Editorial

Jo Griffiths CEng, FICE
Network Rail, Highworth, UK

Welcome to the May 2020 issue of *Civil Engineering*. There are five excellent papers in this issue, all of which highlight the importance of collaboration in our profession.

Certainly collaboration is not new to civil engineers. While BS ISO 44001 on collaborative business relationships only came out only 3 years ago (BSI, 2017), it dates back to the original British PAS 11000 of 2006 (BSI, 2006). Even then we did not suddenly wake up and start collaborating: as a profession we have always been collaborative by nature. Collaboration is defined in the Oxford Dictionary as, 'The action of working with someone to produce something': it is one of the basic principles of being a civil engineer.

Nevertheless, there has been a relatively recent shift in tender evaluations towards assessing bidders' ability to collaborate – and I have been both tested and the tester. In both scenarios it can feel a bit false as usually those in the tender presentation are not the final team involved in delivery. Also, for most people, the way you behave under test conditions is very different to how you behave in your natural environment, and relationships need to be fostered not forced. We perhaps need to find a better way.

Certainly, collaborative behaviour is critical to driving the right outputs on major and complex construction projects. If the teams are not all focused on the same output with the same benefits, the project is likely to fail. In our first paper, Farrell *et al.* (2020) explain how they rectified commercial conflict on redevelopment of London Bridge station in the UK by ensuring no-one gained when another failed by using mutual milestones. They also refer to being sensible and open about who should achieve what, and who is best placed to achieve the mutual milestones.

Fenner and Ainger (2020) then look at how we, as civil engineers, are in the driving seat to tackle energy and climate considerations through our designs, ideas and construction methodologies – and how we are collaborating with all stakeholders to gain the best outcomes for the future. In the third paper (Mather and White, 2020), the collaboration is specifically with the client: helping them to assess the feasibility of different offsite construction systems so as to achieve maximum benefit.

Fenton (2020) then explains how the UK's High Speed 2 railway project team is driving collaboration to embed reduction of carbon dioxide emissions on Europe's largest construction project. It is early days yet but I look forward to a later paper, once the project is complete, to reflect back on what has been agreed today to see how successful

the embedment was and to what extent views and policies changed as work progressed.

Finally, we have a paper on civil engineering education. Turnbull (2020) explains that as the profession continually evolves, with new technologies and increasing focus on resilience, adaptation and collaboration, so do the skills and flexibility of future graduates. She describes the design of a new undergraduate civil engineering curriculum at the University of Nottingham that focuses on personal professional development and problem-based learning to educate 'future-proof' graduates.

Whether at project level, within education or as a profession, we need to strive to improve the way we deliver infrastructure – and that requires collaborating for the greater good. I hope the articles and papers in this issue will help you to do so.

Please note you can also access future papers in the Ahead of Print section of the ICE Virtual Library at www.icevirtuallibrary.com.

References

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