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Editorial

Mujib Rahman PhD, CEng, MCIHT, MICE, PGCHE, FHEA
Senior Lecturer in Civil Engineering, Department of Mechanical, Aerospace and Civil Engineering, Brunel University, London, UK

Welcome to the August 2016 issue of *Transport*. This edition presents six papers covering important theoretical and practical aspects of transportation engineering. On behalf of the editorial board, I thank the authors for their hard work and valuable contributions to the journal. I would also like to extend my appreciation to our esteemed reviewers for their invaluable support.

Transport networks are one of the most important national assets. Economic prosperity, rapid urbanisation, increasing traffic and ageing infrastructures all have immense impact on safe and efficient operation of this vital asset. Some of these factors are addressed in this issue.

The first paper (Appiah *et al*., 2016) deals with truck characteristics in traffic micro-simulation. The authors present an approach to incorporating the operating characteristics of a local truck fleet in the calibration of micro-simulation models. This approach is different from conventional model calibration where focus is given to adjusting the parameters of driving behaviour logic. The second paper (Mohapatra *et al*., 2016) reports the influence of conflicting traffic on U-turns at uncontrolled median openings under mixed traffic conditions in an Indian context. With rapid urbanisation and increased traffic volume, most urban roads in India are constructed as multi-lane roads, while many existing two-lane roads are also being widened to multi-lane roads. These multi-lane roads are generally constructed with a raised median, in order to segregate the opposing traffic movements. The authors showed that the impact of conflicting traffic is greater on four-lane roads compared to six-lane roads. In the third paper (Zong *et al*., 2016), the authors present a model for investigating the feasibility of an integrated transportation demand management (TDM) programme in the Nanhai district of China to mitigate the traffic congestion and reduce exhaust gas emission from motor vehicles. The TDM programme includes a bus priority policy, a motorcycle restriction policy and a congestion pricing policy. The authors demonstrate that all three policies would have a positive effect on Nanhai's transport system. All three papers address key transport issues which traffic engineers and researchers will find very useful.

In recent years, railway industries have faced a massive demand for increasing train speeds. However, switch and turnout parts of the track are two critical parts where speed reduction is necessary. In order to develop a more efficient system, the fourth paper (Sadeghi *et al*., 2016) presents a mathematical model of the impact of railway geometry on the safety of train running and permissible speed. The model is based on the railway vehicle and track parameters such as curve radius, switch initial angle and track gauge with running speed. The model accuracy is verified in field trials. This paper is a good example of how theoretical modelling could help to solve practical issues.

The fifth and sixth papers address concrete pavement rehabilitation. The fifth paper (Lu and Rong, 2016), presents the impact of gradation on rubblised Portland cement concrete pavement. Rubblisation is a popular technique for upgrading severely deteriorated concrete pavement. Many previous studies have shown that rubblised concrete with a hot-mix asphalt (HMA) overlay improves pavement performance, especially its cracking resistance. The authors present two studies and demonstrate that if the rubblised gradation matches the requirement for the crushed stone base of the flexible pavement, tensile strains at the HMA overlay bottom develop at a slower pace, indicating an improvement in deterioration resistance (namely cracking) of the overlay system. This article should be a good resource for practitioners and researchers alike. The final paper (Gao, 2016), presents a mathematical model for evaluating the impact of top-down surface cracking in concrete pavement. Surface cracks of concrete pavement not only impact safety and ride quality, but also reduce service life. The author shows that crack length and load position significantly influence the stress intensity factors, and that stress intensity factors are less affected by the elastic modulus of the pavement material than might be expected. Observing that studies on the mechanism of crack propagation in a cement concrete pavement are rather limited, this paper should serve to enhance current knowledge in this field.

We trust you find these papers useful and rewarding to read. Comments on this issue or on general journal-related matters will be received with great interest.

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