



Transportation Research Forum

Book Review: [Intermodal Transportation: Moving Freight in a Global Economy](#)

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The Transportation Research Forum, founded in 1958, is an independent, nonprofit organization of transportation professionals who conduct, use, and benefit from research. Its purpose is to provide an impartial meeting ground for carriers, shippers, government officials, consultants, university researchers, suppliers, and others seeking exchange of information and ideas related to both passenger and freight transportation. More information on the Transportation Research Forum can be found on the Web at www.trforum.org.

Hoel, Lester A., Giuliano, Genevieve, and Meyer, Michael D., eds. Intermodal Transportation: Moving Freight in a Global Economy. Washington, DC: Eno Transportation Foundation, 2011. ISBN 978-0-9718175-5-5

Intermodal Transportation: Moving Freight in a Global Economy

by **Maria Boile**

The Eno Transportation Foundation continues its tradition of quality publications to support research and education in transportation. Eno has produced a series of offerings on Intermodal Freight Transportation, including a volume by John H. Mahoney in 1985 and a volume by Gerhard Muller in 1999. These books served as valuable references for years, providing a broad and thorough coverage of issues pertaining to intermodal freight transportation.

The new book on Intermodal Transportation: Moving Freight in a Global Economy is not a continuation of the previous initiatives and departs from the model used in the previous volumes, as both the scope and the focus have changed. The book, published in 2011, is an edited volume of 652 pages. In this volume the editors, Lester A. Hoel, Genevieve Giuliano, and Michael D. Meyer, with another 25 expert contributors provide an overview of the evolution of freight transportation through a series of papers covering topics in freight planning, modeling, policy, economics, and finance and addressing issues relating to congestion, security, environment, labor, and human resources. The book consists of five parts, each containing three or four papers and covering about 100 pages.

The first part consists of four papers providing background on the context of intermodal transportation. The papers focus on the global economy, the components of the supply chain, the evolution of freight transportation, and the role of the public sector. This section of the book provides a historical overview of the origin and development of intermodal transportation, driving forces, and enabling factors. It addresses issues of globally organized production and distribution networks, deregulation policy, technological change, and institutional developments, highlighting the role of the public sector in freight transportation.

The second part presents an overview of intermodal freight transportation modes. The coverage embraces all conventional modes of transport, including shipping, rail, air cargo, and trucking. Each of the four papers included in this section presents an overview of the evolution, market, and policy context of the mode it addresses. Each contribution also provides information on relevant equipment and facilities, key players, issues, and challenges facing the industry. The structure of each chapter is different, and the treatment given to each of the above mentioned topics varies between chapters in the depth and the emphasis given to intermodal aspects.

The third part is an overview of intermodal freight transportation nodes and comprises four papers each treating a type of node, including seaports, airports, railroad terminals and yards, and warehousing and distribution centers. Papers in this section cover issues of governance, structure, services and facilities, operational models, funding, and finance, as well as environmental and security challenges. Similar to the previous section, each paper has a different structure and treats its topics with different emphasis and level of detail.

The fourth part, on planning and data analysis for intermodal transportation, consists of three papers. The first one, on freight transportation planning, describes how freight considerations can be included in the transportation planning process and the resulting challenges and opportunities. The second paper, on modeling freight flows, offers an appreciation of the complexity of intermodal transportation systems and the challenges faced in modeling these systems. The third paper, on financial strategies for delivering intermodal freight facilities, looks at the financing decisions for intermodal facilities and reviews the financial strategies for intermodal investments.

The last part of the book addresses external constraints on the intermodal transportation system, including network congestion, system security, environmental considerations, and labor and human resources.

Through a collection of papers, each written on a different yet relevant subject, the book provides a broad coverage and understanding of the freight transportation sector. A strong point of the book is its emphasis on the role of the public sector in intermodal freight transportation and the coverage of the importance of and the issues faced in including freight considerations in the transportation planning process. The role of the public sector in freight transportation is not always well understood and is often treated only superficially in books focusing on supply chain and freight logistics. As such, the treatment of the subject given in this book is much appreciated.

This interesting and valuable resource has some weaknesses. To provide a better and deeper understanding of the freight industry issues, a more explicit reference to the stakeholders and their role in intermodal transportation, as well as the interactions and interrelationships between them should be included in the book. In addition, a more integrated approach in the treatment of modes and nodes within an intermodal network setting would be appropriate. The elements of intermodal transportation systems are all tightly interwoven, with developments in one part of the system affecting other parts located hundreds or even thousands of miles away. Examining intermodal transportation from an integrated system's perspective, addressing the interrelations between the system's components would strengthen the book, which to a certain extent takes a modal approach in its representation of the transportation system. Although containerization as the key enabler of intermodal transportation is noted in several sections in the book, the role of technology and other developments also enabling and facilitating intermodal transportation is only treated superficially. The editing is, in places, a bit uneven, especially in sections presenting theoretical models and technical details, which are not supported by the overall book structure and content. Finally, data used in several papers are old, from 2006 or 2007, when more recent data would be available.

The book is an appropriate and useful reference for graduate and senior undergraduate students. It is a great supplement to a conventional textbook in several university programs, including transportation and systems engineering, urban and regional planning, policy and government, logistics and supply chain management. It is also a suitable reference for practitioners and policy makers and essential reading for everyone interested in freight transportation.

Maria Boile is research director at the Hellenic Institute for Transportation, Centre for Research and Technology Hellas in Greece. She has also been associate professor of transportation in the Department of Civil and Environmental Engineering, co-director of the Freight and Maritime Program at the Center for Advanced Infrastructure and Transportation, and academic fellow in the Center for Supply Chain Management at Rutgers University. Her areas of research and interest include passenger and freight intermodal network modeling, freight logistics, freight and maritime systems analysis, port and inland terminal operations, transit scheduling, and operations. Her research has been funded by the European Commission programs as well as by the U.S. Department of Transportation, National Science Foundation, Federal Highway Administration, Federal Transit Administration, state DOTs and metropolitan planning organizations. She has authored and co-authored over 150 scientific journal and conference articles, reports, and book chapters. She holds an M.S. degree in civil and environmental engineering from Rutgers University and a Ph.D. in transportation engineering from New Jersey Institute of Technology.