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Editorial

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Editorial

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This is an interesting time as we are now 18 months into the Covid-19 pandemic, preparing for the 26th UN Climate Change Conference of the Parties (COP26) and thinking about green recovery. The UK government's 'Build Back Better' initiative will give a much needed boost to the engineering industry with investment in infrastructure, skills development and green recovery. Vice versa, the engineering community is well placed to influence, shape and deliver the infrastructure required to support long-term productivity and green growth. In these changeable times, to do this in the most equitable and inclusive way requires changing perspectives. The Institution of Civil Engineers' emerging Community of Practice on Community Engagement is well placed to bring this to the fore in an integrated and transparent way, ensuring future infrastructure delivery is everything that it needs to be. These themes are daylighted excellently in the papers in this issue, which reflect the breadth of topics and global and local challenges for achieving climate change and sustainability.

The first paper of this issue kicks off by developing sustainable transportation options to support students' choice in travelling to/from a university campus in Kerman, Iran. Using structural equation modelling (SEM) to assess a range of variables relating to personal characteristics and modes of transport (cycling, bus, taxi, carpooling and car (individual)), Nadimi *et al.* (2021) provide excellent insight into factors influencing modal shift, as well as suggesting countermeasures to support such shifts. Most notably, attitudes towards female cyclists need to change to increase the probability of cycling being chosen over individual cars and buses, as well as the implementation of infrastructural supports for all genders (cycle lanes, bike-sharing facilities, bike lockers). Shifts to greater use of carpooling would also require support measures to facilitate use over individual car use.

Connected to this theme of behaviour change, the second paper, by Almeida *et al.* (2021), utilised simulation models in combination with building-occupant questionnaire data to explore the role of behaviours and climate on building performance (energy) for two buildings located in Sydney, Australia (one green-rated, one unrated). Furthermore, they simulated the buildings in cities in eight Australian climate zones. They concluded that thermal comfort and adaptive control (of building systems) are crucial for reducing energy use, though differences between building type were observed.

The third paper also focuses on buildings. Nikkhou *et al.* (2021) applied a sustainable multi-criteria framework for selecting

interior walls in buildings. The framework, which comprised environmental, financial, social and technical elements, was validated through unstructured interviews held with experts in the construction industry in Iran. The authors contextualise the framework for high-rise buildings in Iran, noting for instance that water scarcity and hence water consumption is particularly important for selection of interior walls.

Finally, circling back to align with the transport theme of the first paper, Zhang *et al.* (2021) compared ageing durability of three different types of asphalt. Taking the penetration, ductility, viscosity and softening point of asphalt as the experimental indexes, the anti-ageing performances of different asphalt specimens were compared. The authors found that the anti-ageing properties of asphalt with a modifier or aged asphalt were considered to be better than those of the original asphalt. This opens up potential to design more durable pavements.

The papers presented in this issue highlight that measures are being explored globally to increase the societal, economic and environmental credentials of infrastructure interventions across a range of sectors – which demonstrate engineering sustainability at their core.

We are looking for high-quality submissions from authors in the UK and overseas, especially from industry, who can engage with our readership on innovative solutions applied in their countries to influence practice and policy. The journal publishes its most recent articles ahead of print on its Virtual Library homepage.

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