cost-effective transportation service. They are subsidized in many cases, or they are owned outright by many governments. I just don't see that going away. It would be an incredible feat to have enough alliances to possibly make a dent in that.

We are working harder and harder to come up with new sources of business.

The terminal and equipment side is the challenge over the next few years. This is a bigger challenge to manage and coordinate with other carriers than the vessel side.

* How do Sea-Land and its sister affiliates approach a JC Penney as a corporation—do you all go in separately or is there a matrix organization?

There has been too much of a fragmented approach, with a number of different hats going in—maybe eight or nine depending on the size of the customers and the extent of their markets around the world and the services they need from transportation providers. We are working hard to fix that. The large customers in multiple countries often have 10 or 15 groups to deal with. As we are trying to go in with fewer hats, ideally with one hat, we are working with customers to try and do the same. We have had some success by trying to work as a team.

We wouldn't rule out alliances with national carriers. We will work with key players in whatever market if it gives us benefit and takes care of the customers. If it doesn't, we have to see if it is worthwhile to go it alone.

* When you have an international partner like Frans Maas, which approach to data harmonization and exchange does Sea-Land advocate?

It has a long way to go. The systems are not fully integrated. We are still working on that. It will take years to work out and a lot of cost. Capital requirements for informational systems have been absolutely enormous. They have begun to dwarf some of the hard asset needs. To really link all these new services, the informational systems needed amount to massive costs. We are trying to come to grips with this.

[At this point in the workshop the participants broke into two discussion groups to examine world market data and opportunities for innovative alliances. What follows is a report from those discussion groups.]

WORLD MARKETS — FORECASTING OF SYSTEM CAPACITY, DEMAND AND SUPPLY — SOURCES AND GAPS IN INFORMATION

Arlene Dietz
Navigation Data Center
U.S. Army Corps of Engineers

Our subgroup was focusing on the problems and gaps in the data for forecasting world market capacity demand and supply. The first thing we did is make note of the TRB workshops that were held last year on data resources for national transportation decision making. Part of this dealt with the marine side. *Transportation Research Record 1253*, a paper on marine transportation, provides very good coverage of the data sources. It is a handy reference.

Of the data sources, we discussed the private and the public ones. The most recognized firms are on the private side, DRI/TBS of the World Seatrade Services, the Wharton Econometrics group are leaders. For information on the government side is the Department of Commerce and the Corps of Engineers for some water transportation data.

Two to one felt that the number one problem is that data is plentiful but there is little information. The information is only important when it meets a decision maker's needs. The information has to be focused for a particular decision maker. These data have to be consistently updated. Maintaining consistency as far as data currency. Databases should be compatible between rail, foreign trade, and waterborne cargo with common standards and codes as well as other locators.

The value of geographic information systems (GISs) lies in giving utility to data and translating it into useful information. This is critical for data integrators and is seen by our group as the wave of the future. This is a key intermodal area. We have a GIS group within TRB but they haven't focused on the marine/intermodal industry.

Another major area of priority is agreeing on national and international formats and data. The container weight issue, the information on standards for measurement, and the format for transmitting this information (software).

Data reporting is another area, internationally as well as nationally. It is inadequate and inconsistent across modes domestically. We don't have consistent origin-destination information. What we do have when we try to get it internationally—we find it goes to a broker's address? In exports, it looks like all the grain is going out of Louisiana. We know it is not all grown in

Louisiana.

PIERS data has to really be manipulated before it can be used because it is raw and rough.

A big gap in the data is the true origin-destination (O-D) flow. We collect it from waterside to waterside but we don't go internally. We don't have anything on trucks and there is very little information on O-D flow. When commodities become containerized they lose their identity.

Many other items had to do with information rather than problems. One point was that shippers really dictate our communications protocols. Another issue is that we have to know who the customers are before we can make a decision on what we are doing with information. They are very diverse. The last addendum had to do with port capacity. A lot of discussion focused on the need to get information on port capacity and performance but our port contingent says that the ports aren't going to share a lot of this.

FORGING STRATEGIC LOGISTICAL ALLIANCES: FINDING WAYS TO EFFICIENTLY TRANSPORT GOODS

Douglas Smith
CN Railroad

Our study group looked at the issues we are facing from several ways—what the objectives are, what the drivers are, who the players are, and what sort of alliances there are. There are eight things that have to be done to improve the efficiency of the system and given more time, the group felt that they could have identified twice as many issues.

Some alliances would have to be formed to facilitate these improvements. Sometimes government is a facilitator and in some cases an active participant.

1. **The Ability to Share Infrastructure**. Fixed facilities, highways, rail lines, port facilities. The port infrastructure alliances could be ports and labor, ports and government. Highways between carriers, customers, and government. On the rail side between rail carriers and ports, carriers, and government. All the way through, there is a wide range of alliances that could be drawn up depending on what the specific objective was.

2. **Improvements in Information Sharing**. The alliance of shippers and carriers has shown that they are the ones whose communications needs determine how the information is going to flow. Very few movements now don't include a number of modal carriers. And improved/integrated data networks could enhance transport efficiency.

3. **Improved Asset Utilization is Needed**. The carrier-carrier alliance to share assets is a necessary alliance. Timing and location of investments. There must be long-term alliances between specialized customers and carriers. That could be a combination of marine, rail, and so forth. There are alliances between customers and ports. Government-to-port and government-to-carrier alliances in terms of return on investment for mutual goals could pay off.

4. **Risk Reduction is One of the Keys**. Shipper-carrier alliances eliminate some of the commercial risk—less risk in investing to satisfy that particular customer's needs. Carrier-carrier alliances provide financial benefits in terms of investing in shared assets or exchange of assets. In port-carrier alliances, the ports want to have long-term relationships with carriers to invest in facilities.

5. **Optimization of Regulation**. Regulate where there is going to be a benefit and remove the regulations in places where it is negative. The big area here is government-government. A lot of coordination needs to be done among different government agencies. There are a lot of different levels of government and branches at each level that have different interests with much room for coordination and alliances. A lot of regulation is there to protect customers. If the customers and carriers form an alliance, is user confidentiality/government regulation still valid?

6. **Technology Development and Transfer**. Government is useful as a facilitator of industry-industry, port-carrier, labor-carrier, and carrier-carrier alliances. Governments can mitigate the risk. Alliances can negate or spread some of the risk of looking at new technology.

7. **Improved Planning**. Coordinating customer requirements with your capabilities. Planning further ahead than we do—more than an hour. Don't treat all the links in the chain as a set of black holes. Two areas of planning: investment and long-term/short-term operations.

8. **Alliance Exploration and Promotion**. Start to discuss the structure of alliances and how they may affect and work into the process of improving the system.

In general, there is a need to focus on what the strategic objectives of the system are and what factors are driving the system. Enhancing trade in a general sense, and improving the financial health of the industry are among the issues of national interest that are mutual objectives of the system. A number of drivers, including