

Ports, Waterways, Intermodal Terminals, and International Trade Transportation Issues

Norfolk, Virginia, Is Site of TRB Conference

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Structural, Financial, and Policy Aspects of International Trade

Export Financing

The various factors involved in the short-term financing of export transactions of U.S. companies were discussed by Charles Kerekes of the Central Fidelity Bank, Richmond, Virginia. A company may be able to finance production of goods from its cash reserves before export, or it may need to borrow working capital through its usual financial sources. In many cases, the company will look for transaction-related financing, in which the proceeds from the overseas sale are pledged against the loan. The bank will want extra assurance that it will be able to collect from the foreign country because the transaction involves both commercial and political risks over and above the risks normally assumed in do-

mestic loans. Assurance is often given by a third party, such as the Export-Import Bank, the Small Business Administration, or a state agency.

Instruments used to collect after delivery include international letters of credit, which are basically preapproved bank loans or guarantees on behalf of the buyer, international collections via the banking system, and promissory notes. The latter two types of collection provide no protection for the U.S. lender if the goods are refused at the destination.

Role of the Export-Import Bank

Hal Sundstrom of the Export-Import Bank of the United States (Eximbank) described the history and present role of his institution. Eximbank is an independent U.S. government agency chartered by Congress in 1934 to help finance exports. The bank has financed more than \$180 billion in exports, which is about 5 percent of the U.S. total during this period. Eximbank's current mission is to enable U.S. exporters to compete fairly in overseas markets by neutralizing the effect of export credit subsidies granted by other governments and by absorbing credit risks that the private sector will not accept. Exim-

bank covers 100 percent of the political risk and requires prime lenders to cover only 2 percent of the commercial risk. The bank has consolidated and streamlined its operations, is reaching out more to small businesses, and has started several educational programs to assist U.S. exporters.

U.S. Department of Transportation's Efforts To Enhance International Trade

Federal initiatives to increase exports were reviewed by Bruce Butterworth of the U.S. DOT's Trade Facilitation Group. The administration opposes trade restrictions but wishes to foster improved transportation and other measures of reducing product prices. For example, the U.S. DOT estimates that the deregulation of transportation has caused industry logistics costs to fall as a percentage of the gross national product. Current federal strategies to reduce transportation costs include infrastructure rehabilitation, user fee financing to accelerate improvements, bilateral negotiations in the international air and vessel liner trades, pre-clearance of international shipments, and promotion of electronic data interchange.

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Intermodal Freight Terminals

New ICTF Terminal in Long Beach

Gary Hanks of the Southern Pacific (SP) Transportation Company described the design and operation of the intermodal container transfer facility (ICTF) constructed by SP for the Los Angeles-Long Beach port. Development of the facility required a total of 55 permits. Opened in January 1987, the ICTF features 16 truck lanes at the gate, including 8 reversible middle lanes that permit 12 inbound or outbound lanes to be used during peak periods. Train loading and unloading operations can be carried out simultaneously on five tracks. Throughput is running 35 percent ahead of the former traffic, approaching the Phase I traffic capacity. The facility, with 180 employees, has handled as many as 1,400 container lifts in one day.

Automatic Equipment Identification

Automatic equipment identification (AEI) systems for intermodal operations were discussed by Paul Kromberg of the Association of American Railroads. A basic design decision is whether an AEI system is to have only a narrow application within the terminal or is to be used to address broader needs. Some technology options include temporary bar codes, optical character recognition, radio frequency tags, and manual input to hand-held computers. A survey of railroad needs has indicated that container inventory control currently takes 3 to 24 person-hours per train. Problems involve the accuracy of data taken at the gate, mismatch between the computer and actual inventories, cleaning labels, and field encoding. Some observers believe that improved terminal management can provide many of the benefits of AEI.

Liner Train Marketing

Reporting on APL's liner train and marketing system was Mike Morris of American President Lines (APL). Containerized service has revolutionized in-

ternational shipping. Landbridge, minibridge, and microbridge services are widely used and are now supported by double-stack container train systems. There is a critical need for improved data integration among the shipping company, the railroad, and the customer. APL is moving toward an integrated, distributed liner train system to solve this problem.

Port-Rail Interface in Canada

Douglas Smith of Canadian National (CN) Railroad spoke on the port-rail interface and inland container systems, using the CN port of Halifax as an example. The Canadian system is based on on-dock transfer rather than the use of extensive container yards, which is common in the United States. The on-dock system is not a novel concept in Canada. This is strictly a container-on-flatcar (COFC) service; the use of trailers is avoided. Most of the ships calling at Halifax also stop at U.S. ports, and 80 percent of the containers handled are going to or from Montreal or Toronto.

Port Technology and Innovation

Deeper Ports and U.S.

Competitiveness

T. Parker Host of T. Parker Host, Inc., assisted by representatives of the Norfolk District, U.S. Army Corps of Engineers, reported on the impact of the Norfolk Harbor deepening project on the competitiveness of U.S. coal exporters. The Norfolk-Hampton Roads Harbor will be deepened in stages from 45 to 55 feet. Coal is presently moved from Hampton Roads to Japan for a freight rate of \$26 per ton in Panamax-sized vessels and \$16 per ton in 150,000-ton Cape-sized vessels. The deeper channel will allow loadout at 150,000 tons in Norfolk, eliminating the need for vessels to call at Richards Bay, South Africa, for the last 25,000 tons. This will reduce the delivered cost of the coal in Japan by \$2.80 per ton.

Virginia Export Trading Company

Barry Owens of the Virginia Port Authority described the Virginia Export Trading Company (VEXTRAC), sponsored by the port authority. Export trading companies usually specialize in a product line and arrange for the product's manufacture, purchase, transportation, sale, and finance. VEXTRAC's goal is to move new products through Hampton Roads by brokering deals instead of taking title to the goods. Also promoted is the formation of shipper associations to negotiate freight rates. A major problem is avoiding competition with private industry. Other problems include high U.S. prices and the lack of follow-through on export deals by U.S. companies. VEXTRAC presently uses data from a variety of sources; improved real-time data on foreign markets are needed.

NEPTUNE Port Computer System

Richard Matika of the Virginia Port Authority reviewed the NEPTUNE system in use at Virginia international terminals. The system began with an accounting package; cargo and container control were added later. Numerous applications modules have also been added. Other recently implemented procedures include integration with customs data, new marketing programs, and the use of personal computers. Currently being developed is a yard management system that will feature on-line entry of data through hand-held units. Future needs include decision support systems, communications packages, and electronic data interchange.

Integrated Automated Terminals

The emerging concept of integrated automated terminal operation, to be used to improve transshipment efficiency, was addressed by John Leeper of Leeper, Cambridge & Campbell, Inc. The concept applies to all types of unitized cargo, not just containers. A computer-controlled container crane, which con-



Containers being unloaded at Norfolk International Terminals will be restacked at the yard and then transferred to trains or truck trailers.

tinually works the pile to position boxes for a double-stack train, is the prototype element for this type of terminal. The first integrated automated terminal will use a spiral conveyor to reach all corners of the ship's hold, allowing laborers to slide boxes onto the conveyor instead of having to lift them. Other elements include conventional cranes, a transit shed, rail track, computer-controlled stacking and palletizing, and computer processing of documentation. Additional concepts for improving efficiency include automated transit sheds worked from above and an automated system to serve an entire industrial park, thus eliminating on-site drayage.

Competition Among Gulf Ports

Examining the plight of the Gulf Coast ports was Don Gibson of the University of South Alabama. These ports are primarily used for bulk cargo instead of the more lucrative container traffic for the following reasons: little or no investment in container facilities; landbridge moves to Savannah and other Atlantic ports; and lack of a Gulf Coast load center, which reduces ship calls. Coping

strategies that may be pursued include direct competition with each other for a declining market, creation of market niches, and use of the waterfront for nontransportation purposes. In spite of these challenges, most Gulf ports are doing only operational planning, not giving attention to strategic or marketing planning.

Planning and Economics of Inland and Coastal Waterways

Atlantic Intracoastal Waterway

Karl Kuhlman, Norfolk District, U.S. Army Corps of Engineers, reported on the Atlantic Intracoastal Waterway (AIWW), a 2,000-mile inland waterway route from Boston to Florida. North of Norfolk, the system is not well defined and includes some unprotected at-sea sections. South of Norfolk, the AIWW is a completely protected shallow draft canal system. The deepest authorized depth on the AIWW is 12 feet. Goods are moved in barges and scows and include the usual inland waterway com-

modities (petroleum, chemicals, coal, sand, gravel, and so on). It is difficult to separate the traffic data because they are usually included with the deep draft statistics in the current Corps of Engineers' reporting system.

Multiport Analysis

L. George Antle, Institute for Water Resources, U.S. Army Corps of Engineers, described tests of a methodology for evaluating port projects within the context of competition between ports in multiport systems. The essential feature of the methodology is that analysis of the inland move to or from each port becomes critical. The first test involved the application of the methodology to the Delaware River deepening project. It was found that deepening the channel would divert some coal, petroleum, and grain traffic from other ports. Some petroleum would be diverted from the Louisiana Offshore Oil Port (LOOP) facility if refinery capacity were available. A second test involved grain traffic through Galveston Bay. The multiport analysis produced smaller relative benefits for a Galveston Bay project than



Coal transfer facilities at the Dominion Terminal. Coal is picked up from ground storage areas, blended in the twin silos, and loaded on shipboard at the rate of 6,500 tons per hour.



Three conventional cranes at the Norfolk International Terminals.



Conference participants view unloading of containers at the Norfolk International Terminals. The facility is served by five cranes including the two 50-container-per-hour double-boom cranes.

did the regular Corps analysis but showed the potential for considerable traffic diversion. As a result of these tests, the Corps concluded that multiport analysis is feasible but will add about \$100,000 to the study costs.

New Roles for Ports

Some of the recent changes in transportation and the implications for ports

Future Activities

Future annual conferences being planned by the sponsoring TRB committees will cover Pacific Rim trade issues, problems with containers, paving technology case studies, electronic control in terminals, inland waterways and economic development, and funding of channel-deepening projects. The 13th Annual Summer Conference will be held in Seattle in July 1988.

were traced by James Brennan of Temple, Barker, and Sloane, Inc. U.S. foreign trade is increasingly East-West traffic of high-technology, time-sensitive products moving as part of an integrated logistics and manufacturing system. Technology trends include larger ships, domestic containerization, integrated transportation companies, less-than-truckload (LTL) traffic on trucks, and electronic data interchange. A major implication for ports is that the customers are now the carriers rather than the shippers. Ports no longer have any natural hinterlands; service, not geography, is the key to attracting traffic. Additional trends in this new business environment include package pricing rather than pricing individual services, value-added services by ports, intermodal container transfer facilities, and on-dock or near-dock transfer. The successful ports of the future will be able to marry international and domestic cargo flows; will form alliances between carriers, warehouses, freight forwarders, and so on, to offer integrated services; and will perform value-added services.

Future of the St. Lawrence Seaway System

Duane Lougee, U.S. DOT, discussed factors affecting traffic on the Great Lakes-St. Lawrence Seaway (GLSLS) system. The difference in lock sizes between the upper and lower parts of the system has created two classes of vessels: those that are captive to the lakes and those that can traverse the entire system. Only 39 percent of the world's bulk fleet and 69 percent of the freighters can pass through the system's locks, and 80 percent of the vessels must light load. The GLSLS is presently competitive only for grain and iron ore. Traffic grew steadily from 1959 to 1966 but has leveled off since that time. The St. Lawrence Seaway Authority is anticipating modest traffic growth, mostly in grain, because the factors that caused the grain traffic to fall have largely reversed. However, because grain markets are complex and competitive, the future of the GLSLS system is uncertain.

TRB CALENDAR

1988

March 6-11	Conference on Goods Transportation in Urban Areas, Santa Barbara, California, <i>Elaine King</i>
March 28-30	Highway Safety at the Crossroads, San Antonio, Texas, <i>George W. Ring III</i>
May 9-11	National Conference on Light Rail Transit, San Jose, California, <i>W. Campbell Graeub</i>
Spring	Conference on Value of Transportation Planning in Small Communities (site to be determined), <i>James A. Scott</i>
Spring	Long-Range National User Trends and Requirements for the Nation's Highway and Public Transportation Systems (site to be determined), <i>James A. Scott</i>
June 1-3	Conference on State Public Transportation Funding and Administration Issues, Fredericksburg, Virginia, <i>W. Campbell Graeub</i>
June 1-5	Second International Conference on Case Histories in Geotechnical Engineering, St. Louis, Missouri, <i>G.P. Jayaprakash</i>
June 8-9	First International Symposium on Surface Characteristics, State College, Pennsylvania, <i>George W. Ring III</i>
June 15-17	1988 International Air Transportation Conference, Orlando, Florida, <i>Larry Jenney</i>
June	Strategic Technological Issues in Aviation, Washington, D.C., <i>Kenneth E. Cook</i>
July 18-21	14th International Forum on Traffic Records Systems, San Diego, California, <i>Robert E. Spicher</i>
July 19-22	13th Annual Summer Conference on Ports, Waterways, Intermodal Terminals, and International Trade Transportation Issues, Seattle, Washington, <i>Kenneth E. Cook and Elaine King</i>
July 24-28	27th Annual Workshop on Transportation Law, Stamford, Connecticut, <i>Robert Cunliffe</i>

July	Conference on Transportation for Suburban and Activity Center Locations (site to be determined), <i>Kenneth E. Cook</i>
August 19-20	Conference on Slope Stability, Park City, Utah, <i>G.P. Jayaprakash</i>
Summer	Conference on Rural Intercity Passenger Transportation (site to be determined), <i>Kenneth E. Cook</i>
September	Workshop on Equipment Owned by Public Agencies, Gulf Shores, Alabama, <i>Adrian G. Clary</i>
November 13-16	11th National Conference on Specialized Transportation, Sarasota, Florida, <i>James A. Scott</i>
Date to be determined	Bridge Maintenance and Inspection Workshop (site to be determined), <i>Adrian G. Clary</i>

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January 22	22nd Workshop on Human Factors in Transportation, Washington, D.C., <i>Robert E. Spicher</i>
January 22-26	68th Annual Meeting, Washington, D.C.
February 6-9	Application of Advanced Technologies in Transportation Engineering, San Diego, California, <i>James A. Scott</i>
March 13-15	2nd International Conference on Automated People Movers, Miami, Florida, <i>Kenneth E. Cook</i>
April 18-20	4th International Conference on Concrete Pavement Design, Purdue University, W. Lafayette, Indiana, <i>George W. Ring III</i>
May 21-24	5th International Conference on Mobility and Transport for Elderly and Disabled Persons, Stockholm, Sweden, <i>James A. Scott</i>

TRB is either conducting or otherwise participating in the meetings listed above. For further information contact the TRB staff representative cited in each listing or Angelia Arrington, Conference Manager (telephone: 202-334-2934).