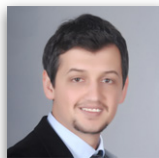


Editorial

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Welcome to the third issue of 2024 for the *Proceedings of the Institution of Civil Engineers – Transport*. It is a great honour for me to share with you this new issue containing high quality research papers prepared by various researchers from all over the world. This issue is a good example of covering multidisciplinary, international and collaborative studies in the field of transport. In this issue, the papers aim to present the latest developments in transport systems, road planning, traffic operations, traffic modelling and simulation in the transport sector. On behalf of the Editorial Board of the journal, I hope that the published interesting scientific papers will contribute to the future studies of researchers, engineers, planners, policy makers, students and the general public in the field of transport. This issue contains a total of six articles that aim to develop new methods, techniques, suggestions, findings and approaches to finding solutions to the problems examined. In the third issue, it will be possible to reach innovative studies in the fields of traffic engineering, transport planning and pavement engineering at the same time. A summary of all the papers in this issue is given below.

The first paper, by Wright *et al.* (2024), presented a review of previous records, monitoring surveys and intrusive investigations of junctions 6–7 and 7–8 of the M25 clockwise (23% RA, installed in 2007) and junctions 7–6 of the M25 anti-clockwise (40% RA, installed in 2009) in the UK. These pilot sites were selected for detailed analysis due to their high RA content and the extensive data available on RA properties, mix design and performance. The results showed that, over a significant period of time, surfacings containing RA performed in a similar way to control surfacings containing no RA. The study reported that the inclusion of RA, when subject to appropriate quality control procedures, had no detrimental effect on skid resistance. The results of the studies therefore support a gradual increase in the maximum permitted RA content from 10% to 20% with appropriate quality control.

Khan *et al.* (2024) investigated the volume of conflicting traffic using a spatio-temporal factor for pilot zones. In their study, they estimated the conflicting traffic volume at a mid-block median opening. For this purpose, they provided a practical methodology and a parameter called spatio-temporal conflict factor. To estimate the spatial conflict factor, the entire road

width was divided into two zones, the spatial conflict zone and the spatial non-conflict zone. From the analysis results, the placement characteristics of the approaching through traffic were found to follow a normal distribution in both six-lane and four-lane roads. In addition, based on the placement characteristics of the turning traffic and the approaching through traffic, the spatial conflict factor was found to vary from 0.5991 to 0.9125 on six-lane roads and from 0.3419 to 0.7563 on four-lane roads. The study results clearly show that the tangible results of the study provide an ability to estimate the realistic capacity values of median openings to measure the efficient management of traffic for improved levels of service and safety.

The third paper, by Alex *et al.* (2024), looked in detail at the level of safety thresholds and guarantees for both marked and unmarked pedestrian crossing facilities at urban mid-block sections under mixed traffic conditions. They collected data at marked and unmarked crosswalks in four different locations in India. They analysed various characteristics such as gap acceptance, a surrogate safety measure (post-encroachment time (PET)), waiting time, crossing time, platoon size, critical vehicle type and critical gap for both types of crosswalks. They used multiple linear regression technique for the gap acceptance models for the studied pedestrian crossings. Based on the obtained results, they offered a safety criterion for pedestrians.

In the study by Nadimi *et al.* (2024), they proposed a new method to find the optimal routes and stations for bus rapid transit in urban areas using a fuzzy inference system and binary integer programming. In the study, the objective function of the BIP model is set to maximise the sum of the station weights while ensuring that the maximum number of passengers can travel on each route. They also determined some constraints related to technical, social and economic considerations. To determine the effectiveness of the proposed new model, they compared the results with the stations and corridor proposed by the experts. Based on the model outputs and comparisons with the experts' results, they concluded that the proposed method is simple and can be run for each case study by changing the binary integer programming model parameters, membership functions and rules of the fuzzy inference system model.

Hasan and Sarkar (2024) evaluated the influence of an organic and a chemical additive on the short- and long-term ageing properties of warm-mix asphalt containing reclaimed asphalt pavement. For this aim, they conducted many machinal tests such as dynamic creep, indirect tensile strength, semi-circular bending and resilient modulus. After several laboratory tests, they found that the mixture containing reclaimed asphalt pavement without additives showed a higher flow number in both non-ageing and ageing processes, indicating higher resistance to rutting. Based on the test results, they also obtained that the mixtures containing recycled asphalt pavement and the chemical additive showed higher fracture energy than mixtures containing recycled asphalt pavement and the organic additive, while the latter showed the highest resilient modulus in the non-ageing and ageing process.

In the final paper, Malabanan *et al.* (2024) evaluated preferential treatment strategies for emergency vehicles using traffic simulation. In the study, they focused on reducing the delay experienced by these vehicles by modifying traffic control signals to give preferential treatment to EVs upon detection. To this end, they compared three algorithms with concepts of EV pre-emption, longest queue first and emergency vehicle signal priority (EVSP) based on average general and EV delays through a traffic simulation approach using Vissim software. They performed a performance evaluation using data from Thailand. They found that the second algorithm, longest queue first with preemption, was the best approach for both peak hour and 0.8 (peak) traffic conditions, outperforming the do-nothing condition by 69.70% for stochastic EV input and 79.14% for fixed EV input.

In summary, a total of six papers on this topic are important for future studies in the fields of traffic engineering, traffic modelling and planning. As it can be seen from the conducted studies, study site covers different countries such as UK, Thailand, Iran, India and in the world. I am happy to share

that the results of the published researches in the published papers will have great contributions to the studies and applications of transport authorities and planners.

On behalf of the Editorial Board of the journal, I hope you will enjoy reading this issue. I would also like to thank the authors who shared their study results with the transport researchers and the reviewers of the journal for their contributions in ensuring high quality peer-reviewed publications in this issue. I encourage you to visit the Ahead of Print on *Transport* Virtual Library home page to see our latest transport related articles. Please do not hesitate to email me if you have any questions or comments about this issue.

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