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**PACIFIC NORTHWEST LOGISTICS PATTERNS:  
THE PORT OF PRINCE RUPERT AS A SUCCESSFUL  
NATIONAL GATEWAY STRATEGY**

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16. ABSTRACT  <p>The Port of Prince Rupert is developing a significant marine container terminal (2 million TEUs by 2012). This port will be the closest major port to Southeast Alaska, and co-located with the terminus, and only Canadian port of the Alaska Marine Highway System. Located in Northern British Columbia, the Port of Prince Rupert is the second largest deep-sea port on the West Coast of Canada. This port also offers up to 58 hours shorter transit time between North American and key ports in Asia compared to other West Coast ports.</p> <p>The Port of Prince Rupert also presents a completely new and untested model for port development. All other major North American ports are located in major urban centers with extensive inland transportation infrastructure. This is not the case for Prince Rupert, which opened for container business in September, 2007. The port's rural location may be viewed as both an asset and vulnerability. An asset as there is less congestion, and a smaller population for any negative exposure, while vulnerabilities arise due to possible disruptions in transporting goods to and from the hinterland on the single-track rail line which is prone to landslides and flooding and the lack of any landside handling infrastructure such as warehouses or transloading facilities. This project will gather goods movement data on trade between Alaska, Washington and British Columbia from the Bureau of Transportation Statistics and PIERS database to develop regional flow map. Qualitative interviews with shipping lines and major transportation providers at regional ports will also be completed (over the phone). The final report will document results and analysis from these tasks and provide a framework for future research concerning the role of rural ports, in particular those in northern locations.</p>		
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## 1. INTRODUCTION

Since the expansion of globalization and the explosion in North America's imports of manufactured goods for retail sales, large-scale goods flows are directed through major gateways and hubs at large ports and major airports, and via highways to access market areas. The changing geography of manufacturing and production has caused a shift in freight distribution. Toward this end, Canada first developed the *Asia-Pacific Gateway and Corridor Initiative (1)* and then a more comprehensive *National Policy Framework for Strategic Gateways and Trade Corridors (2)*, to align Canadian businesses in the global economy, committing billions to a long term plan for infrastructure in order to integrate Canadian transportation to global supply chains.

Figure 1 shows the Port of Prince Rupert Terminals, which include the Ridley and bulk terminals, as well as the new Fairview Container terminal. The Port of Prince Rupert container terminal is a key element of Canada's Gateway Strategy. Opened in September 2007, the Port of Prince Rupert was developed to serve the Asia Pacific Transportation Supply Chain. Situated in northern British Columbia, its rural location and small population base may initially appear to be weaknesses, given that major ports are typically located in urban areas however growth in the Port of Prince Rupert's container traffic is occurring as container volumes through other west coast ports are projected to decline. With the continued use of the land-bridge strategy which serves major Midwest markets by importing into the west coast of North America and the using the rail network to move goods to their final destinations, there continues to be a sizeable volume of imports that can select any port, including Prince Rupert, on the west coast that meets their needs for efficient transportation.

## Ridley Terminals with Elevation Control Points

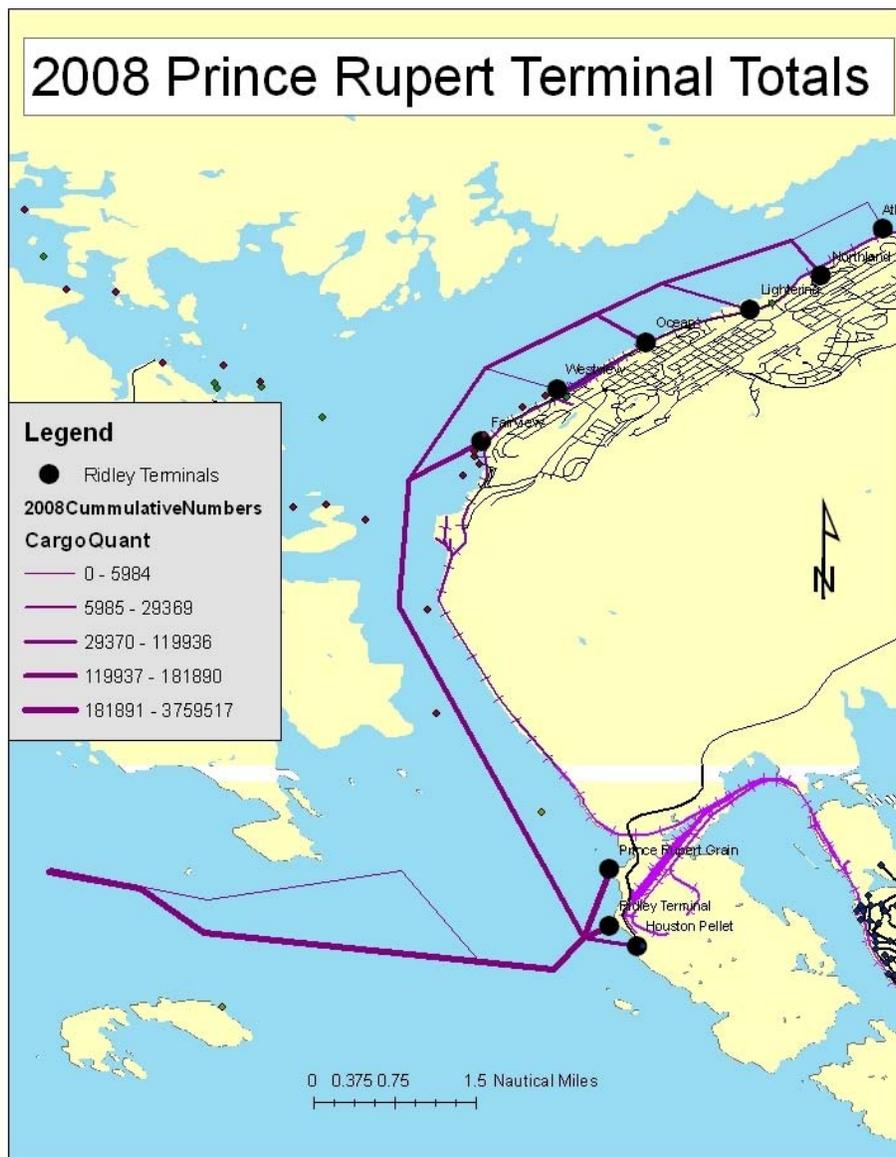


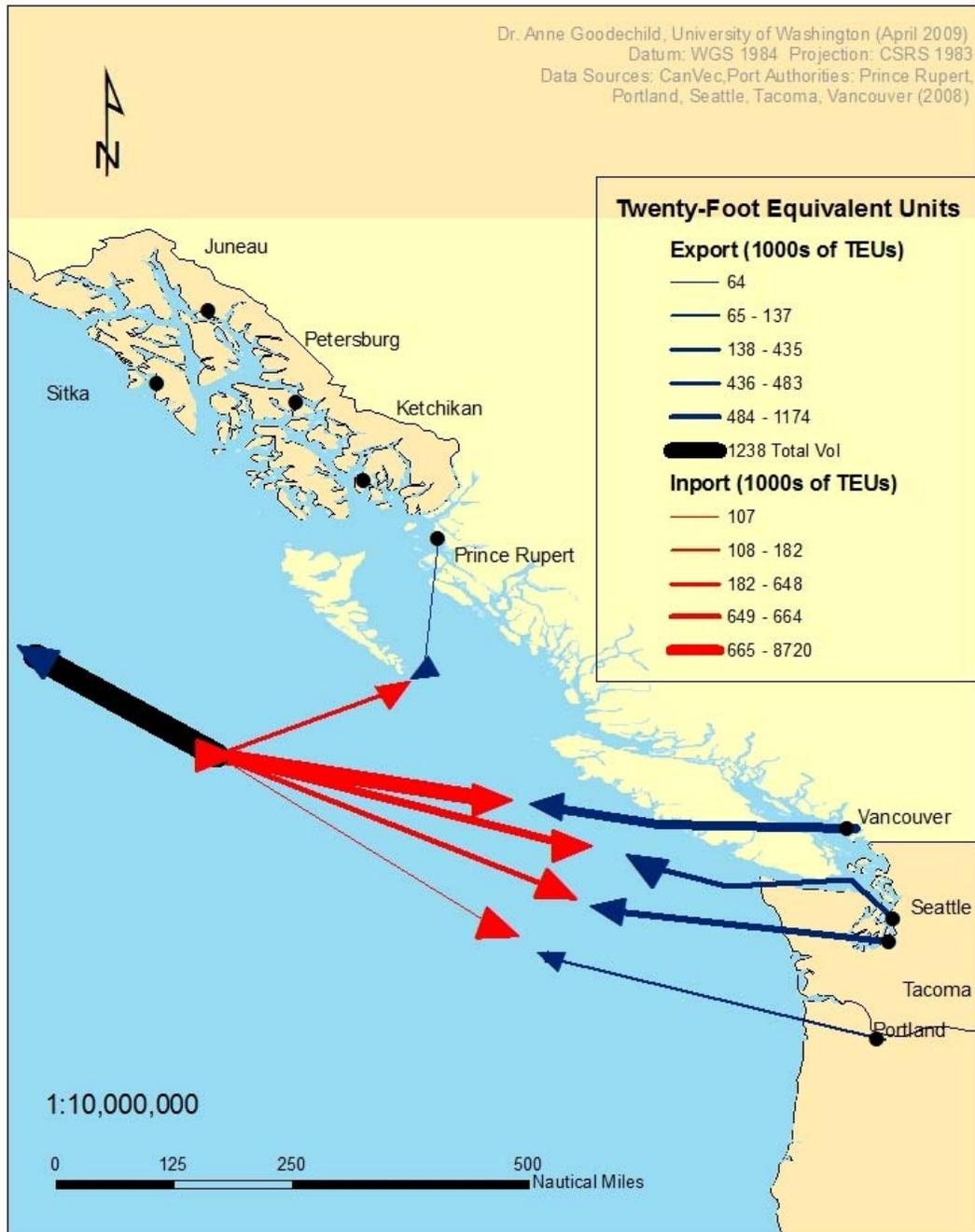
Figure 1. The Prince Rupert Terminals and 2008 Total Volumes

The Port of Prince Rupert Fairview Terminals (PPR) began operations in 2007 with a design capacity of 500,000 TEUs per year, and has attracted the COSCO/CKYH Alliance shipping service. In July 2008 the CKYH alliance added a second weekly sailing. In its first full year of operations (2008), the Fairview Container Terminal at Prince Rupert handled 181,890

TEUs from 78 vessels. The port can offer cargo transit times to Chicago from Asia up to 60 hours faster than California ports, with container dwell times of typically less than 48 hours, and an efficient container unload rate of 22 per hour (3). The absence of congestion at the PPR container terminal, combined with rail efficiency, ensures time delivery of cargo to hubs in Chicago and Memphis, the largest US destinations for PPR. While Prince Rupert currently serves small volumes, especially compared with the mega US west coast ports of Los Angeles and Long Beach, PPR is planning an expansion to handle more than four million TEUs by 2020.

This has significant implications for discretionary cargo at west coast ports specifically at ports such as Seattle and Tacoma. More than two-thirds of Washington State port imports are destined for locations elsewhere in the US, thus key Washington ports are discretionary, meaning that the cargo also can be offloaded at Oakland, Long Beach, Vancouver, BC, or elsewhere. This report summarizes the research completed for TransNow Project which analyzed the impact of the Port of Prince Rupert on Pacific Northwest Logistics Strategies. We examine the impact of the Canadian Gateway strategy on North American freight flows in order to inform the ongoing dialogue regarding US freight transportation policy. Figure 2 shows the 2008 flows of containers in the Pacific Northwest. Note the relatively small volume of containers currently flowing in and out of Prince Rupert when compared to the Port of Vancouver, Seattle, and Tacoma. Prince Rupert volumes are more comparable to Portland, however, the ratio of imports to exports is inverted.

## Pacific Northwest Inport and Export Container Totals 2008 Twenty-Foot Equivalent Units (TEUs)



*Figure 2. 2008 Pacific Northwest Inport and Export Totals*

When considering tonnage, the Port of Vancouver dwarfs exports at Seattle and Tacoma, as observed in Figure 3.

### Puget Sound Inport and Export Tonnage Totals 2008 (Metric Tons)

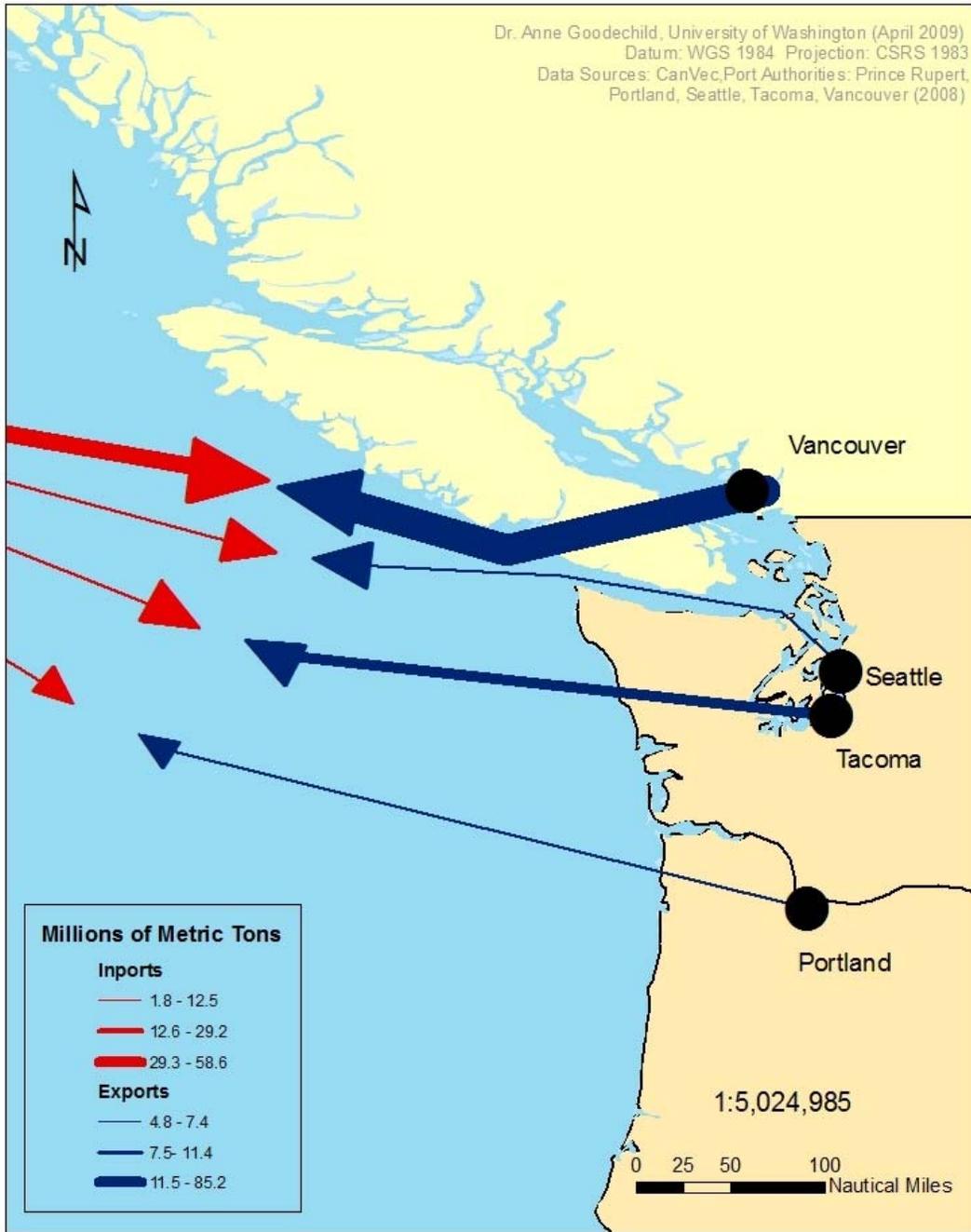


Figure 3. 2008 Tonnage Comparison for Puget Sound Ports

## **2. CANADA'S NATIONAL POLICY FRAMEWORK**

In the past quarter century, market oriented federal transportation policies in Canada contributed to productivity gains. Previously, policies that contributed to such gains such as commercialization, privatization, and deregulation of transportation infrastructure and services were mode-specific. However in recent years the gains have lessened, leading to the notion that the next generation of productivity gains will require a greater degree of integration across a broad range of elements of a national transportation system. Canada is a very trade-reliant nation, and has benefited from growth in the world economy, hitting record levels of exports and imports of merchandise with China in 2005 of C\$7.1 billion and C\$29.5 billion (1).

With the global economy changing rapidly, new trading blocs such as North America (supported by the North American Free Trade Agreement, or NAFTA) and the European Union (EU) have emerged to underpin the integrated global marketplace. Additionally, with the rise of new economic powers such as China and India, this integration is contributing to the expansion of world trade, and has resulted in the emergence of global supply chains as a major business model. This new kind of “integrative trade” has affected how businesses operate, with particular implications for transportation, recognized as being “more crucial than ever to Canada's competitiveness” (2). For example, the Canadian Manufacturers and Exporters Association specified that “the government’s Pacific Gateway investments should be a first step in building a national logistics strategy for Canada. We need a high speed, high-tech, and high capacity logistics network stretching across this country and seamlessly interconnected with trade corridors in the United States and Mexico” (4).

In turn, Canada committed unprecedented levels of federal investment for infrastructure priorities, committing a total of C\$30 million for construction of the Fairview terminal at Prince Rupert, with the emphasis on the transportation system, in particular a more integrated approach to physical and policy infrastructure. The first application of this approach was Canada's Asia-Pacific Gateway and Corridor Initiative (APGCI). This initiative specifically sought to increase Canada's commerce with the Asia-Pacific region; increase the share of North American bound container imports from Asia; and, improve the reliability of the Gateway and Corridor for

Canadian and North American exports. The overall aim of APGCI is to reduce congestion and is focused on the British Columbia and Prairie hinterlands of ports in Vancouver and Prince Rupert. APGCI has received over C\$860 million in federal funding, supplementing provincial, municipal and private support. The private sector is investing about C\$5 billion over five years and attracting private investment in similar amounts for a series of infrastructure projects focused on ports, rail and roads to create a multimodal network (5).

The network of transportation infrastructure includes British Columbia's Lower Mainland and Prince Rupert ports, their principal road and rail connections ranging across Western Canada and south into the US, and major border crossings and airports. The initiative focused on key integrative measures including:

- Strategic infrastructure investments in Western Canada, the costs shared with provincial governments, cities, regional transportation organizations, the Vancouver Port Authority, Canadian National and Canadian Pacific Railway.
- Application of Intelligent Transportation Systems (ITS) technology.
- Security and border management, including a container screening program at Prince Rupert.
- Integration between governance and policy to include increased cooperation of port authorities.

The emerging markets are predicted to result in significant growth in traffic through Canada's Pacific Gateway. By 2020, container cargo coming through British Columbian ports is projected to increase by up to 300 percent, from 1.8 million containers to between 5 and 7 million containers, with the value of this trade projected to reach \$75 billion by 2020, up from the current \$35 billion, and would contribute \$10.5 billion annually to the Canadian economy. Projected direct job related growth is expected to result in 178 percent increase by 2020, from 18,000 to 50,000 jobs related to trade (6).

Canada's federal government developed a specific focus on critical trade gateways and corridors across Canada, with a commitment to build new capacity and develop a strong network

of Canadian ports to ensure Canadian shippers have access to international markets and also to support Canada's Port Authorities' (CPA) competitiveness by capturing growing trade volumes. As part of this effort, Canadian National Railroad (CN) spent as estimated C\$400 million to prepare the new trade corridor, purchasing new trains and equipment, and enhancement of rail lines and expansion of tunnels. This resulted in a dedicated rail line west to Chicago with a rail line capacity of 4 million TEUs.

Following APGCI's success, other Canadian regions sought similar federal and provincial support for transportation infrastructure improvements for their strategic gateways and corridors. What followed was the *National Policy Framework for Strategic Gateways and Trade Corridors*, a national policy that set out key criteria for support as “integration on several levels—across modes of transportation, between investment and policy, public and private sectors, and among levels of government” (2). The government provided a C\$2.1 billion infrastructure fund to support other strategic national gateways, intermodal linkages, and key border crossings. As one of these strategic gateways, the Atlantic Gateway's objective is to develop an integrated multi modal transportation system to support international trade through key gateway ports such as Halifax. A similar agreement established the Ontario-Quebec Continental Gateway and Trade Corridor. The Continental Gateway includes major St. Lawrence and Great Lakes ports such as Montreal, Toronto, and Windsor. Montreal is preparing itself for growth in container throughput as part of the Continental Gateway strategy, with the Montreal Port Authority's “Vision 2020” calling for a tripling of its annual container handling capacity to 4.5 million TEUs (7).

An integral component of all Gateway strategies are developments in rail infrastructure and rail line capacity in order to develop and implement a National Transportation Strategy for the movement of goods and people. Trade agreements such as the 1988 US-Canada Free Trade Agreement (FTA) and subsequent 1992 NAFTA agreement had the effect of redirecting much of Canada's traditional east-west trade corridor to an international trade north-south corridor, and by the mid-1990s the north-south intermodal railway corridor had surpassed the traditional east-west one. This was reflected in CN's US railroad acquisition by obtaining rail access through the

central US to the Gulf and northern Mexico (8).

In addition, NAFTA's north-south trade orientation led to groups in both the US and Canada to realize the advantages of creating specific continental trade corridors, with the result that a variety of organizations came together to collaborate in bi-national partnerships. North American trade corridors have been defined "as strategies developed by business and municipal (and sometimes state and even federal) government leaders to attract to particular regions some of the increased flow of materials generated by deepening North American economic integration" (9).

## **2.1 Canada Port Authorities Overview**

Canada's primary seaports along the Pacific and Atlantic, up the St. Lawrence Seaway and across the Great Lakes, are managed and governed by federal port authorities. The 1999 Canada Marine Act (CMA) created a National Ports System to allow for efficiency in the marine transportation sector, with the Canadian Port Authorities (CPAs) acting as an important part of this system. The CPAs are 17 independently managed port authorities and one Harbour Commission that facilitate international and domestic trade, together accounting for over half of Canada's annual maritime trade volume and 100 percent of container traffic. The CPAs are required to be financially self sustaining and must pay a tax or dividend to the national government. When originally created the CMA did not allow the federal government to provide direct financial assistance to the CPAs, however in 2003 the CMA came under legislative review and in June 2008 the Canadian Parliament passed a bill amending the CMA. The amended Canada Maritime Act now grants CPAs access to federal funding for projects related to critical infrastructure, environmental sustainability, and the implementation of security measures. In addition, it gives greater capacity to a port authority to borrow money to finance projects, and allows for port authorities to unite or come together.

These amendments will allow the Prince Rupert Port Authority (PRPA) to access federal government funding for infrastructure projects to support further expansion, as well as to meet environmental and security initiatives for national and international standards. PRPA President and CEO Don Krusel believes the amendments will allow Prince Rupert "a more level playing field to compete with U.S. ports" allowing Prince Rupert to capitalize on the strategic advantage

of being closer to Asia, stating: “In the long term, this will provide the PRPA with more resources to finance expansion initiatives, which should result in more employment and business opportunities for the Prince Rupert region and northern transportation corridor” (12). In a region with the highest unemployment rate in British Columbia, the container terminal operations have created an estimated 350 jobs with such organizations as the International Longshoremen & Warehousemen's Union (ILWU), PRPA, Canadian Border Services Agency, Maher Terminals, Quickload Terminals and BC Commissionaires. Of the existing 125 ILWU jobs, many had their work hours increase from part to “approaching full time” with the second weekly sailing service. Based on the multiplier effect for ports, it is estimated that these 350 direct jobs have created at least another 350 to 400 indirect and induced jobs in the region” (12).

## **2.2 Differences in US and Canadian Ports**

Canadian port authorities act as landlords, leasing out their terminals to private operators. For a small number of ports, the authority will manage one or more of the terminals or activities on their own (the Port of Montreal operates a port railway serving all terminals, for example). The port authority retains regulatory functions such as overall port security. Canadian Port Authorities or CPAs, such as the Prince Rupert Port Authority, are autonomous agencies of the Federal Government, with port lands owned by the federal government and leased to the port authority. The authority pays an annual levy to the federal government based on the gross revenues earned by the port. The federal government regulates ports, monitoring how lands and assets are being used within limits outlined in their ‘letters patent’ that were developed during their incorporation as CPAs under the Canada Marine Act (CMA) of 1998. Recent amendments to the CMA in summer 2008 have improved the autonomy of CPAs, essentially increasing their ability to function as business operations.

While the United States has no national port authority or port policy, numerous federal agencies are involved in the navigational, commercial, environmental, and security interests of ports. The federal government helps to fund ports, with the largest expenditures going to the Army Corps of Engineers for dredging and harbor activities, and to the Coast Guard. The main seaport user fee is the Harbor Maintenance Tax (HMT) a 0.125% ad valorem fee on imports unloaded in deep water harbors. Fees from the HMT go to the Harbor Maintenance Trust Fund,

used mainly to recover Army Corps of Engineers dredging costs.

As an example of US port governance, it is Washington state law (10) that governs the port authorities of Seattle and Tacoma. Port authorities are municipal corporations defined as ‘special districts’ (a definition that also includes school districts and fire districts, as well as numerous other districts). Ports are granted a wide range of powers within the district, and are specifically authorized to engage in economic and industrial development. A port may levy up to 45 cents per \$1,000 of assessed valuation on all property within its district bounds for general port purposes. In the Puget Sound, the ports of Tacoma and Seattle are separately operated by two Washington State port authorities, and compete with each other for Asian trade, with other West Coast ports in British Columbia (Vancouver and Prince Rupert), and with North America’s largest container ports, Los Angeles and Long Beach. As an independent local government, these two ports are answerable to their customers, its own commission and to county voters.

Port governance structure then, clearly differs for U.S. and Canadian ports. The Canada Marine Act, effective 1999, allows Canadian ports greater local autonomy than they enjoyed prior to 1999, yet clearly limits their activities in ways US ports are not. For example, economic and activities not related to seaport operations, such as the Port of Seattle’s operation of SeaTac Airport, are not allowable within the Canadian system. The Canada Marine Act classifies Vancouver and 17 other major ports as Canadian Port Authorities, or CPAs. The federal government has a Letters Patent for each CPA, which is essentially the ports’ article of incorporation. British Columbia ports have different property tax structures and pay stipends to the federal government. While Canadians perceive Seattle and Tacoma ports as benefitting from advantages due to freedom from restrictions imposed at the federal level and because of the different tax and finance structure, ports in Washington claim Vancouver has the advantage because it does not charge the HMT. Given international trade it may make sense to encourage more regional cooperation and less competition, between Washington State and British Columbian ports (11).

### **3. PRINCE RUPERT**

Given this policy framework, the trade likely to utilize the Port of Prince Rupert can be examined. Prince Rupert's Fairview Container Terminal offers the deepest harbor in North

America (with a harbor depth of 55 feet at mean low water). Canadian National Railroad (CN) provides a dedicated intermodal rail connection to Chicago, delivering containers to the hub in less than 100 hours. Construction on phase two of the Fairview Terminal is expected to begin in 2012 and be complete by 2014, adding capacity of 1.5 million TEUs at an estimated cost of C\$650 million. Currently, Prince Rupert is in the design and permitting stage for a second container terminal to begin development in 2015 which would have capacity to move 2 million TEUs annually and potentially bring the total capacity to 4 million TEUs by 2020.

Now Canada's fourth largest container port, the terminal's throughput for the first part of 2008 was 42,555 TEUs, and rose more than 300 percent in the second half of 2008 to 139,335 TEUs. On January 23, 2009 the US Surface Transportation Board approved CN's acquisition of the Elgin, Joliet and Eastern Railway Company (EJ&E), with a cost of C\$300 million, thereby allowing trains to bypass Chicago with destinations for other US cities (13). CN has also developed a new Prince George Intermodal/Transload Terminal, an 84,000 square transload operation and intermodal rail and marine intermodal in Prince George, British Columbia. CN spent C\$20-million on building renovation, and to extended two tracks that are used for transferring containers to and from the two trains that pass through Prince George each day to and from the Port of Prince Rupert (14). This complex also has room to extend the tracks to meet the growing demand that is expected at the Fairview container terminal at Prince Rupert during its second phase of development.

### **3.1 Imports**

Due to the lack of handling facilities for transloading operations at the Port of Prince Rupert such as mixing goods within containers, moving goods to domestic containers or providing value-added services like placing garments on hangers, certain importers are more likely than others to consider importing goods through the new port. Typically, large importers with low average values of imports are expected to use a regional distribution centers near final destinations without trans-loading near ports in order to minimize transportation and inventory costs. It is assumed that large importers with a declared value of imports of less than \$13 per cubic foot would choose to direct ship. Large importers with a declared values between \$13 and \$27 per cubic foot would preferred to trans-load at multiple ports, and those with a declared value of more than \$27 per cubic foot would choose to trans-load at only one port (15). Given the

infrastructure connectivity at Prince Rupert, and the lack of landside handling facilities, and a local market, we examine more closely the attributes of products that might choose to use the facility:

### *3.1.1 Type of Goods*

Large importers of low value goods are the most likely to direct ship containers from a port on the West Coast to distribution centers in the interior of the country (15). Twenty of the top 100 US importers (17), were identified as having average values of imports less than \$13 per cubic foot, and import goods to the US from Asia, and therefore could potentially consider importing through the Port of Prince Rupert. In 2008, the total volume imported into the US by these companies 1,278,640 TEUs (volumes assumed to be approximately 10% higher than reported in Journal of Commerce due to known inaccuracy in data) (15).

Furniture importers (which also includes building material), such as Home Depot, Ikea, Lowe's, and Ashley Furniture, import both low value goods and goods with a low value to volume ratio, making these companies candidates for importing into Prince Rupert. Several big box retailers, including Pier 1, Big Lots, and Walgreen, also have average import values low enough to encourage direct shipping to Prince Rupert. Others, including the four largest, Wal-Mart, Target, Sears, and Costco, have higher average import value per cubic foot and may be less likely to direct ship through Prince Rupert. Instead these importers would be expected to trans-load at multiple ports, and given the inability to trans-load at Prince Rupert, would not shift to moving cargo through the new port.

Smaller importers with few destinations may also choose to direct ship through one port such as Prince Rupert. Many of these importers are likely to use a third party logistics provider as a means of moving their goods. Third party logistics providers can be expected to act in a fashion similar to that of the larger importers, as described above. The larger the volume of consolidated goods handled by a third party logistics provider, the more financially feasible shipping to the US Midwest via Prince Rupert becomes.

### *3.1.2 Spatial Distribution*

The major markets (where the region is defined by the potential location of a regional distribution center) which are served well by Prince Rupert service are identified and described below:

- Memphis Region, which includes Arkansas, Tennessee and Kentucky.
- Kansas City Region, which includes Kansas, Nebraska, Iowa and Missouri.
- Minneapolis Region, which includes North Dakota, South Dakota, Minnesota and 50% of Wisconsin.
- Chicago Region, which includes Illinois, Indiana, Michigan and 50% of Wisconsin.
- Columbus Region, which includes 50% of Ohio.
- Cleveland Region, which includes 50% of Ohio and 25% of New York.
- Pittsburgh Region, which includes West Virginia and 50% of Pennsylvania.

Direct rail service on the Canadian Northern (CN) rail line exists between Prince Rupert and both Chicago and Memphis, which are key CN operating centers. CN also serves Minneapolis and Pittsburgh via its mainline and Kansas City through partner railroads. While there are not rail connections between Prince Rupert and Cleveland or Columbus, the regions represented by these distribution center locations are within close proximity to Chicago and Pittsburgh and therefore goods could travel via rail to one of these intermediate locations and then via truck to final distribution regions. Figure 1 shows CN's North American railroad network.



FIGURE 1 Canadian Northern Railroad Network Map (16)

The distribution of import goods to a region is related to the purchasing power, defined as the per-capita income within the region multiplied by region population. Table 1 lists the import volume distributions for the seven regions mentioned previously and the assumed volume distribution of TEUs to these regions based on the total annual volume of the imports in 2008 (17).

If all imports destined for these regions based on purchasing power were to be imported through the Port of Prince Rupert, 30.58% of imports within the previously defined threshold (average values of imports less than \$13 per cubic foot) or 391,059 TEUs would move through Prince Rupert. This is equivalent to 7.5% of total annual imports for the top 87 importers. While it is may be presumptuous to assume that all of the imports destined for these regions would move through the Port of Prince Rupert, most importers in question have existing distribution

facilities within these regions.

Presently the Port of Prince Rupert has a container capacity of 500,000 TEUs, and could therefore accommodate the containers destined for the US Midwest which may flow through Prince Rupert due to goods type. In 2008, Prince Rupert's first full year of container operations, 181,890 containers were handled (12). This is close to half of the estimated container volume in Table 1.

TABLE 1 Assumed Distribution of Import Volumes and Resulting TEU Volumes by Destination Region

Region	Assumed Distribution of Import Volumes (%)	Assumed 2008 Asia Volume (TEUs)
Memphis	3.765	48,141
Kansas City	4.219	53,946
Minneapolis	3.262	41,709
Chicago	10.990	140,523
Cleveland	3.807	48,678
Columbus	1.888	24,141
Pittsburgh	2.653	33,922
Total (for 7 regions)	30.584	391,059

### 3.2 Exports

Due to the nature of the transportation provided between the Port of Prince Rupert and the US Midwest, it is unlikely that trains would stop at intermediate destinations between Prince Rupert and the US Midwest. Assuming sufficient volume can be obtained in the US Midwest, and trains will want to travel quickly to their destination port, avoiding intermediate stops. Ideal exports would be containerized, clean, allowing for simplified container management in Asia, lightweight, allowing for stowage above deck, and not requiring refrigeration due to the lack of services available at PPR and on liner services calling there. While refrigerated cargo may move through the Port of Prince Rupert in the future, there are no current, formalized plans in place for this additional service. This means that the forest products, beef, and much of the agricultural products produced in Midwestern Canada would not be capitalized on as a backhaul opportunity.

It is therefore most likely that exports at Prince Rupert will originate in the Midwest. Current products from these regions include paper/wastepaper, cotton, agricultural goods, chemicals, machinery, and scrap metal. These goods commodities can all be moved via container

therefore are potential exports from the Port of Prince Rupert (17), although some commodities are more likely than others. In 2007, the US exported almost 10.5 million TEUs via seaports. This volume excludes the US's two largest trading partners, Canada and Mexico (because exports to these countries are moved over land), but the five largest recipients of exports via waterborne trade are all located in Asia (China, Japan, Taiwan, South Korea, and Hong Kong), and therefore would be exported via West Coast ports (18).

Two of the most promising backhaul opportunities for Prince Rupert are waste paper and cotton. It is estimated that between 40,000 and 100,000 TEUs of wastepaper is exported from the region between Chicago and Memphis annually (19). Importing 30% of US raw cotton in 2008, China is the largest customer of US exported cotton (17). Traditionally, cotton has taken advantage of the excess of empty containers. The Port of Prince Rupert estimates that between 160,000 and 180,000 TEUs originate and are exported annually from the Midwest region (19). With much of this cargo destined for Asia, a backhaul opportunity through Prince Rupert exists.

The Port of Prince Rupert also may impact exports from Alaska. Alaska's top 2 export partners are Japan and China, with the state exporting more than 30% of its goods to Japan alone (\$1.1 billion). Alaska's largest export is seafood. In 2008, seafood accounted for 43% of Alaska's exports. Over \$1.2 billion dollars worth of seafood was exported to Asia in 2008 (20). It is estimated by the Port of Prince Rupert that there exists an export potential of between 75,000 and 100,000 TEUs annually of both Alaska and local British Columbia seafood (19). If refrigeration facilities at the Port and on the ships which call at the Port were provided, seafood could become a significant export market to Asia.

#### **4. IMPACTS ON WEST COAST TRADE**

Since the Port of Prince Rupert opened for container traffic in November of 2007 there has generally been container volume growth at the port. In recent months, container volumes at other West Coast ports have declined. Figure 2 compares volumes from the six other West Coast ports (monthly volumes were aggregated into quarterly volumes) to the quarterly volumes at the Port of Prince Rupert. The fourth quarter of 2007 volume at the Port of Prince Rupert only include two months of import volumes as the container terminal opened for business in November of that

year.

This figure highlights the cyclic trends which occur annually in container volumes. Volumes typically are highest during the third quarter, when importers are preparing for the holiday season, and lowest in the first quarter as consumers recover from holiday spending. A variation to this trend occurs during the fourth quarter of 2008. Volumes at all West Coast ports, except Prince Rupert decreased. While the container volumes increased at Prince Rupert, they did so by an order of magnitude less than the combined decreased at the other six ports. The decrease in volumes at the remaining six West Coast ports cannot be solely be contributed to the opening of the Port of Prince Rupert to container traffic. Given current worldwide economic conditions, it is difficult to discern any relationship between the opening of the Prince Rupert container terminal and the changes in container volumes at the other West Coast ports.

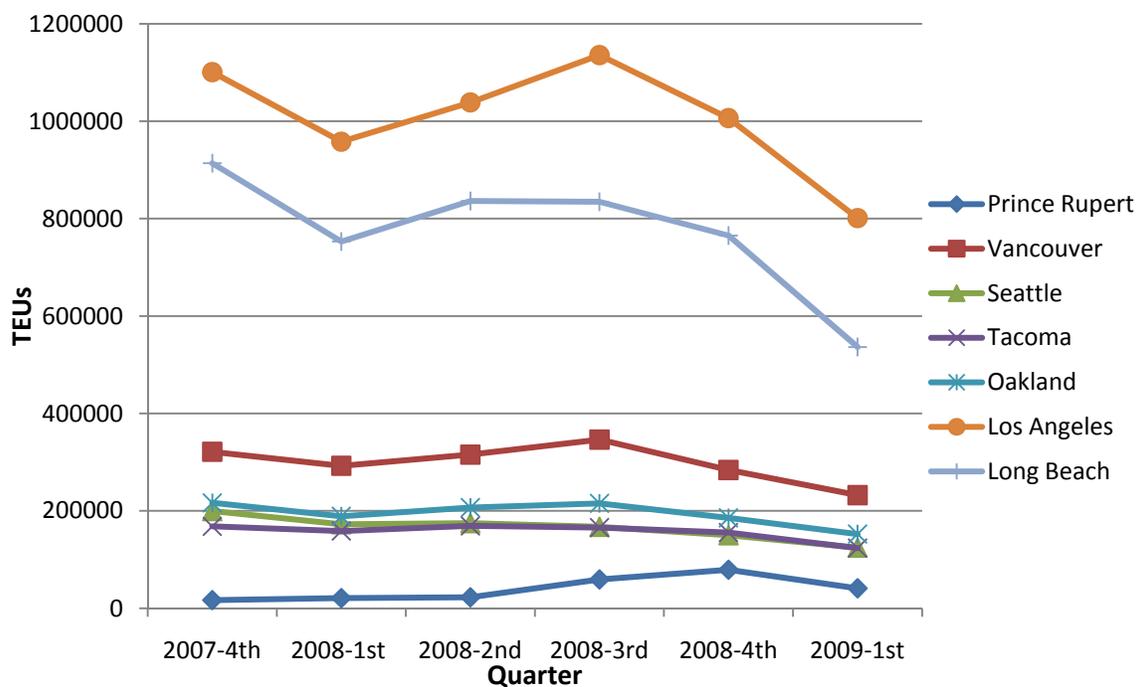


FIGURE 2 Quarterly (Import) Container Volumes (data gathered from individual port websites)

## 5. CONCLUSIONS AND RECOMMENDATIONS

The Asia Pacific Gateway strategy and strong collaboration between operators and authorities has allowed the Port of Prince Rupert to succeed in obtaining and growing container volumes.

Prince Rupert has the capacity to move 500,000 TEUs annually, with plans to increase capacity to 2 million TEUs (12). Although a result of a Canadian transport policy, the Port will primarily serve US markets for both import and export, creating a much more integrated North American transportation system.

Ports, such as the Ports of Seattle and Tacoma, which rely heavily on discretionary cargo may be more impacted by the introduction of container movement at Prince Rupert. If it is assumed that approximately 70% of the imports coming into the Ports of Seattle and Tacoma are discretionary, there is the potential for over 900,000 TEUs to move to Prince Rupert from the two ports (based on 2008 annual import volumes). This exceeds the current TEU capacity at Prince Rupert, although not the planned capacity. For Washington State, exports are very important to the state economy, which ranks 13<sup>th</sup> in population but fourth in the value of exports (about \$67 billion) and can claim the highest per capita value of exports of any state.

In a January 2006 report, the Brookings Institution found the US needs “a systems-based multi-modal agenda for the nation’s freight needs involving regional coordination, public private partnerships and federal funding.” They urged the adoption of a systems approach, innovative funding, the building and rewarding of effective multi-agency relationships, and the encouragement and rewarding of private sector involvement (21). According to Newman and Walder, the current U.S. port governance structure is complex and fragmented with a web of public and private organizations involved in management at the national, regional, and local levels, with differing priorities, requirements, and procedures (22). Currently, the U.S. is taking steps to establish a national framework for marine transportation as well as national framework for freight transportation.

As the US works to develop stronger national freight transportation policy, it should look to the success of the Gateway strategy in Canada and the following elements in its framework. First, strong coordination between national and regional interests must exist, both policy-wise and financially. This does not suggest that US ports or institutions systematically collaborate with Canadian ports, but that the US can learn from the Canadian model, and that domestic collaboration in the US be encouraged. A sense of the national transportation system and the role

of each region within that system must be articulated and understood. Federal funding should be used to supplement regional funding as a means of implementing long-term infrastructure plans. The lack of US investment intended to improve corridors is costing the nation jobs and competitive advantage. Second, strong collaboration between both public and private entities must be developed. The successful development of the container terminal at the Port of Prince Rupert was contingent on collaboration and investment by both the port authority and private companies such as CN and COSCO. Third, cooperation between ports in the same gateway, such as the US west coast ports, is necessary. A balance between local autonomy and cooperation within gateways is imperative in order to successfully implement a national freight transportation policy. Finally, an understanding of how the diverse elements of the transportation system work together to create a national system is necessary to allow for resource allocations that best serve the national interest and integrate the physical infrastructure and the policy decisions.

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