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Editorial

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Editorial

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In December 2019, *Bridge Engineering* published a themed issue on bridge maintenance. In our Editorial (Collins and Bown, 2019), we introduced the themed issue and the role of bridge maintenance to ensure a bridge reaches at least its full intended lifespan. Richard Fish's Foreword (Fish, 2019) examined some current challenges within the sector. The eight papers published within the issue discussed bridge maintenance from a UK, USA and New Zealand experience and referenced a broad range of case studies. The issue comprised papers by Colford *et al.* (2019), Christodoulou *et al.* (2019), Simpkins and Cole (2019), El Sarraf and Barker (2019), O'Connor *et al.* (2019), Baron *et al.* (2019), Grubb *et al.* (2019) and De'Ath and Heap (2019).

Such was the strength of the response to our original call for papers on bridge maintenance that we decided to present a further four themed issue papers within the current issue. Bennetts *et al.* (2020) present survey results from 17 individuals working within the bridge asset management and data-collection sectors in the UK. Unusually for a research paper in *Bridge Engineering*, the paper's core content is derived not from a laboratory study, the development of mathematical or computational models or a collation of case studies. It is interview-based and uses the type of techniques more closely associated with the social sciences than engineering. The research findings provide an interesting record of several aspects of contemporary bridge maintenance.

Reliability analysis is a frequently discussed topic at bridge conferences and in engineering literature. This is reflective of its adoption across a wide range of industries, the level of research undertaken on its application to structural engineering in particular, and the fact that it has been incorporated within Eurocode (BSI, 2002). While its adoption within bridge engineering consultancy in the UK remains limited, Wright *et al.*'s (2020) insightful case study of the Celtic Manor Hotel Bridge (UK) describes how reliability analysis was used to provide assurances of the relative safety of an existing bridge.

With the mitigation of risks posed by the UK's stock of bridges with half-joints still ongoing, Christodoulou *et al.* (2020) present on the rehabilitation of such joints at the M4 Malpas Viaduct in south Wales, where a hybrid corrosion protection electrochemical system was adopted. Detailed system performance results are provided.

The final themed issue paper (Clapham *et al.*, 2020) is a case study detailing the refurbishment works undertaken to the Middleton Road Bridge in Oldham, UK. The paper follows the maintenance process from reviewing inspection records and site testing through to structural assessment, design and construction. It offers a representative example of what bridge maintenance works currently look like in the UK and provides a fitting conclusion to the themed issue.

The fifth paper published in this issue is not part of the bridge maintenance themed issue. Proske (2020) discusses quantifying and understanding the consequences of bridge collapse, arguing that potential fatality numbers should be a key consideration in determining our approach to infrastructure management. It presents several existing methods for estimating fatalities before proposing a new approach that includes a broad range of variables as inputs.

We would like to thank all those who have been involved in developing the themed issue, including the authors and reviewers whose 12 papers provide such a useful insight into the broad range of works currently being undertaken within the area of bridge maintenance. Their papers are a testament to the enthusiastic community of bridge engineers involved in the sector.

Bridge Engineering is well-positioned to contribute to the public discourse on the work of civil engineers. Open expression of our views helps raise the profile of our industry and plays a key part in ensuring that we maintain a prominent role in society. Questioning, challenging, discussing and

reflecting on our work are also important developmental processes. All *Bridge Engineering* papers carry an invitation to readers to contribute a discussion on a paper that may subsequently be published (for example, see Hendy *et al.* (2019) and Imam *et al.* (2019)). We hear a lot of interesting technical discussion in offices, on construction sites, within universities, at conferences and on social media. *Bridge Engineering* provides an opportunity to for you to share your views with a wider audience, engage with your peers and be published: please take it.

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