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Infrastructure Asset Management

Editorial

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It is truly a privilege to write this issue's editorial. I have been an editorial board member of the *Infrastructure Asset Management* multidisciplinary journal since 2013. I am impressed with the journal's authors, topics, and their alignment with the United Nations Sustainable Development Goals (UN SDGs). I am also impressed with the journal's editorial team that is comprised of the Editor-in-Chief, Editorial Board, Publisher, Journal Editorial Office, and Supplier Project Manager. We are all dedicated to the successful fulfilment of the journal's aim and scope.

Infrastructure Asset Management is an industry-facing multidisciplinary journal that publishes articles on emerging aspects of asset management. It publishes peer-reviewed papers, including those related to types of civil infrastructure assets that are both in the public and private domains. It engages academics, researchers, and industry practitioners to contribute knowledge about practical solutions to current and future asset management challenges.

The five papers in this issue of Infrastructure Asset Management explore aspects related to: (1) Smart city and integrating Building Information Modelling (BIM) and Internet of Things (IoT); (2) Transportation asset management decision-support tools; (3) The impact of fog on highway traffic flow and safety performance; (4) Preferred Reporting Items for Systematic Reviews and Meta Analysis (PRISMA) insights into Artificial Intelligence (AI) in the construction industry; and (5) Using recycled concrete aggregate (RCA) for sustainable production of New Jersey barriers. These papers are important to academics, researchers, industry practitioners, policymakers, and other stakeholders. These papers cover topics, such as: (1) Smart City UK: Integrating BIM and IoT under Digital Built Britain Strategy; (2) A metamodel framework for selecting transportation asset management decision-support tools; (3) Analysis and optimisation of the impact of fog on highway traffic flow and safety performance; (4) Redrawing the labour blueprint: PRISMA insights on AI in the construction industry; and (5) Sustainable production of New Jersey barriers using recycled concrete aggregate.

The *Infrastructure Asset Management* journal places great emphasis on the UN SDGs. For example, this is evident in how papers in this issue highlight UN SDGs 9 and 11, which relate to 'Industry, Innovation and Infrastructure', and 'Sustainable Cities and Communities'.

In this issue's first paper, Hijazi and Das (2026) critically examine the feasibility of meeting the Digital Built Britain Building Information Modelling (DBB-BIM) Level 3 goals within the UK's smart city framework. It focuses on exploring how BIM and IoT integration can overcome these barriers. It highlights that the DBB strategic plan introduces BIM Level 3 as a key enabler of the UK's smart city vision. It also highlights that the aim of this initiative is to enhance infrastructure performance by using BIM and IoT for construction, asset management, and operational efficiency improvements through data integration. However, it suggests that implementing BIM Level 3 faces major challenges despite the intended target. It states that these major challenges are related to data interoperability, industry readiness, and gaps between policy and industry practice. The first paper's findings emphasise that there is an urgent need for coordinated strategies to align with government objectives and with industry capacity. It also emphasises that these should be supported by clarity of standards for data governance, cybersecurity, and interoperability. Furthermore, this paper helps provide insights into evaluation of BIM Level 3 implementation and its role in enabling smart cities. This first paper also helps provide timely insights into strategic planning, policy alignment, and future implementation paths to advance digital transformation in the built environment.

In the second paper, Atolagbe and McNeil (2026) present a metamodel framework designed to bridge the gap between decision-support tools and the hesitancy of public sector agencies to adopt them. It presents the metamodel framework to bridge the gap by matching transportation asset management decision-support tools to specific decision making contexts or scenarios to promote use of the most appropriate tools. It highlights that decision-support tools are fundamental to aspects, such as planning road and highway infrastructure maintenance, guiding treatment interventions, and their timing. However, it suggests that public sector agencies frequently hesitate to adopt decision-support tools. It states that the metamodel framework uses machine learning methods to characterise scenarios and select the most suitable model. It describes the metamodel framework's application to three distinct decision-support tools to determine maintenance policies for pavements and bridges. Furthermore, it describes that it is: trained and validated using pseudo-data from 400 scenarios across ten simulated networks; further tested on a realistic network; and the metamodel classifier accurately predicts the most preferred decision-support tool for previously unseen scenarios. This second paper provides insights into the metamodel framework's demonstration that scenarios can be characterised, and decision-support tools selected

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for specific scenarios to help asset managers explore the most appropriate tool.

In the third paper, Wang *et al*. (2026) devised a fog recognition model and simulated traffic flow in low visibility. It did this to support the analysis and optimisation of the impact of fog on highway traffic flow and safety performance. It highlights that a cloud image recognition model was initially built based on a convolutional neural network and support vector machine. It also highlights that a mixed traffic flow model was subsequently developed for low-visibility conditions. This third paper's results provide insights that imply excellent stability of the improved intelligent driver model. Furthermore, it provides insights into the developed model, which shows practical applications in fog recognition and traffic flow management under low visibility, and positive significance for improving highway safety performance.

In the fourth paper, Day *et al*. (2026) seeks to identify the impact of the adoption of AI on employment. It indicates that AI is a powerful technology, which has a range of capabilities that can transform many industries and their practices. However, this paper suggests that the construction industry largely lags in adopting AI and it is one of the least digitised industries. It also suggests that a widespread fear of potential job displacements because of AI's development is a reason for the non-adoption of AI despite the acknowledged benefits of AI. This paper examines the potential effects on the labour force, specifically employees, employers, and society. It adopts a systematic literature review approach by using the PRISMA protocol, and an analytical framework for investigating how the progression of AI will affect employment, particularly within the construction industry. This fourth paper's findings provide insights to inform a range of parties that operate in the construction industry about AI impacts and recommendations to mitigate its negative effects on employment.

In the fifth paper, Elfar *et al*. (2026) examined the use of RCA and its practical application in New Jersey barriers across various concrete mixes. However, this fifth paper indicates that the waste generated from construction and demolition is growing globally and becoming a significant problem. This fifth paper suggests that sustainable approaches are being integrated into the construction industry to address the problem innovatively. This fifth paper describes that eight concrete mixes were prepared and tested chemically, physically, and mechanically. It also describes that the mixes used two types of cement, four types of coarse aggregates, and two types of fine aggregate (i.e. natural and recycled). This fifth paper's findings provide insights. For example, it shows that at a cement content of 350 kg/m^3, the two types of cement could be used with RCA to produce New Jersey barriers with a compressive strength of 250 kg/cm^2. It also shows that it is crucial to conduct further exploration of the varying uses of RCA as a raw material within concrete mixes.

I hope that you enjoy the variety and quality of papers in this issue, which explore aspects related to: (1) Smart city and integrating BIM and IoT; (2) Transportation asset management decision-support tools; (3) The impact of fog on highway traffic flow and safety performance; (4) PRISMA insights into AI in the construction industry; and (5) Using RCA for sustainable production of New Jersey barriers.

If you are interested in contributing a paper to this journal, then this can be done via the *Infrastructure Asset Management* journal website. You can author and submit papers for general or themed issues.

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