

Book review

Pedestrian Behaviour: Models, Data Collection and Applications

H. Timmermans (ed). Emerald Group Publishing, 2009, ISBN 978-184855750-5, **£79.95, 360 pp.**

Pedestrian Behaviour presents a collection of papers concerned with pedestrian models, data collection and applications. The first paper presents a review of pedestrian choice modelling. This is followed by eight contributions that elucidate recent developments in pedestrian analysis and modelling. Four further papers present modelling applications and a description of environmental factors affecting route choice. The final paper presents issues and technologies concerned with pedestrian data collection.

The book provides the reader with a rich source of current thinking on modelling pedestrian behaviour from leaders in the field. It is disappointing, however, that the chapters are individual papers from different contributors with many of them presenting sections that review the relevant literature; this approach, inevitably, results in much repetition. Instead, it would have been better for the reader to be presented with a comprehensive and well-structured review, going beyond that presented in chapter 1.

Three of the modelling papers are concerned with maximum utility approaches and are concerned with: movement in shopping streets and based on a network of links (chapter 5); using costs experienced by pedestrians in the model to feedback into a cost function for subsequent pedestrians, which hence goes some way to accounting for the equivalent of volume/density functions in traffic flow (chapter 6); and time use and

expenditure (chapter 8). Recognising that pedestrians may not be able fully to evaluate relevant attributes in decision making, chapter 7 explores the use of thresholds within the context of bounded rationality. Cellular automata and situated cellular agent models are presented in chapters 2 and 3. chapter 4 presents a multi-agent simulation of shop choice while chapter 9 presents a method of calibrating microscopic pedestrian movement models using trajectory data.

The four chapters describing applications include: building evacuation (chapter 10); evacuation of the city of Padang, Indonesia (chapter 11); shopping behaviour in Fukuoka, (Japan), Busan (Korea) and Tianjin (China) (chapter 12); and a simulation of route and exhibition choice for the World Expo 2010 in Shanghai based on internet-collected data (chapter 14).

Chapter 13 presents a very useful discourse on the environmental factors that may influence pedestrian route choice, and chapter 15 compares existing systems of collecting pedestrian movement data.

As a collection of specialist papers, this work provides a valuable resource for the pedestrian modeller. As a book, however, it would have benefited from a more logical structure, perhaps beginning with a more thorough treatment of data collection issues and ending with modelling applications.

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