

Chapter 11

Port of Portland

Glenn Vanselow
Manager of Research
Port of Portland

The Port of Portland is a public corporation in the business of transportation and economic development. The Port's primary purpose is to serve the needs of its customers and to build a strong economy in Portland and the State of Oregon. This mission has guided the Port from its beginnings in 1891 to its diversified operations of today. During that time, the Port has attempted to capitalize on the opportunities and the advantages of Portland's geographic location. In the past ten years, the patterns of international trade, the economics of transportation, and the competition between ports have made location and connections between locations even more important. This paper will present some examples of how changing trade patterns have affected the cargo hinterlands of the Port and how geographic thinking has affected some of its business decisions.

HISTORY OF THE PORT

The Port of Portland's history is a series of responses to the changing needs of trade, commerce, and transportation in the Portland region. Established by the Oregon Legislature, its first mission was to dredge and maintain a 25-foot-deep channel in the Columbia River the 110 miles from Portland to the sea (MacColl, 1976, pp. 421-422). As the dredging produced a safer and deeper channel, more and more cargo ships travelled up the Columbia to Portland. This led the City of

Portland to create the Commission of Public Docks as a separate agency in 1910. The Dock Commission began to improve the harbor's trade facilities with the construction of the first public marine cargo terminal in 1913 (MacColl, 1976, pp. 446-448).

The Port's dredging operations filled Swan Island, which became the site of the first municipal commercial airport, dedicated in 1927 with an appearance by Charles Lindberg and the "Spirit of St. Louis." Commercial aviation grew rapidly, and in 1941, the location of the international airport was moved to its present site adjacent to the Columbia River (MacColl, 1979, p. 502). Swan Island did not go vacant for long. With the advent of World War II, the land was given by the federal government to the Kaiser shipbuilding interests, and a shipyard was constructed on the northern tip of the island. Liberty and Victory ships were built in as little as ten days during the war years (MacColl, 1979, p. 573). In 1948, the Port re-acquired Swan Island and purchased the improvements from Kaiser. Today, it is the site of the Port operated Portland Ship Repair Yard, employing between 1,000 and 3,000 workers in one of the largest repair facilities in the country.

Merger of Port and Dock Commission

The separate functions of the Port and the Dock Commission continued until 1970, when a vote of the citizens



Figure 11.1 Port of Portland's Terminal 6 provides a full service container facility with direct transfer on-dock to rail, truck and barge (Port of Portland).

merged the two agencies and the new Port of Portland was formed. In 1973, the State Legislature approved expansion of the Port District, adding Washington and Clackamas Counties, to cover the entire metropolitan area. The merger and District expansion broadened the Port's financial base and gave Portland the means to compete more favorably with other ports on the West Coast.

The first major construction project undertaken after the merger was the

development of a containership facility at Terminal 6 in North Rivergate on the Columbia River. It has since been expanded to a complex with five container cranes, 3,000 feet of ship berths, 60 acres of paved container yard, and on-dock rail access (Figure 11.1). Much of the growth precipitating this expansion was caused by the high utilization of container barging on the Columbia/Snake River System. Containers move by barge to and from Terminal 6 and up-river ports in Oregon, Washington, and Idaho. Terminal 6, along with Terminal 4, also has automobile import processing centers, totalling over 400,000 import autos per year, making Portland one of the leading import auto ports in the United States.

The Port still owns and operates a

dredge, the Oregon, which is regularly leased to the U. S. Army Corps of Engineers. In 1976, the Corps completed digging the 40 foot channel in the Columbia River from Portland and Vancouver to the Pacific Ocean. The channel at the entrance to the Columbia was dredged to a depth of 55 feet in 1984. These two channel improvements allow vessels to land up to 42 feet in draft and transit without delay.

The Port's dredge is used primarily for routine channel maintenance, but is of critical value in the event of emergencies. In May, 1980, Mt. St. Helens erupted and blocked the shipping channel on the Columbia. The Oregon was on the scene within 24 hours and, along with dredges from the Corps of Engineers and private contractors, opened the channel sufficiently for ships to begin passing within three days. Fortunately, the Port has not had to respond to emergencies of similar magnitude since.

New Business Activities

One by-product of the Port's dredging program has been the production of prime industrial land in a variety of locations throughout the city. Swan Island and Rivergate were filled to above the flood plain using dredged material. The Port of Portland has been marketing and managing these and other industrial properties for more than 25 years. The Port currently owns 50 percent of the available industrial land in the City of Portland.

The Port's Swan Island Industrial Park, on the site formerly occupied by the municipal airport, is now the home of over 100 firms, principally involved in warehousing, distribution, and light manufacturing, and provides employment for about 7,000 persons. The 3,000-acre Rivergate Industrial District

is zoned for heavy industry and is a popular location for regional distribution centers. Land is also being developed for industrial and commercial uses around the Port's International Airport and its three general aviation airports.

Today, the Port of Portland continues to expand its level of activity in fulfilling its mission to promote the maritime, shipping, aviation, commercial, and industrial interests of the Portland metropolitan area (Figure 11.2). Its first priority in doing so is to stimulate commercial and industrial activity in the community by taking advantage of the area's geographic location in the local, regional, national, and world transportation systems.

THE PORT'S GEOGRAPHIC SITUATION

The Port's location within the economic and transportation systems is an important factor in past development and in future opportunities for growth. The transportation system surrounding Portland funnels economic activity to Portland from throughout the United States and Canada and enhances Portland's position as the major distribution center in the Pacific Northwest (Montgomery, 1985).

Rail, Highway, and Air

Three major rail lines serve Portland, carrying thousands of intermodal containers between Portland and all points of the United States (intermodal containers move directly from ship to rail on the dock). Rail brings dry bulks from the Rockies and 100-car unit trains of feed corn from the Midwest. Hondas, Toyotas, and other import autos are distributed from the Port by rail throughout the country. The U. S. highway system brings truckloads of ag-

Port of Portland Facilities

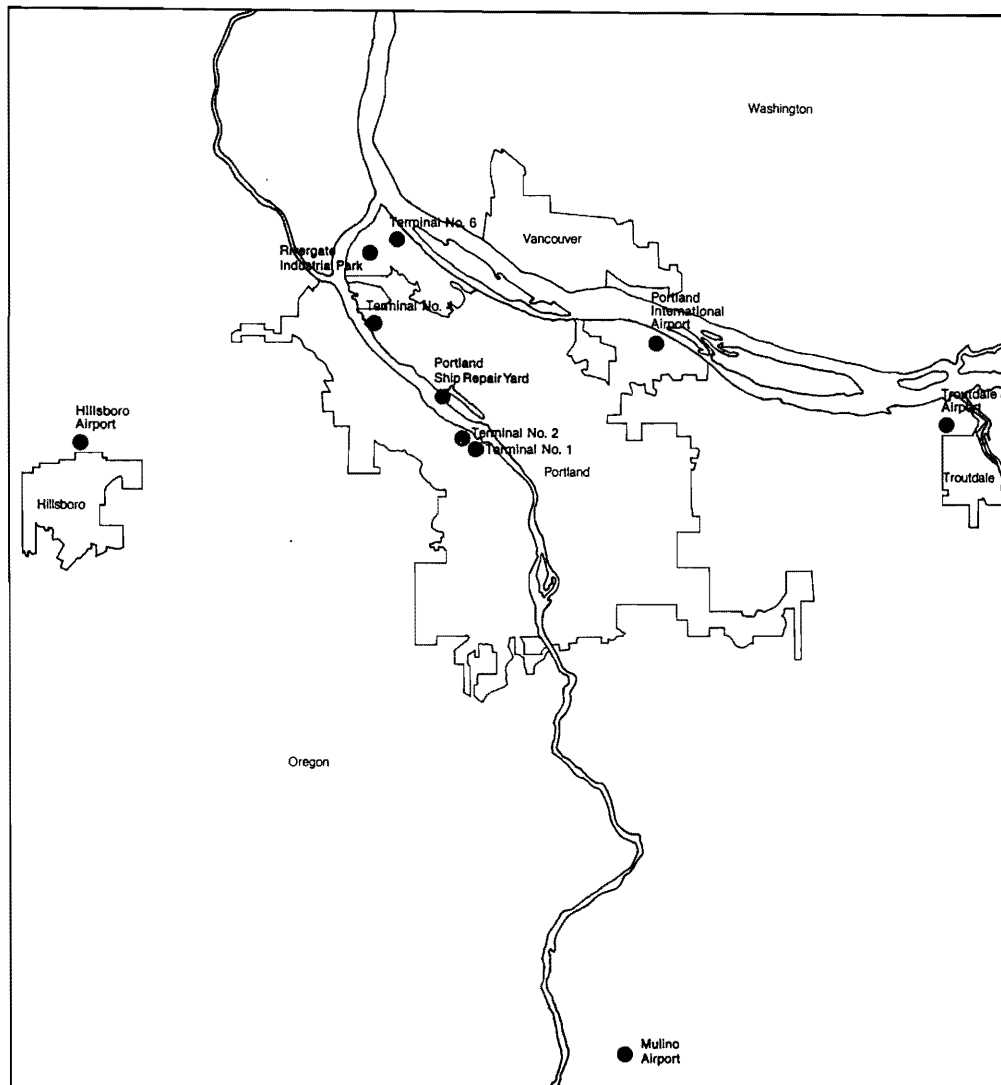


Figure 11.2 Port of Portland's operations (dots) include marine terminals, ship repairs, airports and industrial development (Port of Portland).

agricultural products from Oregon and Washington, forest products from Idaho, and grain from Montana and the Great Plains states.

Airlines and air cargo carriers move

people and local products to both domestic and foreign markets. Over five million passengers and 65,000 tons of cargo moved through the Portland International Airport in 1985 (Port of Portland, 1986). Portland's selection by the U. S. government as the most recent air passenger gateway for nonstop service to Japan emphasizes Portland's position on the Pacific Rim, midway

Columbia/Snake River System

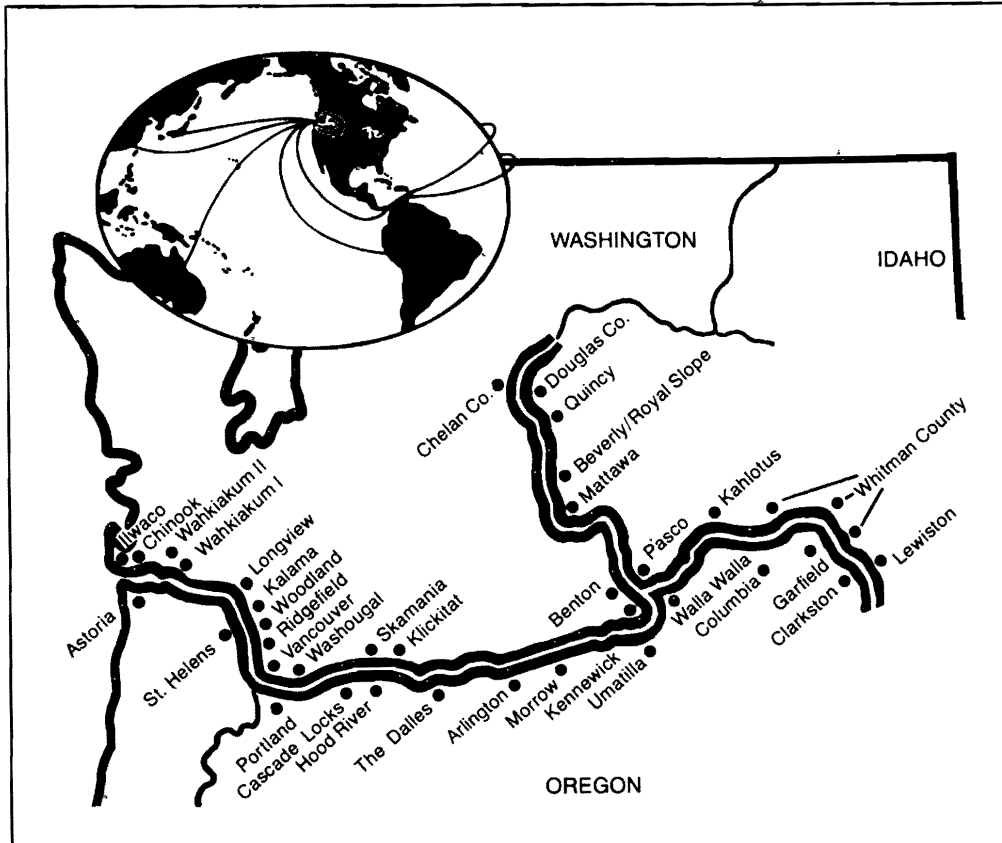


Figure 11.3 The Port of Portland is one of 34 ports on the Columbia/Snake River system serving U. S. and world markets (Columbia/Snake River Marketing Group).

between the economic centers of Asia and the U. S. and Europe (Figure 11.3).

The Columbia/Snake River System

The Columbia/Snake River System makes Portland unique among West Coast ports. It serves as Portland's outlet to the Pacific with over 30 steamship lines providing scheduled or charter service for all types of cargo from Port-

land to world markets. It also serves as the most cost efficient transportation mode for moving regional cargo to port. The Columbia and Snake Rivers form a 465-mile navigation system serving the States of Oregon, Washington, and Idaho (Figure 11.3). Up river from Portland, a 14-foot draft barge system is open year around, bringing the economy of water transportation another 355 miles inland as far as Lewiston, Idaho.

The Columbia/Snake River system is not only the deepest draft inland barge system in the U. S., but also the only system to be successful in barging containers (Containerisation International,

1983). More than 28,000 containers, as measured by 20-foot equivalent units, were barged to and from up-river ports in 1986. Container barging was pioneered in 1972, and since completion of the navigation system to Idaho in 1975, it has grown steadily. Now containers can be handled at six up-river ports on the Columbia and Snake Rivers: Lewiston, Idaho; Clarkston, Wilma, and Pasco, Washington; and Umatilla and Morrow, Oregon.

While containers make the system unique, grain is its staple. More than five million tons of grain are barged on the system each year. Fifteen up-river ports move grain through more than 20 river elevators. Unlike containers, grain movements are not a recent development. Grain moved on steamboats in the 1850's, and the first port district up river was created at Kennewick, Washington in 1915 to help facilitate the movement of grain (Vanselow, 1982, p. 57). Forest and agricultural products make up the bulk of the downbound commodities. Up-river barges carry fertilizer and petroleum products to support farms and communities throughout the Columbia/Snake Region. It is this geographic situation within the transportation system that the Port attempts to use to create advantages for economic activity in Portland.

CHANGING HINTERLANDS AND TRADE PATTERNS

The center of world trade activity shifted during the early 1980's. The volume of cargo moving in the transpacific trade routes surpassed that moving across the Atlantic. This change in focus toward Asia created a variety of opportunities for West Coast ports. As a result, Portland plays an increasingly

important role as a national gateway and distribution center for goods moving in transpacific trade. This has resulted in a change in the hinterlands of the Port.

The traditional natural resource base for Portland has been agricultural and forest products. Portland was primarily a regional port with a Pacific Northwest regional hinterland. Now, however, Portland is serving much broader national markets. This is primarily due to the city's position on the Pacific Rim, but the specific factors influencing the change in hinterlands vary for each of the major commodities. Grain exports, import automobiles, and containers serve as examples of the types of changes that are occurring.

Grain

Since the days when wheat moved by steamboat from Eastern Oregon and Washington to Portland for transshipment onto sailing vessels and the export market, the volume of wheat has grown consistently. There are two major components to the Columbia River grain trade today, however. One is the traditional movement of Pacific Northwest wheat. The second, the export of Midwest feed corn, is much more recent. Grain currently is exported out of eight elevators on the lower Columbia River: four in Portland, two in Kalama, Washington, and one each in Longview and Vancouver, Washington. Other Pacific Northwest grain elevators are located in Puget Sound, with two in Tacoma and one in Seattle.

Prior to 1975, grain exports grew at the same rate as production increases in the farms of Oregon, Washington, Idaho, and Montana (Beeman, 1983, pp. 9-11). In 1975, the extension of navigation to Lewiston, Idaho, 355

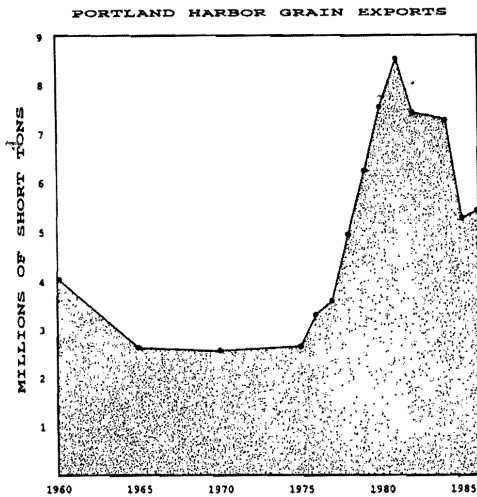


Figure 11.4 Grain Exports through Portland Harbor (Merchant's Exchange of Portland, Oregon).

miles inland from Portland, was completed. Export volumes doubled over the next five years as a result of two related factors (Figure 11.4). Navigation capabilities and the low cost of barging, coupled with new investment in river grain terminals, brought grain to the Columbia/Snake River System from the Dakotas, Minnesota, and as far east as Illinois and Indiana.

This grain was trucked to new Snake River ports at Lewiston, Idaho, and Clarkston, Wilma, Central Ferry, and others in Washington. The river ports then transferred the grain to barges for shipment to the export elevators at Portland and other Columbia River ports. The truck/barge combination via the Columbia/Snake System attracted wheat from upper Midwest producers that previously had used the Gulf coast for export. While the distance from the Midwest to either the Gulf or the Pacific Northwest is comparable, the sailing distance from Portland to Japan is less

than half the distance from the Gulf through the Panama Canal. Portland to Yokohama is 4,342 nautical miles compared to 9,296 from Houston to Yokohama.

The combined efficiencies of inland and ocean transportation helped the Columbia River attract 31 percent of all United States wheat exports by 1986 (Edison, 1987). Recently, U. S. wheat export volumes have declined considerably due to a loss of overseas markets as more countries have become self sufficient in grain production. However, the Columbia River ports have fared better than the nation as a whole, decreasing by less than half the national rate.

As the wheat hinterland was expanding eastward, Portland was able to participate in receipt of a new commodity for export. Feed corn from Nebraska and the Midwest began moving by unit train to the Columbia River for export in 1983. Bulk shipments of feed corn first came to the Pacific Northwest in 1978. Prior to that year, the Columbia River elevators and the three elevators in Puget Sound handled only wheat and smaller volumes of Northwest barley and oats. From 1975 to 1977, wheat export volumes averaged 6.5 million tons through the Columbia River and under two million tons through Puget Sound (Table 11.1). Corn exports were negligible.

In 1978, the grain companies shifted some of their export feed corn from the Gulf Coast to the Pacific Northwest. Feed corn was shipped to Puget Sound by rail, while wheat exports were diverted to the Columbia River. The average volumes during this period, from 1979 to 1981, increased dramatically in both commodities. Puget Sound corn exports grew to an average of 5.6 million tons per year, but their wheat vol-

Table 11.1. Grain exports via the Columbia River and Puget Sound, in short tons (U.S. Army Corps of Engineers, 1985).

	Columbia River		Puget Sound	
	Wheat	Corn	Wheat	Corn
1975	6,567,779	722	1,786,193	517
1976	7,164,179	37,362	2,481,378	574
1977	5,994,492	1,767	1,372,924	37
1978	9,335,419	4,851	1,033,241	1,890,139
1979	10,114,052	1,471	1,379,150	3,868,317
1980	11,786,726	1,241	141,820	7,320,682
1981	12,809,538	21,219	329,790	5,669,012
1982	10,834,473	177,713	1,096,960	1,400,399
1983	11,659,763	1,076,085	1,057,434	3,491,605
1984	10,790,119	5,464,055	763,052	5,391,461
1985	8,327,245	4,504,822	402,915	3,097,831

ume declined by two-thirds. At the same time, Columbia River wheat exports grew to an average of over 11.5 million tons per year (Table 11.1).

Then in late 1983, the Peavey elevator was built at Kalama, Washington specifically to handle feed grains, and Columbia Grain expanded their Portland elevator and added corn handling capabilities. With Kalama handling the majority of the volume, Columbia River corn exports averaged nearly 5 million tons in 1984 and 1985. Wheat exports declined somewhat, averaging 9.6 million tons per year. By comparison, Puget Sound exports averaged over 4.2 million tons for corn and less than 600,000 tons for wheat (Table 11.1).

The economies of barging on the Columbia/Snake River System continue to play an important role in maintaining high volumes of wheat exports. In the case of Midwest feed grains, it was the excellent inland rail connections and the shorter transpacific route to Asia that brought the cargo here.

Import Autos

The increase in import automobile volumes through Portland is partly due to growth in the total number of U. S. imports. But of greater significance is the increase in distribution service area captured over the last 10 years. In 1975, Portland was serving as an import center for import autos arriving from Europe and Japan for distribution to the states of Oregon, Washington, Idaho, Montana, and part of Nevada. That year Portland handled 60,000 autos. By contrast, 411,000 autos were imported through Portland in 1986, and the distribution area has expanded to 30 states (Figure 11.5).

This tremendous growth has occurred primarily because Portland's geographic location provides the shortest route for Asian manufacturers to reach the major American markets. The ocean voyage to Portland from Japan or Korea is a day shorter than to California ports and seven to ten days shorter than to the Gulf Coast. This provides a significant benefit to owners of auto carriers. By

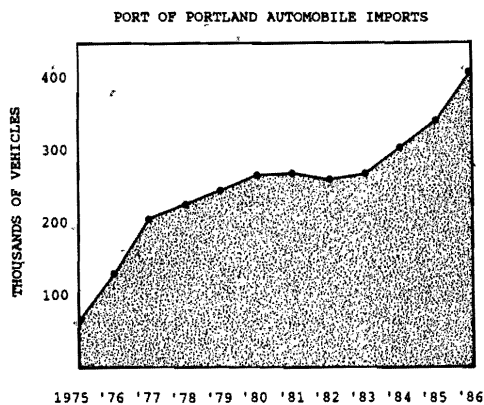


Figure 11.5 Port of Portland automobile imports, in number of vehicles (Port of Portland).

turning the ship around in Portland rather than the Gulf, ship utilization increases, which decreases requirements for investment in specialized auto carriers by one-third. The Puget Sound ports of Seattle and Tacoma have similar locational advantages with respect to the Pacific Rim, and they have experienced growth in auto imports, as well. Tacoma handled 170,000 autos and Seattle 118,000 in 1986 (*Oregonian*, 1986; *Daily Shipping News*, 1987).

Import automobile terminals are land intensive, with some facilities requiring up to 125 acres. Portland has taken the lead in auto imports, in part, because of its available supply of large tracts of land that are both on the water and served by excellent inland rail connections.

On the inland side, the autos move by truck to the states of Oregon, Washington, Idaho, Montana, and Wyoming, and by rail to the remaining markets. From Portland, it takes three days by rail to reach distribution centers in Denver and Omaha, four days to Chicago, Kansas City, and St. Paul,

five days to St. Louis, Cleveland, and Dallas, and six days to Memphis. In the early 1970's, these rail-served markets were served by Gulf and East Coast ports. One of the major reasons Portland was able to capture these markets is that, with the travel times shown, autos imported through Portland could reach the interior distribution points before they would even arrive at the Gulf or East Coast ports.

The fact that there are three trans-continental railroads competing for business in Portland helps create the efficiencies that permit these fast service times and keeps inland rates low. There are indications that the role of rail transport may increase even further. Experimental moves are now testing the efficiency of distributing autos to the East Coast from Portland and other West Coast ports. The principle is the same. There may be operating efficiencies for auto companies in Japan, Korea, or Taiwan to use what is called the mini-land-bridge to the East Coast markets rather than the current all water route through the Panama Canal.

There are some complicating factors in the East Coast land bridge compared to rail service to the Midwest and Southwest. One is the relationship between imports and U.S. production for those foreign auto companies with manufacturing plants in the East. Generally, the foreign auto companies use domestic production primarily to serve the eastern markets, while the western U.S. markets continue to be served by imports. Another factor is that the rail move must be divided between two railroads, those serving the West Coast and those serving the East, in order to reach all of the eastern seaboard markets. This reduces the handling and cost efficiencies that benefit the auto companies in the Midwest distribution.

The net result is that there is still a time savings, but the cost savings are not certain as yet.

The domestic production of foreign automobiles appears to be in a growth trend. This could have an impact on the imports. Current indications are that U.S. production will focus on specific models, and not the entire range of models, and it is likely to focus on autos produced for East Coast markets. This suggests that there is still growth opportunity for imports on the Pacific Coast. The domestic production provides another cargo opportunity as well. CKD (complete knock down) autos will be imported in containers through West Coast ports destined for manufacturing plants in the U.S.

Containers

For grain and automobiles, Portland clearly has made the transition from a regional to a national port. Not only does the volume of cargo moving to and from national markets dominate the Port's total volumes for these commodities, but the Port also plays a dominant role in the national market. In both cases, Portland built the dominant national position from its strength as a regional port. This transition has not yet occurred for containers.

Portland does serve as a major container port, with over 1.4 million tons of container cargo per year, but its cargo base is dominated by regional export agricultural and forest product commodities. Seattle/Tacoma and Los Angeles/Long Beach handle significantly larger volumes of container cargo, primarily serving the national markets.

Portland has some natural advantages for serving the Pacific Northwest regional exporters. One major advantage is the low cost container barge system, which makes Portland cost

competitive for shippers from throughout the region. The barging helps to funnel regional cargo and to build the export cargo base in Portland. This includes cargo from the major agricultural producing regions in Eastern Oregon and Washington, Southern Idaho, and Montana, and paper and wood products from Idaho and Montana.

Portland also serves the national container markets. Portland's Terminal 6 was built in 1974 with on-dock rail transfer capabilities. When the terminal was expanded in 1981, the rail capabilities were expanded as well. Now the Port is in the process of further expanding the intermodal rail, creating the capacity for handling unit trains of the new double-stack cars.

Serving the national markets is now necessary to generate sufficient cargo to justify high levels of regularly scheduled steamship service, which also is required by local and regional shippers. And given the competitive situation, container service to the national markets is becoming even more important. This high level of activity brings additional steamship service, as well as better inland transportation service, rates, and better positioning of equipment such as empty containers. Therefore, while Portland does not enjoy the same dominant position it holds in grain and autos, there is potential for growth because the same inland transportation advantages exist for containers that helped establish Portland's leadership position in these other commodities.

STRATEGIES BASED UPON GEOGRAPHY

The geographic changes in Port business patterns are most noticeable in the growth of marine activity, but they are equally significant in other Port

operating areas. The increasing ties with Japan and other Asian countries, deregulation, competitive factors, and internal business objectives have resulted in the development of business strategies that rely heavily upon geographic understanding and analysis. Examples include the Port's response to deregulation of the airline industry, the decision to expand the Port's Ship Repair Yard activities, and the development of target markets for the Port's industrial real estate.

Air Service

Deregulation of the airlines in 1978 stimulated change within an industry that is still undergoing transition. Under deregulation, the marketplace dictates service levels. This shifted the responsibility for maintaining existing levels of air service and attracting new service from the federal government to airports and the communities they serve. So far, this has resulted in significant growth in the number of carriers serving Portland International Airport. It also has improved service to Portland's top 30 markets, and it has helped to stimulate an increase in the number of passengers travelling through the airport. Deregulation is now entering its second phase of response, with the number of airline mergers and acquisitions increasing dramatically. It remains to be seen how this change in the ownership and structure of the airlines will affect service at this country's airports.

Since deregulation, the Port has developed strategies for service improvements based upon an understanding of its geographic situation and its relationship to the broader air transportation network. Portland's location on the edge of the continent and between two larger markets in San Francisco Bay and

Seattle suggested that the Port could not expect significant growth in service, based solely on the Portland origin and destination market. It would be necessary to increase the number of passengers using Portland as a connection point between two other markets.

Two obvious sets of markets emerged as priorities. One set was the four major airline hub cities of Denver, Chicago, Atlanta, and Dallas/Fort Worth. The second set included the other major U.S. direct destination cities. The Port then developed two strategies for increasing the number of connecting passengers to these two markets. The first was to develop a regional hub in Portland. The Portland hub would take advantage of Portland's central location on the West Coast and the efficiencies that location brings to airlines in the utilization of their aircraft. The regional hub would feed passengers from throughout the Pacific Northwest to Portland for both direct traffic and connections to the major airlines and national markets.

The Port began marketing this concept four years ago. Since then, the level of service to these Pacific Northwest regional markets has increased significantly. Passenger volumes increased threefold in the four years between 1982 and 1986. (Table 11.2).

The second strategy was based upon the recognition of the value of Portland's location with respect to the Pacific Rim. A location on the West Coast is a great advantage for development of a gateway for air passengers and cargo moving between the United States and Japan. And in this case, being a smaller market would be an advantage for an airline entering the transpacific market. They would have less head-to-head competition from other airlines and they would have a

Table 11.2. *Portland International Airport total and regional passenger volumes and air cargo tonnage (Port of Portland, 1986).*

	Total	Regional Passengers	Air Cargo Passengers	Tonnage
1980		3,870,664	197,334	44,754
1981		3,715,117	180,636	41,978
1982		3,957,937	355,513	51,779
1983		4,538,579	426,875	52,835
1984		4,750,708	462,626	58,426
1985		5,047,873	543,190	65,794

more efficient operation because of less congestion.

The international markets are still regulated and new service is determined in bilateral negotiations between the governments of the two countries involved. So, the Port must develop its business case for both the airlines and the government. In late 1986, Portland and Delta Airlines were awarded a new direct route to and from Tokyo for air passengers, with service scheduled to begin in March, 1987. Portland was awarded the route, in part, because of its business connections with Japan, because of its facility, and because of its ability to attract feeder service from several internal domestic markets.

The U.S. government is now reviewing a small package air cargo route application between the United States and Tokyo. Federal Express has selected Portland as its gateway, and if selected, new service could begin as early as May, 1987.

This new passenger and cargo service should make Portland more attractive for other national and regional air carriers to offer additional feeder service to the four national hubs and other direct national markets. It also should enhance the business ties between Portland and Japan, which could

make Portland a more attractive location for investment by Japanese distribution and manufacturing firms.

Ship Repair Yard Expansion

In 1979, the largest dry dock on the West Coast was put into service in Portland. It was built, with taxpayer support, to serve the Alaskan oil trade. The Port's location on the Pacific provided a competitive advantage for the repair of the U. S. Flag tanker fleet. Most of the tankers in this fleet move directly from Alaska to California and back. The return sailing was empty, and with little diversion required from their normal route, a stop in Portland for routine or major maintenance and repair was more cost effective for the ship owners than diverting the ship thousands of miles to foreign yards or to U. S. ship yards on the Gulf or East Coasts.

This investment has returned thousands of jobs to the Portland community in the repair of Alaskan tankers. The Port also has been successful in diversifying and creating more jobs at the Ship Yard by attracting Alaskan oil module construction (Figure 11.6). As in the case of tanker repair, Portland and Oregon's proximity to Alaska proved to be an advantage in attracting

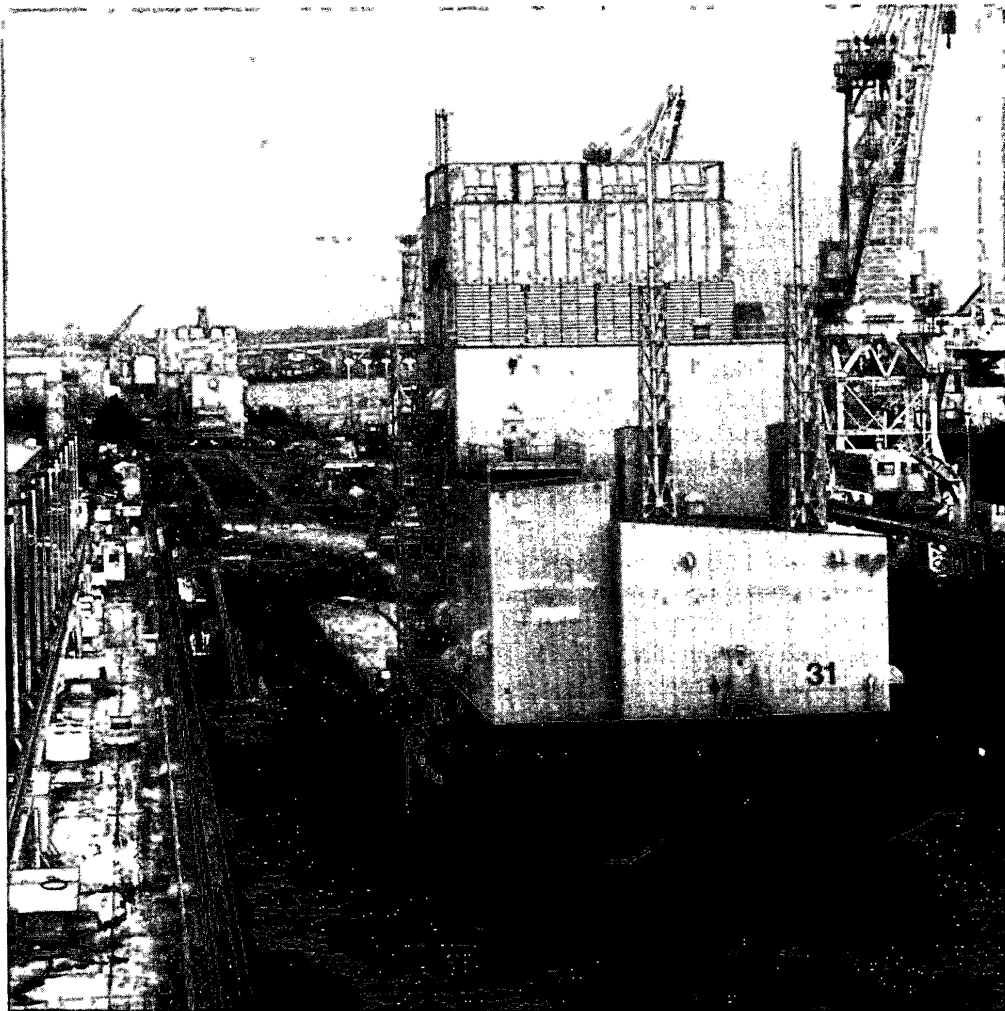


Figure 11.6 Oil module's constructed at the Portland Ship Repair Yards are loaded onto barges on dry Dock 4 for shipment to Alaska (Port of Portland).

this business. Construction in Portland saves millions of dollars in transportation costs of moving the modules to Alaska, compared to Gulf and East Coast construction sites. And since the modules move by barge at slow rates of speed, this location also provides a significant time advantage to the con-

tractors constructing the modules. Portland provides an additional three weeks to complete construction and still meet the limited window of time available to move the modules into place off Alaska's arctic slope.

Industrial Marketing

The Port has an extensive inventory of unique land holdings in the metropolitan area. Geographical considerations have played an important part in determining what kind of activities are

best suited for the various parcels and in developing target prospects.

With changing trade patterns and the Japanese interest in establishing manufacturing and distribution centers in the U. S., the Port is now in an excellent position with respect to Japanese investment opportunities (See Chapter 11). It has had a long history of success in working with companies like Toyota, Honda, and Marubeni to fulfill their marine cargo distribution needs, both for imports and exports. More recently, the Port and the Portland metropolitan area have been successful in attracting Japanese investment in industrial properties.

Japan is not the only target, however. Regional companies looking to move or expand, U. S. companies from other regions, and foreign firms from Europe and other countries in Asia, are also targets for investment. But it is not the current location of the prospects that is of specific geographic interest. What is of interest is that the Port uses geographic factors such as location with respect to the population centers and the transportation network to determine its marketing strategies.

Using these factors, specific sites within the Port have been designated for specific activities, such as heavy industry, light manufacturing, warehousing and distribution for local, regional, and national markets, commercial office and retail, aviation related, and others. Another category is termed "complex" land. This land presents unique opportunities to combine the available land with direct access to marine terminals and rail yards, or air cargo facilities, for special "complexes" of activities. These parcels may be of special value to individual companies or groups of companies working together to expedite trade, manufacturing, and distribution

opportunities in one location.

THE FUTURE OF THE PORT

The Port of Portland has experienced considerable growth over the last decade. The level of business activity has increased in all four of its operating areas of marine, ship repair, aviation, and industrial development. The size of its hinterlands for major cargo movements also has increased. New markets for air service and the ship repair yard have opened. There has been more activity in the development and marketing of the Port's real estate.

The Port of Portland continues to work to improve the local transportation system to insert Portland into the broader national and global transportation networks. In doing so, the Port will work to improve Portland's leadership position in regional distribution and continue to expand Portland's role as a transshipment point for people and cargo moving throughout the Pacific Rim.

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