Editorial

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It is my great pleasure to introduce this issue of *Infrastructure Asset Management*.

Management of infrastructure assets is becoming increasingly complex as improved decision making is required including cost, funding source, sustainability, climate change, risks, flexibility, prediction modelling, to name a few. The four papers presented in this issue cover some of these aspects.

The papers included are:

- A different kind of partnership: an infrastructure performance stock exchange (Posavljak *et al.*, 2021)
- Decision making methods to prioritise asset management plans for municipal infrastructure (Amador-Jimenez and Mohammadi, 2021)
- Risk-informed sustainable asset management of railway tracks (Sasidharan and Torbaghan, 2021)
- Design of flexible and adaptable infrastructure systems (Sánchez-Silva, 2021)

In the first paper, on public private partnership for mega projects, the authors present a novel approach based on stock exchange market trading. Substantial funding is required to manage and maintain large assets such as roads, underground train networks, and generally there is a shortage of funds for the required level of service. This paper recommends the establishment of an exchange for infrastructure asset performance stock. The authors mention that this concept took 10 years to develop, was introduced in 2017 and is being applied to over 15 infrastructure managing agencies across Canada.

The second paper is on decision making for municipal infrastructure. The authors undertook a comparative study using roads, sanitary pipes, water mains and storm pipes for asset management decision making as a whole for a council in Canada. They applied the total annual maintenance budget to all infrastructure candidates and compared it with a 'silo approach', where the 'worst first method' is applied in each of the categories (a silo approach). Their findings indicate that an integrated decision-making approach resulted in nearly 9 percent savings. If full budget was applied, mean condition level of the whole infrastructure will be higher by 13 percent in comparison with the silo approach. It is an interesting paper and presents value.

The third paper presents a risk-informed approach for sustainable railway track maintenance strategies. It takes into consideration track maintenance costs and impact on train operation (environmental emissions and risk of derailments). Authors use Monte Carlo simulation for data uncertainties. The proposed risk-informed approach can assist decision makers at the strategic, tactical and operational levels. The authors suggest extending the proposed system to include the impact of climate change.

The fourth paper, on infrastructure systems, reviews key infrastructure development principles and examines the value of incorporating flexibility and adaptability in the design and management of infrastructure. The author argues that incorporation of flexibility and adaptability makes a significant impact on costs and leads to better management of infrastructure.

All four papers cover innovative strategies for asset management in the road, rail and infrastructure in general, very effectively.

In this issue the review of the book, *Civil Engineering Structures according to the Eurocodes: Inspection and Maintenance* is presented. The book covers inspection methodologies, resistance of reinforced concrete, pathology of structures, repair techniques and inspection methodologies in the USA. It provides a useful reference in the area inspection and maintenance processes.

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