TRB Holds Conference on Port and Waterway Transportation Issues

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Each summer, two Transportation Research Board committees, Ports and Waterways and Inland Water Transportation, conduct a joint two-day conference and business meeting, alternating meeting sites between deep-draft port cities and cities on the inland waterway system. Chosen for the 11th Annual Joint Summer Conference was Chicago, particularly appropriate because the Port of Chicago interconnects the deep-draft Great Lakes and St. Lawrence Seaway system with the inland waterway system. In an effort to encourage involvement in TRB's water transportation and shipping programs, the 1986 conference was held in conjunction with AASHTO's Standing Committee on Water Transportation and with the annual meeting of the Mississippi Valley Conference of State Highway and Transportation Officials.

Four technical sessions involving 14 presentations were held on the first day of the conference on the following topics: strategic planning and data needs for port and waterway development, analysis of inland waterway operations, developments in rail and port intermodal coordination, and port economic impacts and state funding programs. TRB is planning to publish a circular on the conference.

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Strategic Planning and Data Needs for Port and Waterway Development

The first session of the conference featured a presentation by James Brennen, Temple, Barker and Sloane, on the strategic planning process as it relates to water transportation, both at inland waterways' ports and deep-draft ports. It was pointed out that strategic planning represents a break from traditional project-oriented planning and involves a continuous assessment of the competitive position of the port. Recent trends in the maritime industry have created a need for strategic plans by ports. These trends include an accelerated rate of change in cargo-handling technology and increases in the size of ocean vessels, increased competition by steamship companies and ports for less cargo and for cargoes now heavily unbalanced by inbound imports that exceed outbound exports, overcapacity of vessels serving most major trade routes, and depressed earnings for steamship companies.

Data requirements for port and

waterway development needs were addressed by Norman Wolf, Illinois Department of Transportation (DOT), and by Jerry Tolliver, Kentucky Commerce Cabinet. Working through AASHTO's Standing Committee on Water Transportation, the Illinois DOT requested the Corps of Engineers to prepare state-specific tonnage reports on inland waterways and at deep-draft ports that encompass more than one state. In addition, the department is developing a historic data base on waterborne shipments to and from the state, which involves the use of a special program to identify Illinois-specific barge shipments from the Corps' dock-to-dock computer tapes. Kentucky has developed a comprehensive report on inland waterway facilities that includes shipments on each of the rivers, age and size of the locks, and the commodities handled by the terminals on the rivers.

Analysis of Inland Waterway Operations

In Session 2 of the conference, Mike Bronzini, University of Tennessee, presented the results of a survey, sponsored by the Maritime Administration, of barge companies throughout the country to determine broad measures of the financial and operational condition of the industry. Preliminary results indicate that the survey covered about 50 percent of inland waterway barge traffic, and revealed that the barge industry is comprised of a few large operators and numerous small companies that operate only a few towboats.

James Hall, Iowa Department of Transportation, reported on the status of a joint state–federal study to increase the efficiency of barge operations on the Upper Mississippi River, and thereby reduce barge operating costs and maintain the competitive position of shippers. The 2-year study, at a cost of $300,000, is being funded by the Maritime Administration, the U.S. Department of Agriculture, and the states of Illinois, Iowa, Minnesota, Missouri, and Wisconsin.

The third presentation of the session, by Constance Hunt, National Wildlife Federation, featured a critical analysis of several costly navigation projects, located in southern states, that have little commercial traffic but are maintained by the Corps of Engineers. In these projects, the dredge material from the rivers is placed along the shore, which reduces wetland habitats for wildlife.

Developments in Intermodal Coordination Between Railroads and Water Carriers

In Session 3, Les Holland, Iowa Department of Transportation, discussed a joint rail–barge tariff that had been implemented by Iowa in the late 1970s in cooperation with the Milwaukee Road and Alter Barge Company. The purpose of the intermodal tariff was to expedite shipments of grain from Iowa farms via rail to the Mississippi River and by barge to the Gulf of Mexico for export. The tariff remained in effect for several years, but had not been in use since the deregulation of railroads by Congress in 1980, which allowed for contract rate making.

In a report on the status of the merger of the Chessie System (CSX) and American Commercial Barge Line, William Huneke, Association of American Railroads, pointed out that the Interstate Commerce Commission (ICC) had solicited comments from shippers on the impacts of the merger on rail–barge service and that no adverse comments had been received. However, it is expected that the Water Transportation Association will continue legal efforts to block the merger. In a recent development, CSX applied for ICC approval to purchase Sea-Land, a major U.S. steamship company that operates 57 vessels.

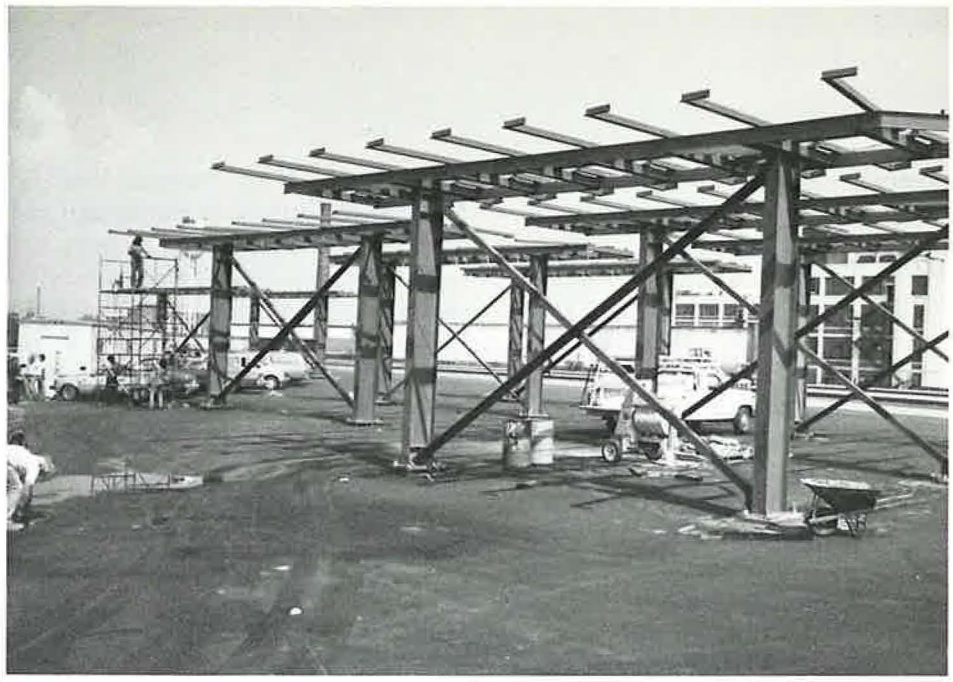
The third presentation of the session was a slide show by Harold Cerveny, Trailer Train Company, on double-stack container trains, the latest innovation in intermodal service to link railroads with the nation's ports. The double-stack train consists of a number of articulated cars, each of which has a low well that rides close to the rails and carries containers stacked two high. Compared to a conventional container-on-flat car (COFC) train, which handles 100 containers, a stack train handles 200 containers, reducing rail operating costs by as much

Double-stacked container train at Global One. Containers up to 45 feet long are stacked two high. Low profile and center of gravity provide a smooth ride quality.

as 40 percent. The Trailer Train Company is the largest producer of double-stack rail cars.

Port Economic Impacts and State Funding Programs

At the final session of the conference, Mitch Steller and Larry Smith, Temple, Barker and Sloane, presented a computer model for determining the contribution of a port to the local economy. Development of the model, which can be run on a personal computer, was sponsored by the Maritime Administration and several ports. The model determines direct economic impacts of a port related to such factors as port employment and port revenues, indirect impacts related to such factors as truck and rail shipments to and from the port and the purchase of equipment and services for use in the port, and induced impacts related to such factors as the number of employees at firms that ship through the port and revenues earned by those companies that use the port. In addition, the model calibrates the tax impacts of these revenues and expenditures as part of the port's economic impact. A panel discussion followed on state funding programs for port development projects; panel members included Ellen Fisher, Wisconsin Department of Transportation; Sam Masters, Missouri Highway and Transportation Department; and Stan Vale, Pennsylvania Department of Transportation.

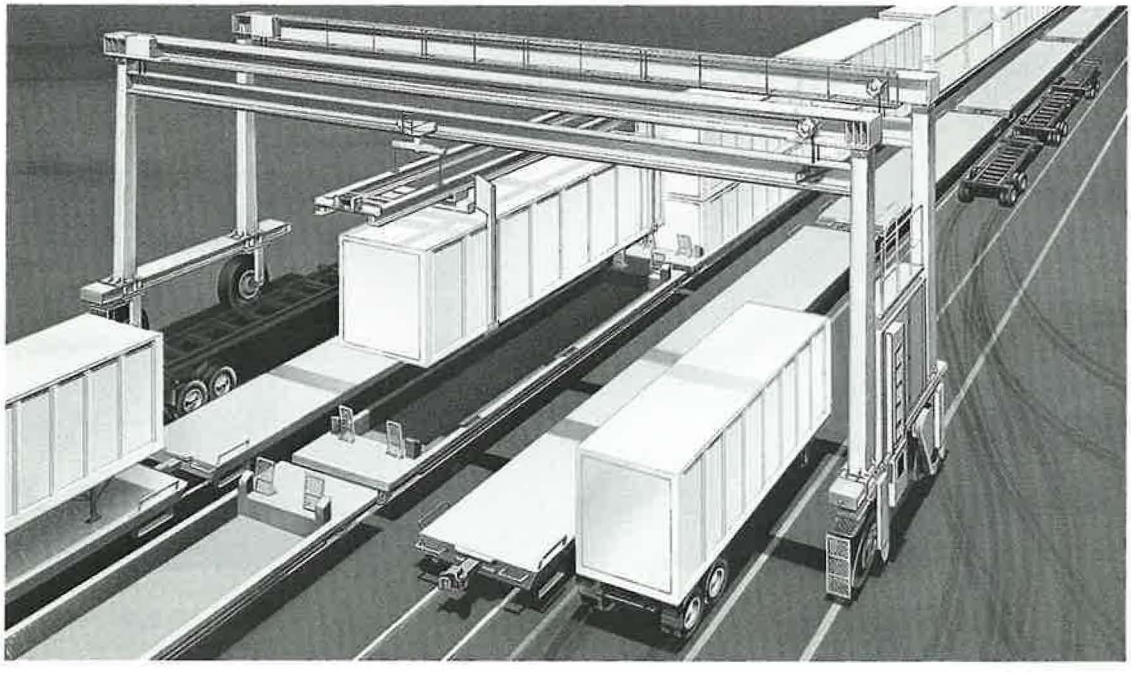


Trailer chassis-stacker facility. At Global One empty trailers will be stacked vertically to save storage space. They are lifted into the stacker via forklift.

The Chicago and North Western's Global One

On the second day of the conference, participants toured Global One, a new double-stack container yard constructed by the Chicago and North Western Transportation Company [and the Controlling Locks on the Chicago

Artist's drawing of mobile crane spanning three tracks. The new facility at Global One will be able to load container trains simultaneously. A 200-container train can be unloaded in 8 hours.



River at Lake Michigan]. Global One is a $35 million investment by the railroad to accommodate the handling and storage of containers and the loading and unloading of double-stack trains that run between Chicago and ports on both the East and West coasts. The facility will have the capacity to handle four double-stack trains simultaneously, or a total of 800 containers. A unique aspect of the facility is the triple-track configuration that enables two trains to pull along both sides of a stack train on the middle rail to transfer containers. On the outside of each set of three parallel tracks is a truck lane for containers to be transferred between the rail cars and the flatbed chassis pulled by truck cabs. Another unique feature of the yard is huge mobile cranes that span the three rail tracks and two truck lanes and will handle the transfer of the containers. An innovation of Global One is a number of chassis-stackers that are metal racks against which the truck chassis are leaned lengthwise by fork trucks. The chassis-stackers are being installed to save on paved space that otherwise would have to be used to park the many flatbed chassis that arrive at and depart from Global One.

Controlling Locks on the Chicago River

A tour of the Controlling Locks on the Chicago River at Lake Michigan was also conducted for conference participants. The Controlling Locks were installed in 1900, when the city undertook a project to reverse the Chicago River from flowing into Lake Michigan in order to prevent a severe health hazard from polluted lake waters. The lock, measuring 600 feet long by 80 feet wide with a depth of 23 feet, is used primarily by recreation and tour boats; about 600,000 tons of commercial traffic use the lock each year. Owned by the Metropolitan Sanitary District of Greater Chicago, the lock is operated by the Corps of Engineers under contract with a private company, representing the first Corps of Engineers' project to be operated under contract.

View of roll on/roll off ship at the marine terminal, Port Elizabeth, New Jersey.