

Editorial

Leaving a learning legacy



Gordon Masterton Guest Editor

There is something special about megaprojects that brings out the best in engineering design and construction. It could be that the longer-term durations for the planning, design and build phases allow more measured and thoughtful decision making; it could be that the weight of public exposure and expectation creates an added incentive to succeed; it could be that the prestige of being part of the programme attracts the best teams in the best organisations; it could be that the extended schedule nurtures a team spirit and a collaborative way of working that is difficult to achieve in a typical shorter-term project.

I was privileged to be part of the Crossrail programme for four years and I witnessed all of those.

There's another important obligation for those involved in megaprojects – to faithfully record and curate the narrative of how the project was delivered. We should expect megaproject teams to pass on an important learning legacy to the engineering profession, in the spirit of one of the fundamental aims of all our great engineering institutions. Other professionals not directly involved deserve to know how challenges were overcome, how the science and art of engineering was used and advanced, and ultimately society deserves to know how the project performed against the objectives defined at the outset. Megaprojects, with their associated resources, personnel and prestige, give us a greater opportunity to learn from experience. Megaprojects should be the living laboratories for defining and prudently advancing our

state-of-the-art in the management of risk, including financial risk – the greatest of all skills required by engineers.

This special issue is part of that learning legacy.

The Structural Engineer has had the foresight to recognise the important role of structural engineers in the success of the Elizabeth line (as the service will be known) and this has attracted papers with some of the best examples of innovation, imagination and structural design creativity deployed on the programme.

I have tried to select those that demonstrate a range of structural engineering applications. The stations were obvious fertile ground, and five that feature both below- and above-ground interchanges are included; but the challenges of designing elements such as the platform edge screens, ventilation towers, overhead line gantries and oversite developments demonstrate the breadth of structural design and construction creativity required within complex infrastructure systems.

I'm particularly pleased that there are 21 engineering authors who have invested their time in that worthy aim of creating a knowledge legacy. I hope you enjoy reading these as much as I enjoyed selecting them.

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