

Green Transportation Logistics The Quest For Win Win Win Solutions International Series In Operations Research Management Science

Designed for students, young managers and seasoned practitioners alike, this handbook explains the nuts and bolts of the modern logistics and distribution world in plain language. Illustrated throughout, this second edition includes new chapters on areas previously not covered, such as: intermodal transport; benchmarking; environmental matters; and vehicle and depot security. In dem Handbuch werden die wichtigsten Themenkomplexe des Produktions- und Logistikmanagements sowohl theoretisch fundiert als auch mit Blick auf ihre praktische Relevanz behandelt. Hierzu zählen: Leistungsprogramme-, System- und Prozessgestaltung, Organisation und Personal, Energie- und Ressourceneffizienz, Controlling sowie Digitalisierung. Seaport Container Terminals (SCT) operate as central nodes in worldwide hub-and-spoke networks, and link ocean-going vessels with smaller feeder vessels, as well as with inbound and outbound hinterland transportation systems using road, rail, or inland waterways. The volume of transcontinental container flows has gained enormously over the last five decades frequently leading to double-digit annual growth rates for the SCT. The 2nd edition of the Handbook of Terminal Planning also deals with problems being induced by questions of terminal development on a long-term basis (strategic level). Facing present and upcoming challenges for SCT operation—such as more and more mega vessels, extremely high hinterland peaks, higher environmental standards, less public acceptance and the stronger competition between terminals serving the same hinterland—the focus of the book is on successful approaches and solutions primarily addressing the planning of terminal structures. Nevertheless, operational aspects are considered, as well as how they effectively contribute to problem solving on the strategic level. In lively and engaging language, this book describes our dependence on freight transport and its vulnerability to diminishing supplies and high prices of oil. Ships, trucks, and trains are the backbone of civilization, hauling the goods that fulfill our every need and desire. Their powerful, highly-efficient diesel combustion engines are exquisitely fine-tuned to burn petroleum-based diesel fuel. These engines and the fuels that fire them have been among the most transformative yet disruptive technologies on the planet. Although this transportation revolution has allowed many of us to fill our homes with global goods even a past emperor would envy, our era of abundance, and the freight transport system in particular, is predicated on the affordability and high energy density of a single fuel, oil. This book explores alternatives to this finite resource including other liquid fuels, truck and locomotive batteries and utility-scale energy storage technology, and various forms of renewable electricity to support electrified transport. Transportation also must adapt to other challenges: Threats from climate change, financial busts, supply-chain failure, and transportation infrastructure decay. Robert Hirsch, who wrote the “Peaking of World Oil Production” report for the U.S. Department of Energy in 2005, said that planning for peak world production must start at least 10, if not 20 years ahead of time. What little planning exists focuses mainly on how to accommodate 30 percent more economic growth while averting climate change, ignoring the possibility that we are at, or near, the end of growth. Taken for granted, the modern transportation system will not endure forever. The time is now to take a realistic and critical look at the choices ahead, and how the future of transportation may unfold.

Food Routes

The Global Quest for Sustainability

A Sustainable Supply Chain Perspective

Energy, Transportation and Global Warming

Policy, Planning and Implementation

Concepts and Optimisation Models

Handbook of Global Logistics

Considering the Mekong Region as an aggregation of various commons, the contributors to this volume investigate the various commons across the boundaries of the humanities, social sciences, and natural sciences. The book incorporates the specialized fields of political science, area studies, public policy, international relations, international development, geography, economics, business administration, public health, engineering, agricultural economics, tropical agriculture, and biotechnology. The contributors to the book cover various issues including innovation and technology, transport and logistics, public health and literacy, traditional medicine, infectious diseases, advanced agricultural technologies, irrigation, water resources, labor migration, human trafficking, and counterfeiting. They examine various commons and goods related to these issues, and discuss practices, policies, decision-making processes and governance strategies for imagining a future Mekong Community that will avoid the tragedy, and explore the comedy of the commons/or anti-commons. A valuable resource for scholars of the Mekong region, and more broadly for academics working on the interdisciplinary study of transboundary governance issues.

Contains over 3.000 terms and abbreviations.

This book presents selected contributions to the Pan-American Congress of Naval Engineering, Maritime Transport and Port Engineering (COPINAVAL), which is in its twenty-fifth edition and has become a reference event for the global maritime and port sector, attracting more and more participants from different countries. The 2017 congress was held in Panama City, Panama, bringing together a select group of scientists, entrepreneurs, academics and professionals to discuss the latest technological advances in the maritime industry.

A unique approach to managing projects combining the principles of sustainable management theory with the currently established project management theory, in an applied context. Written by a team of international experts, it tackles issues such as digital transformation, smart cities, green project management, CSR and more.

Recent Advances in Environmental Science from the Euro-Mediterranean and Surrounding Regions

The Handbook of Logistics and Distribution Management

Promoting Active Mobility

Green Shipping Management

Multi-objective Management in Freight Logistics

A Handbook on Sustainable Urban Mobility and Spatial Planning

Transport Systems and Delivery of Cargo on East – West Routes

Finding opportunities for innovation on the path between farmer and table. Even if we think we know a lot about good and healthy food—even if we buy organic, believe in slow food, and read Eater—we probably don’t know much about how food gets to the table. What happens between the farm and the kitchen? Why are all avocados from Mexico? Why does a restaurant in Maine order lamb from New Zealand? In Food Routes, Robyn Metcalfe explores an often-overlooked aspect of the global food system: how food moves from producer to consumer. She finds that the food supply chain is adapting to our increasingly complex demands for both personalization and convenience—but, she says, it won’t be an easy ride. Networked, digital tools will improve the food system but will also challenge our relationship to food in anxiety-provoking ways. It might not be easy to transfer our affections from verdant fields of organic tomatoes to high-rise greenhouses tended by robots. And yet, argues Metcalfe—a cautious technology optimist—technological advances offer opportunities for innovations that can get better food to more people in an increasingly urbanized world. Metcalfe follows a slice of New York pizza and a club sandwich through the food supply chain; considers local foods, global foods, and food that creates the best of both worlds; and, storage of food; explores the transportation networks that connect farm to plate; and explains how food can be tracked using sensors and the Internet of Things. Future food may be engineered, networked, and nearly independent of crops grown in fields. New technologies can make the food system more efficient—but at what cost to our traditionally close relationship with food? This book presents a holistic view of climate change by examining a number of energy and transportation technologies and their impact on the climate. High-quality technical research results from specific test-cases around the globe are presented, and developments in global warming are discussed, focusing on current emissions policies from air and maritime transport to fossil fuel applications. Novel technologies such as carbon capture and storage are investigated together with the corresponding process and systems analysis, as well as optimization for mitigating CO2 emissions. Water resources management, waste water treatment, and waste management issues are also covered. Finally, biomass, hydrogen and solar energy applications are presented along with some insights on green buildings. Energy, Transportation and Global Warming is of great interest to researchers in the field of renewable and green energy as well as professionals in climate change management, the transportation sector, and environmental policy.

Global logistics entails tradeoffs in facility location, distribution networks, the routing and scheduling of deliveries by different modes of travel (e.g., air, water, truck, rail), procurement, and the overall management of international supply chains. In an increasingly global economy, then, logistics has become a very important matter in the success or failure of an organization. It is an integral part of supply chain management that involves not just operations management considerations, but production engineering and regional science issues as well. As Director of the prestigious Waterloo Management of Integrated Manufacturing Systems Research Group (WATMIMS), which specializes in logistics and manufacturing, Jim Bookbinder is uniquely qualified to edit a handbook on global logistics. He has aligned a set of prominent contributors for this volume. The chapters in the Handbook are organized into discrete sections that examine modes; logistics in particular countries; operations within a free-trade zone; innovative features impacting international logistics; case studies of specific companies; and a look toward the future. Contributors are from the Americas, Europe, and Asia, and they push the state of the art in areas such as trade vs. security; border issues; cabotage within NAFTA; Green logistics corridors within the EU; inland ports; direct-to-store considerations; and all the questions that need to be confronted in any given region. This will certainly appeal to researchers and practitioners alike, and could serve as required or supplementary reading in graduate-level logistics courses as well.

This book identifies and furthers the state of the art in green logistics and transportation with a supply chain focus. It includes discussions on concerns and linkages across policy, corporate strategy and operations and inter-organizational relationships and practices. Separate sections are assigned to discuss issues related to greening of logistics and transportation functions, including green logistics network, green land transportation and green air and water transportation. Linking research with practice is another important feature of the book as various techniques and research methodologies are utilized to explain and analyze green logistics and transportation concepts and issues. The authors come from throughout the world from a variety of backgrounds (e.g. policy, technical, engineering, and management backgrounds) to provide solutions and insights from their regional and global perspectives to some of the world’s most critical green logistics and transportation issues.

Green Supply Chain

Proceedings of the 25th Pan-American Conference of Naval Engineering—COPINAVAL

A Guide to Contemporary Shipping and Port Management

Green Transportation and New Advances in Vehicle Routing Problems

Location Science

Principles of Sustainable Project Management

Sustainable Logistics and Strategic Transportation Planning

This book presents recent work that analyzes general issues of green logistics and smart cities. The contributed chapters consider operating models with important ecological, economic, and social objectives. The content will be valuable for researchers and postgraduate students in computer science, information technology, industrial engineering, and applied mathematics.

This book serves as a primer on freight transportation and logistics, providing a general and broad coverage of concepts, mathematical models and methodologies available for freight transportation planning at strategic, tactical and operational levels. It is aimed at graduate students, and is also a reference book for practitioners in the field. The book includes preliminaries, such as mathematical modeling and optimisation algorithms. The book also features case studies and practical real-life examples to illustrate applications of the concepts and models covered, and to encourage a hands-on and a practical approach. The author has taught and published extensively in the field and draw on state-of-the-art scientific research.

He has also been part of a number of practical research projects, which underpin the real life examples in the book. This book provides a thorough understanding of Short Sea Shipping (SSS) and its role in transport chains, presenting a revision of EU policies for SSS. Infrastructure and equipment required for the success of SSS are discussed, including critical features of modern roll-on/roll-off (Ro-Ro) ships and terminals. Models are proposed for the evaluation of transportation demand in SSS, including the potential effects of external costs, and its results are used within the scope of methods for Ro-Ro ship and fleet sizing. A discussion of methods used to calculate such costs is provided, and a comparison of aggregated demand with and without internalisation of external costs is carried out, pointing towards solutions for ‘greening’ freight transportation. Applications of multi-criteria decision-making and simulation techniques to supply chains based on SSS are presented. The role of information and communication technologies (ICT) in the promotion of SSS is also discussed. A number of case studies illustrate the different research methods and techniques. This book is a useful resource for students and researchers studying transportation, as well as policymakers and practitioners involved in this field and anyone with an interest in the promotion of environmentally sound transport solutions.

Green Technology deals with using science and technology to protect the environment as well as curb the negative impacts of human involvement. The emerging green technologies, covered in this book, will propel our economy in the near future. Their development will lead to global and sustainable powers that will impact our economics, societies, cultures, and the way of life. This book provides researchers, students, and professionals a comprehensive introduction, applications, benefits, and challenges of 15 emerging green technologies. It presents the impact of these cutting-edge technologies on our global economy and its future. The book will help a beginner to have an introductory knowledge about these emerging technologies. The main objective of the author is to provide a concise treatment that is easily digestible. It is a must-read for those graduate students or scholars who consider researching green technologies. It can also serve as a valuable resource for those business professionals who seek ways to green their processes.

Freight Transport and Distribution

A Cross-Disciplinary View

Handbook of Research on Sustainable Supply Chain Management for the Global Economy

Handbuch Produktions- und Logistikmanagement in Wertschöpfungsnetzwerken

Multidisciplinary Perspectives on Cross-Border Trade and Business

New Maritime Business

Modeling and Optimization in Green Logistics

Cross-border business transactions have become increasingly important due to new norms of conducting business. Cross-border business has led to the emergence of multiple business opportunities and challenges to various stakeholders. Such global reality cannot simply be ignored; thus, business entities that operate across national borders need to fully employ global business strategies to compete and survive in the dynamic global environment. Multidisciplinary Perspectives on Cross-Border Trade and Business captures a multi-faceted outlook on international business phenomena, particularly when cross-border businesses are severely affected by global crises such as the COVID-19 pandemic. This book discusses the perspectives of stakeholders from both developed and developing countries as they handled international crises including the COVID-19 pandemic. Covering topics such as knowledge acquisition, internationalization, and small and medium enterprises, this book is an essential resource for business executives, practitioners, policymakers, graduate and post-graduate students of government or business administration, professors, researchers, and academicians.

This book examines the state of the art in green transportation logistics from the perspective of balancing environmental performance in the transportation supply chain while also satisfying traditional economic performance criteria. Part of the book is drawn from the recently completed European Union project Super Green, a three-year project intended to promote the development of European freight corridors in an environmentally friendly manner. Additional chapters cover both the methodological base and the application context of green transportation logistics. Individual chapters look at the policy context; the basics of transportation emissions; Green Corridors basics; the concept of TEN-T (Trans-European Network); Benchmarking of green corridors; the potential role of ICT (Information and Communication Technologies); Green vehicle routing; Reducing maritime CO2 emissions via market based measures and speed and route optimization; Sulphur emissions; Lifecycle emissions; Green rail transportation; Green air transportation; Green inland navigation and possible areas for further research. Throughout, the book pursues the goal of “win-win” solutions and analyzes the phenomenon of “push-down, pop-up”, wherein a change in one aspect of a problem can cause another troubling aspect to arise. For example, speed reduction in maritime transportation can reduce emissions and fuel costs, but could require additional ships and could raise in-transit inventory costs. Or, regulations to reduce sulphur emissions may ultimately increase CO2 elsewhere in the supply chain. The book takes stock at the various tradeoffs that are at stake in the goal of greening the supply chain and looks at where balances can be struck.

This book presents recent work that analyzes general issues of green transportation. The contributed chapters consider environmental objectives in transportation, including topics such as battery swap stations for electric vehicles, efficient home healthcare routing, waste collection, and various vehicle routing problems. The content will be valuable for researchers and postgraduate students in computer science, operations research, and urban planning.

This book discusses the problems of delivering goods from East and South-East Asia to Europe, presenting the regional transport problems experienced in Italy, Slovakia, Russia, Georgia, Kazakhstan, Uzbekistan and Poland. The book is divided into two parts. The first part is devoted to the analysis of various issues in global logistics and freight transport, which operate in transport corridors. The second part of the book focuses on solutions to some of the technical and informatics problems related to the organization of transportation along the East-West routes. Intended primarily for professionals involved in various aspects of cargo delivery along the East-West routes, the book is also useful for manufacturers, technical staff at logistics companies, managers, students of transport-related subjects, as well as for a wide range of readers interested in the current state of transport in different countries.

Handbook of Terminal Planning

Short Sea Shipping in the Age of Sustainable Development and Information Technology

Breakthroughs in Research and Practice

Essays in Honor of Fusun Ullengin

Computational Methods and Models for Transport

The Role of Green Infrastructure in a Post-Pandemic World

The Approach of Strategic Niche Management

This volume addresses challenges and solutions in transport and mobility of people and goods with respect to environment, safety, security and socio-economics issues, exploring advanced computational research work and the latest innovations in transport. This book brings together lectures presented at the ECCOMAS Thematic CM3 Conference on Transport held in Jyväskylä, Finland, 25-27 May 2015. It is divided into three parts, I: Reviews and Perspective, II: Computational Methods and Models and III: Translational Research. Each of these parts consists of contributions that present solutions to many transport challenges in this complex, rapidly changing subject. The work contains the latest achievements of European research and technological developments needed for the next decade through computational results of scientific and technical experts who have made essential contributions in transport efficiency in Europe. The material presented here is the state of the art in Transport Modeling, Simulation and Optimization in the fields of Aeronautics, Automotive, Logistics, Maritime and Rails. Furthermore, this volume also answers the question how to apply Computational Research in Transport in order to provide innovative solutions to Green Transportation challenges of identified in the ambitious Horizon 2020 program. This book is intended for students, researchers, engineers and practitioners that are computationally involved in the deployment of Intelligent Transport Systems (ITS) in the areas of optimal use of road, traffic and travel data, traffic and freight management ITS services, road safety and security, sea traffic management, etc.

This book presents essential information on modern location science – in a word, all you need to know about location. The second edition of this handbook has been fully revised throughout, with numerous updates and chapters added, to offer an even more comprehensive overview of methods and applications. The book is divided into three parts: basic concepts, advanced concepts and applications. Written by the most respected specialists in the field and thoroughly reviewed by the editors, it first lays out the fundamental problems in location science and provides readers with basic background information on location theory. Part II covers advanced models and concepts, broadening and expanding on the content presented in Part I. It also discusses important tools to help readers grasp and solve real-world location problems. Part III focuses on the links between location science and other areas like GIS, telecommunications, healthcare, rapid transit networks, districting problems and disaster events, and presents a wide range of applications to allow readers to understand the role of facility location in such areas and learn how to handle real-world location problems. The book is intended for researchers working on theory and applications involving location problems and models. It is also suitable as a textbook for graduate courses on facility location.

This book is focused on the impact of ocean transport logistics on global supply chains. It is the first book solely dedicated to the topic, linking the interaction of parties along this chain, including shippers, terminal operators and line carriers. While ocean container transport logistics has been greatly studied, there are many important issues that have yet to receive the attention they deserve. The editors and contributing authors of Ocean Container Transport Logistics: Making Global Supply Chain Effective seek to address these topics and shed new light on the subject.

The book is divided into three parts. Part I examines the innovation, trends, competition and business model of container terminal operations. In Part II, the book looks at how tactical and operational management is used in shipping liners. The chapters cover topics such as empty container repositioning, slow steaming, routing, network design and disruption management. Finally Part III explores at shippers and global supply chain management, with chapters on transportation service procurement, hinterland transportation, green corridors, as well as competition and co-operation in maritime logistics operations. The eighteen chapters of the book all highlight the immediate effect of ocean transport logistics on global supply chain.

This series contains the decisions of the Court in both the English and French texts.

New Challenges for the Greening of Transport Systems

Review of Maritime Transport 2020

Preparing for the New Era of Transport Policies: Learning from Experience

The Dictionary of Transport and Logistics

Growing Bananas in Iceland and Other Tales from the Logistics of Eating

Transportation in International Supply Chains

Green Transportation Logistics

The tactical organization of resources is a vital component to any industry in modern society. Effectively managing the flow of materials through various networks ensures that the requirements of customers are met. Sustainable Logistics and Strategic Transportation Planning is a pivotal reference source for the latest research on the management of logistics through the lens of sustainability, as well as for emerging procedures that are particularly critical to the transportation sector. Highlighting international perspectives, conceptual frameworks, and targeted investigations, this book is ideally designed for policy makers, professionals, researchers, and upper-level students interested in logistics and transport systems.

This book presents theory-driven discussion on the link between implementing green shipping practices (GSP) and shipping firm performance. It examines the shipping industry’s challenge of supporting economic growth while enhancing environmental performance. Consisting of nine chapters, the book covers topics such as the conceptualization of green shipping practices(GSPs), measurement scales for evaluating GSP implementation, greening capability, greening and performance relativity (GPR), green management practice, and green shipping network. In view of the increasing quest for environment protection in the shipping sector, this book provides a good reference for firms to understand and evaluate their capability in carrying out green operations on their shipping activities.

Technological change is a central feature of modern societies and a powerful source for social change. There is an urgent task to direct these new technologies towards sustainability, but society lacks perspectives, instruments and policies to accomplish this. There is no blueprint for a sustainable future, and it is necessary to experiment with alternative paths that seem promising. Various new transport technologies promise to bring societal benefits. But as this book shows, important lessons are often overlooked because the experiments are not designed to challenge the basic assumptions about established patterns of transport choices. Learning how to organise the process of innovation implementation is essential if the maximum impact is to be achieved – it is here that strategic niche management offers new perspectives. The book uses a series of eight recent experiments with electric vehicles, carsharing schemes, bicycle pools and fleet management to illustrate the means by which technological change must be closely linked to social change if successful implementation is to take place. The basic divide between proponents of technological fixes and those in favour of behavioural change needs to be bridged, perhaps indicating a third way.

Green Transportation Logistics The Quest for Win-Win SolutionsSpringer

The Quest for Win-Win Solutions

Handbook of Ocean Container Transport Logistics

Experimenting for Sustainable Transport

Competitiveness and Sustainability

Increasing Capacity, Service Level, Sustainability, and Safety with Optimization Algorithms

Sustainable Shipping

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.

The integration of eco-friendly aspects, tools and solutions into a conventional supply chain leads to environmentally friendly global processes in the manufacturing and service industry. This book offers a selection of chapters that explain the impact of green supply chain solutions on value-making chains. The aim of this book is to help students at all levels as well as managers and researchers to understand and appreciate the concept, design and implementation of green supply chain solutions in the Industry 4.0 era.

This volume includes the papers presented during the 1st Euro-Mediterranean Conference for Environmental Integration (EMCEI) which was held in Sousse, Tunisia in November 2017. This conference was jointly organized by the editorial office of the Euro-Mediterranean Journal for Environmental Integration in Sfax, Tunisia and Springer (MENA Publishing Program) in Germany. It aimed to give a more concrete expression to the Euro-Mediterranean integration process by supplementing existing North-South programs and agreements with a new multilateral scientific forum that emphasizes in particular the vulnerability and proactive remediation of the Euro-Mediterranean region from an environmental point of view. This volume gives a general and brief overview on current research focusing on emerging environmental issues and challenges and its applications to a variety of problems in the Euro-Mediterranean zone and surrounding regions. It contains over five hundred and eighty carefully refereed short contributions to the conference. Topics covered include (1) innovative approaches and methods for environmental sustainability, (2) environmental risk assessment, bioremediation, ecotoxicology, and environmental safety, (3) water resources assessment, planning, protection, and management, (4) environmental engineering and management, (5) natural resources: characterization, assessment, management, and valorization, (6) intelligent techniques in renewable energy (biomass, wind, waste, solar), (7) sustainable management of marine environment and coastal areas, (8) remote sensing and GIS for geo-environmental investigations, (9) environmental impacts of geo/natural hazards (earthquakes, landslides, volcanic, and marine hazards), and (10) the environmental health science (natural and social impacts on human health). Presenting a wide range of topics and new results, this edited volume will appeal to anyone working in the subject area, including researchers and students interested to learn more about new advances in environmental research initiatives in view of the ever growing environmental degradation in the Euro-Mediterranean region, which has turned environmental and resource protection into an increasingly important issue hampering sustainable development and social welfare.

Many fields are beginning to implement developing practices that prove to be more efficient and environmentally friendly compared to traditional practices. This holds true for the realm of business, as organizations are redesigning their operations through the incorporation of sustainable methods. Research is needed on the specific techniques companies are using to promote efficiency and improved effectiveness using sustainability. Handbook of Research on Sustainable Supply Chain Management for the Global Economy is an essential reference source that discusses the incorporation of sustainability in various facets of business management. Featuring research on topics such as disruptive logistics, production planning, and renewable energy sources, this book is ideally designed for researchers, practitioners, students, managers, policymakers, academicians, economists, scholars, and educators seeking coverage on sustainable practices in supply chains to ensure a cleaner environment.

Energy and the Future of Transportation

An Introduction to Sustainable Transportation

From Mekong Commons to Mekong Community

Maritime Logistics

Proceedings of Euro-Mediterranean Conference for Environmental Integration (EMCEI-1), Tunisia 2017

An Interdisciplinary Approach to Transboundary Challenges

Emerging Green Technologies

In the aftermath of the pandemic, global demand for infrastructure is booming. National plans around the world show that infrastructure is likely to provide the backbone for a resurgence in public expenditure, and to support growth in economies badly hit by the pandemic.As all the biggest powers and blocs (the EU, the US, China, and Japan) have recently announced their plans for climate or carbon neutrality, the room and need for green and sustainable infrastructure are greatly expanding. Decarbonisation and digitalisation will be underpinning this latest investment drive in infrastructure, with sustainability and ESG principles at its core. However, infrastructure expenditure will not come without risk: after the pandemic, the world will be left with the highest levels of public and private debt since World War II, and the sustainability of key investment decisions must be carefully evaluated.How to foster quality and sustainable infrastructure investment? What role for the private sector? What future for sustainable mobility? What kind of policies will countries adopt to reach carbon neutrality?

International shipping is currently at a crossroads. The decision of the International Maritime Organization (IMO) in April 2018 to adopt an Initial Strategy so as to achieve by 2050 a reduction of at least 50% in maritime greenhouse gas (GHG) emissions vis-à-vis 2008 levels epitomizes the last among a series of recent developments as regards sustainable shipping. It also sets the scene on what may happen in the future. Even though many experts and industry circles believe that the IMO decision is in line with the COP21 climate change agreement in Paris in 2015, others disagree, either on the ground that the target is not ambitious enough, or on the ground that no clear pathway to reach the target is currently visible. This book takes a cross-disciplinary view of the various dimensions of the maritime transportation sustainability problem. “Cross-disciplinary” means that a variety of angles are used to examine the book topics, and these mainly include the technological angle, the economics angle, the logistics angle, and the environmental angle. The book reviews models that can be used to evaluate decisions, policy alternatives and trade-offs. For sustainable shipping, a spectrum of technical, logistics-based and market based measures are being contemplated. All may have important side-effects as regards the economics and logistics of the maritime supply chain, including ports and hinterland connections. The objective to attain an acceptable environmental performance, while at the same time respecting traditional economic performance criteria so that shipping remains viable, is and is likely to be a central goal for both industry and policy-makers in the years ahead. At the same time, policy fragmentation is likely to create distortions of competition and sub-optimal solutions. This book attempts to address these issues and identify better solutions. /divSustainable Shipping: A Cross-Disciplinary View includes chapters that cover many relevant topics. These include a general view of maritime transport sustainability, green ship technologies, information and communication technologies (ICTs) for sustainable shipping, green tramp ship routing and scheduling, green liner network design and speed optimization. Market based measures, oil pollution, ship recycling, sulphur emissions, ballast water management, alternative fuels and green ports are also covered. The book concludes by discussing prospects for the future, with a focus on the IMO Initial Strategy. “This book contains a unique wealth of information on sustainable shipping. The knowledge it provides is rigorous, complete, and well supported by statistics, technical reports, and scientific references. The treatment of the various topics is not only informative but also analytical and critical.” –Gilbert Laporte, Maritime Economics & Logistics (12 May, 2020)

The second edition of Multi-Objective Management in Freight Logistics builds upon the first, providing a detailed study of freight transportation systems, with a specific focus on multi-objective modelling. It offers decision-making methods and tools for implementing multi-objective optimisation models in logistics. The second edition also includes brand-new chapters on green supply chain and hybrid fleet management problems. After presenting the general framework and multi-objective optimization, the book analyzes green logistic-making two main aspects: green corridors and network design; next, it studies logistic issues in a maritime terminal and route planning in the context of hazardous material transportation. Finally, heterogeneous fleets distribution and coordination models are discussed. The book presents problems providing the mathematics, algorithms, implementations, and the related experiments for each problem. It offers a valuable resource for postgraduate students and researchers in transportation, logistics and operations, as well as practitioners working in service systems.

Globalisation and the rapid increase in world trade in the past decades have contributed to greater demand for international transport and logistics and, consequently, the expansion of the maritime industry. The dramatic changes in the mode of world trade and cargo transportation make it more important than ever to have a clear understanding of the way in which freight is transported by sea and the role of ports in this exchange. At the cutting edge in its assessment of the industry, Maritime Logistics covers the whole scope of maritime logistics and examines latest logistical developments within the port and shipping industry. With a range of new international contributors, this new edition has been thoroughly revised and updated. There are new chapters on port-centric logistics, hinterland logistics and global supply chains, maritime transport and logistics as a trade facilitator, and future trends and developments. Written by a team of international experts with over fifty years’ experience in the field, Maritime Logistics provides a truly global perspective. The book covers everything that students of logistics, as well as those working within the industry, need to know about maritime logistics, including shipping lines, containers, tankers, dry bulk, port-centric logistics, and much more.

Green Logistics and Transportation

New Perspectives in Operations Research and Management Science

Making Global Supply Chains Effective

When Trucks Stop Running

Intelligent Transportation and Planning: Breakthroughs in Research and Practice

This book presents innovative operations research applications in business, specifically industrial engineering and its sub-disciplines. It investigates new perspectives in operations research and management science with regard to research methods, the research context, and industrial engineering, offering readers a broad range of new approaches to management problems. The book features the work done with Professor Fusun Ullengin or built upon her work in their academic careers. Written in honor of Prof. Ullengin, this book was edited by her former Ph.D. students, who are now experts in operations research, multiple criteria decision making, competitiveness, logistics, and supply chain management. Prof. Ullengin’s impact in academia is visible in the range of topics and methodology and transportation problems, competitiveness of nations, food supply chains, debt collection, mathematical modelling, multiple criteria decision making, data envelopment analysis, random forests, and Bayesian networks.

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 new 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: 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, textbooks, graphics, recommended reading and end of chapter

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. *Advances in Transport Policy and Planning* assesses both successful and unsuccessful practices and policies from around the world on the topic. This new release includes chapters that focus on *An Empirical Investigation of the Reward Incentive and Trip Purposes on Departure Time Behavior Change*, *Planning Sustainable Transport Systems by Promoting Urban Cycling in Moscow, Russia: Learning from Experience, the Past, Present and Future of Transit-Oriented Development in three European Capital City Regions*, *Institutional Influences on the Development of Urban Freight Transport Policies by Local Authorities*, *Rethinking of Parking Policies for the new Transport Planning Era*, and more. The objective of this book is to provide policy makers, planners, and researchers, documentation and lessons learned from the author's extensive experience around the world to help them design a more sustainable transportation system for the future taking into account societal and technological changes. This publication has been designed to assist member States in integrating transport, health, quality of life and environmental objectives into urban and spatial planning policies. It provides many references to case studies, good practices and examples from cities across the Euro-Asian region (and beyond) covering a wide array of thematic areas, including: the future of sustainable urban mobility; sustainable urban mobility and accessibility; public transport planning as a cornerstone of sustainable urban mobility; active mobility and how it promotes health and the environment; and the potential of Intelligent Transport Systems in an urban context. The publication puts forward a methodology for sustainable urban transport planning and introduces a concise set of key messages and recommendations. High-level Meeting on Transport, Health and Environment which takes place in Vienna from 26-27 November 2020.