Editorial

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Having joined the editorial advisory panel of the *Proceedings of the Institution of Civil Engineers – Transport* as a member in November 2017 little did I believe that I would be writing my first editorial in February 2018. This is an immense honour, and a timely one considering that transport infrastructure has become a hot topic in the media around the world. In the UK we now have High Speed Two (HS2) (HMG, 2018) following fast on the heels of High Speed 1 (HS1) (HS1, 2018). However, our investment is only a drop in the ocean according to data published by the Organisation for Economic Co-operation and Development (OECD) as shown in Figure 1.

According to these data, the UK is ranked third behind China and the USA, but above India, which sits in fourth place (OECD, 2018). This is what makes this issue of *Transport* interesting and noteworthy. This issue presents a mixed data envelopment analysis–stochastic frontier analysis (DEA–SFA) model by Zhang *et al.* (2018) of field data from Shanghai Transit Route 55 to examine bus line efficiency to solve

operational problems. Then there is a study of Delhi to evaluate an integrated public transport system for the city by Chalumuri *et al.* (2018). This was carried-out in a sequential four-stage travel demand model in the macro-simulation software Visum (PTV, 2011) based on 7098 individual questionnaire responses. Delhi is expected to become a megacity by 2030 with its population increasing to 36 million (Varmal, 2016), so although public transport in Delhi is growing it is still experiencing congestion, low service levels and pollution. The study showed that Delhi's rail system performed better with a mix of feeder modes and park-and-ride facilities despite increased ridership figures.

Bus rapid transport systems are another form of public transport systems in countries that have limited rail networks. Mane *et al.* (2018) examine the decline in performance of the bus rapid transit system (BRTS) in the rapidly growing city of Indore in India when a judicial review ordered that car users be allowed to use the bus lane! Two models were developed to examine the impacts of this judicial order using two different

Figure 1. International infrastructure investment data for 2014–2015 from OECD (2018)

approaches (i.e. a binary logistic method (BLM) and an artificial neural network (ANN) method). Data on demographic and socio-economic attributes (gender, age and occupation) and trip-related attributes (travel time details and cost saving per day) were collected using a revealed preference survey. The study found that passenger numbers declined by approximately 19%. One wonders what was the motivation for the judicial order; perhaps a case of short-sightedness and political pressure, which is a common issue with solving transport problems.

Of course no issue in *Transport* would be perfect without research and news from industry that did not examine road pavements and rail ballast. In 'Investigation of damage and deterioration hazard in asphalt mixtures due to moisture' (Ghaffarpour Jahromi, 2018) and 'Damage detection of ballastless railway tracks by the impact-echo method' (Xu *et al.*, 2018) we see some innovative studies underway in Iran and China, where transport infrastructure development plans have thrown up issues with material performance. One unfortunate aspect of transport systems that affects transport planning, design and operations is planned and unplanned accidents by public and users alike; in rail transport it can be particularly devastating for staff, users and others. In the final paper, by Sadler *et al.* (2018), derailments, suicides and slip, trip and fall risks across the UK rail network, initially in the Wessex region, are mapped and analysed. The study incorporated historic and real-time environmental data on rail risk in order to provide a methodology and a prototype toolkit to deal with such incidents in real time so that rail operators can plan and manage more effectively. Moving forward, such geographical information systems will prove useful to designers and operators alike. The authors of this paper invite comments from readers.

I hope that you find these papers in this issue of the *Proceedings of the Institution of Civil Engineers – Transport* instructive and beneficial to your work. Please feel free to

contact the editorial office with any comments on this issue. Finally, happy New Year to readers all over the world.

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