



Centre for
Construction
Best Practice

Early Contractor Involvement

Constructing Certainty

An independent study analysing the
economic impact of Early Contractor
Involvement (ECI)

Robbie Blackhurst, Chair
Centre for Construction Best Practice

✉ info@ccbp.co.uk

🌐 ccbp.org.uk

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Foreword



Mike Reader MP

Labour MP, Chair of the
APPG for Excellence in the
Built Environment

From Latham and Egan, through to the Construction Playbook, every piece of best practice guidance is consistent: bring delivery expertise in earlier, reduce fragmentation of processes and supply chains, and focus on outcomes in procurement and delivery.

Yet despite everyone recognising that these things help the UK deliver better projects, we still fail to adopt them consistently.

An argument I've always heard against two-stage and early contractor engagement is that the evidence base isn't there to support the theory. This report addresses that challenge head on.

Across over 400 projects studied, this report proves what many in the industry already believe. The later we engage those who build, the worse outcomes become.

Cost and programme drift are not inevitable; they are a product of when decisions are made and who is involved in making them.

But putting quality, cost and programme aside, at its heart, the industry still faces a challenge of trust.

Too often, our procurement system is designed to manage risk through process rather than reduce it through collaboration.

Lowest-price tendering, short procurement windows and late engagement create a system where risk is pushed down the supply chain and problems are discovered too late. That approach does not protect the public purse. It undermines it.

Early Contractor Involvement offers a different model. Not as a 'nice to have', but as a practical control on cost, programme and quality.

Evidence from across the sector shows that early engagement improves buildability, strengthens planning, and can deliver meaningful savings in both time and cost.

But adopting it consistently requires confidence. The public sector must feel able to engage early, prioritise whole life value over lowest price, and make decisions that stand up not just to audit and pass 'the Daily Mail test', but which drive better outcomes.

That requires capability, clarity and, above all else, a willingness to be bolder earlier in the process.

The scale of the opportunity is significant. With hundreds of billions of pounds committed to infrastructure and public assets, even marginal improvements in delivery translate into real value for taxpayers.

This report provides a clear path forward. The challenge now is simple: do we continue to design a system around mistrust, or do we build one that delivers?



Executive Summary



Robbie Blackhurst

Chair, Centre for
Construction Best Practice
(CCBP)

For more than 30 years, construction reform has pointed in the same direction – reduce fragmentation, integrate delivery thinking earlier, and stop locking in risk through late handover. From Latham and Egan through Wolstenholme, Farmer and, most recently, the Construction Playbook, the intent is clear, but implementation remains uneven (Latham, 1994; Egan, 1998; Wolstenholme, 2009; Farmer, 2016; Cabinet Office, 2022). The stakes are significant. The UK’s 10-year infrastructure strategy commits at least £725bn of public funding, while NHS backlog maintenance alone rose to £15.9bn in 2024/25 (HM Treasury, 2025; BCIS, 2026).

At the same time, industry resilience is under strain, with 3,931 construction firm insolvencies in 2025, and construction accounting for 16.4% of all insolvencies in England and Wales (BCIS, 2026). Regulatory expectations have also increased, including the requirements of the Building Safety Act and the wider building safety regime, raising

the importance of robust design coordination and information management from the outset. Alongside these pressures sits a widening workforce skills gap. CITB forecasts that the industry will need to recruit around 47,860 additional workers per year between 2025 and 2029 to meet expected demand (CITB, 2024). This places increasing importance on using live projects as platforms for training, apprenticeships, and workforce development, enabling contractors and supply chains to plan supervision, mentoring capacity, and skills investment against real delivery programmes rather than treating workforce commitments as a late-stage obligation.

Early Contractor Involvement (ECI) is one of the few approaches that tackles several of these issues simultaneously. It brings delivery and specialist input into the period when options are still open. It improves buildability and logistics planning, baselining cost and programme against real capacity, and enables workforce planning and earlier engagement of key package specialists (including low-carbon and MMC solutions). To test whether the benefits of ECI are visible at scale, the Centre for Construction Best Practice (CCBP) analysed 412 public sector projects delivered by 55 contractors, with contractor appointment spanning RIBA Stages 0–4, comparing original client baselines against final outturn cost and time and reviewing wider measures including supply chain engagement and sustainability influence. The findings show a clear inflection point at RIBA 3, and a positive correlation between ECI and improved performance in programme and cost, alongside stronger risk management, deeper supply chain input, and greater sustainability influence.

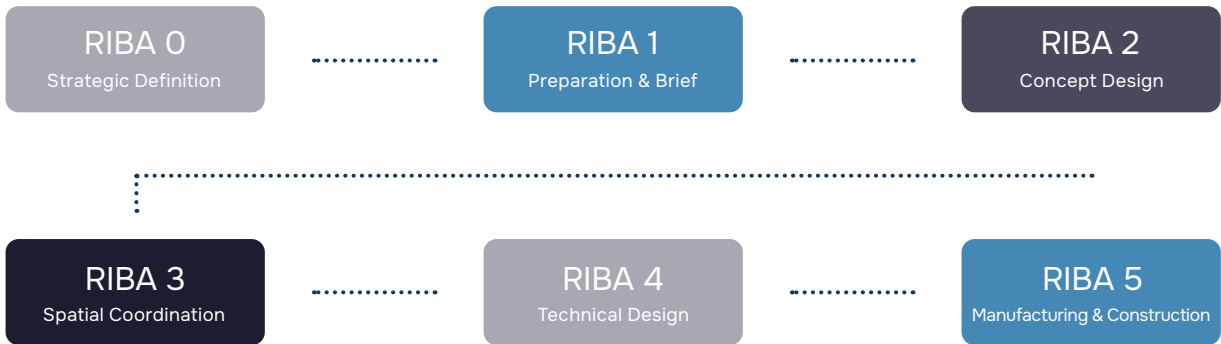


Figure 1: RIBA Plan of Work stages, from Strategic Definition through to Manufacturing and Construction.

Recommendations of this report

- 1. Mandate contracted early involvement by RIBA 2 as the default on public sector capital projects, applied proportionately to risk and complexity.
- 2. Strengthen public sector capability and confidence in ECI, with standard guidance, templates and training to make early involvement consistent and auditable.
- 3. Introduce mandatory ‘value checks’ so contracts are not awarded on lowest price alone

Implementation priorities

Government and public sector clients should treat ECI as a core delivery control.

CCBP’s findings provide a practical roadmap for improving cost certainty, programme performance and wider outcomes across public sector investment.

Overview of findings

ECI aligned with stronger delivery fundamentals:

- Earlier supply chain input
- Greater influence over sustainability design initiatives
- Better scope for value engineering
- Increased implementation of MMC

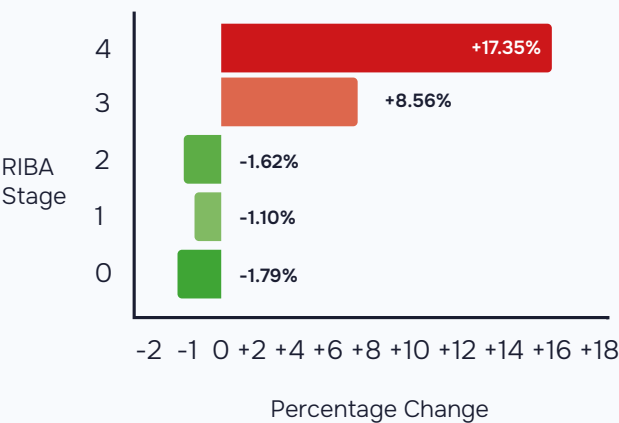


Figure 2: Average outturn cost compared with original client budget, by RIBA stage of contractor appointment.

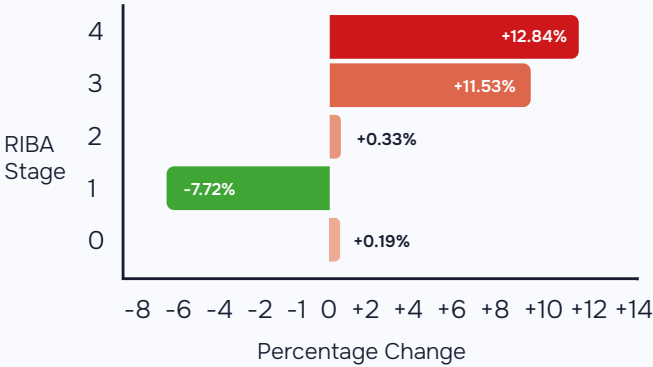


Figure 3: Average final project duration compared with original programme, by RIBA stage of contractor appointment.

Introduction

Public sector construction has never been simple, but the pressures on it now are unusually intense. Many public bodies are trying to do more with less, at a time when buildings and infrastructure are ageing, expectations are rising, and the market can change quickly.

Against this backdrop, how and when delivery expertise is brought into projects has become a critical question. Constrained capital budgets mean a growing share of public funding is pulled towards maintenance, compliance, and managing risk, rather than improving services and outcomes.

Recent shocks have also shown how fast inflation, supply disruption, and labour constraints can drive up costs and undermine certainty.

These pressures expose long-standing structural issues in the way public projects are shaped and delivered. Too often, programmes move into construction procurement before the brief is settled, the scope is clear, or the design is coordinated.

Timetables can be driven by funding cycles or political milestones rather than readiness to build. Short procurement windows and fragmented responsibilities can limit early problem-solving, while competitive pressure can push teams towards price-based decisions rather than the best route to delivery.

This all creates a fundamental problem – risk is transferred down the supply chain to those least able to absorb it, making programmes more brittle and increasing the likelihood of disputes.

This is one of the consequences that now reflect the sector's resilience. BCIS reports that 3,931 construction firms became insolvent in 2025, a 22.0% increase on 2019 (pre-pandemic), and that construction accounted for 16.4% of all insolvencies in England and Wales – the highest share of any sector (BCIS, 2026).

3,931

3,931 construction firms became insolvent in 2025.

16.4%

Construction accounts for 16.4% of all insolvencies.

At the same time, the demands placed on public projects keep expanding. Clients must meet higher standards for building safety and performance, deliver social value, and decarbonise, often while navigating complex stakeholder environments and lengthy planning and statutory approvals.

Many client teams are also working with capability gaps and a tight labour market. The outcome is familiar across the sector – late design change, compromised buildability, slow decisions, and reactive risk management. When delivery realities surface late, they tend to arrive as change, delay, and cost growth, a pattern well illustrated by the McLeamy curve, which is exactly what value-for-money programmes cannot afford.

This matters more than ever because the UK Government's long-term commitments rely on delivery becoming more reliable. The UK's 10-year infrastructure strategy commits at least £725bn of public funding over the next decade (HM Treasury, 2025).

£725bn

UK's 10-year infrastructure strategy commits at least £725bn.

Alongside new investment, the condition of existing assets is generating urgent demand. NHS England's backlog maintenance has been estimated at £13.8bn in 2023/24, rising to £15.9bn in 2024/25, with wider maintenance backlogs across public services reinforcing the scale of the challenge facing asset owners (BCIS, 2026).

£15.9bn

NHS backlog maintenance rose to £15.9bn in 2024/25.

Put simply, the system is being asked to deliver more work, to higher standards, with less tolerance for waste.

Recent high-profile programmes have illustrated the cost of locking in decisions before delivery reality is properly understood.

HS2 is often cited as an example of how scope change, shifting funding assumptions, and insufficient control of complexity can drive major cost and schedule impacts, diverting resources from other priorities (Committee of Public Accounts, 2025).

Most projects are far smaller in scale, but the lesson is widely transferable: once a scheme progresses too far without delivery expertise shaping options, the ability to influence outcomes reduces sharply.

This is where Early Contractor Involvement (ECI) matters. ECI is about bringing a contractor in the room earlier in a structured approach that uses them and supply chain expertise while options are still open.

In practice, that means testing buildability, sequencing and logistics, improving design coordination, sense-checking cost and programme assumptions against real market capacity, and identifying risks early enough to avoid them, rather than pricing them or fighting over them later. The earlier input happens, the more influence it can have.

The case for earlier, more integrated working is not new. The Latham Report: Constructing the Team (1994) described a sector that was “ineffective”, adversarial and fragmented.

The Egan Report: Rethinking Construction (1998) urged greater integration and the adoption of manufacturing-style principles to improve performance. The Wolstenholme Report: Never Waste a Good Crisis (2009) concluded genuine change had still not materialised at sufficient scale.

The Cabinet Office’s Construction Playbook (2020), meanwhile, set clearer expectations for earlier market engagement, but implementation remains inconsistent across the public sector.

This white paper responds directly to that gap. Produced by The Centre for Construction Best Practice (CCBP), it is supported by the UK Government, including Mike Reader MP. It focuses on the outcomes public clients care about – programme risk, cost certainty, buildability, design coordination, supply chain advice, and alignment to client objectives.

While the case for ECI is often asserted in principle or illustrated through individual case studies, this paper is among the first to assess ECI systematically using a large, cross-project dataset.

Drawing on 412 public sector projects delivered by 55 contractors, the analysis spans contractor appointments from RIBA Stage 0 to Stage 4.

By examining how outcomes change as appointment moves through the RIBA stages, the paper tests a straightforward proposition: if ECI genuinely improves delivery, that effect should be visible and measurable in the data.

412

CCBP’s research draws on 412 public sector projects delivered by 55 contractors.

Current Practice And Challenges

Despite decades of calls for earlier, more integrated working, many public sector projects still appoint contractors after key design choices have been made. The dataset covers 412 public sector projects delivered by 55 contractors, with appointment spanning RIBA Stage 0 to Stage 4. The pattern we have found is clear: most appointments still happen at RIBA Stage 3 to Stage 4 (63% of projects analysed), when the scheme is already becoming fixed and flexibility is reduced. That matters because ECI only delivers value when contractors and their supply chains can influence decisions while options are still on the table. When appointment comes later, contractors are asked to price and deliver what is largely a decided solution, with limited ability to improve buildability, reduce risk, or strengthen outcomes. This section summarises what current practice looks like and why late appointment persists, as well as what it constrains in practice.

How contractors are appointed today

Across the projects reviewed, contractor appointment is weighted towards the later stages of design development. The distribution of appointments in the dataset shows a clear clustering through RIBA Stage 2, Stage 3 and Stage 4.

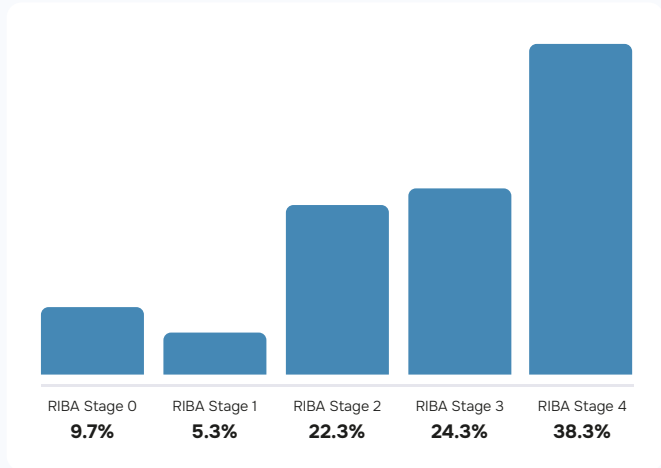


Figure 4 - Clustering of projects analysed by RIBA Stage 2, Stage 3 and Stage 4 contractor appointment.

“One consideration around ECI is a lack of trust within the industry. Historically, two-stage ECI has ended with rising costs and longer programmes, creating friction at the point of commitment.

Adrian Blackie, Northern
Pre-Construction Director, BAM

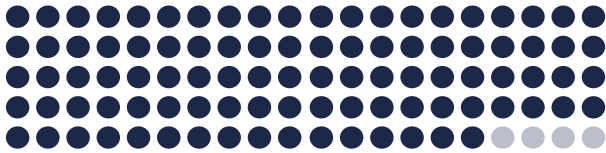
When cost plans aren’t openly shared and aligned early, collaboration breaks down and the process finishes in mistrust. This is something the industry needs to work on.” Frameworks remain common, with projects called off (appointing a contractor from the framework) once an initial brief and a developing design position is in place. Frameworks can shorten procurement, but they do not automatically create early engagement.

Where call-offs are competitive, clients may limit ECI because public procurement rules require equal treatment, transparency and non-discrimination, and early engagement must be handled so no supplier gains an unfair advantage.

Even with direct awards, the ability to structure and manage early engagement varies, particularly where client teams face capacity and capability constraints. Tendering models can reinforce the pattern. Two-stage procurement is often used to support earlier appointment and collaboration, but it can still arrive late in practical terms if the contractor is engaged once a developed design is already in place.

Under single-stage tendering, clients typically have limited early contact with the proposed contractor and specialist supply chain, which reduces the opportunity for early buildability and delivery input before price and programme are fixed. Survey responses reflect this. While 96% of respondents supported earlier involvement, only 6% of respondents strongly agreed that existing procurement routes support meaningful ECI.

96% of respondents supported earlier involvement



Why late contractor appointment persists:

Late appointment is rarely required by the project itself. More often, it reflects how teams are incentivised and governed, with a preference for certainty and procedural compliance over early collaboration.

Lowest-price tenders and short-termism:

Public-sector teams are under pressure to prove contracts are awarded fairly and at the lowest price. That often skews decisions toward easily comparable upfront costs, not buildability, whole-life value, or risk. As a result, ECI can be seen as a governance risk, and procurement can prioritise defensibility over delivery.

Capability variation and inconsistent adoption:

Capability varies across departments, regions and delivery bodies. Some teams can engage the market well, while others are stretched and risk averse. In that context, delaying contractor involvement can feel safer, even if it reduces the chance of controlling cost and programme later.

The Construction Playbook is clear on direction: “Engaging early with the supply chain and developing clear, appropriate outcome-based specifications are critical factors in achieving timely and cost-effective delivery” (Cabinet Office, 2022, p. 26). However, implementation is uneven, reflecting differences in client capability, governance pressure and project context.

Lack of trust and adversarial norms:

Early conversations can become negotiation rather than joint problem-solving, limiting transparency around risks, assumptions and cost drivers. Contractors may also be reluctant to invest resource early without confidence that effort will be valued and converted into delivery.

Why late appointment is limiting:

Deferring contractor involvement reduces the levers that most influence outcomes, with cost and time impacts emerging later.

Buildability and design coordination:

Contractors arriving late inherit coordination decisions, sequencing assumptions and access strategies that may not be efficient or achievable. Buildability reviews become retrospective, and changes introduce redesign and rework.

“My biggest challenge to early engagement and integrated procurement is commercial tension and how you ensure this from the beginning.”

Mark Farmer, Founder & Board Executive, Cast Consultancy

Risk management before it crystallises:

ECI is about managing risk while there is still time to respond. Late appointment increases the likelihood that risk is priced in, pushed down the supply chain, or allowed to surface during construction. The dataset reinforces this: late appointment (RIBA Stages 3–4) is associated with cost increases of +8.5% to +17.3%, and time overruns escalate significantly as appointment shifts later.

RIBA 3-4

Late appointments at RIBA Stages 3–4 are associated with cost increases of +8.5% to +17.3%

Supply chain insight and sustainability

Specialist input takes time. Late appointment makes supply chain engagement more transactional, reducing early cost intelligence and limiting options on materials, methods and logistics. It also narrows the opportunity to influence embodied carbon and practical delivery strategies, because many sustainability decisions are locked in early.

Workforce planning and the wider skills gap

Late appointment can hinder package planning and sequencing, making it harder to secure specialist capability and plan training and apprenticeships around real delivery windows rather than compressed, late mobilisation.

A familiar set of barriers

The problems associated with late appointment persist despite decades of attempted reform. Latham described an industry that was “ineffective”, adversarial and fragmented.

Egan called for integration and manufacturing-style approaches. Wolstenholme concluded that change had not materialised at sufficient scale. The Construction Playbook set clearer expectations for earlier engagement, but current practice shows inconsistency remains.

However, despite these landmark reports laying out the issues, the industry still grapples with many of the same barriers highlighted, meaning a new approach is now needed.

Chapter 3

Findings And Industry Insight

The data clearly shows a clear positive correlation between ECI and improved performance across public sector projects. Where contractors and their supply chains were brought in earlier, the projects analysed tended to achieve stronger cost and programme outcomes, better risk management, deeper supply chain input, and greater ability to influence sustainability.

Analysis drew on data from 412 public sector construction projects, delivered by 55 contractors, with contractor appointment spanning RIBA Stages 0 to 4. The dataset included projects across a wide range of sectors, regions, and contract values. Healthcare and education projects formed the largest proportion of the sample (66%), alongside a significant number of local authority, residential, blue light, and commercial schemes.

Schemes were distributed across all major UK regions, with values ranging from small capital works to large multi-million-pound programmes. Projects spanned multiple delivery years, giving the dataset a robust cross-section of market conditions. Most schemes (286) started onsite between 2021 and 2023, capturing performance through the greatest volatility in cost and supply chain, with earlier and later project starts providing wider context. While market conditions varied across this period, the analysis compares performance consistently across projects using the same baseline measures.

The quantitative analysis compared original client budgets and programmes against final outturn cost and time. This was supplemented by metrics relating to buildability, supply chain engagement, sustainability influence, offsite opportunities, and value engineering. Alongside the project data, sentiment insights were gathered through a survey to understand perceptions of risk, collaboration, and the effectiveness of early engagement. The research also includes case study evidence from a selection of Tier 1 contractors.

Methodology

To ensure the findings reflect underlying performance trends rather than the volume of projects in any single category, the dataset was validated and standardised before analysis.

Cost and programme outcomes were calculated consistently as percentage variance between original client baselines and final outturn, with incomplete or inconsistent records removed where performance could not be reliably calculated.

Results were then weighted across sector, region, and value band to reduce the influence of any one segment. The analysis identifies correlation rather than causation, and while the dataset spans a period of market disruption, those external effects cannot be isolated at project level.

This research combined perceptual survey data with structured project-level performance data to examine whether the timing of contractor appointment correlates with measurable differences in public sector construction performance.

The methodology was designed to test a simple proposition:

If Early Contractor Involvement improves delivery outcomes, measurable differences should be visible as contractor appointment moves later through the RIBA stages.

Across cost, programme and qualitative indicators, the data was examined against that single structural question.

Research Design

The study was conducted in two stages:

Stage 1 - Industry Sentiment Survey

Participants completed a structured survey comprising ten statements relating to Early Contractor Involvement and its perceived impact on project outcomes.

Responses were captured using a five-point Likert scale:

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

This stage generated sentiment data to assess industry perceptions of ECI and to identify areas of consensus or tension.

Stage 2 - Project-Level Data Capture

Following completion of the survey, participants were invited to submit project-specific data via a structured data collection template. The following information was recorded for each project:

- Sector
- Region
- Client type
- Procurement route and call-off method
- RIBA stage at contractor appointment
- Tendering approach (single-stage / two-stage)
- Contract form
- Value band
- Original client budget
- Outturn cost
- Original and final programme duration
- Value engineering activity
- Offsite / modular adoption
- Apprenticeship outcomes
- Influence on sustainability initiatives
- Supply chain involvement (buildability and early cost advice)

This generated a dataset of 412 public sector projects delivered by 55 contractors, spanning RIBA Stages 0 to 4.

Data Cleaning and Standardisation

To ensure comparability: All cost data was converted to percentage variance between original client budget and final outturn cost. Programme performance was standardised as percentage variance between original and final programme duration.

RIBA stages were grouped numerically (0-4 to enable comparative analysis.

Stratification and Weighting

Because the sample included variation in:

- Sector (e.g. healthcare, education, residential, local authority, blue light)
- Region (with higher representation in some regions, including the North West)
- Value band (ranging from small capital works to large programmes)

The dataset was stratified and weighted to prevent any single sector, geography or value category disproportionately influencing results. Weighting adjustments were applied across value band, sector and region.

This ensured results reflected underlying performance patterns associated with appointment stage rather than the composition of the sample.

Quantitative Analysis

The primary quantitative test examined the relationship between:

Independent variable:

- RIBA stage of contractor appointment (0-4)

Dependent variables:

- Percentage cost variance (budget vs outturn)
- Percentage programme variance (original vs final duration)
- Supply chain buildability input
- Early cost advice provision
- Value engineering contribution
- Sustainability influence
- Apprenticeship outcomes

Comparative averages were calculated by appointment stage, and trends were analysed to identify inflection points and patterns of performance change.

The analysis focused on identifying correlation patterns rather than asserting direct causation. However, the consistency of trends across multiple indicators, combined with the scale and diversity of the dataset, provides a strong basis for inference.

Sentiment Analysis

Likert responses were aggregated into:

- Agreement (Agree + Strongly agree)
- Strong agreement (Strongly agree)

This allowed alignment between perceptual data and measured performance data. Sentiment findings were used to contextualise and corroborate the quantitative analysis.

Illustrative Portfolio Modelling

To demonstrate potential macro-level implications, observed percentage differentials by RIBA stage were applied to publicly available government capital spend figures.

These calculations were not predictive forecasts. They were scenario-based illustrations to demonstrate the potential systemic impact of appointment timing at portfolio level.

Limitations

- The dataset contains higher representation from certain regions and sectors, though weighting adjustments have been applied to account for this.
- The study identifies correlation between appointment timing and outcomes; it does not claim appointment timing is the sole determinant of performance.
- Some sustainability and social value indicators were self-reported rather than independently verified.

“ECI is essential. If you actually bring together the right team to deliver your project, it is much more likely to be successful.”

Mark Tant, Construction Consultant

Cost and programme performance

Data showed a strong and consistent relationship between the stage at which contractors were appointed and subsequent cost performance. Projects where contractors were appointed at RIBA Stages 0 to 2 outperformed the original client budget on average. Across these early stages, cost reductions ranged from -1.10% to -1.79%, suggesting early engagement supports more informed, value-led decisions during design development.

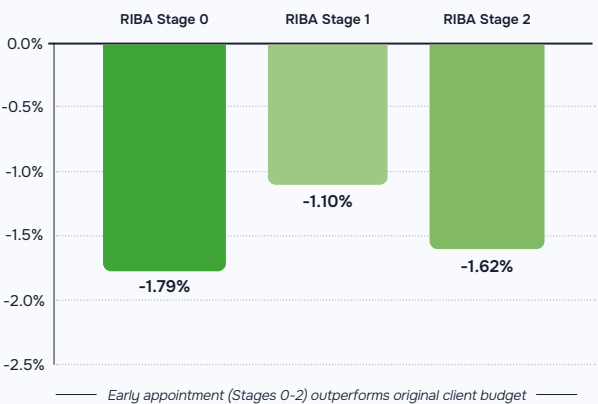


Figure 5: Average cost variance against original client budget, by RIBA stage of contractor appointment.

There was a clear inflection point at RIBA Stage 3. When contractors were appointed at this stage, projects experienced an average cost increase of 8.56%, reversing the savings seen at earlier stages. Cost escalation intensified further when contractor appointment was delayed to RIBA Stage 4, where average cost growth reached 17.35%. This pattern suggests once key design decisions are fixed and procurement progressed, the scope to manage risk proactively reduces, and cost pressures are more likely to crystallise as additional expenditure rather than being mitigated through design optimisation.

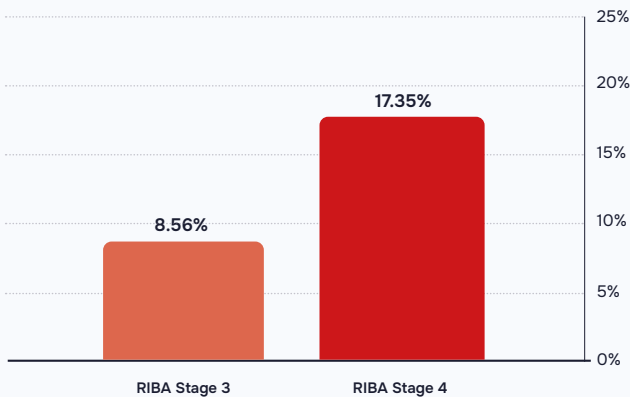


Figure 6: Cost variance for projects with contractor appointment at RIBA Stage 3 and RIBA Stage 4.

Case Study: On time, to budget: ECI approach on Wates’ Teesside University delivery

A flagship biomedical teaching and research facility for Teesside University, BIOS was delivered by Wates through an ECI approach that brought planners, consultants, supply chain partners, and university stakeholders into the process from the outset.

That early alignment helped resolve complex interface issues during design rather than onsite, supporting a fast mobilisation to construction (around 10 months from the outline brief) and a shared, delivery-led plan. The project was delivered on time and within budget and achieved BREEAM Outstanding, demonstrating how early collaboration can protect programme, cost, and performance outcomes on a complex public-sector scheme.

Case Study Two: BAM’s early engagement on two DfE schools

Across two DfE secondary schools, BAM used a two-stage approach with a structured pre-construction period to bring delivery input into design development early and protect the cost and programme baseline. On Byrchall High School, BAM led design and pre-construction from RIBA Stage 1, using early supply chain engagement and regular design and cost reviews to keep scope, buildability, and budget aligned as the design matured. On Chorlton High School South, early engagement supported efficient construction techniques and stakeholder alignment, helping the team maintain momentum through delivery.

Chorlton was delivered to budget (£22.7m) and 4.5 weeks ahead of programme, with Byrchall delivered on time and on budget (£31m).



Programme performance followed a similar trajectory. Early contractor appointment was associated with minimal change or improvement in programme length. At RIBA Stage 0, average time increases were negligible at 0.19%, while appointment at RIBA Stage 1 correlated with an average -7.72% reduction in programme duration.

By contrast, later contractor appointment was associated with significant programme deterioration.

Projects where contractors were appointed at RIBA Stage 3 experienced average programme increases of 11.53%, rising further to 12.84% at RIBA Stage 4.

“A contract isn’t the solution on its own – outcomes depend on how people work together in practice. There’s a whole behavioural workshopping piece that needs to go with this approach.”

Mark Farmer, Founder & Board Executive, Cast Consultancy

Risk management and design input

Alongside the quantitative cost and time data, sentiment findings help explain how early engagement is perceived to influence risk and design outcomes. The findings showed strong and consistent support for ECI across the industry.

85% of respondents agreed ECI improved collaboration between the client, contractor, and design team, with 56% expressing strong agreement, supporting the idea that more effective joint working could be achieved when key design, cost, and programme decisions are being developed.

Respondents also reported improved risk outcomes. 83% agreed ECI improved the way risk was allocated and managed on projects, while 87% agreed it led to measurable improvements in cost, risk, and programme certainty (with 63% strongly agreeing). These findings aligned with the cost and programme data, which showed later contractor appointment

was associated with higher levels of cost escalation and delay.

Case Study Three: Stepnell’s smooth delivery in Derbyshire

A £3.58m refurbishment at Walton Hospital converted a vacant ward into a 12-bed older adult mental health unit with single en-suite rooms, delivered in a live hospital environment requiring tight coordination around access, shutdowns, and infection prevention.



Two-stage engagement enabled Stepnell, Derbyshire Healthcare NHS Foundation Trust, and the cost consultant (Edge) to collaborate early on the cost plan and risk position, using an open-book approach and an agreed early warning risk register

to build shared confidence before award. That early alignment then supported smooth delivery on a constrained operational site, with changes in sequencing absorbed without disrupting clinical services.

“Proactive engagement from the outset made a tangible difference – identifying risks early, supporting cost transparency, and ensuring confidence in the delivery strategy.”

Charlotte Dennish,
Cost Manager, Edge

Supply chain input and buildability

The research also examined how appointment timing affects supply chain input into buildability, programme, and cost. The results showed a clear drop-off in meaningful engagement with later appointments. Where contractors were appointed at RIBA Stages 0 to 2, supply chain involvement in buildability and programme was close to universal. For example, at RIBA Stage 0, 100% of projects reported supply chain input into buildability and programme. A similar result was found with 96% at RIBA Stage 1 and 97% at RIBA Stage 2.

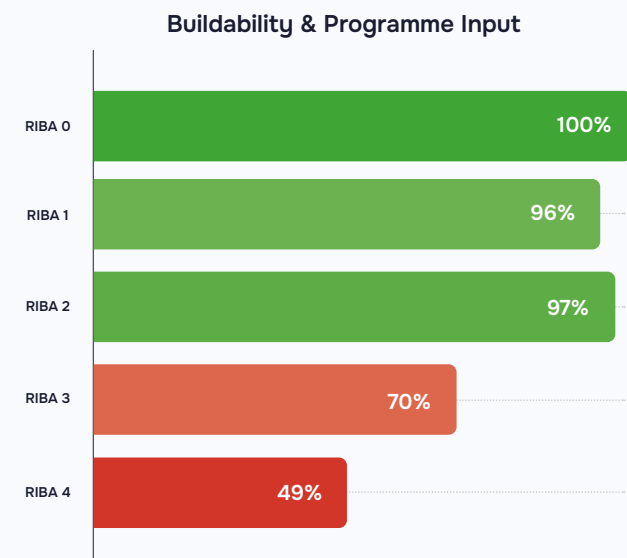


Figure 7: Percentage of projects reporting supply chain involvement in buildability and programme, by RIBA stage of contractor appointment.

At RIBA Stage 3, however, supply chain input into buildability and programme fell to 70% and dropped further to 49% at RIBA Stage 4. This suggests that once projects move beyond developed design, opportunities for the supply chain to influence how projects are built become significantly constrained, increasing the risk of redesign, rework, and disruption during construction.

Case Study Four: Willmott Dixon delivers £3.7m saving via key supply chain input

Joining the refurbishment of Berwick Maltings Theatre at RIBA 2, Willmott Dixon brought in a locally based design team and key supply chain partners to rationalise an overly complex, unaffordable design and simplify the critical path. The approach improved buildability while saving £3.7m, protecting funder requirements and user needs, and staying within the original planning scope. A similar pattern was found for early cost advice. Contractors appointed at RIBA Stages 0 and 1 reported 100% of projects received early cost advice from the supply chain. This remained high at 97% at RIBA Stage 2, before falling to 83% at RIBA Stage 3 and 69% at RIBA Stage 4.



Sustainability and value outcomes

Also explored was whether ECI supports wider project outcomes, including sustainability and value. At RIBA Stage 0, **93% of respondents reported contributing to value engineering activity that reduced overall project costs.** Where contractors are involved early, value engineering is more likely to be proactive, embedded within design development, and focused on buildability, performance, and whole-life considerations, rather than reactive scope reduction later in the programme.

The ability to influence sustainability outcomes was even more pronounced. Where contractors were appointed at RIBA Stage 0, **100% of respondents reported influencing sustainable design initiatives across the project.** This reflects the reality that many sustainability decisions, including material selection, construction methodology, and sequencing, are effectively locked in during early design. Late appointment significantly reduces the scope for meaningful intervention once design development is complete.

Case Study Five: MMC and sustainability benefits - Graham's hospital delivery

Graham Construction delivered West Cumberland Hospital, an NHS acute hospital, in a live operational environment. The group said early involvement supported the selection and planning of a Modern Methods of Construction (MMC) solution with 70%+ premanufactured value, allowing buildability and logistics to be shaped while there was still time to influence design decisions.

By shifting work offsite and reducing onsite handling, the approach delivered quantified sustainability benefits including 50% fewer vehicle movements and a 36% reduction in waste versus traditional construction.

Early appointment also correlated with stronger social value outcomes, although performance was relatively strong across all RIBA stages. **RIBA Stage 0 and 1 saw 100% of respondents reporting the direct employment of apprentices as a result of the project,** compared with 86% at RIBA Stage 4. Sentiment data reinforced this, with **98% of respondents agreeing early appointment improved their ability to influence outcomes positively.**



This aligns with the Government's push to expand apprenticeships, including £1.5bn of investment through the Youth Guarantee and Growth and Skills Levy to support 50,000 additional apprenticeship and foundation apprenticeship opportunities (Department for Education and Department for Work and Pensions, 2025). ECI helps deliver that ambition by bringing contractors in early enough to plan apprenticeship roles and mentoring capacity before the programme is locked in.

This is increasingly important as the skills gap widens. ECI brings contractors in early enough to plan apprenticeship roles, supervision, and mentoring capacity against the developing programme, rather than treating skills commitments as a post-award add-on. That improves the likelihood that apprenticeship targets translate into real placements and progression, strengthening the sector's long-term skills pipeline.

“Without early contractor engagement, projects often reach RIBA 4 with core design decisions fixed, leaving limited scope to optimise constructability, MMC adoption or industrialised delivery.”

Tom Stocks, Client-side Industrialised Construction Consultant

Implications for public sector delivery and capital spend

To illustrate the potential scale of impact, the observed cost differentials by RIBA stage were applied to seven major public sector capital spend pipelines. The intention here was not a prediction of savings, but an indication of how small percentage differences in project performance can translate into significant sums at portfolio level.

When applied to the UK Government’s Public Sector New Work Construction spend for 2023, the analysis indicated an illustrative cost overrun of £8.5bn where contractors were appointed at RIBA Stage 4, compared with an indicative cost reduction of £900m where appointment occurred at RIBA Stage 0.

When applied to Central Government Capital Investment spend of £134bn in 2023, early appointment corresponded to indicative reductions of up to £2.4bn, compared with over £23bn of additional cost with appointment at later stages. The effect was amplified over longer-term pipelines. Across the UK Government’s 10-year infrastructure pipeline of around £725bn, early contractor appointment corresponded to reductions of up to £13bn, while late appointment at RIBA Stage 4.

equated to cost growth in excess of £125bn. While illustrative, these comparisons underlined a clear point – at portfolio scale, appointment timing could have material financial consequences.

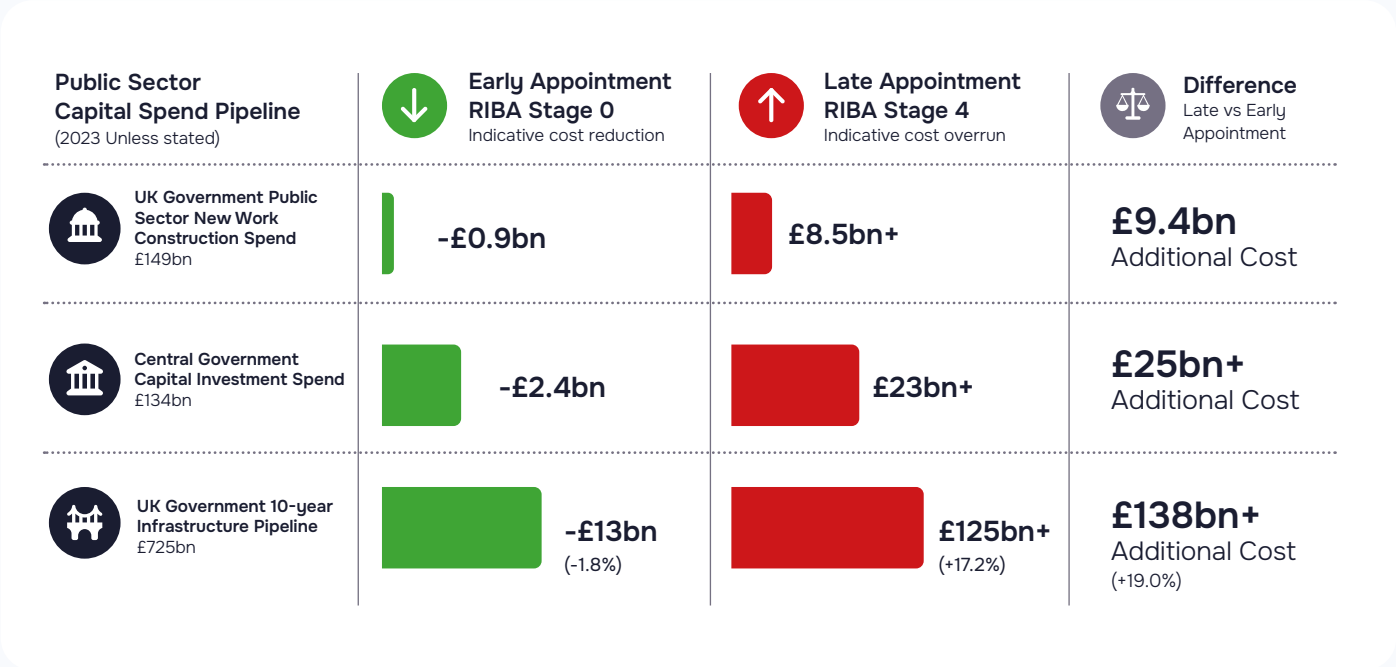


Figure 8: Illustrative scenario modelling applying observed RIBA stage cost differentials to published government capital spend figures.

Recommendations

Recommendation 1:

Mandate contracted early involvement by RIBA 2 on public sector capital projects above £5m

The adjusted analysis across 412 public sector projects shows a clear performance shift once appointment moves beyond RIBA Stage 2. When contractors are appointed by RIBA 0–2, average cost performance is broadly stable. When appointment slips to RIBA 3–4, average costs escalate and programme growth moves into consistent double digits. The implication is not that early involvement is a magic lever for cheaper projects, but that it materially improves collaboration, providing a more realistic baseline and reducing the likelihood that avoidable delivery risk is locked in before those with delivery expertise have had a meaningful say.

The proposed £5m threshold enables ECI to be practically implemented. It makes the standard manageable, auditable, and proportionate, focusing effort where delivery risk and financial exposure are highest. Below £5m, early involvement should still be encouraged – and expected where risk is high (for example refurbishment, live environments, complex MEP, or constrained sites). Above £5m, contracted early involvement should be the default.

The case for applying this mandate most rigorously is particularly strong for refurbishment and renewal programmes, where uncertainty, hidden conditions, and operational constraints mean that delivery input is critical before scope is fixed. In these settings, early contractor involvement allows intrusive investigation, sequencing, access planning, and enabling strategies to shape the concept design before commitments are made. As a result, refurbishment and renewal schemes should be prioritised as the first area where the RIBA 2 standard is consistently applied across the public estate.

Public sector projects are still frequently developed in relative isolation from the people who will build

them. That is often for understandable reasons – governance pressure to freeze scope early, a desire to preserve competitive tension, and concern about audit challenge. Yet the consequence is that buildability, sequencing, logistics, packaging, and market capacity are confronted late, at the point when change is most expensive and programme pressure is highest. At that stage, risk tends to be transferred rather than reduced. The public purse then pays in avoidable redesign, claims, variations, and time-related cost.

The Construction Playbook supports early supply chain involvement, but what “early” means is not defined with a consistent timing threshold and is applied unevenly in practice. This recommendation introduces a simple timing trigger that converts policy intent into a measurable standard: contracted early involvement should be in place by the start of RIBA 2 as the default on public sector capital projects above £5m. The scope should be proportionate to the scheme’s complexity, uncertainty, and value. For straightforward projects, this may be a light-touch pre-construction stage. For higher value and risk schemes, it should include fuller contractor and specialist input. ‘Contracted’ is the key word. Informal engagement and ad hoc market sounding do not substitute for a structured pre-construction stage with defined outputs and governance.

Benefits:

The data shows consistent contractor involvement by RIBA 2 improves cost certainty and programme reliability at the point where business cases and approvals depend on credible baselines. It gives the project time to engage key package specialists and secure capacity early, reducing late-stage design churn and the risk that delivery constraints only emerge once the scheme is already committed. It supports better risk management by shifting effort toward risk reduction rather than late risk pricing. It also improves portfolio planning because realistic sequencing becomes visible earlier, enabling better decisions on scope, timing, and prioritisation.

“Once the design is fixed, you stop reducing risk and start pricing it.”

Simon Rawlinson, Head of Strategic Research and Insight, Arcadis UK

Actions:

To achieve contracted ECI by RIBA Stage 2, public sector clients should take five practical steps:

-  **01** Default ECI by RIBA 2 for £5m+ projects
-  **02** Prioritise refurbishment and renewal
-  **03** Set minimum Pre-construction outputs
-  **04** Bring in key package specialists early
-  **05** Evidence at approval gateways

Recommendation 2:

Strengthen public sector capability and confidence in ECI

Many public bodies recognise the value of early involvement, but capability is uneven. This is most acute in parts of the public sector where capital delivery is intermittent or teams are small, for example, some local authorities, smaller NHS trusts, and Arm's Length Bodies without large in-house commercial functions. In those settings, it can be difficult to scope early involvement, control pre-construction cost, and run compliant routes without increasing the risk of a procurement challenge or audit scrutiny. Where confidence is low, the default response is to retreat to familiar models and late engagement, even when they increase risk in delivery.

This is a practical barrier, not a philosophical one. Early involvement fails when it is treated as an informal conversation with no influence, or as an open-ended pre-construction bill with no clear outputs. The experts we consulted for this report echoed a consistent point: contract form matters less than the ability to secure the right delivery and specialist input early, keep decisions moving, and document the process clearly enough that it stands up to scrutiny.

These capability gaps matter even more under the **Building Safety Act, which places greater emphasis on clearly defined duty holder responsibilities, competence, and traceable decision-making throughout the design and delivery process.** Client teams must now be able to demonstrate how risks have been identified, managed, and documented from the outset, increasing the need for confident

teams who can specify, procure, and assure early involvement with a clear audit trail for key decisions from the outset, increasing the need for confident teams who can specify, procure, and assure early involvement with a clear audit trail for key decisions and change (UK Parliament, 2022). Strengthening capability therefore underpins all other recommendations. Without it, any push for earlier involvement risks becoming inconsistent in practice and vulnerable to box-ticking.

Benefits:

A stronger, more consistent client capability base increases the likelihood that early involvement is used well, rather than avoided or misapplied. It reduces fear of audit and compliance risk by making routes and evidence standards clearer. It also enables better judgement on value, risk, and constructability, which improves decisions on scope, cost, and delivery strategy before projects are committed.

Actions:

To build confidence and consistency in ECI, public sector clients should take five practical steps:

-  **01** Create a national ECI training offer
-  **02** Issue standard templates and guidance
-  **03** Strengthen assurance and compliance clarity
-  **04** Build capability to assess deliverability
-  **05** Share learning across public bodies

Recommendation 3:

Introduce mandatory 'value checks' so contracts are not awarded on lowest price alone

The level of scrutiny surrounding public sector procurement often makes awarding to the lowest bidder feel like the safest decision to justify. It is simple to compare, easy to evidence, and appears to demonstrate immediate savings. However, it can be a false economy. As the data shows, on projects with uncertainty or tight operational constraints, a low tender price often reflects assumptions that do not hold through delivery. The costs do not disappear; they are deferred. They re-emerge later

as variations, claims, delay, and higher outturn spend, often when budgets are already committed and options are limited.

The Construction Playbook sets the right direction on outcomes and whole-life value. The Procurement Act 2023 reinforces this shift, replacing the concept of the Most Economically Advantageous Tender (MEAT) with the Most Advantageous Tender (MAT), signalling that contracting authorities can consider a broader definition of value beyond lowest price (UK Parliament, 2023).

In practice, however, “value” can remain a narrative while price becomes the deciding factor because it is the most defensible metric at award. This recommendation closes that implementation gap by introducing value checks applied at key approval points and before contract award. For example, requiring whole-life value measures or KPIs at approval stages, and checks that stop lowest-price tendering being used where it tends to backfire such as high-risk or high-uncertainty schemes.

Public investment in the built environment should also deliver wider public benefit. Public projects are a vehicle for outcomes that matter beyond the asset itself, including lower operating costs, reduced carbon, skills, and local economic value.

If procurement focuses too narrowly on the lowest capital price, it risks trading away these outcomes and storing up future cost. Value checks help ensure that wider value is defined in measurable terms and protected through decision-making, rather than left as aspiration.

Benefits:

Mandatory value checks reduce the likelihood that apparent savings at award translate into higher costs later. They lower the incentive for price-to-win behaviour and reduce dispute risk by challenging unrealistic assumptions before commitments are made.

They also support better long-term affordability by bringing whole-life performance into view early enough to influence choices. Over time, they strengthen market behaviour by signalling that the public sector will reward credible delivery and measurable outcomes, not simply the lowest bid.

Actions:

To embed value checks in real projects, public sector clients should take five practical steps:

-  **01** Set standard value checks at gateways
-  **02** Define outcomes and whole-life KPIs
-  **03** Test bid credibility, not just price
-  **04** Restrict lowest-price routes where risk is high
-  **05** Track outcomes to improve future awards

Conclusion

For more than three decades, successive independent reviews have identified the same underlying problem in UK construction: projects are too often shaped by fragmented decision-making, late delivery input, and incentives that push risk downstream rather than reducing it at source. From Latham through to the Construction Playbook, the message has been consistent. The sector’s recurring failures are rarely technical. They are driven by when decisions are made, how they are made, and how late delivery expertise is brought into the process.

ECI is the practical response to that long-running diagnosis because it changes the timing of risk reduction. It creates a structured pre-construction stage where buildability, sequencing, logistics, packaging, market capacity, and specialist interfaces can be tested while there is still time to influence the design. This is particularly important in the public sector, where business cases depend on credible baselines and where change during delivery has direct consequences for public services and the taxpayer.

The data in this report makes that case clearly. Across 412 public sector projects, a clear turning point emerges at RIBA Stage 3. Where contractors

are appointed at RIBA Stages 0–2, cost performance remains broadly stable. When appointment slips to RIBA Stage 3 and beyond, average cost growth rises sharply. Programme performance follows the same pattern.

The implication is not that early involvement delivers “cheap” projects. It is that it improves the realism of the baseline and reduces the likelihood that avoidable delivery risk is locked in before schemes are committed. Applied consistently, ECI supports outcomes public clients are already seeking: improved cost certainty, stronger programme reliability, higher quality standards, and more effective risk allocation.

CCBP’s findings provide compelling evidence of the benefits of ECI and a route from long-standing policy intent to practical procurement reform. The recommendations set out in this report are measurable, auditable, and proportionate to risk, demonstrating how consistent early involvement can protect public money, improve delivery certainty, and raise the long-term value of the UK’s public assets if applied consistently across the public estate.

The evidence presented in this report points to a clear conclusion: when delivery expertise is brought into projects before RIBA Stage 3, the public sector is far more likely to secure the cost certainty, programme reliability and long-term value it is seeking.



Figure 9:
Percentage difference between original client budget and outturn cost.

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The research has been led by the Centre for Construction Best Practice (CCBP) – an organisation dedicated to bridging the gap between cutting-edge research and everyday construction delivery. By bringing together industry leaders, academic institutions and policymakers, CCBP exists to turn evidence into action and drive meaningful, lasting improvement across the UK built environment.

RESEARCH AT A GLANCE



412

Projects Analysed



55

Contractors engaged



August 2025 - May 2026

Research Period

SUPPORTED BY



Mike Reader MP

Labour MP, Chair of the APPG for Excellence in the Built Environment

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- Queens University Belfast**, School of Natural and Built Environment
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Contributors

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Other Participants

Aire Valley Contracts Limited

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Tel: 0333 577 7575 | E: info@ccbp.org.uk | www.ccbp.org.uk

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London

Blackwell House,
Guildhall Yard,
London, EC2V 5AE

✉ info@ccbp.org.uk

Liverpool

The Plaza Building,
100 Old Hall Street,
Liverpool, L3 9QJ

🌐 ccbp.org.uk



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Best Practice