Mott MacDonald Comment on Civil Engineering in Rail and Road Market Study

July 2025

Introduction

Mott MacDonald is a leading engineering, management and development consultancy and one of the world's largest employee-owned companies. We employ nearly 20,000 people, around half of them in the UK. Our income each year is around £2.4 billion.

In the UK we are widely regarded as one of the mainstays of the infrastructure sector, supporting a range of private and public sector clients, investors, and others. Among the organisations we work with are National Grid, SSE, DESNZ, National Highways and Network Rail, as well as many local councils and combined authorities. We also work in water, education, defence, health, international development and other sectors.

Given this experience Mott MacDonald is very interested in the CMA's market study into the supply of railway and public road infrastructure by the civil engineering sector. We welcome this study and are glad to have the opportunity to participate. We would be glad to provide additional information if that would be helpful.

Our engagement with this study reflects both our commitment to the long-term success of UK infrastructure and our belief in the value of open, evidence-based, dialogue between industry and regulators.

Mott MacDonald comments on the questions

1. **Do you agree with our articulation of the characteristics of a well-functioning market as set out in paragraph 1.11? If not, what could be changed and why?**

The characteristics outlined in paragraph 1.11 are generally welcome and agreed upon, and we have some suggestions for improvement:

a) Replacing "design specification" with "user requirement" or "outcome" would better reflect the flexibility needed in consultancy/design markets. It should include a requirement for design to be advanced to an appropriate level of maturity to enable known risks and initial costs to be identified and managed prior to proceeding with construction.

b) Procurement should focus on the full value of each project, reflecting the long-term cost of ownership of the infrastructure and how well the desired outcomes are achieved (access to transport, social equity, reducing transport costs, improving UK productivity etc) as well as the initial capital cost.

b) The term "submit accurate cost estimates" is problematic due to the inherent uncertainties in large projects. If an appropriate planning approach is taken, then a well-functioning market should be able to provide accurate cost estimates, understanding that there will be significant uncertainties that will change as the maturity of the planning increases. The current system that has evolved for procuring infrastructure needs to change fundamentally with much more focus on the early stages. The way in which infrastructure projects are planned currently does not allow for robust budgeting, with significant risk often sitting with contractors, resulting in unrealistic budgets being set.

c) Agreed; all relevant planning consents, agreements, licences, and approvals need to be in place prior to construction procurement to provide greater certainty to budget and programme.

d) Agreed.

e) Agreed.

Proposed additional elements

f) A consistent pipeline of projects within each sector that is certain, has committed funding routes and political support is needed to give suppliers confidence to invest in productivity and efficiency improvements and to maintain skilled / experienced staff in the sector. (An infrastructure pipeline that flips from highways to defence or major projects to maintenance does not provide market confidence or consistency of a particular type of work that is needed to maintain skills and give confidence). We welcome the 10-Year Infrastructure Strategy and look forward to engaging with the project pipeline, which will hopefully provide the visibility and confidence required.

g) Skilled and experienced client organisations that have the necessary capabilities to be effective, this may be via in house resource or via selective use of consultants and other suppliers, an approach which is generally more flexible and fosters cross adoption of good practice between projects and sectors. We have high hopes that the NISTA will play a significant role in building these capabilities in public sector clients in particular.

Additional comments:

- There should be a focus on risk allocation, ensuring risk is allocated to the party best able to manage it. This will mean that projects are not given the go-ahead before they reach an adequate level of maturity to allow risks to be clearly identified.

- Stakeholders need to be identified and included at the start of a project. All disciplines should be engaged at the same time for better project results and reduced planning and stakeholder management costs.
- The start of a project should be carefully defined e.g. commencement of business case not commencement of procurement.
- Rail infrastructure projects generally involve a lot more than civil engineering; a railway is a complex system of systems. Much of the complexity and risk relates to the integration of all of these and the way these will support operational needs; this point is not yet emphasised sufficiently but is often a major source cost and time overruns.

2. Do you agree with our proposed scope (both the product and geographic scope) and themes for this market study, as set out in Section 3. If not, what areas would you suggest we include, exclude or prioritise, and why?

We broadly agree with the scope and themes for the study, but we would comment:

- Excluding railway signalling, power supplies, communication networks and other sectors within infrastructure projects may mean significant project cost and complexity factors are missed. A unified approach across all infrastructure projects and disciplines would be more effective.
- The study should include assessing the impact of the (long-term) consistency and visibility of the major project pipeline, particularly in the context of the 10-Year Infrastructure Strategy.
- We note that the scope does not propose to focus on projects where the private sector is at the forefront of delivery e.g. financing. However, we suggest that the procurement of all capital projects should be in scope, and that a comparison of private financing with public procurement should be undertaken to understand if there are lessons that can be drawn in either direction.
- Insights may be gained from comparisons with other similar international markets (France or Germany for example).
- The scope seems to have an emphasis on procurement. However, procurement approaches and the risk allocation that is often confirmed at this stage is often highly influenced by the maturity of design and planning.
- Crucially, the approach to planning and design of infrastructure and their level of maturity when budgets are assigned should be part of the scope as it has a significant influence on procurement and the outcomes achieved.

3. What, if any, are the key differences in the markets for the supply of roads and railways across the 4 nations of the UK that should be reflected in our analysis?

All 4 nations have different governance models and key features. As part of the study into the market, the influence of having arm's length government-owned companies (such as National Highways or Network Rail) could be considered as compared to direct control of infrastructure schemes through government departments, regional bodies or their agencies (such as Transport Scotland or Transport for Wales).

Rail

England has a centralised model via Network Rail, it benefits from scale and centralised planning, enabling consistent delivery across regions, there are more large-scale national projects.

Scotland's alliance model with Network Rail appears to be very successful in fostering collaboration between operators and infrastructure managers. There is a focus on integrated delivery, and electrification has been delivered cost effectively.

Wales has devolved control, with Transport for Wales leading investment in the Cardiff Valleys through long-term partnerships.

Northern Ireland faces unique challenges due to EU land links, limited local supply capability (exacerbated by cross-border competition for resources with the Irish Republic), and historically low central government subsidy. Northern Ireland Railways is controlled by the Department for Infrastructure.

Roads

Key differences in the road sector across the 4 nations can be seen in the characteristics of the networks and the impact on the supply chain:

In England the network is dense and centralised, the other 3 nations are much more dispersed; Scotland is heavily rural, Wales is primarily coastal and Northern Ireland fragmented. This has supply chain implications.

The English supply chain is more mature, with efficient logistics, Scotland has remote supply issues and material supply challenges and Wales is suffering from regional demand spikes. Northern Ireland also has a limited contractor base and suffers the challenge of geographic isolation.

4. **Please suggest any rail and road infrastructure projects across the UK that could be useful case studies to inform our market study. We are particularly interested in understanding where:**

   a) the project realised good outcomes in terms of cost, quality and innovation (including some explanation of the factors driving this in each area); or

   b) the project realised poor outcomes in terms of cost, quality and innovation (including some explanation of the factors driving this in each area); and/or

   c) the project yielded important lessons that could inform improvements in the operation of the market.

   No comment

5. **How does public procurement and contracting in the markets for the supply of roads and railways contribute to, or undermine, the characteristics of a well-functioning market?**

   In your answer, please comment on:

   a) engagement between the procuring body and potential suppliers during the early stages of project design;
   b) the use of different types of procedures (e.g. open competition, frameworks);
   c) the design of tenders, including the number and type of requirements and the use of quantitative (e.g. price) and qualitative evaluation criteria;
   d) the approach to risk allocation across different parties; and
   e) the use of contract mechanisms (e.g. insurance provisions) and pricing mechanisms (e.g. fixed price, cost plus).

   Key considerations:

- There are 203 highways authorities in the UK (147 in England, 22 in Wales, 33 in Scotland and 1 in Northern Ireland). Each has its own approach to procuring infrastructure maintenance, renewals and projects and on elements (a) to (e). This makes the roads market in the UK very complex which affects the way it functions.

- Early engagement with suppliers is often ineffective and inconsistent pipelines and protracted, unreasonable, delays significantly undermine market stability.

- Early Contractor engagement does not occur frequently enough. Construction companies are not set-up or motivated to engage early in the design.

- Public procurement is increasingly moving away from achieving high quality design for UK infrastructure by a focus on cost too early in the project lifecycle when investment in high quality design is needed to improve credibility of forecast construction cost estimates.

- Public sector organisations no longer have the depth of technical engineering capability to fully understand the technical challenges and therefore are not able to differentiate supply chain solutions effectively. This leads to the over reliance of price criteria to the detriment of quality in evaluations.

- Risk allocation is frequently mismanaged, resulting in risk being cascaded to parties that cannot meaningfully manage it. Inappropriate risk allocations to the supply chain significantly increase the cost both of the procurement process as well as the infrastructure.

- Onerous financial arrangements, such as retentions, delay damages, and applying unlimited liability negatively shape the market and reduce interest from participants who could otherwise add value and innovation.

- Procurement and contracting should be designed around project complexity, not a one-size-fits-all model. Early engagement, clear frameworks, and proper design definition before contracting are critical. Lack of these leads to inefficiency and undermines the proper functioning of the market.

- When it comes to NEC Contract Options, good outcomes in terms of cost, quality and innovation are often affected by government accelerating the procurement process such that the scope is so poorly defined. This leads into the use of NEC Option E, followed by complaints of cost and programme overruns. Taking more time at the front end to finalise details including design would have a significantly positive effect on cost and programme (and the ability to use a different contract model that requires more demonstrable contract alignment from the Contractor).

6. To what extent do you think the structure of the industry contributes to, or undermines, the outcomes of a well-functioning market? In your response, please comment on:
a) differences in the size and degree of specialism of different companies;
b) the tiered nature of the supply chain and use of subcontracting; and
c) financial arrangements, such as payment periods and the use of retentions.

The structure of our industry has a significant impact on the outcomes of a well-functioning market. Key factors that contribute to this include:

- The tiered nature of the supply chain provides flexibility but increases costs.
- Complex projects require supply chains with strong safety and compliance systems, which smaller organizations may lack. Assurance is fragmented among clients, supply chains, and external bodies, leading to inefficiency. A more integrated approach is needed.
- The pricing mechanism is intrinsically linked to risk profile and the two should be considered together. The mechanism used should be appropriate to the maturity of projects plans and designs i.e. fixed price where there is a high level of maturity to cost plus where it is immature.

This is a complex topic that might be better explored in detail on a call or roundtable format.

7. **What, if any, are the significant procurement, planning or other regulatory barriers that inhibit the performance of this market? What could be changed and why?**

   There are numerous procurement, planning and other regulatory barriers that have a significant impact on the outcomes of a well-functioning market. Key factors that contribute to this include:

   - Extensive pre-qualification requirements which add excessive cost and time to the procurement process and limit flexibility could be amended. They are often duplicated across frameworks and clients and are an administrative burden.
   - Heavy and onerous compliance requirements suppress innovation and agility.
   - Lack of a clear, committed, consistent and visible project pipeline significantly impacts this market. Aspirational pipelines without funding or clear timelines create uncertainty and drive-up costs. A narrower, well-funded pipeline is recommended and will allow for improved planning overall across the sector. We hope that the pipeline associated with the 10-Year Infrastructure Strategy will fulfil this role.
   - Construction procurement that is too early compared to the maturity of project plans and designs.

This is a complex topic that might be better explored in detail on a call or roundtable format.

8. **What are the opportunities for further innovation in the markets for the supply of roads and railways across the UK? If yes, what are the barriers to achieving these and how might they be overcome?**

   - Learning from European and global practices in infrastructure development. Ironically, the UK was previously seen to be a leader in infrastructure delivery and past best practice from this country has now been adopted successfully in other markets. These models should not be overlooked as part of this study.
   - Re-emergence of private finance could be a solution, but it requires more clarity from government.
   - Addressing barriers such as inconsistent project pipelines and governance issues. A key barrier to innovation is certainty / commitment to a long-term pipeline of similar schemes that would give certainty that investment in an innovation would achieve a return. The lack of long-term committed pipeline of similar projects is a significant barrier to many developments in the market.

- A major opportunity lies in integrating the supply chain earlier, especially involving Tier 2 and Tier 3 suppliers in the design phase to ensure better alignment between equipment and civil works. Current procurement practices are too sequential and siloed, leading to inefficiencies and cost escalations, as seen in projects like HS2, with procurement often focused on main contractors, neglecting the input of lower-tier suppliers which are critical for complex systems integration.
- Bringing design and supplier engagement forward, using a common data environment, and integrating all disciplines at the same design maturity level before procurement would address these issues. Changing procurement structures to allow simultaneous, collaborative design and supply chain involvement is also important.

5.6 We propose to publish full responses, or where appropriate, a summary of responses to this Statement of Scope. Therefore:

(a) Please supply a brief summary of the interests of organisations you represent, where appropriate.

(b) Please consider whether you are providing any material that you believe to be confidential, and if so, please explain why this is the case. Please provide both a confidential and non-confidential version of your response where applicable.

Mott MacDonald is responding to this study as a single entity, although we are drawing on our experience across the infrastructure and transportation sectors, we are not responding on behalf of clients. As such, our responses are not confidential.