Editorial

Samuel Labi

Professor, Lyles School of Civil Engineering, Purdue University, West Lafayette, IN, USA

Tariq Usman Saeed

Lyles School of Civil Engineering, Purdue University, West Lafayette, IN, USA

Asif Faiz

Consultant to the World Bank and the Asian Development Bank, USA

As guest editors of *Infrastructure Asset Management*, we are pleased to present the concluding part of a set of themed issues focusing on highway infrastructure decision-making: challenges and opportunities. The articles contained in the previous three issues spanned topics including evaluation methodologies and cost- and sustainability-related criteria for infrastructure investment (in part I); enhanced monitoring of infrastructure operations and condition (in part II); performance effectiveness of infrastructure management and specific interventions at project and program levels, maintenance cost estimation and resilience (in part III). The themed articles in this issue, part IV, cover topics related to road agencies' adaptive organisational capabilities as related to asset management, geotechnical asset management facilitated by remote sensing techniques and the relationship between initial quality and pavement surface damage.

The first themed paper (Male *et al.*, 2019) duly recognises that the significant infrastructure investments in most countries motivate the quest for asset management systems. The organisational capabilities of an agency is a critical factor in asset management success, and in addressing this subject, this paper presents a conceptual model that can help enhance asset management functions. The authors' model, which addresses the management of portfolios, programmes and projects, uses an iterative qualitative research methodology and is demonstrated using data from four interesting case studies. Two of the case studies are from the context of emerging economies; of these, one presents a longitudinal model featuring asset management capability enhancement. The other two case studies, taken from the UK, demonstrate complementary transformation programmes for building asset management capabilities in road agencies. The authors subsequently integrate these models to form an organisational archetype for application in emerging economies. In addition, they demonstrate how asset-management-driven organisational change programmes can be used to protect the value invested in infrastructure projects in these economies, where systemic long-term funding is often needed to support transformation initiatives.

The second themed paper (Ní Bhreasail *et al.*, 2019), written from the perspective of a forward-looking highway agency, addresses an often-overlooked asset type: geotechnical assets. The authors appropriately imply that the long-term quality of road infrastructure assets is as good as the quality of the assets that ensure the integrity of their foundations. For this reason, adequate knowledge of these assets through reliable monitoring can help the development of timely and appropriate decisions associated with their upkeep. The authors duly recognise that failure of these assets can lead to delays

and, consequently, significant economic impacts. The authors present an insightful review of remote sensing techniques, with a view towards prospective deployment to help monitor the agency's geotechnical assets in a proactive manner. The authors argue that the monitoring efforts using physical inspections can be considerably reduced when remote sensing techniques are deployed. They offer a balanced view by identifying a number of implementation barriers associated with remote sensing, and aver that there are ways to overcome these barriers.

The authors of the third themed paper (Mallick and Kautz, 2019) collected and analysed pavement data from the field, and argue that elevational differences in contiguous pavements sections could generally lead to different rates of pavement deterioration. They also used system dynamics techniques in a bid to draw insights from the data and assessed the effect of initial pavement quality, trigger time, delay and other factors that influenced the damage they had observed on contiguous pavement sections. The authors appropriately advocate the establishment of tighter specifications to protect the infrastructure asset at areas deemed to be more vulnerable to faster deterioration.

The issue is then closed by two general papers discussing integrated logistics support and asset management (Okoh, 2019) and the impact of lot and subplot sizes on smoothness specifications (Haider *et al.*, 2019).

We conclude this themed issue with profound gratitude to all the contributing authors, reviewers, the Editorial Board, Kirsten Buchanan and the rest of the ICE Publishing team for their support of this special issue of the *Infrastructure Asset Management* journal.

REFERENCES

- Haider SW, Musunuru G and Chatti K (2019) Impact of lot and subplot sizes on smoothness specifications using road data in the USA. *Infrastructure Asset Management* 6(4): 258–268, <https://doi.org/10.1680/jinam.18.00021>.
- Male S, Aritua B and Anyala M (2019) Adaptive capabilities for road agencies in emerging economies. *Infrastructure Asset Management* 6(4): 207–221, <https://doi.org/10.1680/jinam.17.00023>.
- Mallick RB and Kautz FA (2019) Effect of quality on damage in contiguous pavement sections. *Infrastructure Asset Management* 6(4): 233–244, <https://doi.org/10.1680/jinam.18.00047>.
- Ní Bhreasail Á, Pritchard O, Carluccio S *et al.* (2019) Remote sensing for proactive geotechnical asset management of England's Strategic Roads. *Infrastructure Asset Management* 6(4): 222–232, <https://doi.org/10.1680/jinam.17.00025>.
- Okoh P (2019) Integrated logistics support and asset management (ILSAM). *Infrastructure Asset Management* 6(4): 245–257, <https://doi.org/10.1680/jinam.17.00026>.