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## Rail Freight Mobility

*The movement of freight is vital to the region's economy. Some worried that the commuter rail system included in the 1995 Regional Transit Authority (RTA) proposal would have adversely reduced the freight capacity of the Tacoma-Seattle-Everett rail corridor. In the new proposal, commuter rail has been scaled back to include only rush hour service. Modeling by the Burlington Northern Santa Fe Corporation shows that, with appropriate RTA and Amtrak investments, projected passenger and freight traffic can be accommodated through the year 2005. Thus, there should be no negative impact of commuter rail on freight mobility.*

*Over the next ten years, the region will need to spend an additional \$500 million to provide grade separation between railways and roadways. In addition, beyond the year 2005 there are physical constraints which may limit the growth of rail traffic through Seattle and to the north.*

The two RTA elections have focused public attention on one aspect of regional transportation, high capacity transit. For the past three years, however, the Puget Sound Regional Council (PSRC) has been undertaking a much more comprehensive examination of regional transportation. In part, the impetus is the federal Intermodal Surface Transportation Act of 1991 (ISTEA) which requires that states and their metropolitan regions have detailed, long range plans in order to be eligible for federal transportation grants.

Under the ISTEA guidelines, freight is for the first time receiving explicit consideration in local planning. Businesses depend upon the movement of freight as much as the movement of people. An inefficient freight transportation system will result in higher consumer prices within the region and lower wages.

In January 1994 the Economic Development Council of Seattle and King County assembled the Regional Freight Mobility Roundtable to help the PSRC develop a freight mobility component for the Metropolitan Transportation Plan. The Roundtable brings together a number of parties with interests in the freight network of the central Puget Sound region, including railroads, trucking lines, ports, and industrial and commercial businesses.

### Freight Movements in the Region's Economy

Today, short haul freight, with trips of less than 250 miles, moves predominately by truck. Trains, trucks, and ships are all used to provide long haul service.

Following World War II, trucks took increasing market share for long haul from rail. Since 1970, however, the tonnage shipped by rail has increased dramatically. In part this can be explained by the deregulation of the industry and by the wave of mergers that ended the balkanization of the national rail network. Intermodal services are increasingly important for long haul transportation and have contributed to rail's revival. A containerized shipment may cross the ocean on a ship, cross the continent by train and then finally be delivered by truck.

Shipments which pass through the region but neither begin nor end here represent a significant share of the long haul freight movement. Most of these are intermodal shipments through the ports. Taken together, the ports of Seattle and Tacoma handle the second highest volume of container traffic in North America, behind Los Angeles/Long Beach. In addition a small amount of long haul traffic passes through the region on trucks.

At the present time only fragmentary data exists on regional freight movements. The PSRC is developing a

relational database, the freight information system, that, in the future, will link information from a number of sources to provide a comprehensive picture of these flows. Some information on the patterns of regional freight movement is available in a preliminary analysis prepared for the PSRC.

Shipments to and from local manufacturing establishments account for two-thirds of regional freight movement as measured by tonnage, but less than one-tenth of the movement when measured by trips. Wholesale distribution generates between 70 and 85 percent of freight trips.

There are approximately 300,000 truck movements per day within the region. This represents about 3.5 percent of the total vehicle (car and truck) trips and about 6 percent of the total vehicle miles traveled.

The ports are major factors in the flow of freight on the region's railroads. The table below shows the breakdown of container and bulk traffic for 1992 for the maritime/rail network. For containers, one-third of the movements represent rail or maritime shipments into the region, one-third, shipments out of the region, and one-third shipments through the region. Nearly all of the containerized shipments from the region are maritime. For shipments to the region, rail narrowly leads maritime. The number of containers off-loaded at the port for rail transit outside of the region is twice the flow in the opposite direction.

For bulk movements, flows from the region are twice the tonnage of flows to the region. Flows out are primarily maritime; flows in, rail. Similarly, for bulk shipment through the region, on loadings at the port exceed off loadings.

<b>Maritime/Rail Container Movements in 1992</b> <b>5,419 Forty Foot Equivalent Units per Day</b>				<b>Maritime/Rail Bulk Movements in 1992</b> <b>99,144 Tons per Day</b>			
	<b>Inbound Maritime</b>	<b>Inbound Rail</b>	<b>From Region</b>		<b>Inbound Maritime</b>	<b>Inbound Rail</b>	<b>From Region</b>
<b>Outbound Maritime</b>	--	11%	29%	<b>Outbound Maritime</b>	--	23%	47%
<b>Outbound Rail</b>	22%	--	4%	<b>Outbound Rail</b>	1%	--	3%
<b>To Region</b>	15%	19%	--	<b>To Region</b>	4%	22%	--

Source: Transmode Consultants Inc. Analysis of Freight Movements in the Puget Sound Region. October 1994

### Concerns of the Freight Mobility Roundtable

The Freight Mobility Roundtable's core objective is to ensure that the needs of freight movement receive high priority in the land use and transportation planning for the region. The meetings of the roundtable resulted in a set of recommendations to the PSRC, the Washington State Department of Transportation and the local ports which were unveiled at a conference held in Seattle in September 1994.

For rail, the most important issue is capacity. The immediate capacity problems involve pinchpoints, some of the most notable occurring where the rail network passes through urban areas and meets the ports. Dave Hatzenbuehler of Burlington Northern described the problem: "It is helpful to visualize the example of a pipeline or hose to describe the rail-port connection. The fire hose analogy shows a four inch fire hose coming in from the inland rail network, a four inch fire hose coming in from ocean going vessels and a one inch garden hose connects the two through the urban area and the ports."

One sort of pinch occurs where roadways and railways intersect. Capacity for trains and for cars and trucks through such points can be increased by separating the rail grade from the roadway. One area where the lack of grade separation presents a particular problem for freight movement is south of the Kingdome in Seattle. Here the movement of trains interferes with truck movement to and from the Port of Seattle. A second area where the lack of grade separation is a growing problem is the Kent Valley. As this area urbanizes, there is increasing conflict between trains and motor vehicles.



### **Little Congestion Relief For Trucking**

*The roadway congestion that so frustrates commuters also impedes the flow of freight by truck. The morning and afternoon commute periods are lengthening, leaving a smaller midday window in which to move oversized loads. Moreover, manufacturers are relying more heavily on the ability to move parts between plants.*

*A particular concern for trucking is that freight transportation not be damaged by regional efforts to reduce reliance upon the automobile. With a given road network, policies that reduce commutes by single occupant vehicles would have the effect of improving freight mobility. Limiting roadway capacity in order to discourage the use of the automobile, however, could compromise freight movement. Among the solution identified by the roundtable are the creation of "freight only" vehicle lanes and allowing trucks to use HOV lanes under certain circumstances, perhaps at a price.*

*The RTA plan will have minimal benefit for truck movements because it will have minimal effect on congestion. This is explained in the report *Benefit-Cost Analysis of the RTA Plan*, prepared by ECONorthwest for the Washington Research Council : Research shows "that for every 100 spaces freed up on a congested road, between 50 and 80 are filled up with additional vehicles...This phenomenon of 'latent demand' is why most new road capacity quickly fills up with new drivers and is also the reason the RTA has been candid about acknowledging that the plan will not improve traffic conditions on the region's highways."*

A report by the Freight Mobility Roundtable was somewhat skeptical of commuter rail as it appeared in the 1995 RTA proposal: "Commuter rail may not be the most effective means of reducing single occupant vehicles, but many of the region's public officials have embraced it. The Roundtable can point out to policy makers the significant short and long range economic implications of this approach." Or as Dave Hatzenbuehler noted at the Freight Mobility Conference, "adding 50 commuter trains a day...will have a detrimental effect on moving freight effectively into and out of the Seattle-Tacoma area unless an investment program accompanies the institution of commuter service."

### **The New RTA Proposal**

Of the \$3.9 billion (1995\$) to be spent over ten years under the new RTA plan, \$669 million would go to commuter rail. The commuter rail system included in the new plan would operate only during rush hours. In contrast, under last year's proposal, commuter rail would have operated all day between Lakewood and Everett. Both plans allocated \$227 million to pay for capacity augmenting investments to the rail network. As a result, the new proposal absorbs less of the limited rail capacity along the corridor. Recent modeling by the Burlington Northern Santa Fe Corporation (BNSF) indicated that if RTA provides the funding for appropriate investments there will be sufficient capacity to handle projected passenger and freight traffic through the year 2005. As a result, the Freight Mobility Roundtable had decided that "a mixed rail strategy can work."

The results of BNSF modeling for the near term are summarized by Port of Seattle Commissioner Paige Miller in a letter to Bob Drewell, Snohomish County Executive and RTA Chair:

Recent modeling conducted by BNSF has demonstrated that, with additional capital investments/improvements on the main line, the first phase of RTA's commuter rail program (along with the first phase of the Washington State Department of Transportation's intercity rail program) can be accommodated through the year 2005 without adversely impacting freight rail movements.

Peter Beaulieu, the Freight Mobility Program Manager for the PSRC, notes, however, that the BNSF analysis anticipates problems beyond the year 2005. Growing demand for freight service along the corridor will confront “given physical limitations...[in particular] single track tunnel in Everett, double track tunnel beneath Seattle downtown, a waterside alignment north of Seattle, and confinements and the King Street Station.”

The staff of the Port of Tacoma has analyzed the investments needed over the next ten years. The results are summarized in a memorandum to the Port Commissioners by Paul Chilcote, Senior Director of Planning and Budgeting. Port of Tacoma Staff estimate that between \$800 million and \$900 million in capital improvements will be needed over the next ten years in the Everett-Seattle-Tacoma rail corridor. Of this total, \$450-\$550 million is required to provide grade separation at perhaps 40 locations between Tacoma and Seattle, while the remaining \$350 million represents track and train control improvements. Of the \$350 million, port staff estimate that \$100 million is needed to handle estimated increases in Freight traffic and \$250 million is required for Amtrak and RTA passenger service.

The capacity enhancements contained in the RTA proposal appear sufficient to assure that commuter rail operation will not compromise freight movement. Over the next ten years, however, substantial additional investments will be required in the regional rail network. The larger share of these will be necessary to eliminate the increasing conflicts between road and rail traffic that are accompanying economic development. The public will surely be called upon to fund the bulk of the costs of these grade separations.

In the longer run, the physical constraints in Seattle and to the north may limit the growth of traffic on the rail network.