

Editorial

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Welcome to the *Fourth Edition* of the *Municipal Engineer Journal* this year, which consists of five papers and a book review.

The first paper (Akbari and Rafiei, 2017) discusses Iran's rural 'staircase' villages, which are located on the lower slopes of mountains and represent a form of unique traditional architecture adaptable to the surrounding environs. Here, the roofs of lower buildings form the courtyards of upper buildings, which make them both interesting and attractive. The study includes the general characteristics, the structural forms, their seismic vulnerability and post-earthquake reconstruction challenges. The performance of staircase villages during earthquakes and related events; aspects of existing construction methods; the poor seismic performance of traditional building roofs and supporting walls was also noted. Recommendations on policies related to the seismic upgrading of these rural structures and access for rescue issues are also provided. It is an example of how traditional design and construction can be improved to make buildings more resilient.

The aims of this second paper (Omoregie and English, 2017) is to investigate potential contemporary barriers to the adoption of timber as a primary structural material in residential housing developments in England, which was observed to be low (16%) compared to Scotland (76%). The qualitative research methodology applied revealed that a combination of economic, cultural and psychological issues rather than technical and durability performance are responsible. These are primarily due to lack of education, perceived high maintenance costs of timber housing; developers' influence and monopoly over timber technology, uncertainty in property resale value and the recent overall lack of confidence in timber technology. As a consequence, the paper recommends that improved training; comprising compulsory basic timber technology and sustainable construction is adopted as a formal prerequisite for the attainment of relevant qualifications, within the built environment, civil engineering and architecture. Furthermore, the benefits of sustainable

construction, specifically, timber, in housing should be introduced even at the pre-university level, within schools and colleges as well as awareness campaigns in the public and private sector and to construction professionals about the merits and misconceptions surrounding timber technology. What is interesting to note; is that misconceptions about technology occur in developed nations as well as developing nations.

The third paper (Palaniswamy *et al.*, 2017) is a study carried out to investigate the production of biogas by anaerobic digestion of solid-phase kitchen food waste and the novelty was the use of artificial neural networks to model and optimise the production of biogas from food waste and cow dung as substrates. This combination of substrates is known to increase the output of biogas by up to 44%. While these studies were carried out in India, results can be applied to peri-urban and urban areas in many developing countries, where there is limited space for landfill and the burning of food would pollute the environment.

The purpose of the study in the fourth paper (Zhang *et al.*, 2017) was to maximise the time saving of buses and reduce the waiting time of passengers. It is a response to high and fluctuating demand as well as unbalanced distribution of passengers along the routes. This paper presents an optimisation model for designing limited-stop lines for a branching bus network composed of several feeder lines and a trunk line. The model was used to calculate the total cost of a transit system in which limited-stop services are implemented on bus routes; which includes the cost of passenger waiting time and in-vehicle time, as well as the operator cost for each bus route. The results show that a limited-stop service for branching corridors can reduce the total cost of the transit system. With a few refinements, this approach can be used in the design of public transport systems in urban cities worldwide.

The fifth paper (Edrisi and Ganjipour, 2017) explores the complex relationship between online shopping and the

traditional in-store shopping in Tehran, Iran. A sample of residents responded to a questionnaire, the data of which was filled and analysed using statistical methods. The results show that online searching has a positive impact on both e-shopping and in-store shopping. Furthermore, e-shopping had a positive effect on shopping trips and suggested people who use Internet to purchase products are also committed to traditional methods of shopping. This information can provide a useful input for urban transportation planners and similar studies can be conducted in other locations.

The last paper is a book review (Parkin, 2017) of the fifth edition of the classic textbook; Highways (O'Flaherty and Hughes, 2016), which was recently published by the Institution of Civil Engineers.

I hope readers will find all the papers interesting and stimulating. Pleasant reading!

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