Foreword

New technology and changing social and economic environments have a potentially substantial impact on the travel behavior of individuals and households. Current thinking about transport policy is heavily influenced by the discussion on sustainable transport. A wide variety of policies, ranging from new urbanism and land use planning to transport demand management initiatives and pricing mechanisms have been suggested and implemented to trigger individuals to switch from cars to alternative transport modes. Whether such spatial, transportation, and economic policies are sufficient is doubtful: it is likely that sustainable transport also requires a dramatic shift to alternative transport modes such as electric cars.

To provide adequate academic answers to emerging policy questions, novel methodologies need to be developed and enhanced. It has become increasingly clear that individuals differ widely in terms of their preferences, behavior, acceptance of new technology, and reaction to these new policies. Classic modeling approaches and underlying theories of human choice and decision making only partially address the relevant issues. Moreover, they are often too stringent to sufficiently represent this behavioral heterogeneity.

Agent-based models that are increasingly explored in travel behavior research have the potential to establish the required breakthrough. Only a few such models that go beyond toy problems are available. This book should be applauded by bringing together some state of the art agent-based models applied to current policy issues and new technological developments. It is complemented by underexplored issues in the application of these models such as uncertainty analysis and the creation of synthetic populations.

The chapters witness the creative ideas, academic rigor, and professionalism of the authors. They can serve as benchmarks for other researchers to improve.

The book is important reading for new researchers entering this field of travel behavior research. It offers new perspectives and documents important progress in modeling travel behavior.

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Harry Timmermans (1952) holds a PH D degree in Geography/Urban and Regional Planning. He studied at the Catholic University of Nijmegen, The Netherlands. His dissertation concerned a theory of the functional and spatial structure and the dynamics of central place systems. Since 1976, he is affiliated with the Faculty of Architecture, Building and Planning of the Eindhoven University of Technology, The Netherlands. First as an assistant professor of Quantitative and Urban Geography, later as an associate professor of Urban Planning Research. In 1986, he was appointed chaired professor of Urban Planning at the same institute. In 1992, he founded the European Institute of Retailing and Services Studies (EIRASS) in Eindhoven, The Netherlands (a sister institute of the Canadian Institute of Retailing and Services Studies). His main research interests concern the study of human judgment and choice processes, mathematical modeling of urban systems, and spatial interaction and choice patterns and the development of decision support and expert systems for application in urban planning. He has published several books and many articles in journals in the fields of marketing, urban planning, architecture and urban design, geography, environmental psychology, transportation research, urban and regional economics, urban sociology, leisure sciences, and computer science.