

INTRODUCTION

To improve safety and sustainability in today's mobility society, it is necessary to bring together all the relevant knowledge from across a broad range of disciplines, including the natural, social, and cultural sciences. Due to the continued but uneven worldwide growth of motorized transportation, disparities in daily mobility and access to life opportunities are widening between developed and developing countries and between metropolitan and local areas. This suggests that it is necessary to establish approaches that take into account the diversity of mobility society. Therefore, we must establish a study of traffic and safety sciences that is based on scientific evidence, rooted in area-specific situations, and searches for interdisciplinary and practical knowledge. This book was developed as a preliminary textbook to address such needs in advance.

The International Association of Traffic Safety Sciences (IATSS) celebrated its 40th anniversary in 2014, and publication of this book is a part of a commemorative project. IATSS, which is characterized by its international and interdisciplinary nature, issued this book for domestic and overseas use as a compilation of the knowledge generated through its projects, especially those conducted over the past 10 years. The book has been published simultaneously in Japanese and English to promote education and research in the field of traffic and safety sciences, and there is hope that the English version in particular will be useful in developing countries in Asia.

This book consists of two sections: Theory and Practice. The writing of the Theory section was led by the editorial boards of the official IATSS journals, *IATSS Review* and *IATSS Research*, the latter of which publishes English-language articles. Authors were selected from the fields of traffic engineering, urban engineering, electronics, information and communication engineering, mechanical engineering, environmental studies, psychology, medicine, law, public administration, economics, and sustainability science, and the essence of the knowledge in each of their individual fields is connected in an interdisciplinary manner. To develop the Practice section, 46 proposed research projects conducted at IATSS during the last 10 years were reviewed and 20 were ultimately selected for inclusion. Each project accurately captured the current situations of domestic and overseas mobility societies and the practical wisdom needed to improve each situation was outlined.

The content of this book is linked to the main theme of our 40th Anniversary Symposium, 2024 IATSS Designs for Mobility Society: Designing Ideal Mobility Society for 10 Years Down the Road. Keywords such as “diversity” and “transmodal” describing the mobility society after 10 years attracted attention at the symposium. “Design” abilities that combine vehicle technology, infrastructure, space, institutions, and culture as well as transmodal thinking are required to make the transportation system safer and more comfortable for diverse users, to meet various social needs, and to transform travel demand—currently considered to be mostly a derived demand—into something that gives the joy and freedom of mobility when using the system. We would be more than happy if this book, brought to publication after much discussion, can serve as a guidepost to show the direction and vision of the next-generation mobility society.