Editorial

Neil Hoose PhD, MSc, BSc (Hons) FIHT
Director, Bittern Consulting Ltd UK

The headlines around the world are, quite rightly, being dominated by the global challenges of climate change and the COVID pandemic. Those engaged at the sharp end of municipal engineering are on the front line when it comes to dealing with these issues whilst at the same time continuing to deal with their own more local circumstances. As ever, the solutions to different issues pull in contradictory directions and the engineer is the one who has to square the circle. There is a great risk that policy to address the global scale issues may exacerbate some local problems whilst at the same time any solution to a local problem must not contribute to climate change or hamper the recovery from the effects of the pandemic.

Urban settlements are complex and comprise not just 'systems', for example, energy, potable water, waste management, transport, but 'systems of systems'. The energy and transport systems are closely linked as are transport and waste management and hence changes in one will have effects in the other. Therefore, it is important to be able to measure and track what is happening and to exploit the data to understand the effects and cross-system effects of change. Engineers need to harness the power of data to determine what exactly is happening and measure progress or lack of it.

Human behaviour is a key factor in the effectiveness of any change. If those affected cannot understand what is needed from them and why, or if they do not have trust in the system, then it is unlikely to be a success. Therefore, the need for well thought through publicity and consistent messages is a key element in any change, even if engineering led. Solutions need a mix of grassroots, local input and top-down strategy if real progress is to be achieved.

The papers in this issue highlight how important addressing localized issues, such as the industrial base of a city or its geological foundations, can be in determining the need for

interventions to provide stability and resilience. They also show how data systems can be used to improve the management process and lead to more effective interventions. At issue now is how we ensure that solutions to local issues also meet the policy direction of the global challenges as we strive to achieve tangible progress.

Future issues on the themes of 'Covid-19 and municipal engineering' and 'Climate change – carbon reduction in municipal engineering' are planned. The former deadline for papers is 1 Dec 2021 whilst potential authors should keep an eye out for a call for papers early in 2022. In the meantime, the journal publishes its most recent articles Ahead of Print on its Virtual Library homepage and relevant articles are also available in the on-line ICE virtual library.

REFERENCES

- El Maguiri A and Souabi S (2021) Geomatic tools for sustainable planning: application for locating appropriate landfills. *Proceedings of the Institution of Civil Engineers – Municipal Engineer* **174(4)**: 211–230, <https://doi.org/10.1680/jmuen.19.00016>.
- Erdem N (2021) Effects of changes in locations of fault zones on property values. *Proceedings of the Institution of Civil Engineers – Municipal Engineer* **174(4)**: 201–210, <https://doi.org/10.1680/jmuen.19.00009>.
- Erdem N (2021) Effect of Syrian refugees on housing rents in the southeast of Turkey. *Proceedings of the Institution of Civil Engineers – Municipal Engineer* **174(4)**: 231–240, <https://doi.org/10.1680/jmuen.19.00018>.
- Gül Y and Çayır HM (2021) Prediction of the California bearing ratio from some field measurements of soils. *Proceedings of the Institution of Civil Engineers – Municipal Engineer* **174(4)**: 241–250, <https://doi.org/10.1680/jmuen.19.00020>.
- Sousa N (2021) Book review. *Proceedings of the Institution of Civil Engineers – Municipal Engineer* **174(4)**: 251, <https://doi.org/10.1680/jmuen.18.00041>.
- Tian J (2021) Mining city resilience research. *Proceedings of the Institution of Civil Engineers – Municipal Engineer* **174(4)**: 192–200, <https://doi.org/10.1680/jmuen.18.00038>.