great to have huge quantities of containers coming westbound on the doublestack trains, as long as once they arrive at the port, you have enough space and the right equipment and infrastructure to move the containers to their ultimate destination. The challenge is to be able to do this without interfering with what you have going eastbound.

If the shipping world were Utopia, the volume and value of intermodal containerized cargo going eastbound and westbound would be the same. But it's not. A 40-foot container full of linerboard or hay that's exported to Japan doesn't have the same value as a 40-foot container full of VCR's coming in from Japan. Our efforts to balance our intermodal trade must include getting more cargo as well as getting higher value cargo.

While the growth in containerization and intermodalism has been a "Revolution", "Balancing our Trade" in terms of east/west doublestack container traffic will be a slower "Evolution." As ports, railroads, and steamship lines all focus more attention on marketing this aspect of the business, it is expected that they will work out new coalitions and new partnerships to achieve some common goals. And while there may be more cooperation in these areas, it is clear that there will be more competition as well.

The Port of Tacoma has a number of unique selling points—points which we call "The Tacoma Advantage". I have addressed one of these — the modal interface. Our future is linked to it. As we look to the future, I hope you agree with Charles Kettering, who once said, "We should all be concerned about the future, because we will have to spend the rest of our lives there."

PREPARING THE PORT OF SEATTLE FOR THE 21st CENTURY BY GORDON NEUMILLER Port of Seattle

The Port of Seattle got its official start in 1911, when it received a charter from the State of Washington to be a port authority. The first overseas ship called in Seattle in 1890, a vessel operated by NYK Line of Japan.

The port has over \$1 billion in assets, and 1,100 employees working both at the seaport and at Sea-Tac Airport. This is the 13th largest airport in the U.S., and we hope to handle about 15 million passengers this year.

The cargo terminals in the port encompass about 700 acres, of which about 400 acres are used for container terminals. The port handled 1 million containers in 1987. We also handle bulk cargo such as grain and break-bulk cargoes such as steel, autos and apples. While we export apples from the State of Washington, we also handle apples imported from New Zealand for distribution throughout the U.S.

To plan for the future, it is sometimes helpful to look at what has happened in the past, to see what worked and what didn't. Seattle has been quite successful, for a few reasons, one of which is geography. Seattle, with sailing via the Great Circle Route, is one of the closest ports to most of the

Asian ports, about a day and one-half or 600 miles closer than the Port of Ios Angeles. However, unlike the Port of Ios Angeles, we do not have a large population base in the Seattle area, so we had to take a careful look at the markets we can serve. Not surprisingly, our primary market turned out to be the Overland Common Points (O.C.P.) and the area east of the Rocky Mountains.

Once we identified our geographic advantage and the market area to be served, the next step was to determine how to attract cargoes, and how to get importers to discharge at the Port of Seattle. To do that we first needed to develop the cargo facilities, so the port began to develop container facilities and this attracted vessels to the port. In addition to our facilities, we provide value-added services for importers and exporters. For our inland shipments, we began to operate rail pools, truck consolidation, distribution warehousing, all to better serve the importer and to enable the importer to better serve his customers. Since deregulation of the trucking industry, our truck consolidation service has become the Seattle Truck Contract Program. We move about 150 million pounds of freight annually to cities throughout the U.S. and Canada.

If there are lessons to be learned, it seems that providing port facilities and services are important parts of planning. The facilities now cost a lot more than they used to. It now costs the Port of Seattle about \$1 million per acre to build a new container yard. The new generation of container cranes with a 100-foot boom, capable of handling post-Panamax vessels, costs \$4-5 million each.

Whereas, in the past, a port provided services for importers or exporters, now ports need to provide services for steamship lines. Also, there seems to be a growing battle to see who controls the inland movement of cargo, and the Port of Seattle is willing to work with whoever controls the business.

Other factors need to be considered in planning for the future of a port. These include market and environmental factors such as politics, trade protection, economics, currency exchange rates, and oil prices. While you cannot control these factors, you need to be aware of them so that you can respond as needed. Technology changes must also be considered. You need to be aware of changes that may be induced by the new generation of container vessels and the larger shore cranes to handle the vessels. Because of the large blocks of cargoes involved and the load-centering idea by vessel operators, a port must respond with new technology to remain competitive.

Knowing your competition is an important part of marketing. An interesting part of intermodalism is that it has made all ports compete with each other. That competition may be on a national basis, as East Coast versus Gulf Coast versus West Coast ports. On a regional basis, the West Coast ports compete for the O.C.P. cargoes heading east of the Rockies. On a local basis, there is competition among the ports of Seattle and Tacoma and with the Port of Portland and the Port of Vancouver, British Columbia.

The Port of Seattle is somewhat constrained in its expansion plans to acquire more land, but the port is also looking at efficiency steps to increase cargo productivity. There can be efficiencies in labor/management relations and

terminal operations. We are looking at terminal design and mechanical features that can be built to increase cargo handling within the same acreage and without a huge capital investment. The port is also expanding its Electronic Data Interchange (E.D.I.) to eventually link U.S. Customs, cargo terminals, vessels and inland transportation carriers.

COMPETING IN THE PACIFIC NORTHWEST BY BONNIE McDADE Port of Bellingham

The Port of Bellingham is located 90 miles north of Seattle on Interstate 5, in Whatcom County, the most northwestern county in the U.S. excluding Alaska. Bellingham is 23 miles south of the Canadian border.

The port facilities include the Bellingham International Airport, which increased flights from 9 daily to 76 daily in a year and one-half. There are two marinas and a new convention and trade complex. The port has four foreign trade zones, which will grow in relation to trade with Canada. There are two industrial parks, and a shipping facility called Whatcom International Terminal which has 50 acres of cargo terminal and 70 acres of foreign trade zone. The ports cargos include aluminum, wood pulp, chemicals and dried milk.

The port is located closer to the Pacific Rim than the Port of Seattle. The port is competing with the Port of Seattle to locate the southern terminal of the Alaska Ferry. It has the advantage of cutting six hours off the sailing time, and it is only a 1-1/2 hour drive by car from Bellingham to Seattle.

Ports in the State of Washington are mandated by the state legislature to do four things: maintain safe harbors, maintain safe terminals, take a leadership role in economic development, and promote tourism.

THE EMERGING ROLE OF AN INLAND INTERMODAL TRANSPORTATION FACILITY BY LARRY BONDERUD Northern Express Transportation Authority

The Northern Express Transportation Authority (NETA) is located in Shelby, Montana, a town of 3,500 population in a county of 6,000 persons. The concept of the inland intermodal facility is about 10 months old. The authority is a regional port authority under state statutes, the second such authority created in the state.

NETA came into existence to take advantage of its geographic location. It is located about 30 miles from the Canadian border on the Burlington Northern Railroads east-west main line, and on the BN's north-south line which runs from the Canadian border south to Houston, Mobile and Pensacola. About 44 trains per day run through Shelby, of which 12 are intermodal with eight double-stack trains and four single-stack trains.