

## Response to CMA Market Study Consultation: Civil Engineering in Rail and Road

From: J. Murphy & Sons Limited

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### Introduction

We welcome the CMA's initiative to examine the civil engineering markets for rail and road infrastructure across the UK. As a multi-disciplinary contractor delivering major projects in both sectors, we support the objective of ensuring that public investment in infrastructure yields maximum value, efficiency, and innovation.

Our submission reflects insights from our operational experience and the CMA's Statement of Scope.

### 1. Characteristics of a Well-Functioning Market (para 1.11)

We broadly agree with the CMA's articulation of a well-functioning market, particularly:

- The importance of early market engagement.
- Balanced procurement between cost and quality.
- Predictable delivery schedules.

**Recommendation:** We suggest adding a sixth characteristic emphasising supply chain resilience and fair commercial behaviours, including prompt payment and equitable risk allocation. These practical factors underpin market health and innovation.

### 2. Scope and Themes (Section 3)

We support the proposed scope and the five themes as comprehensive and relevant.

#### Suggested enhancements:

- Under Theme 1 (procurement), consider evaluating the impact of large-scale, long-duration frameworks on market access and innovation.
- Under Theme 2 (delivery), include a focus on interface risk management, which is often a critical challenge in complex infrastructure projects.
- Reflect differences between devolved procurement regimes (e.g. Transport for Wales, Transport Scotland) which create varied opportunities and challenges.

### 3. Differences Across UK Nations

Key differences to note in the UK market include:

- **Scotland and Wales** often pursue a more centralised, strategic pipeline, offering clearer forward planning but fewer mid-market opportunities.
- **Northern Ireland** has fewer large-scale schemes and slower procurement cycles.
- **England** has higher volumes of work but greater procurement fragmentation, increasing complexity and bid costs for contractors.

These variations are important for designing any recommendations that apply uniformly across the UK.

### 4. Suggested Case Studies

#### (a) Projects with Good Outcomes

- **Road - A14 Cambridge to Huntingdon Improvement Scheme:** The A14 project (£1.5bn) was delivered ahead of schedule and under its revised budget, with high-quality outcomes driven by early contractor involvement (ECI), digital rehearsals for complex junction builds, and collaborative risk management. Innovations like digital twin modelling and extensive offsite prefabrication boosted productivity and reduced on-site disruption.
- **Rail – London Overground Extension to Barking Riverside.** The Barking Riverside Extension was delivered on time and within its £327m budget, achieving high-quality standards through collaborative contracting and early engagement with local authorities and developers.
- **Road – M25 Junction 30/A13 Corridor Improvements:** Completed under budget (~£100m) and on time, this scheme delivered quality outcomes by using lean construction techniques, excellent utility coordination, and a collaborative approach between Highways England and contractors. Innovations included prefabricated structures to reduce traffic closures and digital modelling to resolve complex interface issues, all helping drive cost savings and maintain smooth traffic flow during works.

#### (b) Projects with Challenging Outcomes

- **Rail – Crossrail:** Despite ultimate success, significant issues arose due to complex interfaces and late-stage design changes, illustrating risks associated with fragmented governance and complex contracting structures.

- **Rail – Great Western Main Line Electrification (GWML)** - The GWML Electrification programme suffered massive cost overruns (from ~£1.6bn to over £2.8bn for parts of the scheme), quality issues from redesigns and rework, and failed to deliver anticipated innovation benefits because initial surveys underestimated asset condition, design standards kept changing mid-project, and fragmented delivery responsibilities hindered efficient problem-solving.
- **Road – Smart Motorways Programme** - Parts of the Smart Motorways rollout experienced significant cost increases, public backlash over safety concerns, and stalled innovation benefits because technology systems were not fully integrated before opening, inconsistent design standards confused drivers, and poor stakeholder engagement led to eroded public trust and expensive retrofits (like emergency refuge areas).

### (c) Projects Yielding Important Lessons

- **Road - Smart Motorways Programme:** The Smart Motorways Programme highlighted that insufficient public communication and safety assurances can undermine confidence and delay benefits, underscoring the need for clearer stakeholder engagement and transparent evidence on operational safety.
- **Road - A14 Cambridge to Huntingdon Improvement Scheme:** The A14 project revealed how investing in comprehensive ground investigation and utility mapping upfront can significantly reduce unforeseen costs and programme overruns in major road schemes.
- **Rail - Great Western Main Line Electrification:** The Great Western Main Line Electrification exposed how evolving scope and underestimating asset condition can drive major cost escalations, emphasising the need for thorough early surveys and realistic cost planning in rail electrification schemes.

## 5. Public Procurement and Contracting

### (a) Early Engagement

Early engagement varies widely across procuring authorities. Clients who adopt collaborative ECI models consistently achieve better cost and risk certainty.

### (b) Procedures Used

While frameworks and mini-competitions promote efficiency, they can inadvertently restrict innovation and access for non-incumbents.

### (c) Tender Design

Overly prescriptive specifications limit innovation. Two-stage tenders with dialogue phases enable better outcomes. Scoring feedback is critical to supporting continuous improvement, this is very broad ranging and should be defined as a consistent standard of detail across all sectors.

Balanced equitable terms and conditions from the outset of the procurement e.g. avoiding the need to change/negotiate during a live procurement event.

### (d) Risk Allocation

Risk remains disproportionately transferred to contractors, increasing costs and limiting participation.

### (e) Contract and Pricing Mechanisms

Collaborative mechanisms like target cost contracts foster better behaviours but rely on trust and transparency to function effectively.

## 6. Industry Structure

### (a) Company Size and Specialism

The market is dominated by a number of large Tier 1 contractors, which might limit opportunities for smaller specialists despite their innovative capacity.

### (b) Tiered Supply Chains

Deep subcontracting layers can obscure accountability and weaken quality assurance. Client visibility of these layers is critical.

### (c) Financial Arrangements

Delayed payments and significant retentions remain a significant burden, particularly for SMEs. Faster payments would support cash flow and investment in innovation.

## 7. Barriers to Market Performance

- **Planning Delays:** Variation in consenting regimes across regions introduces uncertainty.
- **Skills Shortages:** Persistent gaps in skilled trades limit capacity to deliver growing pipelines, this is compounded by geography/remoteness and transferability of skills.

- **Procurement Burdens:** High bid costs and long procurement periods deter mid-market firms from pursuing public sector work.
- **Self-Delivery and Direct Employment:** Direct employment and self-delivery give Tier 1 contractors better control over risks, quality, and certainty. Overly strict rules against “fee-on-fee” models can block the use of in-house specialist teams.
- **Design Maturity and Project Definition:** Cost overruns often stem from committing budgets before designs are mature. Setting budgets for barely defined projects, leads to unrealistic costs and rework. Earlier, genuine two-stage engagement of contractors—not just consultants—would improve cost accuracy and delivery outcomes.

## 8. Opportunities for Innovation

### Opportunities include:

- Digital engineering tools.
- Offsite manufacturing and modular construction.
- Adoption of low-carbon materials.
- Data-driven asset management.

### Barriers include:

- Prescriptive technical specifications.
- Short-term procurement cycles, discouraging R&D investment.
- Use of frameworks such as Crown Commercial Services that can preclude involvement
- Gaps in client technical capability to assess or approve innovative methods
- Unrealistic terms and conditions
- Protracted and costly procurement cycles

### Recommendations:

- Incorporate innovation KPIs into contracts.
- Encourage innovation trials via dedicated framework lots.
- Fund pilot studies to accelerate market adoption of emerging technologies.
- Adopt a 2 stage contracting model

## Conclusion

We commend the CMA for launching this market study and share its ambition for a civil engineering sector that is innovative, efficient, and competitive. We look forward to engaging further and sharing additional evidence from our industry experience.