

The Future Of Intermodal Freight Transport Operations Design And Policy Transport Economics Management And Policy

. . . the book will be a valuable resource for students, researchers, policy makers and practitioners. Competition and Regulation in Network Industries The book is well balanced. . . The authors depict the reality of this complex world and identify the right strengths, weaknesses, opportunities and threats. Bart Jourquin, European Journal of Transport and Infrastructure Research . . . the editors and the expert contributors provide a timely overview of the present role and challenges of intermodal freight transport. . . the book will not only be appealing to academics and researchers with an interest in the emerging field of intermodal transport research. As the book is largely kept at an executive and policy level, it is also appealing to practitioners and policy makers. . . the book is a valuable contribution to the study of intermodal freight transport as a new transportation research application field. It is an essential reading for all stakeholders in the field of intermodal freight transportation, providing them with insight and tools to address the mounting academic and practical challenges in this segment of the transport and logistics market. Theo Notteboom, Journal of Transport Geography This book explores the great challenge of increasing the scope of intermodal freight transport. In view of the current dominant role of road transport and the increasing difficulties in coping with a growing number of vehicles in an efficient and sustainable way, intermodal freight transport could be considered a viable alternative. However, the book makes recognition of the fact that there is still a need to improve the performance of the intermodal transport system. The expert contributors provide an overview of the present role of intermodal freight transport, address opportunities to significantly improve current performance, and demonstrate design and modelling tools used to analyse and support this performance. Requirements for the implementation of intermodal innovations are also prescribed, and policies needed to improve competitiveness are outlined. Many factors contributing to the performance and competitiveness of

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intermodal freight transport are explored, from technological and organisational innovations through to institutional settings and policy frameworks. This comprehensive range of topics will attract a broad audience including academics, researchers, policymakers and practitioners involved in the design and development of freight transport systems. It will also strongly appeal to those with an interest in the future of freight transport. Intermodal transport operations. Design and modelling. Implementation and policy.

Following the model of previous Transportation Research Board (TRB) intermodal conferences, this conference provided a forum for discussion and information-sharing on the issues and developments affecting intermodal freight transportation planning and operations. The conference brought together more than 200 leaders and experts in intermodal freight transportation from the private sector, all levels of government, and the military. The goal was to take a collective look at how far the nation has come and at what remains to be done toward realizing the vision set forth in the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA). The discussions and findings from this conference provide useful input to the framers of the next surface transportation reauthorization scheduled for 2004. Included in the proceedings are conference presentations and the following appendices: (A) Intermodal Freight Transportation Report Card; (B) Summary of U.S. Department of Transportation Actions on Recommendations of the National Commission on Intermodal Transportation; (C) Conference Exhibits and Posters; and (D) List of Conference Participants.

A Framework for Government Participation

Global Intermodal Freight

Application of a Statewide Intermodal Freight Planning Methodology

The Virtual Intermodal Transportation System (VITS)

Final Project Report

Evaluating Intermodal Freight Terminals

This book presents a specific technical solution, called intermodal transport, which became the basic technological solution that made it possible to provide global interregional transport. Every day, new technical, technological, and organizational solutions appear that significantly affect the further development of this industry.

However, there are certain local differences between regions. In

addition, an essential factor is the exchange of experience between scientists from different countries. Accordingly, the purpose of this monothematic book is to acquaint readers with the achievements of scientists dealing with this topic and living in different regions. Scientists and specialists from Poland, Germany, Great Britain, USA, Romania, Bulgaria, Russia, Italy, Kazakhstan, and Lithuania participated in the writing of individual chapters of this book. This book is intended for professionals, teachers, students, and others who are interested in new approaches to solving transport problems. This project synthesizes information from multiple sources about the capacity of the Pacific Northwest region to handle intermodal freight transportation demand. The findings from this research are intended to be used as a framework to start a research program focusing on the planning decision making needs of stakeholders in the region. The major sources of information about intermodal capacity were published reports from different stakeholders, online resources, and information obtained through conversations with a small set of stakeholders. Information about the current and future demand for intermodal freight transportation in the region was obtained from the FAF3 database of the Federal Highway Administration (FHWA) and complemented by information available in published reports. The analysis of the current and future gap between capacity and demand for intermodal freight transportation was completed using the Strength, Weaknesses, Opportunities, and Threats (SWOT) approach to develop a more complete understanding of the factors affecting the development and expansion of intermodal freight transportation in the region. Although the accuracy of the quantitative data cannot be considered very high, general trends can be analyzed. Most of the intermodal freight flow in the region is containerized cargo that visits the main marine ports: Port of Seattle, Port of Tacoma, and at a smaller scale Port of Portland. Other port terminals that are able to handle intermodal freight flow exist in the region but represent a small portion of the total flow. Burlington Northern Santa Fe (BNSF) Railway and Union Pacific (UP) Railroad have dedicated intermodal terminals in the region providing service for truck-road intermodal transportation, and rail connectivity to marine ports is also available. An analysis of the difference between intermodal capacity and demand at an aggregate level indicates that the current infrastructure is able to handle the existing demand for containerized international freight flow in the region. However, different scenarios of demand growth show that if capacity expansion does not occur, the existing capacity will not be sufficient to satisfy the demand in the future. Main factors affecting the perception of stakeholders about the level of service and future expansion of intermodal freight transportation in the region include highway congestion in the major metropolitan areas, lack of other generators and receivers of intermodal freight flow, coordination between different stakeholders, and limited availability of ocean carriers providing service to the Port of Portland. Applying sophisticated management techniques to freight transport

offers the potential for significant cost savings as well as greater efficiency. Yet the inherent complexity of intermodal transport presents many challenges. This practical textbook on the operations of intermodal transport and logistics focuses on the practical concerns and the basics of operations, such as vehicles, containers, handling operations, logistics management and optimisation. All chapters are written by field specialists, and the volume includes additional chapters on economics, law and the environment to put the practical topics into context. It presents a balanced textbook for postgraduate students and also a reference text for those in industry or the public sector involved in the planning of intermodal freight transport.

Intermodal Freight Terminals

The Airport City and the Future Intermodal Transportation System

The Future of Intermodal Freight Transport Within the Province of New Brunswick

Modern Trends and Research in Intermodal Transportation

Governance in Port Regionalisation and Hinterland Integration

Current Applications & Future Needs : Workshop Proceedings, Reston, Virginia, June 9-10, 1998

A method for rating the intermodal freight terminals as candidates for government funded access improvements is proposed in this report. This report presents an overview of the intermodal freight transportation industry. Then government intermodal freight planning and participation including examples of government sponsored intermodal projects are presented. An intermodal freight planning procedure is then proposed. A terminal capacity analysis is performed as required for a terminal prioritization process. Finally, three prioritization strategies are proposed and illustrated using data collected from Texas. The system is designed to rank priority by facility for a given network, utilizing facility operational and physical attributes.

This book aims to investigate a long-term strategy for sustainable urban logistics. The literature evidence exhibits that considerable research on urban logistics lacks long-term planning and rarely considers the urban spatial development and integration of urban distribution innovations. Currently, 11 distribution innovations can be used for future sustainable urban freight transport. According to a systematic discussion, this book formulates the conceptual model of Sustainable Inner-urban Intermodal Transportation (SIUIT) for future urban logistics. Moreover, a comprehensive analysis illustrates that future integrations of distribution innovations comprise operational and technological integration. To this end, the morphological analysis method is employed to discuss their feasible solutions based on the SIUIT model. After that, combined with the trend exploration of urban spatial development

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on large- and megacities, this book constructs the 2.x Modula & Sustainable Urban Freight Network to improve the flexibility of the future sustainable logistics transformation. About the Author Dr. rer. pol. Zhangyuan He graduated from the University of Bremen. He currently undertakes postdoctoral research at the School of Urban Planning and Design, Peking University.

In September 1993, a team of four government and state transportation association representatives made a two-week scanning trip to Belgium, the Netherlands, and Germany to discuss and report on European experiences with intermodal freight transportation policies and systems. The objective was to observe and document information on European Community (EC) - sometimes referred to as European Union (EU) - methods and experiences in the planning and administration, system development, environmental compliance, financing, marketing, and operation of increasingly complex and capital-intensive intermodal freight systems and facilities. To the extent that such information was pertinent to the public and private sector transportation community in the United States, it would be documented in the form of a summary report.

Creating the Future, Building on the Past

Key Trends in the Intermodal Freight Transportation Industry

A Methodology for Statewide Intermodal Freight Transportation Planning

Intermodal Freight Transport and Logistics

Towards a Quality Leap in Intermodal Freight Transport

State of the Practice and Future Directions

Available tools are insufficient to provide the needed systemwide view for planning future freight transportation systems based on the coordinated use of more than one mode of transportation. Many existing tools are either mode specific (they only address a single mode of transportation) or too microscopic in scope (they address only detailed traffic flows or facility operations). No comprehensive tool exists that considers the level of performance of the total system, which is important due to the many interdependencies that exist between the different modes of transportation. In some cases, optimizing just a particular component of the transportation network could result in sub-optimization of the entire transportation system. Intermodal freight transportation planning tools are needed to optimize future freight transportation systems. This thesis presents a prototype Virtual Intermodal Transportation System (VITS) that simulates the movement of freight via highways, railways, and waterways on a statewide level. The requirements for the VITS are researched and identified. The general processes of building the VITS prototype, the results from hypothetical case studies using the VITS as a planning and analysis tool, and potential improvements to the methodology are also discussed.

This paper describes the various advance technologies already in use in the intermodal freight transportation industry and addresses the opportunity for improved communication between the public and private sector regarding technology applications to the freight transportation system that could enhance the capacity of the system as a whole. The current public interest in freight transportation policy creates an opportunity to develop a shared vision of the future needs of international intermodal freight transportation in the U.S. The federal government can impact this vision by taking action in the following areas: provide infrastructure funding to support efficiency and global competitiveness; support regional and corridor efforts; understand the freight sector and develop a shared vision of technology benefits; lead transportation technology efforts of federal agencies, and maintain commitment to open ITS architecture.

The conference on Setting an Intermodal Research Framework brought together a distinguished assembly of public officials, academicians, commercial leaders, and military specialists. During the conference, each of these groups of professionals found noteworthy synergies in their intermodal interests. Papers contained in these proceedings reflect those synergies. The conference was another step toward a strengthened intermodal partnership.

Towards the Future

Theoretical Notions and Practical Perspectives in Europe

Intelligent Transportation Systems and Intermodal Freight Transportation
A Life Cycle Governance Framework

The Future of Intermodal Freight Transport: Operations, Design and Policy

Future Transportation and the Intermodal Terminal Complex

Containerized freight shipments within the United States are rapidly coming to a crisis point as the volume threatens to overwhelm the existing transportation and distribution infrastructure. A combination of changing business practices utilizing containerized and intermodal freight and shippers from Asia and Europe using the United States as a shortcut between the two continents are fueling this increase in containerized freight. While this presents challenges for the future, it also presents opportunities for communities to take advantage of a growing industry. By utilizing intermodal freight facilities, some communities can tap into this growth and redirect it towards their own economies. This is especially true for communities within New York State. By creating, expanding and maintaining existing intermodal freight infrastructure, communities can experience many positives. These include job growth, reduction in traffic congestion and pollution, and increased competitiveness from local businesses. However, some negatives that are associated with intermodal facilities counterbalance these positives. Traffic congestion and pollution

can increase locally in neighborhoods, road wear can increase, and cash-strapped municipalities may be hard pressed to meet these added costs. The decision to locate an intermodal freight facility within a community should not to be taken lightly by planners or policy makers. (Abstract shortened by UMI.).

While the operational realities of intermodal transport are relatively well known, the institutional challenges are less well understood. This book provides an overview of intermodal transport and logistics including the policy background, emerging industry trends and academic approaches. Establishing the three key features of intermodal transport geography as intermodal terminals, inland logistics and hinterland corridors, Jason Monios takes an institutional approach to understanding the difficulties of successful intermodal transport and logistics. Key areas of investigation include the policy and planning background, the roles of public and private stakeholders and the identification of emerging strategy conflicts.

Substantial empirical content situates the theoretical and practical issues in real-world examples via three detailed case study chapters (covering the USA, UK and Europe), making the book useful to students as well as practitioners desiring an understanding of how intermodal transport and logistics work in practice. The identified challenges to intermodal transport and logistics are used to demonstrate how competing port and inland strategies can inhibit the necessary processes of integration required to underpin successful intermodal transport. The book concludes with a look at the future of institutional adaptation that may enhance the capacity of freight actors to engage with intermodal transport developments.

The Future of Intermodal Freight Transport Operations, Design and Policy
Edward Elgar Publishing

EU/US Dialogue on Intermodal Freight Transport

Intermodal Freight Transportation: Overview of impediments, data sources for intermodal transportation planning, and annotated bibliography

A Background Paper on New Transportation Technology

Operations, Design and Policy

Policy Options for Intermodal Freight Transportation

The Future of Intermodal Freight Transport

Anticipating the need for Virginia to comply with the new freight planning requirements mandated by ISTEA and TEA-21, the Virginia Transportation Research Council in 1998 developed a Statewide Intermodal Freight Transportation Planning Methodology, which provided a standard framework for identifying problems and evaluating alternative improvements to Virginia's freight transportation infrastructure. The first step in the methodology was to inventory the system. This study completed that step. In this study, a freight advisory committee,

consisting of public and private freight stakeholders, was formed. Next, county-level commodity flow data were commercially procured. Using these data, Virginia's "key" commodities were identified, and the flows of these commodities were assigned to county-level O-D tables. A geographic information system (GIS) database was developed that showed freight flows, county-level population and employment information, and Virginia's freight transportation network. With the use of various statistical analysis techniques, freight generation and attraction relationships were defined, and predictive equations were developed for each of Virginia's key commodities. Future freight flows were predicted, and various models with which to distribute these future flows were evaluated. The freight transportation GIS database, along with the analytical tools to predict and display future freight flows within Virginia, provides the Virginia Department of Transportation and its Freight Advisory Committee the means by which to identify problems, establish performance measures, and develop and evaluate alternatives to improve the flow of freight into, out of, and within Virginia.

With the completion of the Interstate highway system the transportation planning focus has changed. Fiscal constraints preclude system expansion at the pace needed to support continued robust economic growth. Therefore, attention in the public sector has shifted to getting more productivity out of the existing modal infrastructure through improvements in system operation and management. This shift from capital construction to asset management is also motivated by increased emphasis at all governmental levels on minimizing the adverse environmental and societal effects of transportation activities. In concert with these public sector forces has been the emergence of a vibrant and highly competitive global marketplace. International trade and transportation agreements have opened the door to continued explosive growth in global commerce. The successful global enterprises are characterized by efficient logistics involving just-in-time inventory systems and a strong emphasis on customer service. The transport demands of international corporations are forcing transportation service providers to be more efficient and responsive. The combined effect of these public and private sector forces is a sea change in the way the transportation system is planned, designed, and deployed. A major element of this transportation paradigm shift involves a view of the modal systems as components of a single, integrated transportation system where each mode plays a role based on its inherent strengths. This view motivates a search for technical and institutional improvements to enhance the "seamless" flow of

goods and people between the modes. In this emerging intermodal era, there will be increasing opportunities for the public and private sectors to make worthwhile investments in intermodal facilities and technology. It follows, therefore, that planning attention will be focused on improving intermodal interconnectivity. Also, the public sector will be faced with important transport policy decisions, such as carrier regulation/deregulation, truck size and weight restriction changes, and continued consolidation of the major rail carriers. Planners and decision makers will need reliable data and transportation systems analysis tools to evaluate intermodal project and policy alternatives. Within this overall global transportation system context, this report focuses on the freight transportation planning for a major corridor. The Interstate 81 corridor is a case in point. I-81 runs from upstate New York to Tennessee through Pennsylvania, the Maryland and West Virginia panhandles and Virginia and is characterized by a high level of truck travel over much of the corridor. In spite of this corridor focus, several of the conclusions drawn in this report are relevant for freight transportation planning in general.

Recognizes the importance of freight transportation to the US and that intermodal freight transportation is a major technological and organizational trend affecting the sector's performance. Examining policy options, this report views that public investment in freight facilities is complex and they have been usually financed by the private sector.

Assessing the Capacity of the Pacific Northwest as an Intermodal Freight Transportation Hub

Accessing the Future

Intermodal Freight Transport in Europe and the United States

The Promise of Intermodal and Multimodal Transportation Systems

State of Readiness for the 21st Century : Report of a

Conference, February 23-26, 2000, Long Beach, California

The Future of Intermodal Transportation

Much work has been done on port governance yet little has addressed intermodal terminal governance, despite the clear similarities. This book fills that gap by establishing a governance framework for situating analysis of intermodal terminals throughout their life cycle. A version of the product life cycle theory is amended with governance theory to produce a framework covering each stage of the terminal's life cycle, from the initial planning to the many decisions taken regarding the public/private split in funding mechanisms, ownership, selecting an operator, specifying KPIs to the operator, setting fees, earning profit, ensuring fair access to all rail service operators, and finally to reconcessioning the terminal to a new operator, managing the handover and maintaining the terminal throughout

its life cycle. An institutional analysis of stakeholder relations, situated within a governance framework, illuminates these issues and enables not only conceptualisation and greater understanding of the geography of intermodal transport, but also decision-making and goal-setting by planners and policy makers. This book thus has three functions: first, as a textbook on the planning and operation of intermodal terminals; second, as a presentation of recent empirical research on intermodal terminal governance; third, as a framework for future research in which the broad field of analysis of intermodal transport can be viewed through a single lens and used to inform geographers, policymakers and planners. This thesis addresses the key emerging trends in the intermodal freight transportation industry. Interviews were conducted with a focus on perceptions that the various intermediaries have towards their working relationships with one another the impact of emerging technologies, and what government policies and regulations should be enacted or repealed in order to improve the industry. Eight individuals were interviewed representing the following seven intermediaries: 1) Shipper, 2) Ocean Carrier, 3) Port Authority, 4) Railroad, 5) Trucking, 6) Third Party Logistics and Intermodal Management Company, and 7) Drayage. All interviews were taped and then transcribed. A major finding is that the U.S. government, industry, and academia must work in a collaborative effort to develop and maintain educational and internship programs to prepare present and future transportation managers and technicians to become the industry's leaders. Although dramatic developments in advanced technologies have been the single greatest factor influencing changes in transportation during the past 25 years it is people who manufacture goods, provide transportation services, and ultimately consume the goods produced. Therefore, it is the "human-in-the-loop" who when properly equipped, trained, and experienced will truly revolutionize the commercial intermodal freight transport industry.

Intermodal Freight Transportation conceptualizes intermodal transport as a set of physical, logical, financial and contractual flows, examining the barriers that impact intermodal freight services and the resulting performance variables. The book covers transport modes, agents, supply and demand patterns, key drivers, trends influencing the freight transportation sector, the evolution of supply and logistics chains, and the impacts of technological advancements, such as autonomous vehicles and e-commerce. In addition, the book covers transport agents, such as shippers, freight forwarders, integrators, and customs, as well as the demand for freight transport services and the key properties of goods. Readers will find a variety of new tools for analyzing and building effective transport chains that addresses component technology, information, responsibility, and financing dimension, along with sections on key organizational, regulatory, infrastructure and technological barriers. The book concludes with a look into the future of the freight transport sector. Presents a step-by-step approach that introduces key topics for understanding efficient

**intermodal transportation Focuses on the concept of fitness between the
modes of transport profiles Contains numerous, real-world case studies
throughout Examines performance metrics**

Intermodal Freight Identification Technology Workshop

Planning, Policy and Technology

Institutional Challenges to Intermodal Transport and Logistics

Seattle Intermodal Transportation Terminal

System, Economic and Policy Factors

Intermodal Freight Transportation

The researchers developed a methodology for statewide freight transportation planning that focuses on identifying and prioritizing infrastructure needs to improve the intermodal freight transportation system. It is designed to provide the framework for state departments of transportation and metropolitan planning organizations to meet the freight transportation planning requirements as mandated first by the Intermodal Surface Transportation Efficiency Act of 1991 and then by The Transportation Equity Act for the 21st Century. The researchers accomplished this by interpreting the results of a literature search on the legislation, participation roles, and analytical methodologies to formulate the steps of the method and demonstrating how each step is performed. The process is based on the interaction between inputs from stakeholders and a technical analysis that provide decision support information. A case study demonstrates how the technical tasks for the system inventory and data forecasting are accomplished. The study shows that a standard but flexible freight planning methodology can help remove impediments to efficient goods transportation. Future developments such as geographic information system data, improved freight flow data, and established system inventories are shown to facilitate the recommended process.

National Conference on Setting an Intermodal Transportation Research Framework, Washington D.C., March 4-5, 1996

Intermodal Freight Terminal of the Future

Future Sustainable Urban Freight Network Design in the Large Cities and Megacities

The Impacts of Containerization and Intermodal Freight Facilities on Economic Development in Urban Areas with Emphasis on New York State

The Future of Intermodal Freight Transportation in Canada

Transportation Challenges and Emerging Research Needs : a Research Study