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## Preface

The International Conference on System Design and Operation in Railways and other Transit Systems (COMPRAIL) has become the most successful conference in its field since it started in 1987. This book contains papers accepted for presentation at the 12<sup>th</sup> meeting in the series, held in Beijing, China in 2010.

The book reflects the new achievements and applications of computer based technologies in management, design and operation of passenger and freight transit systems.

Rail transport has many advantages over other systems in terms of capacity, punctuality, being weather resistant, savings in fuel and land, and fairly low pollution. It is a low-carbon emission transport mode and ought to be the backbone of any regional and city comprehensive travel system.

Safety is one of the central topics of rail systems, together with efficiency. Computer based technologies have always played an important role in the safety and efficiency of transit systems. Many countries have recently become interested in using high speed railways, resulting in up to now, more than 10,000 km of high speed track in the world. By 2020, the total length of high speed railways will reach 18,000 km in China alone. These topics are discussed in this book and it is expected that they will become even more important in future COMPRAIL meetings.

The above are just some of the themes presented in this volume, which contains a substantial number of sections covering topics such as: Advanced train control; Traffic control and safety of high-speed railways in Asia; Computer techniques; Planning; Maglev and high speed railways; Metro and other transit systems; Energy supply and consumption; Dynamics and wheel/rail interface; Operations quality; Monitoring and maintenance; Safety and security; Timetable planning.

The Editors are grateful to all the authors for their excellent papers as well as to the members of the International Scientific Advisory Committee who participated in the review process. They all contributed to the success of the Conference and the publication of this book. Their help will ensure the continued success of COMPRAIL.

The Editors  
Beijing Jiaotong University, China, 2010

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