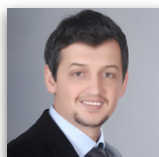


Editorial

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Welcome to the sixth issue in 2022 of *Proceedings of the Institution of Civil Engineers – Transport*. I would like to express what an honour it is to have the chance to share this issue, which includes high-quality research papers from colleagues around the world. On behalf of the editorial panel of the journal, I hope that the published scientific papers contribute new studies of researchers, engineers, planners, policymakers, students and the public.

This issue covers many areas related to road design, traffic planning, driver behaviour and modelling to develop solutions to problems encountered in the real world. All the papers offer new innovative solutions to the examined problems. As such, this issue has a very special importance since it contains important sub-themes related to traffic planning and modelling, and driver behaviours. Papers in this issue mainly examine driver behaviour for a specific problem; evaluate different road roundabouts according to their performances; model network vulnerability in a public transportation system; and determine the best route within a road network using different techniques. The issue includes a total of four articles that examine different real-world problems based on real transportation problems and applications.

In the paper by Atsawatheerasathien and Kanitpong (2022) the factors affecting the passenger-rejection behaviour of Bangkok taxi drivers were investigated by considering the concept of taxi service zones. For this purpose, various interactive zones and one isolated zone were identified as taxi service areas that might help explain passenger rejection; taxi drivers' behaviour is described with reference to these different taxi service zones (isolated and interactive) where passenger rejection is frequently encountered. The paper examined passenger-rejection behaviour of Bangkok taxi drivers by considering all contributing factors. Study results showed that passengers calling for taxi travel within the three interactive zones or within the isolated zone were less likely to be rejected. Additionally, gender, the number of passengers, the nationality of passengers, the amount of luggage, the numbers of passengers waiting for taxis, the numbers of taxis waiting

for passengers and taxi licences (expired or active) were also found to be factors affecting passenger-rejection behaviour by taxi drivers. The authors suggest that the findings of the study could assist policymakers in resolving the root cause of the passenger-rejection problem instead of punishing taxi drivers in accordance with regulations.

The second paper, 'Mega elliptical roundabouts versus grade-separation interchange' by Mohamed *et al.* (2022), discusses the utilisation of mega elliptical roundabouts, which are a new idea for intersections on rural multilane highways in the form of elongated ellipses. The authors mention that there are no procedures or guidelines for designing mega elliptical roundabouts. Thus, they defined and examined the best geometric design scenarios for mega elliptical roundabout intersections at various traffic flows for all intersection entrances using Vissim microsimulation software. According to the study results, the mega elliptical roundabout is shown to be an alternative to the interchange (full cloverleaf) that achieves minimum delay time, emissions and fuel consumption.

In the third paper, by Yang (2022), a vulnerability-based emergency resource distribution model is proposed in which a given metro station's vulnerability is measured by a combined index of network topology and passenger demand. For this aim, proposed models were investigated on two Chinese metro networks (Shaoxing and Shanghai). Then validation analysis was conducted to test the feasibility of the proposed models. The study successfully introduced a vulnerability index into the emergency resource distribution problem. According to Yang, this study should be of key importance in preventing metro emergencies and a reasonable resource distribution scheme based on the proposed model should reduce casualties and property losses significantly.

In the last paper of this issue, by Edrisi *et al.* (2022), the route selection problem in road networks was examined in detail using the Markov decision process (MDP). For this aim, the MDP is used to develop an adaptive dynamic route selection

(ADRS) model and train simulated agents in a network so that they are able to make independent decisions under random conditions. In this way the study determined the set of routes with the shortest travel time. During the analysis, the MDP was integrated with a multi-nomial logit model to improve finding the stochastic shortest path by computing the probability. The obtained results showed that during all scenarios, agents experienced less average delay in arriving at the destination node when using the ADRS compared with agents using the MDP or dynamic programming model (DPM) as their route-choice method. Study results for Isfahan, Iran proved that the proposed model had a total error of 9% over 100 randomly generated scenarios. Thus, the proposed method was found to outperform two other route selection methods.

In summary, the papers of this issue are important for researchers working in the fields of traffic engineering and transport planning. Additionally, the findings of these papers will have great contributions for research and applications of transport authorities and planners.

On behalf of the journal editorial panel, I hope that you enjoy reading the papers in this issue of the *Proceedings of the Institution of Civil Engineers – Transport*. I also would like to thank the authors for their studies to ensure quality peer-reviewed publications in the issue. Please feel free to email me your comments on this issue.

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