Intelligent Transportation Systems For Sustainable | 7b31cdc59addf0f1de9cfdb4a49d01247

These proceedings present the latest information on intelligent transportation technologies and their applications in real-world cases. The Second International Conference on Intelligent Transportation was held in Chengdu, China on November 25-27, 2015, to present the latest research in the field, including intelligent transportation management, intelligent vehicles, rail transportation systems, traffic transportation networks, as well as road traffic element simulations and their industrial development. The aim of conference was to bring together academics, researchers, engineers and students from across the world to discuss state-of-the-art technologies related to intelligent transportation.

City Logistics 3

This book focuses on emerging technologies in the field of Intelligent Transportation Systems (ITSs) namely efficient information dissemination between vehicles, infrastructures, pedestrians and public transportation systems. It covers the state-of-the-art of Vehicular Ad-hoc Networks (VANETS), with centralized and decentralized (Peer-to-Peer) communication architectures, considering several application scenarios. With a detailed treatment of emerging communication paradigms, including cross networking and distributed algorithms. Unlike most of the existing books, this book presents a multi-layer overview of information dissemination systems, from lower layers (MAC) to high layers (applications).
those aspects are investigated considering the use of mobile devices, such as smartphones/tablets and embedded systems, i.e. technologies that
during last years completely changed the current market, the user expectations, and communication networks. The presented networking paradigms
are supported and validated by means of extensive simulative analysis and real field deployments in different application scenarios. This book
represents a reference for professional technologist, postgraduates and researchers in the area of Intelligent Transportation Systems (ITSs),
wireless communication and distributed systems.

Smart Cities, Green Technologies, and Intelligent Transport Systems

Toward Sustainable Communities uses six case studies to illustrate innovative strategies in specific policy areas: air pollution control, water pollution
control, land use, transportation, urban redevelopment, and regional ecosystem management.

CICTP 2014

Intelligent Transport Systems (ITS) are the way forward for sustainable growth of mobility at all levels (local, regional, national, transnational). The
book reviews the current status of Research & Development. It includes connected (and autonomous) cars and buses, real-world large-scale field
trials, data analysis and assessment of technological solutions. Standards and normative aspects in the domain of Electronic Fee Collection and
Cooperative Systems oriented to probe data collection, safety and non-safety critical applications in vehicular networks, are studied. The book
provides the rational, perspectives, and technical issues for the implementation of ITS solutions in a genuine inter-modal scenario, taking the
example of a Mediterranean seaport, actively involved in testing and validation of ITS standards. The novelty of this book is that it covers R&D,
standards, and pilots, all under one cover. Rather than stressing the novelty in ICT, the authors have presented the need for system-level
integration, assessment of existing (standard) solutions, and piloting experiments in real-world industrial scenarios.

Intelligent Transportation Systems

Engineer and implement sustainable transportation solutions Featuring in-depth coverage of passenger and freight transportation, this
comprehensive resource discusses contemporary transportation systems and options for improving their sustainability. The book addresses vehicle
and infrastructure design, economics, environmental concerns, energy security, and alternative energy sources and platforms. Worked-out examples,
case studies, illustrations, equations, and end-of-chapter problems are also included in this practical guide. Sustainable Transportation Systems
Engineering covers: Background on energy security and climate change Systems analysis tools and techniques Individual choices and transportation
demand Transportation systems and vehicle design Physical design of transportation infrastructure Congestion mitigation in urban passenger
transportation Role of intelligent transportation systems Public transportation and multimodal solutions Personal mobility and accessibility
Intercity passenger transportation Freight transportation function and current trends Freight modal and supply chain management approaches
Spatial and geographic aspects of freight transportation Alternative fuels and platforms Electricity and hydrogen as alternative fuels Bioenergy
resources and systems Transportation security and planning for extreme weather events PRAISE FOR SUSTAINABLE TRANSPORTATION SYSTEMS
ENGINEERING: "This book addresses one of the great challenges of the 21st century--how to transform our resource-intensive passenger and freight
transportation system into a set of low-carbon, economically efficient, and socially equitable set of services." -- Dan Sperling, Professor and Director,
Institute of Transportation Studies, University of California, Davis, author of Two Billion Cars: Driving toward Sustainability "provides a rich tool kit
for students of sustainable transportation, embracing a systems approach. The authors aptly blend engineering, economics, and environmental
impact analysis approaches." -- Susan Shaheen, Professor, Department of Civil and Environmental Engineering, and Co-Director, Transportation
Sustainability Research Center, University of California, Berkeley

Challenges and Solutions for Sustainable Smart City Development
Intelligent Transportation Systems

"Perspectives on ITS" is a collection of the Intelligent Transportation Systems (ITS) writings of Professor Joseph M. Sussman from MIT. Professor Sussman is a long-time major participant in the ITS world, beginning with his work on the core writing team in the original "IVHS" Strategic Plan in 1991-92, and continuing on to the present day. He has worked in a number of ITS area and is a keen observer of the ITS scene in general. The book contains extended articles on various aspects of ITS and perspectives on the future of the field, building on its rich history; organizational issues related to ITS - in particular, regionalism and the transportation / information infrastructure; and ITS' implications for the transportation profession at large and for transportation education. In addition it contains 14 selected columns from the ITS Quarterly.

Perspectives on Intelligent Transportation Systems (ITS)

During the last two decades, sustainability has become the dominant concern of transportation planners and policymakers. This timely text provides a framework for developing systems that move people and products efficiently while minimizing damage to the local and global environment. The book offers a uniquely comprehensive perspective on the problems surrounding current transportation systems: climate change, urban air pollution, diminishing petroleum reserves, safety issues, and congestion. It explores the full range of possible solutions, including applications of pricing, planning, policy, education, and technology. Numerous figures, tables, and examples are featured, with a primary focus on North America.

Highlights of Practical Applications of Agents, Multi-Agent Systems, and Complexity: The PAAMS Collection

There are unique complexities associated with the economic valuation of Intelligent Transportation Systems (ITS) and telematics. Traditional methods of quantitative analysis may not be appropriate in accurately and reliably assessing the economic impacts of these technologies. Although advanced transportation and related technologies are being planned and deployed at an increasingly rapid pace, many of the technologies are still relatively new, and their use may not be widespread. Much of the initial information and statistics gathered have been anecdotal and have focused more on benefits rather than costs. Therefore, difficulties arise due to the lack of historical data and 'lessons learned' from which to draw upon. In addition, compared with traditional transportation infrastructure, ITS technologies have different life cycles, cost structures, and a number of interrelated elements. This book addresses these concerns and proposes new economic assessment techniques as well as modifications to existing ones. Included are case studies from a multitude of North American, European, and Asian nations and major metropolitan areas covering a wide range of ITS technologies including freeway management, electronic toll collection, advanced driver assistance systems, and traveller information systems.

Transportation Engineering and Planning - Volume II

Sustainable Interdependent Networks

The Future of Intelligent Transport Systems considers ITS from three perspectives: users, business models and regulation/policy. Topics cover in-vehicle applications, such as autonomous driving, vehicle-to-vehicle/vehicle-to-infrastructure communication, and related applications, such as personalized mobility. The book also examines ITS technology enablers, such as sensing technologies, wireless communication, computational technology, user behavior as part of the transportation chain, financial models that influence ITS, regulations, policies and standards affecting ITS, and the future of ITS applications. Users will find a holistic approach to the most recent technological advances and the future spectrum of mobility. Systematically presents the whole spectrum of next generation Intelligent Transport Systems (ITS) technologies Integrates coverage of personalized mobility and digital assistants, big data analytics and autonomous driving Includes end-of-chapter, open-ended questions that trigger thinking on
the technological, managerial and regulatory aspects of ITS

**Sustainable Transportation Systems Engineering**

Based on the work of the STELLA (Sustainable Transport in Europe and Links and Liaisons with America) Focus Group 3, this volume brings together leading transport academics to discuss society behaviour and public/private transport. Theoretical and empirical research from across North America and Europe form the basis of this book, which is composed of twelve chapters that fall into four logical sections. Chapters in the first section provide a contextual overview and survey trends in mobility behaviour and prospects of sustainable transport in the two continents. Chapters in the second section provide comparative assessments of difficulties posed by contemporary transport systems for three particular user groups (low-income, female, and elderly), interventions indicated, and research needed. The third set of chapters survey recent developments in behavioural modelling that lend themselves to the study of the constellation of issues concerning STELLA Focus Group 3. The remaining chapters of the book address critical issues of equity and policy implementation.

**Green Intelligent Transportation Systems**

This book constitutes the thoroughly refereed proceedings of the 4th International Conference on Smart Cities and Green ICT Systems, SMARTGREENS 2015, and the 1st International Conference on Vehicle Technology and Intelligent Transport Systems, VEHITS 2015, held in Lisbon, Portugal, in May 2015. The 15 full papers of SMARTGREENS 2015 presented were carefully reviewed and selected from 73 submissions. VEHITS 2015 received 27 paper submissions from which 3 papers were selected and published in this book. The papers reflect topics such as smart cities, energy-aware systems and technologies, sustainable computing and communications, sustainable transportation and smart mobility.

**Intelligent Transportation Systems in 98 B-Line Rapid Bus Service**

This book constitutes the refereed proceedings of the 11 workshops co-located with the 16th International Conference on Practical Applications of Agents and Multi-Agent Systems, PAAMS 2018, held in Toledo, Spain, in June 2018. The 47 full papers presented were carefully reviewed and selected from 72 submissions. The volume presents the papers that have been accepted for the following workshops: Workshop on Agents and Multi-agent Systems for AAL and e-HEALTH; Workshop on Agent based Applications for Air Transport; Workshop on Agent-based Artificial Markets Computational Economics; Workshop on Agent-Based Solutions for Manufacturing and Supply Chain; Workshop on MAS for Complex Networks and Social Computation; Workshop on Intelligent Systems and Context Information Fusion; Workshop on Multi-agent based Applications for Energy Markets, Smart Grids and Sustainable Energy Systems; Workshop on Multiagent System based Learning Environments; Workshop on Smart Cities and Intelligent Agents; Workshop on Swarm Intelligence and Swarm Robotics; Workshop on Multi-Agent Systems and Simulation.

**Intelligent Transportation Systems for Sustainable Communities**

This book focuses on the theory and application of interdependent networks. The contributors consider the influential networks including power and energy networks, transportation networks, and social networks. The first part of the book provides the next generation sustainability framework as well as a comprehensive introduction of smart cities with special emphasis on energy, communication, data analytics and transportation. The second part offers solutions to performance and security challenges of developing interdependent networks in terms of networked control systems, scalable computation platforms, and dynamic social networks. The third part examines the role of electric vehicles in the future of sustainable interdependent networks. The fourth and last part of this volume addresses the promises of control and management techniques for the future power grids.
Intelligent Transportation and Planning: Breakthroughs in Research and Practice

Sustainable and resilient critical infrastructure systems is an emerging paradigm in an evolving era of depleting assets in the midst of natural and man-made threats to provide a sustainable and high quality of life with optimized resources from social, economic, societal and environmental considerations. The increasing complexity and interconnectedness of civil and other interdependent infrastructure systems (electric power, energy, cyber-infrastructures, etc.) require inter- and multidisciplinary expertise required to engineer, monitor, and sustain these distributed large-scale complex adaptive infrastructure systems. This edited book is motivated by recent advances in simulation, modeling, sensing, communications/information, and intelligent and sustainable technologies that have resulted in the development of sophisticated methodologies and instruments to design, characterize, optimize, and evaluate critical infrastructure systems, their resilience, and their condition and the factors that cause their deterioration. Specific topics discussed in this book include, but are not limited to: optimal infrastructure investment allocation for sustainability, framework for manifestation of tacit critical infrastructure knowledge, interdependencies between energy and transportation systems for national long term planning, intelligent transportation infrastructure technologies, emergent research issues in infrastructure interdependence research, framework for assessing the resilience of infrastructure and economic systems, maintenance optimization for heterogeneous infrastructure systems, optimal emergency infrastructure inspection scheduling, and sustainable rehabilitation of deteriorated transportation infrastructure systems.

Intelligent Decision Support Systems for Sustainable Computing

This book aims to provide a good understanding of and perspective on sustainable transport in Asia by focusing on economic, environmental, and social sustainability. It is widely acknowledged that the current situation and trends in transport are not always sustainable in Asia, due in part to the fast-growing economy and the astounding speed of urbanization as well as least-mature governance. As essential research material, the book provides strong support for policy makers and planners by comprehensively covering three groups of strategies, characterized by the words “avoid” (e.g., urban form design and control of car ownership), “shift” (e.g., establishing comprehensive transportation systems and increasing public transportation systems for both intra-city and intercity travel), and “improve” (e.g., redesign of paratransit system, low-emission vehicles, intelligent transportation systems, and eco-life). These are elaborated in the book alongside consideration of the uncertainty of policy effects in the future. The book is also valuable for scholars and scientists because of the diverse methodologies presented and proposed herein. Among those are the four-step model with full feedback mechanisms, the bi-level programming model with sustainability goals, data envelopment analysis and stochastic frontier analysis approaches, structural equation models, discrete and/or continuous choice models, copula-based models, survival models, and driving risk models with short-term memory. Using data collected from more than ten Asian cities, including those in both developed and developing nations, the pathway to sustainable transport in Asia gradually becomes clear.

An Introduction to Sustainable Transportation

This book discusses advances in smart and sustainable development of smart environments. The authors discuss the challenges faced in developing sustainable smart applications and provide potential solutions. The solutions are aimed at improving reliability and security with the goal of affordability, safety, and durability. Topics include health care applications, sustainable smart transportation systems, intelligent sustainable wearable electronics, and sustainable smart building and alert systems. Authors are from both industry and academia and present research from around the world. Addresses problems and solutions for sustainable development of smart cities; Includes applications such as healthcare, transportation, wearables, security, and more; Relevant for scientist and researchers working on real time smart city development.

Icctp 2011

Many transportation systems used today are costly, slow, fragmented, and dangerous. This paper explores the inefficiencies and negative impacts
associated with our current transportation systems. Simple to technologically advanced solutions are explored along with how to integrate these methods for all users in a sustainable fashion. The vision proposes a blend of scientific method, technological advancement, and common sense which is environmentally aware and integrated for all users by using the Dutch Regional and Sustainable Traffic Management Process.

Intelligent Transportation Systems, Land Use, and Sustainable Transportation

Modern cities are facing the growing problem of congestion, poor air quality and lack of public space. To ameliorate the condition of goods transport in cities, sustainable city logistics planning is essential. It requires a collaborative approach among city logistics stakeholders for consolidated goods distribution inside city centers to minimize their negative impacts on city residents and their environment. The book presents theoretical studies, state of the art, and practical applications in the area of sustainable city logistics. It is composed of nine chapters. A brief description of the various chapters is provided as follows: Chapter 1 by Sharfuddin Ahmed Khan and Syed Tahaur Rehman presents a review of literature and future prospects on sustainable city logistics. Globalization, governmental rules, and regulations enforce decision makers and managers to incorporate sustainability in every aspect of their decision making (DM) specifically in city logistics. The area of sustainable city logistics is still in its developing stage and not many authors explore sustainability aspects in city logistics. The focus of this chapter is to review existing literature related to city logistics that considered sustainability in DM. A total of 40 articles that were published between 2010 to 2019 have been considered and categorized in terms of objective of study, area of research focus such as qualitative, quantitative, case study etc., and multi criteria DM methods. Finally, future prospects and directions has been proposed in sustainable city logistics. Chapter 2 by Sättar Ezzati presents challenges and opportunities in maritime logistics empty container repositioning. Maritime logistics and freight transportation are extensive and complex sectors that involve large material resources and represent intricate relationships between trade-off the various decisions and policies affecting different components. Because of the globalization, e-market and high level of customization trends, the sector has faced diversified challenges on different levels of planning including designing, scheduling, fleet sizing, decisions about container ownership, leasing and empty container repositioning, uncertainty and collaboration opportunities that already has provoked advanced coordination and intelligent optimization techniques for its global operations from strategic and tactical perspectives. Large attention of this chapter concentrates on empty containers repositioning problem and potential pathways to address this issue and how container shipping companies can handle this challenge with the help of operations research techniques from the perspectives of shipping business industry. To do so, this chapter presents a comprehensive and systematic literature review mainly focused on recent publications correspond to these logistics that maritime industries are facing. Chapter 3 by Yisha Luo, Ali Alaghbandrad, Tersoo Kelechukwu, and Amin Hammad addresses the theme of smart multi-purpose utility tunnels. In terms of sustainable practices, the conventional method of open cut utility installation has proven to be a short-term solution, considering its negative impact on the environment, and its social disruptive nature. An alternative to open cut utility installation is Multi-purpose Utility Tunnels (MUTs), as it offers an economic, sustainable, and easy to manage and inspect method of utility placement. The risks associated with MUTs are both natural and manmade. As a way of tackling these risks, smart MUTs with the use of sensors will reduce the effects of the risks while supporting the operation and maintenance processes for MUT operators. To enhance decision making, data collected from the sensors are used in the MUT Information Modelling (MUTIM). MUTIM includes the utility tunnel structural model with utilities, equipment, sensors, and devices that can be used for emergency management increasing the sustainability and resilience of smart cities. Chapter 4 by Léonard Ryo Morin, Fabian Bastin, Emma Frejinger, and Martin Trépanier model truck route choices in an urban area using a recursive logit model and GPS data. They explore the use of GPS devices to capture heavy truck routes in the Montreal urban road network. The main focus lies on trips that originate or depart from intermodal terminals (rail yard, port). They descriptively analyse GPS data and use the data to estimate a recursive logit model by means of maximum likelihood. The results show the main factors affecting the route choice decisions. Using this type of predictive models when planning and designing the transport network nearby intermodal terminals could offer opportunities to reduce the negative impacts on truck movements, as the CO2 emissions. Chapter 5 by Akolade Adegoke presents a literature review on benchmarking port sustainability performance. Sustainable development agendas are challenging the world and ports, in particular, to find ways to become more efficient while meeting economic, social and environmental objectives. Although there has been a considerable body of documentation on port green practices and performance in Europe and America, there is limited synthesis about evaluation of sustainable practices in the context of Canadian ports. This chapter provides a review of literature and initiatives employed by global ports authorities and identifies major sustainability performance indicators. Chapter 6 by Silke Hoehl, Kai-Oliver Schocke, and Petra Schaefer presents
analysis and recommendations of delivery strategies in urban and suburban areas. A research series about commercial transport started in the region of Frankfurt/Main (Germany) started in 2014. The first project dealt with the commercial transport in the city centre of Frankfurt/Main. One hypothesis was that CEP vehicles are congesting the streets. A data base was built by collecting data in two streets in the centre of Frankfurt. Contrary to the expectation a significant part of commercial transport is caused by vehicles of craftsmen. After that, in 2016 the second project examined the delivery strategies of four CEP companies in Frankfurt. One research question was if CEP companies use different delivery strategies in different parts of the city. Therefore 40 delivery tours were accompanied and data was collected e.g. number of stops, number of parcels per stops, car type, transport situation, parking situation, shift lengths or GPS-track. In parallel, the traffic situation in several districts of Frankfurt were analyzed. In a third part, the two streams were put together to recommend delivery strategies for CEP-companies as well as useful insights for local authorities. As a third project of the research series a new project has just begun. The study area has been extended to the entire RheinMain region. It deals with the commercial transport and faces the challenge to manage commercial transport at a low emission level. On the one hand, the methodologies of the two preceding projects will be applied to a suburban area in the region. Recommendations will be developed. On the other hand, loading zones for electric vehicles in Frankfurt will be identified and developed. After that, a conference will give a wide overview of existing delivery concepts. By pointing out critical situations in the delivery chain, the whole last mile will be described. Chapter 7 by Shuai Ma, Jia Yu, and Ahmet Satir presents a scheme for sequential decision making with a risk-sensitive objective and constraints in a dynamic scenario. A neural network is trained as an approximater of the mapping from parameter space to space of risk and policy with risk-sensitive constraints. For a given risk-sensitive problem, in which the objective and constraints are, or can be estimated by, functions of the mean and variance of return, we generate a synthetic dataset as training data. Parameters defining a targeted process might be dynamic, i.e., they might vary over time, so we sample them within specified intervals to deal with these dynamics. We show that: i). Most risk measures can be estimated with the return variance; ii). By virtue of the state-augmentation transformation, practical problems modeled by Markov decision processes with stochastic rewards can be solved in a risk-sensitive scenario; and iii). The proposed scheme is validated by a numerical experiment. Chapter 8 by J.H.R. van Duin, B. Ensorink, J.J. Daleman, and M. Vaandragter addresses the theme of sustainable alternatives selection for parcel delivery. The GHG-emissions of the transport sector are still increasing. This trend is accompanied by the strong growth of the e-commerce sector, leading to more transport movements on our road networks. In order to mitigate the externalities of the e-commerce related parcel delivery market and try to make it more sustainable, the following research question has been drafted: How could the last mile parcel delivery process beco

**Toward Sustainable Communities**

This book paves the way for researchers working on the sustainable interdependent networks spread over the fields of computer science, electrical engineering, and smart infrastructures. It provides the readers with a comprehensive insight to understand an in-depth big picture of smart cities as a thorough example of interdependent large-scale networks in both theory and application aspects. The contributors specify the importance and position of the interdependent networks in the context of developing the sustainable smart cities and provide a comprehensive investigation of recently developed optimization methods for large-scale networks. There has been an emerging concern regarding the optimal operation of power and transportation networks. In the second volume of Sustainable Interdependent Networks book, we focus on the interdependencies of these two networks, optimization methods to deal with the computational complexity of them, and their role in future smart cities. We further investigate other networks, such as communication networks, that indirectly affect the operation of power and transportation networks. Our reliance on these networks as global platforms for sustainable development has led to the need for developing novel means to deal with arising issues. The considerable scale of such networks, due to the large number of buses in smart power grids and the increasing number of electric vehicles in transportation networks, brings a large variety of computational complexity and optimization challenges. Although the independent optimization of these networks lead to locally optimum operation points, there is an exigent need to move towards obtaining the globally-optimum operation point of such networks while satisfying the constraints of each network properly. The book is suitable for senior undergraduate students, graduate students interested in research in multidisciplinary areas related to future sustainable networks, and the researchers working in the related areas. It also covers the application of interdependent networks which makes it a perfect source of study for audience out of academia to obtain a general insight of interdependent networks.
Roads Less Traveled

Eco-cities and Green Transport presents a systematic, uniform, and structured way to examine different cities at different scales in order to suggest unique solutions appropriate to each scale. The book examines city infrastructure and the built environment, transport system supply and demand, and transport behavior to offer innovative policy solutions for various transport modes. With end of chapter experiences and lessons summarized, the book provides an in-depth analysis of the advantages and disadvantages for transforming cities and their transport systems to meet residents current and future needs. The increasingly rapid growth of global urbanization requires cities to be built in an ecologically sustainable, energy efficient, and livable way. A critical component in achieving these goals is an urban transportation system that uses natural resources as reasonably as possible. The outcome of a ten-year data collection research effort by the author and his team, the book sheds new insights into these challenges using a thorough investigation of traffic systems in 20 cities from 13 countries throughout Asia, Europe, and the United States. Summarizes the essential experiences of green transport projects from cities around the world. Analyzes projects using a consistent structure, allowing comparison of best practices and policy approaches. Overviews the latest sustainable urban transportation concepts, tools, and best practices.

Sustainable Transportation

From driverless cars to vehicular networks, recent technological advances are being employed to increase road safety and improve driver satisfaction. As with any newly developed technology, researchers must take care to address all concerns, limitations, and dangers before widespread public adoption. Intelligent Transportation and Planning: Breakthroughs in Research and Practice is an innovative reference source for the latest academic material on the applications, management, and planning of intelligent transportation systems. Highlighting a range of topics, such as automatic control, infrastructure systems, and system architecture, this publication is ideally designed for engineers, academics, professionals, and practitioners actively involved in the transportation planning sector.

Intelligent Transportation Systems - Problems and Perspectives

Intelligent transport systems, from basic management systems to more application-oriented systems, vary in the technologies they apply. Information technologies, including wireless communication, are important in intelligent transportation systems, as are computational technologies: floating car data/floating cellular data, sensing technologies, and video vehicle detection. Theoretical and application technologies, such as emergency vehicle notification systems, automatic road enforcement and collision avoidance systems, as well as some cooperative systems are also used in intelligent transportation systems. This book presents papers selected from the 128 submissions in the field of information technology and intelligent transportation systems received from 5 countries. In December 2019 Chang'an University organized a round-table meeting to discuss and score the technical merits of each selected paper, of which 23 are included in this book. Providing a current overview of the subject, the book will be of interest to all those working in the field of intelligent transportation systems and traffic management.

Sustainable City Logistics Planning

Innovative and smart mobility systems are expected to make transportation systems more sustainable, inclusive, and safe. Because of changing mobility paradigms, transport planning and design require different methodological approaches. Over twelve chapters, this book examines and analyzes Mobility as a Service (MaaS), travel behavior, traffic control, intelligent transportation system design, electric, connected, and automated vehicles, and much more.

Eco-Cities and Green Transport
These proceedings collect selected papers from the 8th International Conference on Green Intelligent Transportation Systems and Safety held in Changchun on July 1-2, 2017. The selected works, which include state-of-the-art studies, are intended to promote the development of green mobility and intelligent transportation technology to achieve interconnectivity, resource sharing, flexibility and higher efficiency. They offer valuable insights for researchers and engineers in the fields of Transportation Technology and Traffic Engineering, Automotive and Mechanical Engineering, Industrial and Systems Engineering, and Electrical Engineering.

**Sustainable and Resilient Critical Infrastructure Systems**

Transportation plays a substantial role in the modern world; it provides tremendous benefits to society, but it also imposes significant economic, social and environmental costs. Sustainable transport planning requires integrating environmental, social, and economic factors in order to develop optimal solutions to our many pressing issues, especially carbon emissions and climate change. This essential multi-authored work reflects a new sustainable transportation planning paradigm. It explores the concepts of sustainable development and sustainable transportation, describes practical techniques for comprehensive evaluation, provides tools for multi-modal transport planning, and presents innovative mobility management solutions to transportation problems. This text reflects a fundamental change in transportation decision making. It focuses on accessibility rather than mobility, emphasizes the need to expand the range of options and impacts considered in analysis, and provides practical tools to allow planners, policy makers and the general public to determine the best solution to the transportation problems facing a community. Featuring extensive international examples and case-studies, textboxes, graphics, recommended reading and end of chapter questions, the authors draw on considerable teaching and researching experience to present an essential, ground-breaking and authoritative text on sustainable transport. Students of various disciplines, planners, policymakers and concerned citizens will find many of its provocative ideas and approaches of considerable value as they engage in the processes of understanding and changing transportation towards greater sustainability.

**Advanced Technologies for Intelligent Transportation Systems**

This book features original papers from the 3rd International Conference on Smart IoT Systems: Innovations and Computing (SSIC 2021), presenting scientific work related to smart solution concepts. It discusses scientific works related to smart solutions concept in the context of computational collective intelligence consisted of interaction between smart devices for smart environments and interactions. Thanks to the high-quality content and the broad range of the topics covered, the book appeals to researchers pursuing advanced studies.

**Social Dimensions of Sustainable Transport**

This volume of three books presents recent advances in modelling, planning and evaluating city logistics for sustainable and liveable cities based on the application of ICT (Information and Communication Technology) and ITS (Intelligent Transport Systems). It highlights modelling the behaviour of stakeholders who are involved in city logistics as well as planning and managing policy measures of city logistics including cooperative freight transport systems in public-private partnerships. Case studies of implementing and evaluating city logistics measures in terms of economic, social and environmental benefits from major cities around the world are also given.

**The Future of Intelligent Transport Systems**

**Sustainable Transport Studies in Asia**
Models and Technologies for Smart, Sustainable and Safe Transportation Systems

Information Technology and Intelligent Transportation Systems

This unique book discusses the latest research, innovative ideas, challenges and computational intelligence (CI) solutions in sustainable computing. It presents novel, in-depth fundamental research on achieving a sustainable lifestyle for society, either from a methodological or from an application perspective. Sustainable computing has expanded to become a significant research area covering the fields of computer science and engineering, electrical engineering and other engineering disciplines, and there has been an increase in the amount of literature on aspects sustainable computing such as energy efficiency and natural resources conservation that emphasizes the role of ICT (information and communications technology) in achieving system design and operation objectives. The energy impact/design of more efficient IT infrastructures is a key challenge in realizing new computing paradigms. The book explores the uses of computational intelligence (CI) techniques for intelligent decision support that can be exploited to create effectual computing systems, and addresses sustainability problems in computing and information processing environments and technologies at the different levels of CI paradigms. An excellent guide to surveying the state of the art in computational intelligence applied to challenging real-world problems in sustainable computing, it is intended for scientists, practitioners, researchers and academicians dealing with the new challenges and advances in area.

Intelligent Transportation Systems and Sustainable Communities

Transportation Engineering and Planning is a component of Encyclopedia of Physical Sciences, Engineering and Technology Resources in the global Encyclopedia of Life Support Systems (EOLSS), which is an integrated compendium of twenty one Encyclopedias. The Theme on Transportation Engineering and Planning presents the readers with diverse sources of information and knowledge about transportation engineering and planning, to help ensure that informed actions are compatible with sustainable world development. It begins with a historical analysis of transportation development, since an understanding of how transportation technologies developed is a prerequisite for understanding issues involved in transportation systems, and for developing sound policy analysis. Next, the various chapters analyze transportation problems, discusses the state of public policy addressing those problems, considers the causes and effects of changes in demand for mobility as the socio-economic environment changes, and then deals with the fundamental questions related to transportation. These two volumes are aimed at the following a wide spectrum of audiences from the merely curious to those seeking in-depth knowledge: University and College students Educators, Professional practitioners, Research personnel and Policy analysts, managers, and decision makers and NGOs.

Sustainable, Energy-efficient Transportation Infrastructure

This book presents a discussion of problems encountered in the deployment of Intelligent Transport Systems (ITS). It puts emphasis on the early tasks of designing and proving the concept of integration of technologies in Intelligent Transport Systems. In its first part the book concentrates on the design problems of urban ITS. The second part of the book features case studies representative for the different modes of transport. These are freight transport, rail transport and aerospace transport encompassing also space stations. The book provides ideas for deployment which may be developed by scientists and engineers engaged in the design of Intelligent Transport Systems. It can also be used in the training of specialists, students and post-graduate students in universities and transport high schools.

Sustainable Interdependent Networks II

Proceedings of the 11th International Conference of Chinese Transportation Professionals, held in Nanjing, China, August 14-17, 2011. Organized by
Intelligent Transportation Systems

Economic Impacts of Intelligent Transportation Systems