they may provide financial or other resources to support a project.
TOR	Terms of Reference

APPENDIX 2 | ACKNOWLEDGEMENTS

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- Levitt Bernstein*
- Wilmott Dixon

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