Study of U.S. Inland Containerized Cargo Moving Through Canadian and Mexican Seaports

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Committee for the Study of U.S. Inland Containerized Cargo Moving Through Canadian and Mexican Seaports

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Foreword

Thirty years ago, U.S. East Coast port officials watched in wonder as containerized cargo sitting on their piers was taken away by trucks to the Port of Montreal for export. At that time, I concluded in a law review article that this diversion of container cargo was legal under Federal Maritime Commission law and regulation, but would continue to be unresolved until a solution on this cross-border traffic was reached:

> "Contiguous nations that are engaged in international trade in the age of containerization ***can compete*** for cargo on equal footings and ensure that their national interests, laws, public policy and economic health keep pace with technological innovations." [Emphasis Added]

The mark of a successful port is competition. Sufficient berths, state-of-the-art cranes, efficient handling, adequate acreage, easy rail and road connections, and sophisticated logistical programs facilitating transportation to hinterland destinations are all tools in the daily cargo contest. All ports have strengths and weaknesses as they vie for valuable containerized cargo, particularly when international borders are present. In looking at the issues before us – ***Study of U.S. Inland Containerized Cargo Moving Through Canadian and Mexican Seaports*** – many have prejudged this effort and felt that we would build regulatory roadblocks at our borders. So let me be clear at the outset: **the Commission study has found no legal or regulatory impediment to the use by ocean carriers of Canadian or Mexican ports for U.S. cargo shipments**.

We examined in great detail rates and other factors which might cause an U.S. shipper to choose a foreign port, in an adjacent nation, over an American one. In doing so, we identified a situation in the Pacific Northwest, even reaching southward into California, whereby cargo movements through certain other parts of our border are putting these ports at a strong competitive disadvantage. **However, in the supply chain of American international waterborne commerce we oversee, U.S. shippers violate no FMC law or regulation by using Canadian or Mexican ports**.

In Montreal last fall, I suggested that it was necessary to discuss these matters as friends and neighbors. Today, Prince Rupert and Lázaro Cárdenas present us this opportunity so that when Melford or Sydney is operational, or when a new port opens in northern Canada in ten years to handle North Pole carriers, or additional Mexican ports serve our states from the south, we will not be confronted with these questions again.

Having reached the above conclusions, we then present Congress with a list of current options that have been proposed by others to assist them in remedying the competitive disadvantage of a number of American ports under the current Harbor Maintenance Tax structure.

I want to thank all who took the time to comment in our Notice of Inquiry or in other ways assist our committee. We also appreciate the international, federal, state, and local agencies and governments involved in our cross-border trade, whom we consulted during our efforts. Finally, I would like to thank the members of the committee themselves for their dedicated and skillful contributions in producing this very important document.

Richard A. Lidinsky, Jr.

Washington, D.C.
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Richard A. Lidinsky, Jr.
Chairman

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Executive Summary

In undertaking the Study of U.S. Inland Containerized Cargo Moving Through Canadian and Mexican Seaports we have been guided by Congressional requests "to study the impacts and the extent to which the U.S. Harbor Maintenance Tax (HMT), other U.S. policies, and other factors may incentivize container cargo to shift from U.S. west coast ports to those located in Canada and Mexico."

Since the creation of the Federal Maritime Commission (FMC or Commission) by Congress in 1961, the Commission has had a duty to protect those engaged in the U.S. maritime trade, including shippers, carriers, ports and many others. As the U.S. Federal regulatory agency tasked with maintaining a maritime industry based on fair competition, we ascertained through both the Notice of Inquiry responses and additional research that the issues posed by the Congressional request can be reduced to three basic questions: 1) Are there any legal or regulatory bars to the carriage by sea and movement of U.S. inland containerized cargo entering via the Canadian or Mexican border? 2) What are the competitive factors that would cause a U.S. importer or exporter to route cargo through ports in these adjacent nations? 3) To further enhance the ability of U.S. ports to compete against these cross-border ports, what can Congress do to help create a "level playing field?"

In determining whether there are any legal or regulatory bars to cross-border containerized movement, our study examined in great detail the history of cargo "diversion" and the many precedents in FMC case law. We further focused on the persistent liability issues raised when cargo is damaged in transit between Canadian and Mexican ports and the U.S. border, as well as the impact of differing security arrangements.

Our findings conclude that carriers shipping cargo through Canadian and Mexican ports violate no U.S. law, treaty, agreement, or FMC regulation.

In turning to our second major area of inquiry, an intensive study was made as to the reasons why shippers elect to use ports in nations adjacent to the U.S. as part of their global supply chain.

Ports across the United States, Canada, and Mexico compete on a wide variety of variables. Each port might offer particular benefits in rates, transit times, and location relative to population centers. This competition benefits all aspects of the container shipping industry, and the Commission encourages this competition, and recognizing that many importers in the United States benefit greatly from having foreign ports available as a resource. We did note, however, that many of the advertised benefits of foreign ports are not as significant as may be believed, for example, the transit time from China to inland destinations such as Chicago and Memphis through the Port of Prince Rupert as opposed to ports in the United States.

Our findings in this area conclude that numerous factors account for why shippers would elect to use ports in Canada or Mexico - - - overall shipment savings, risk mitigation through port diversification, perceived transit time benefits, avoidance of the HMT, and rail rate disparities - - - but, we conclude that for whatever reason or reasons shippers elect to use foreign ports, they are within their rights under FMC law and regulation.

Finally, we turn to possible policy and legislative actions that might enhance the competitive position of U.S. ports hindered by the existing HMT structure. While the Commission recognizes that funds are necessary to ensure adequate facilities to maintain international trade, the fact that each container requires, on average, a $109/FEU fee to use a U.S. port places those ports at a competitive disadvantage before the container has even been offloaded. A detailed empirical study that is addressed in this report shows the impact that the HMT may potentially have on the flow of U.S.-bound cargo through ports in Canada and Mexico.

In examining port competition amongst the three countries, it is noteworthy that both Canada and Mexico have a strong national port policy and infrastructure strategy. Many have argued that our government should emulate these activities. While the FMC has no statutory authority to bring about such results, we do, as the guardian of our international waterborne commerce, have a responsibility to Congress to identify several proposals that are in the arena of debate. It has been stated, “Even if Prince Rupert did not exist, Congress owes it to ports in the northwest and west coast now, and the east coast in the future, to examine our cargo fee structure to keep all U.S. ports competitive with their foreign neighbors for the benefit of all three countries.”

Our final finding is that Congress has many options to consider should it decide to revise or replace the current HMT structure in its goal of ensuring maximum competitive abilities for all U.S. ports.

Defining the Issue

Congressional Request

In August and September, 2011, the FMC received requests from United States Senators Patty Murray and Maria Cantwell (both of Washington), Congressmen Rick Larsen, Jay Inslee, Norm Dicks, Adam Smith, Dave Reichert, Jaime Herrera Beutler and Jim McDermott (all of Washington), and Congresswoman Laura Richardson (California), to study the impacts and the extent to which the HMT, other U.S. policies, and other factors may incentivize incoming container cargo to shift from U.S. seaports to competing ports located in Canada and Mexico. These requests also asked the Commission to make legislative and regulatory recommendations to address this concern. In November 2011, the FMC by unanimous vote issued a Notice of Inquiry (NOI) to solicit the public's views and information concerning the factors that may cause or contribute to the shift in cargo. This report addresses the results of the study, including the information solicited in the NOI.

Notice of Inquiry

On November 3, 2011, the FMC published a Notice of Inquiry (NOI) which solicited the public's views and comments concerning factors which may cause or contribute to the shift of containerized cargo destined for U.S. inland points from U.S. to Canadian and Mexican seaports. On December 22, 2011, the FMC extended the original due date for public comment to January 9, 2012. The requested views and comments were intended to assist the FMC in identifying and evaluating causes which might favor moving cargo through Canadian and Mexican seaports.

In all, the FMC received 76 responses, reflecting 220 comments. The responses came from a wide array of respondents representing interests in Canada, the United States and Mexico. They included ten associations, four coalitions, two public/private partnerships, two shippers, one trade group, two councils, one federation, 14 Chambers of Commerce, 11 port authorities, two rail companies, two Canadian government provinces, one official Canadian government response, three U.S. Congressmen, one Governor, one State Congressman, two city officials, four universities, one terminal operator, one ocean carrier, one non-vessel-operating common carrier (NVOCC), one Union, one law firm, one developer, one nonprofit group, and four individuals. These responses offered an insightful view regarding respondents' rationale for shipping through Prince Rupert instead of U.S. west coast ports for shipment to U.S. inland destinations such as Chicago and Memphis.

Forty-one respondents cited Prince Rupert's geographic location as the main reason they preferred using it over U.S. west coast ports for their shipments to U.S. inland destinations. Eighteen specifically cited Prince Rupert's closer geographic proximity to China over U.S. west coast ports; 18 preferred the shorter transit times and the speed to market they experienced by using Prince Rupert compared with other U.S. west

coast ports; four specifically mentioned their preference of Prince Rupert's deep draft; and one enjoyed the frequency of service Prince Rupert offered.

The respondents preferring Prince Rupert's geographic location and associated closer proximity to China over U.S. west coast ports tended to represent trade associations such as the American Apparel Footwear Association, coalitions such as the World Shipping Council, National Industrial Transportation League, and the National Retail Federation, and shippers such as Anderson Hay and Grain Company. All referenced using Port of Prince Rupert because of its closer proximity to North Asia, and supposed faster transit times to U.S. inland destinations (speed to market).

Government officials located in the U.S. Midwest, on both the Federal and state level, also favored the use of Prince Rupert over U.S. west coast ports, but not necessarily because of superior transit times enjoyed by shippers. Their concern was the loss of U.S. jobs should this business revert to U.S. west coast ports. We believe that these respondents are primarily referring to jobs on CN rail facilities in the U.S. which are dependent on cargo coming through Prince Rupert. Local Chambers of Commerce reflected this same view. Finally, CN, CP, and Canadian Government officials all touted Prince Rupert's favorable location to North Asia, and the speed to inland U.S. destinations Prince Rupert offered in coordination with Canadian rail service.

Forty-five respondents cited Prince Rupert's cargo velocity to U.S. inland destinations over U.S. west coast ports as their main criterion for using the port rather than U.S. west coast ports. Ten cited Prince Rupert's reliable intermodal services; nine respondents used Prince Rupert to mitigate risk (in other words, these respondents preferred to spread shipments over several mutually viable ports to avoid interruptions to their supply chains). Five preferred Prince Rupert's superior productivity and capacity for expediting their shipments through the port and on their way to inland destinations; four cited operational efficiency (most effective path to market); three cited port services and available infrastructure; and three cited quicker turnaround of containers.

As can be expected, the same respondents who favored Prince Rupert's geographic location also supported the port's ability to transfer containers from ship to rail and onward to U.S. inland destinations seamlessly (throughput); for all the same reasons trade associations, coalitions, and shippers all favored Rupert's operational efficiencies, port productivity, and labor stability, along with quicker turn time offered by the port. They also referenced their ability to shift cargo to Prince Rupert should there be labor unrest or instability at U.S. west coast ports. Canadian railways and government officials also pointed this out in their comments.

Thirty-eight responses cited Prince Rupert's lower costs compared to U.S. west coast ports, most of which focused on the issue of the HMT. Eleven respondents cited the HMT as the catalyst responsible for the increased use of Prince Rupert as a gateway to U.S. markets. Conversely, thirteen responded that HMT had no impact.

It should be noted that the preponderance of the respondents who mentioned HMT as having no impact on shippers favoring Prince Rupert over U.S. west coast ports were either shipper associations and coalitions, Canadian Government agencies and businesses, or U.S. government officials on the Federal and State levels, and individuals based in the Midwest. These entities would stand the most to lose in the form of higher freight rates through Prince Rupert, jobs, and money injected into local economies, if an HMT type tax were collected at Prince Rupert. Those who mentioned avoiding the HMT as the chief reason for shippers using Prince Rupert over U.S. west coast ports came mainly from U.S. west coast port authorities that generally favor getting rid of the tax entirely.

Six respondents cited the preference of Prince Rupert over U.S. west coast ports because of lower labor cost, and the stability of its work force; five cited overall savings versus U.S. west coast ports; and three cited fewer regulations (such as environmental regulations and fees, clean truck regulations, and the Los Angeles/Long Beach PierPass program). These respondents tended to represent shipping associations/coalitions and shippers.

On the subject of HMT impact, 22 respondents recommended keeping the status quo by maintaining the fee in its current form. Those located in the mid-west and dependent on Canadian trade tended to favor the current structure in its entirety. However, on the west coast, several ports cited the need for a harbor maintenance fee. For example, Seattle and Tacoma have very little need for HMT-funded dredging activity, and these ports are on the front line of port competition with Prince Rupert. Other ports led by Los Angeles/Long Beach (LA/LB) have developed a position regarding HMT that is clearly reflected later in this report.

Two respondents recommended that the HMT be repealed entirely because of its negative impact on commerce. Four suggested a cross-border tax to replace HMT, because they felt all importers should have to pay the same tax, no matter how cargo came into the country. Ten recommended that the United States formulate a National Transportation Policy, akin to Canada's Asia Pacific Corridor (APGC) Policy and Mexico's national transportation policy. This policy was supported by such groups as the Coalition for America's Gateways and Trade Corridors and the Waterfront Coalition. Nine respondents recommended that the HMT funds be used more equitably, citing that some larger ports such as Los Angeles provide the vast majority of the funds in the Harbor Maintenance Trust Fund (HMTF), but get a far smaller proportion of its benefits.

Seattle advised that moving cargo through Prince Rupert could result in a shortage of containers in the U.S. interior during peak seasons. This is because rail contracts between steamship lines and CN call for a certain number of these boxes to be returned to Prince Rupert, guaranteeing CN income from containers moving back to Prince Rupert.

Competition vs. Legislation: How Can U.S. Ports Compete?

The ocean container transportation industry is like other industries in the United States in that it thrives on competition at all levels. Steamship lines, trucking companies, logistics providers, terminals, and seaports all compete with each other on price, quality of service, environmental sensitivity, and a variety of other factors, leading to advances in technology and efficiency, and ultimately ensuring fair prices for the end consumer. We must, however, endeavor to differentiate between the natural competitive factors that drive advancement, and those laws or trade practices that could place ports in one country at an advantage or disadvantage with competing ports operating under a different legislative system.

When addressing Congress's request of the FMC, we identified several factors that might incentivize incoming U.S. cargo to shift to seaports in Mexico and Canada. Four of these factors are the effects of economic competitive advantages, and the remaining factors, including the HMT, reflect legislatively, or artificially, induced competitive distortions that could lead to a disadvantage for U.S. ports. We evaluated the regulatory and legal framework of cross-border container traffic by the impact of these factors, to identify how the behavior of existing and planned seaports is taking advantage of these competitive factors, and how U.S. seaports might be able to minimize the effect of natural competitive advantages that might exist for these foreign competitors. Finally, we review several policy recommendations that might be useful for U.S. legislators to consider in the future.

The following factors, both competitive and legislative in nature, would appear to impact the supply chain and logistics decisions of importers in the United States.

"Natural" Competitive Factors

- *Ocean Freight Rates* – Is the cost of importing a container from Asia more or less expensive when shipping through seaports in Canada and Mexico as opposed to seaports in the United States?
- *Transit Times* – Is there a significant difference in transit times between Asia and inland population centers through U.S. ports and those in Canada and Mexico?
- *Risk Mitigation/Diversification* – To what extent is the use of foreign seaports the result of risk avoidance and supply chain diversification?
- *Rail Assessorial Charges* – Are there significant differences between fuel charges on containers traveling through Canada and Mexico as opposed to the United States? What is the cause of those differences?

"Artificial" Legislative/Regulatory Factors

- *Liability, General Oversight, and Security* – Are there advantages to moving cargo through ports in Canada and Mexico rather than U.S. ports based purely on differences in regulatory systems? For instance, are there cost advantages in avoiding U.S. jurisdictional requirements such as cargo liability regimes,

requirements imposed by the Shipping Act and FMC regulation, or requirements imposed by cargo security laws and regulations?

- *Harbor Maintenance Tax* – Is the fact that the HMT is charged on imported cargo arriving at U.S. seaports and not on imported cargo arriving through Canadian and Mexican border-crossings creating a competitive disadvantage for U.S. ports and causing jobs associated with that activity to migrate to neighboring countries?

Potentially Competitive Ports in Canada and Mexico

In accordance with the 2011 letters from Congressmen and Senators, the Commission first assessed likely sources of competition to U.S. seaports. Within Canada and Mexico, we identified five existing or planned seaports that would appear to focus on U.S.-bound cargo and consequently could be considered "competitive threats." Those five ports are the Canadian ports of Prince Rupert, Melford, and Sydney, and the Mexican ports of Punta Colonet and Lázaro Cárdenas, the latter of which was visited by FMC staff as part of this study. Although other existing major ports such as Vancouver, Halifax, and Manzanillo handle U.S.-bound cargo, they appear to primarily focus on cargo destined for Canada and Mexico.

Prince Rupert

Located approximately 450 miles north of the U.S.-Canada border on the Pacific coast of British Columbia, the Port of Prince Rupert was opened in 2007. For most of Northeast Asia (which generally encompasses North China, Japan, and Korea), Prince Rupert is geographically closer than U.S. ports, and up to three days closer when measuring ocean transit times according to the Prince Rupert Port Authority.[1] It also claims an ice-free natural harbor with a natural draft of over 50 feet at the terminal berth and no air draft limitations.[2]

Within the Port of Prince Rupert, ocean containers are handled at the Fairview Container Terminal, operated by Maher Terminals under a 30 year lease agreement with the Prince Rupert Port Authority. Currently, Fairview has 60 acres of land and the capacity to handle 750,000 TEU per year.[3] It consists of a single berth of 1,181 feet with three super post-panamax cranes. Current plans would expand the terminal to 139 acres and add five additional cranes with an additional 300 feet of berth, thereby

[1] We note that while the ocean transit time from Asia is indeed shorter than it would be for U.S. Pacific Coast ports, the overall transit times from Asia to the U.S. Midwest are similar when considered as a whole. This will be addressed later in the study.

[2] Draft refers to the depth of water available for larger ships. The largest container ships afloat today have drafts that can reach 50 feet or more, and many container terminals must dredge silt and earth periodically to maintain an adequate draft to prevent large vessels from running aground. Air draft refers to any height restrictions on vessels due to bridges or other structures that might cross a shipping channel.

[3] TEU signifies twenty-foot equivalent units. It represents a single standard intermodal shipping container 20 feet long, eight feet wide, and eight feet, six inches high. It is the standard unit of measurement for container cargo volumes as well as ship size.

expanding the terminal's capacity to two million TEU per year. Additionally, a second terminal is in the planning stages that could bring the port's total operational capacity to five million TEU per year according to the Prince Rupert Port Authority. Containers traveling through Prince Rupert transit to their final destination almost exclusively by on-dock rail, which connects to the network of Canadian National Railway (CN). CN's network spreads across Canada connecting Prince Rupert to major cities such as Vancouver, Toronto, and Montreal, and also extends down into the United States to major population centers such as Chicago, Memphis, and New Orleans. See Image 1.

Image 1: CN's Rail Network Map[4]

[4] *CN Network Map*, Canadian Nat'l Railway Corp., http://www.cn.ca/en/shipping-map-north-america-railroad.htm (last visited Jul. 24, 2012).

Nova Scotia

Within Nova Scotia on Canada's East Coast, two competing concepts for a deep-water container terminal are working their way from the drawing board to breaking ground on construction. Melford International Terminal would be located on the southern banks of the Strait of Canso. The competing port concept of Sydney would be located further northeast on Cape Breton. See Image 2.

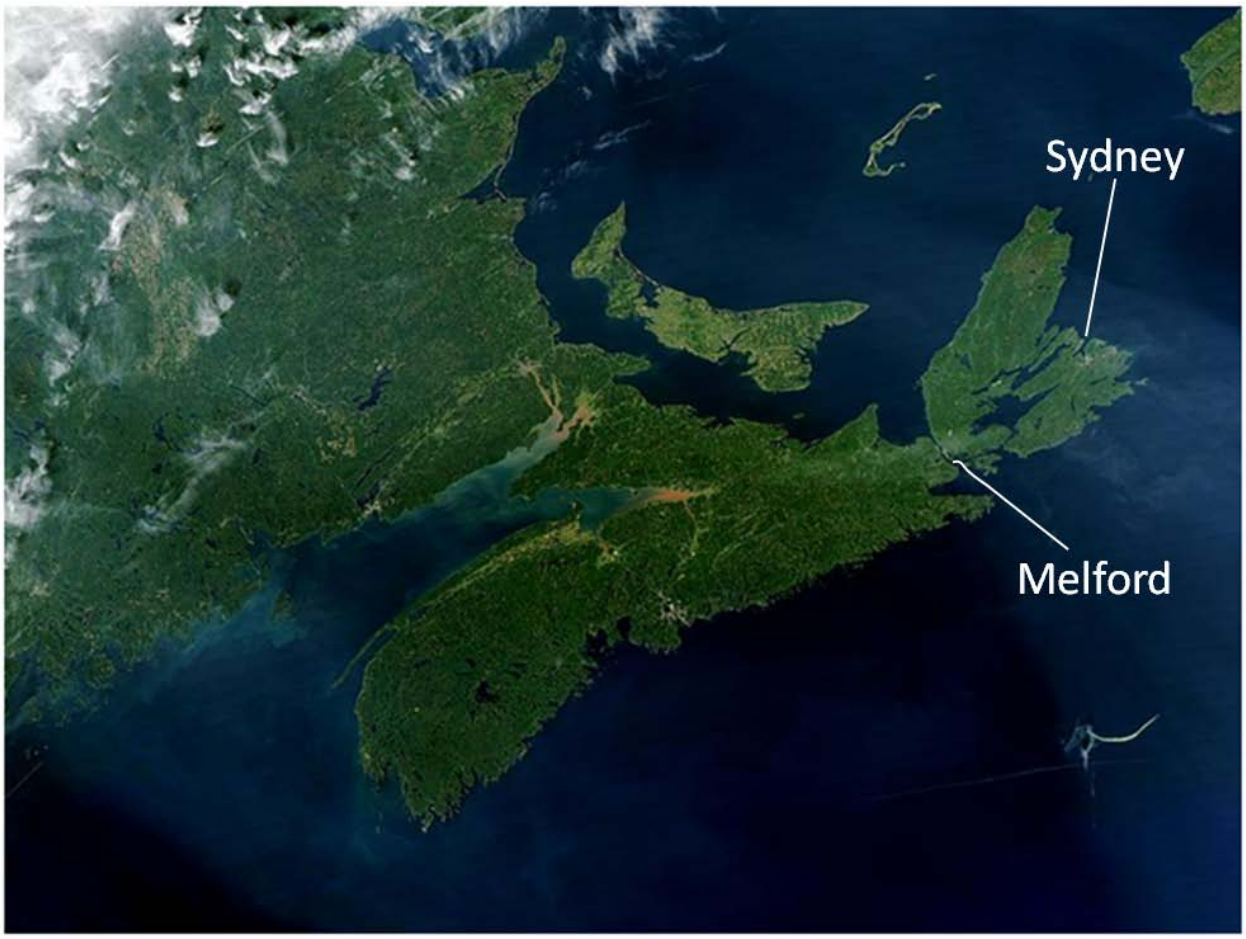

Image 2: Map of Nova Scotia[5]

Much like Prince Rupert on Canada's Pacific Coast, both Melford and Sydney's strategic locations on the great circle route would make either of them the closest east coast North American port to Europe, and Asia via the Suez Canal. Both locations would have no draft issues, are ice free, and have navigational water depths of at least 90 feet, thereby making them capable of handling the largest containerships afloat. Additionally, either terminal would be developed along the same conceptual guidelines as Prince Rupert, to serve as a specialized intermodal facility focusing on cargo bound for the central United States.

[5] National Aeronautics and Space Administration, EOS Project Sci. Office, Visible Earth [Database], http://visibleearth.nasa.gov/view.php?id=69081 (object name *Nova Scotia, Canada* (Oct. 21, 2003); accessed Jul. 24, 2012). Reprinted with Permission.

It was recently announced that the Melford International Terminal intended to start construction of a new $350 million container facility at the port before the end of 2012. Funding for the privately funded project has been secured, and Maher Terminals is taking an unspecified stake in the project. When complete in 2014-15, the container terminal and intermodal yard would cover 315 acres, and could have a yearly capacity of up to 1,500,000 TEU. Like Prince Rupert, Melford is connected to the CN rail network.

The Cape Breton Regional Municipality announced earlier this month that it is planning to develop a major container port on the east coast of Nova Scotia in the city of Sydney. The facility is still seeking the necessary $350 - $400 million in investment funding, and initial reports are that the initial annual capacity of the facility would be approximately 1 million TEU per year.

Punta Colonet

The multi-modal Punta Colonet project, located in the Baja Peninsula about 150 miles south of San Diego, would have the primary purpose of facilitating Asian exports to the United States. According to Mexican government reports, the port would be able to handle 6,000,000 TEU annually, and when completed would cover an area of more than 27,000 acres, or slightly more than 42 square miles.[6] This is the most important project of the 2007-2012 Mexico National Infrastructure Plan, yet it has been delayed twice due to the world financial crisis and market outlook.

As of this study, it appears that Punta Colonet is still very much in the early planning stages, and not likely to be a competitive threat for several years. The harbor would have to be dredged and protected with breakwaters, and hundreds of miles of rail track would have to be laid. The entry point into the United States would ultimately be determined by the U.S. railroad that might choose to participate in the port's development.

Lázaro Cárdenas

The Port of Lázaro Cárdenas is a multi modal port located on Mexico's west coast, approximately 1,500 miles south of San Diego. It is connected to Mexico City and other surrounding areas by road and rail and to the United States by Kansas City Southern Railroad (KCS), which has a line originating at the Port of Lázaro Cárdenas, and crosses into the United States through Laredo, TX. (See Image 3) Given this location, it would appear that Lázaro Cárdenas would be more competitive for U.S. containers bound for Houston and areas along the Gulf of Mexico as opposed to the U.S. Midwest. According to the Port, transit time from Asia to Houston through Lázaro Cárdenas can be achieved in 27 days as opposed to 54 when transiting the Panama Canal. The port is operated by the Administración Portuaria Integral (API) de Lázaro Cárdenas.

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[6] Jerry Pacheco, *Planned Seaport to be Third Largest in World*, Albuquerque Journal, Mar. 2, 2009, http://www.abqjournal.com/biz/0294376619biz03-02-09.htm.

Image 3: Map of Kansas City Southern Rail Connection to Lázaro Cárdenas[7]

The port's main channel has a depth of 59 feet, with 54 feet available at berth. Current container terminal facilities sit on 300 acres, and are operated by Hutchison Whampoa. The Port of Lázaro Cárdenas also recently signed a 32 year concession with APM Terminals to build an additional $900 million container facility, which, when completed in 2014, will occupy 252 acres of land. The combined wharf length for the two adjacent container terminals will be 9,757 feet. Both terminals will have on dock rail facilities, and the capacity of the two terminals will be just over four million TEU's per year.[8]

[7] Map provided courtesy of Kansas City Southern Railroad.

[8] We should point out that the Port of Lázaro Cárdenas relies now and will continue to rely heavily on cargo bound for Mexico City and other population centers in Mexico. However, KCS has stated that it intends to focus heavily on transporting U.S. cargo through Lázaro Cárdenas into the Gulf Region as the port expands with the new APM terminal.-

Case Study: Prince Rupert

While we have identified the ports above as likely potential competition for U.S. seaports in the coming years, the fact of the matter is that neither Melford nor Punta Colonet is in operation, and only a very small percentage of the cargo handled by Lázaro Cárdenas is bound for the U.S. Prince Rupert, however, has been handling cargo for five years, and presents an excellent comparative case study from which to extrapolate the competitive behavior of other Canadian and Mexican Ports in the future. The basis for this comparison is that these competitive ports in Canada and Mexico are relying on a method of specialization not available to most ports in the U.S., namely, an almost exclusive focus on intermodal cargo, to achieve and advertise efficiencies of cost and time for cargo bound for inland population centers.

Specialization for Intermodal Cargo

Most major seaports in the United States are located in or near major population centers, but also compete to serve as the seaport of entry for cargo bound further inland. This presents an inherent difficulty in that intermodal (discretionary) containers, i.e., those that are to be directed inland by train, are generally handled differently from local containers, which are almost always loaded onto a chassis for local trucking. Terminals must constantly be looking at how to utilize their limited terminal space, and in most cases, there is little room to expand. Prince Rupert is an example of how a port can essentially do away with virtually all non-discretionary cargo, and develop a terminal that is focused only on intermodal cargo, thereby achieving natural efficiencies of cost, time, and space that benefit the port users. In the case of Prince Rupert, this approach to terminal development can be seen in Canada's Asia Pacific Gateway Corridor initiative (APGC).

Development of the Asia Pacific Gateway Corridor

Having invested considerable sums to improve the rail corridor from the U.S. Midwest through the Rockies to the ports of Vancouver and Prince Rupert in western Canada, the APGC was launched in 2006 with a specific aim of expediting the flow of cargo from central and north China in particular to Chicago and other parts of the Midwest. Among the advantages claimed for this initiative, the prospect of faster transit time for cargo routed from Shanghai and other places in northeast Asia to Chicago via Prince Rupert, as compared to routing the same cargo through the ports of LA/LB, ranked high. Based on the notion that Canada has the closest west coast ports to Asia, as well as fewer congested rail links into the Midwest, its proponents claimed the corridor provided a cost, as well as a transit time, advantage. The corridor's rail connectivity is believed to be a key to the APGC's eventual success. Prince Rupert's container terminal, for example, has an on-dock rail facility that allows containers to be loaded directly from the ship to double-stack railcars, permitting intermodal trains to leave the terminal within hours (rather than days) of a ship's arrival. In short, at its present scale of operation, the Fairview Container Terminal in Prince Rupert is viewed by its supporters as a simpler, cheaper, more efficient "mouse-trap."

Current Usage of Prince Rupert: Vessels and Cargo

Service Strings Calling at Prince Rupert

Three transpacific services currently call at Prince Rupert on a weekly basis. Two services (CEN and CPN), each with six ships, are operated by COSCO Container Lines (COSCO) and one (PNH) is operated by Hanjin Shipping (Hanjin), also with six ships.[9] The CEN service originates in north China (Xingang, Dalian and Qingdao). After calling in Prince Rupert, the service sweeps south to Long Beach and then loops back to Oakland before returning to north China. COSCO's CPN service originates in south China (Hong Kong and Yantian) and makes calls in central China (Ningbo and Shanghai) before calling at Prince Rupert. Calls are then made in Vancouver and Seattle before the ships return to China via Japan (Yokohama). The HPN service operated by Hanjin also originates in central China, making three calls (Qingdao, Ningbo and Shanghai) there as well as in South Korea (Busan and Seoul) before arriving in Prince Rupert. Ships in the HPN service then call at Seattle, Portland and Vancouver, but return to Seattle before proceeding back to South Korea and central China. All three services are operated under the CKYH alliance banner, so all four partners (the other two being Kawasaki Kisen Kaisha (K Line) and Yang Ming Marine Transport Corp., (Yang Ming)) take space on these services too (though the latter two carriers do not necessarily route US-bound cargo through Prince Rupert).

The evolution and development of each of these services is described below. It should be noted that the services described below were not newly created to serve Prince Rupert; Prince Rupert was merely added to the itinerary of existing services, a relatively easy thing to do when the number of ships in those services expanded to accommodate slow-steaming.[10] The long-established CEN service from north China was the first service to include calls at Prince Rupert. The other two services (CPN and HPN and their predecessors) seem more stable in terms of the size of ship deployed and weekly capacity offered. These services also accommodated calls at Prince Rupert within the fabric of an existing service, the first in late 2008 and the second in early 2010.

COSCO's CEN service was launched in May 1999 with six vessels of 1,900 TEU. Over time, larger vessels have replaced smaller vessels. In April 2003, the CEN service consisted of five vessels with vessel capacity ranging between 2,700 and 2,900 TEU. In April 2006, vessel size ranged from 3,400 TEU to 5,400 TEU. At that time, it was a weekly service consisting of five vessels calling at Dalian, Xingang, Qingdao, Yokohama, Long Beach, Oakland and Dalian. In August 2006, Shanghai was added to the port rotation but was dropped in December 2006 and Yantian added. Shanghai was once again added to the rotation in December 2007. In June 2008, the port rotation was

[9] In general, container shipping services are provided using service strings such as the ones described here. A service string is comprised of a set number of ships sailing in a loop with a set port rotation, with vessels stopping at a port on the same day of each week.

[10] Slow steaming refers to sailing container vessels at a slower speed to conserve fuel. In order to maintain the schedule integrity of service strings, however, slow steaming generally entails the addition of one or more ships to a given service.

changed by adding Prince Rupert while dropping Yantian. With these changes, the CEN service 35-day rotation covered calls in Shanghai, Prince Rupert, Long Beach, Oakland, Yokohama, Dalian, Xingang, Qingdao and Shanghai. In August 2008, vessel size was increased from 5,400 TEU to 7,500 TEU but later reverted to 5,400 TEU ships in November 2008 as the global economy deteriorated. By March 2009, average vessel size was back to 7,500 TEU but was taken down to 5,500 TEU in June 2009 as the traditional summer peak failed to materialize. In February 2010, another vessel was added to accommodate slow-steaming, increasing the rotation to 42 days. In April 2011, a vessel was dropped from the service and the call at Shanghai was eliminated. In July 2011, an additional vessel was once again added to the string. In September 2011, the call at Yokohama was eliminated. Presently, the CEN service consists of six vessels having a capacity of 5,500 TEU with a 42-day rotation calling at Xingang, Dalian, Qingdao, Prince Rupert, Long Beach, Oakland and Xingang.

In May 2006, the CKYH alliance launched the CH-PNW North Loop service operated by Hanjin which consisted of four vessels with a capacity of 5,500 TEU. It was a weekly service with a 28-day rotation calling at Shanghai, Busan, Seattle, Portland, Vancouver, Kwangyang (Seoul, South Korea) and Shanghai. At the same time, the alliance launched the CH-PNW South Loop service operated by COSCO which consisted of four vessels also with a capacity of 5,500 TEU. It was a weekly service with a 28- day rotation calling at Hong Kong, Yantian (Shenzhen), Yokohama, Seattle, Vancouver, Yokohama and Hong Kong. In July 2007, the alliance merged the CH-PNW South Loop with the PNW North Loop and called the new integrated service the PNW North & South Loop. This service deployed nine vessels with a capacity of 5,500 TEU. The additional vessel was added in order to maintain schedule integrity. The port coverage remained unchanged under the new service calling at Hong Kong, Yantian (Shenzhen), Yokohama, Vancouver, Seattle, Yokohama, Shanghai, Busan, Seattle, Portland, Vancouver, Kwangyang, and Hong Kong. Prince Rupert was added to PNW North & South Loop service in October 2008 on the rotation of the transpacific PNW South Loop of the butterfly service. It became the first import call prior to Vancouver and Seattle. The port 63-day rotation was now calling at Hong Kong, Yantian (Shenzhen), Yokohama, Prince Rupert, Vancouver, Seattle, Yokohama, Shanghai, Busan, Seattle, Portland, Vancouver, Kwangyang, and Hong Kong.

In February 2010, the alliance decided to revert to two separate service strings. This time, the PNW North and South Loops each consisted of five vessels with a capacity of 5,500 TEU – one vessel more than at the launch of these services in May 2006. The PNW North Loop's port rotation was Hong Kong, Yantian, Yokohama, Prince Rupert, Vancouver, Seattle, Yokohama and Hong Kong. The PNW South Loop's port rotation was Ningbo, Shanghai, Busan, Prince Rupert, Portland, Vancouver, Busan, Kwangyang, and Ningbo. In April 2011, the PNW North Loop became today's CPN service and the PNW South Loop became today's HPN service. Currently, the CPN service consists of six vessels, five with a capacity of 7,500 TEU and the sixth with a capacity of 5,446 TEU. It has a 42-day rotation calling at Hong Kong, Yantian, Ningbo, Shanghai (Yangshan), Prince Rupert, Vancouver, Seattle, Yokohama and Hong Kong. Presently, the PNH service has six vessels with a capacity of 5,500 TEU. It is a weekly

service with 42-day rotation calling at Qingdao, Ningbo, Shanghai (Yangshan and Waigaoqiao), Busan, Prince Rupert, Seattle, Portland, Vancouver, Seattle, Busan, Kwangyang and Qingdao.[11] A snapshot of these three services can be seen in Table 1 below.

[11] The sixth vessel was added to the HPN service in December 2011 and to the CPN service in April 2012.

CEN Service **April 2006** 5 Vessels	CEN Service **April 2012** 6 Vessels
❍ Dalian ❍ Xingang ❍ Qingdao ❍ Yokohama ❍ Long Beach ❍ Oakland ❍ Dalian	❍ Xingang ❍ Dalian ❍ Qingdao ❍ **Prince Rupert** ❍ Long Beach ❍ Oakland ❍ Xingang

PNW North Loop **May 2006** 4 Vessels	PNH Service **May 2012** 6 Vessels
❍ Shanghai ❍ Busan ❍ Seattle ❍ Portland ❍ Vancouver ❍ Seoul ❍ Shanghai	❍ Qingdao ❍ Ningbo ❍ Busan ❍ **Prince Rupert** ❍ Seattle ❍ Portland ❍ Vancouver ❍ Seattle ❍ Busan ❍ Seoul ❍ Qingdao

PNW South Loop **May 2006** 4 Vessels	CPN Service **May 2012** 6 Vessels
❍ Hong Kong ❍ Yantian ❍ Yokohama ❍ Seattle ❍ Vancouver ❍ Seoul ❍ Yokohama ❍ Hong Kong	❍ Hong Kong ❍ Yantian ❍ Ningbo ❍ Shanghai ❍ **Prince Rupert** ❍ Vancouver ❍ Seattle ❍ Yokohama ❍ Hong Kong

Table 1: Snapshot of Service Changes Incorporating Prince Rupert

Use of North American Ports by Canada and the United States

As part of this study, the Commission evaluated data on the number of U.S. imports entering the U.S. through ports in Canada. This data came from Transport Canada, and from the United States Surface Transportation Board (STB). Overall, this data suggested several trends and could lead to a number of hypotheses relating to cargo diversion. First, overall, U.S. imports arriving through Canadian Ports had been declining prior to the operation of Prince Rupert, at which time they have begun to rise. This would suggest that the HMT alone may not be enough to divert cargo through Mexico or Canada, but with the opening of ports such as Melford, Sydney, and Puna Colonet, more cargo may be diverted through foreign ports in the future. Second, for U.S. exports (on which the HMT does not apply), the amount of U.S. cargo using Canadian ports continues to decline. Finally, we note that Canadian importers and exporters are three times as likely to use a U.S. port as vice versa, possibly due to the larger number of services calling at U.S. ports overall.

Transport Canada Data

Citing Transport Canada as the source of the data, CP Rail provided information in part of its response to the NOI on the quantity of U.S. bound containers shipped through Canadian ports each year from 2000 through 2010.[12] It also provided information on the number of U.S. export containers shipped through Canadian ports as well as Canadian imports and exports routed through U.S. ports. These data are used here in a slightly adapted form to examine trends over the 2000 to 2010 period in the willingness of U.S. importers and exporters to route containers through Canadian ports (see Tables 2 and 3 below) and the propensity of Canadian shippers to route their import and export containers through U.S. ports (see Tables 4 and 5 below).

The propensity of U.S. importers to route containers through Canadian ports is measured in Table 2 in terms of the number of TEU shipped through Canada per 1,000 TEU of containers imported into the U.S. (see the final column of Table 2). This number had been falling continuously between 2000 and 2007, from 32 TEU per 1,000 TEU bound for the U.S. to 17 TEU per 1,000 TEU in 2007. In late 2007, the container terminal at the Port of Prince Rupert became operational, after which this number began increasing and reached 25 TEU per 1,000 TEU bound for the U.S. in 2010 (but still below the year 2000 ratio). In 2010, out of 17.2 million TEU bound for U.S. shippers, over 425,000 TEU were routed through Canada.

Looking at Table 3, it appears that U.S. exporters' propensity to ship containers through Canada is modestly higher than the propensity of U.S. importers to ship containers through Canada. (Given the presence of HMT, and all else equal, one would have expected U.S. importers to have a higher ratio of containers shipped through Canada than U.S. exporters.) The propensity of U.S. exporters to ship containers through Canada remained rather steady from 2000 to 2006 at between 33 to 35 TEU per 1,000

[12] CP Rail reported that the trans-border container volumes include movements to U.S. markets by all modes: rail, truck and some short-sea shipping services.

TEU of U.S. exports, but that number has since dropped to 30 to 35 TEU per 1,000 TEU of U.S. exports.

We note that more Canadian shippers import containers through U.S. ports than U.S. shippers import through Canadian ports, albeit the absolute volume of containers is much lower. Canadian shippers began the period importing over 100 TEU per 1,000 TEU of Canadian imports through the U.S. (see Table 3). Their propensity to import through U.S. ports remained at about that level until 2005, but has fallen since to about 60 TEU per 1,000 TEU imported.

Similarly, the tendency of Canadian shippers to export containers through U.S. ports is substantially greater than the propensity of U.S. shippers to export containers through Canada. Moreover, that propensity appears not to have waned. Throughout the period, Canadian shippers shipped through U.S. ports between about 100 to 120 TEU per 1,000 TEU of Canadian exports.

	Import TEU Bound for the U.S.	Import TEU Bound for the U.S. Entering via Canadian Ports	Propensity TEU routed through Canada per 1,000 TEU bound for the U.S.
2000	11,619,531	366,432	32
2001	11,783,798	355,752	30
2002	13,441,489	397,644	30
2003	14,617,927	407,020	28
2004	16,370,993	388,349	24
2005	17,926,845	379,904	21
2006	19,136,788	354,803	19
2007	18,998,718	321,716	17
2008	17,672,857	382,986	22
2009	15,013,760	313,585	21
2010	17,223,279	425,264	25

Source: Table adapted from CP Rail's response to the NOI citing Transport Canada as the data source.

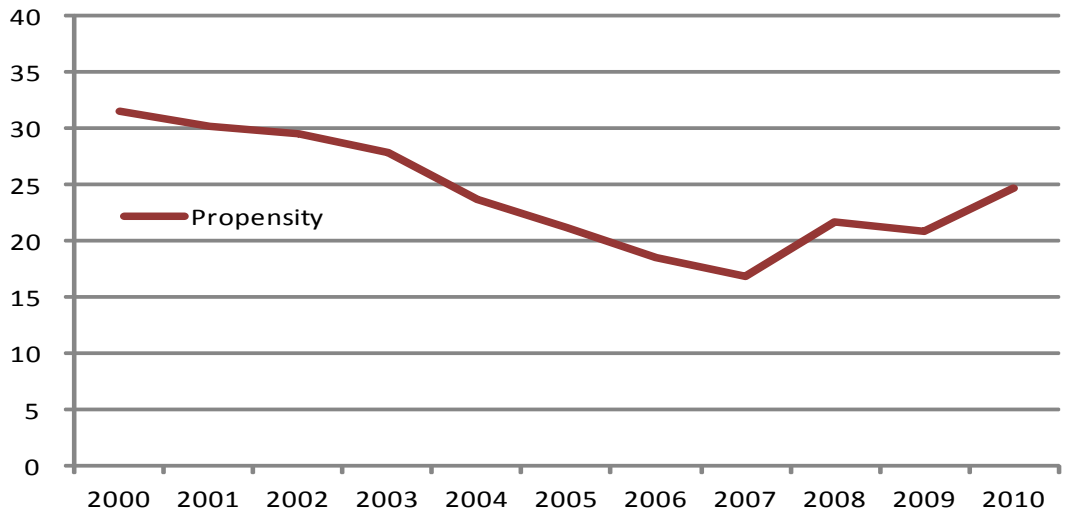

Table 2: U.S. Importers' Use of Canadian Ports

	Export TEU Originating in the U.S.	Export TEU Originating in the U.S. Leaving via Canadian Ports	Propensity TEU routed through Canada per 1,000 TEU originating in the U.S.
2000	7,873,038	264,965	34
2001	7,650,014	264,339	35
2002	7,704,314	272,024	35
2003	8,346,910	279,949	34
2004	8,949,114	294,133	33
2005	9,567,471	316,071	33
2006	9,999,800	315,028	32
2007	11,674,709	341,184	29
2008	12,280,852	363,548	30
2009	11,188,703	276,973	25
2010	12,145,650	323,613	27

Source: Table adapted from CP Rail's response to the NOI citing Transport Canada as the data source.

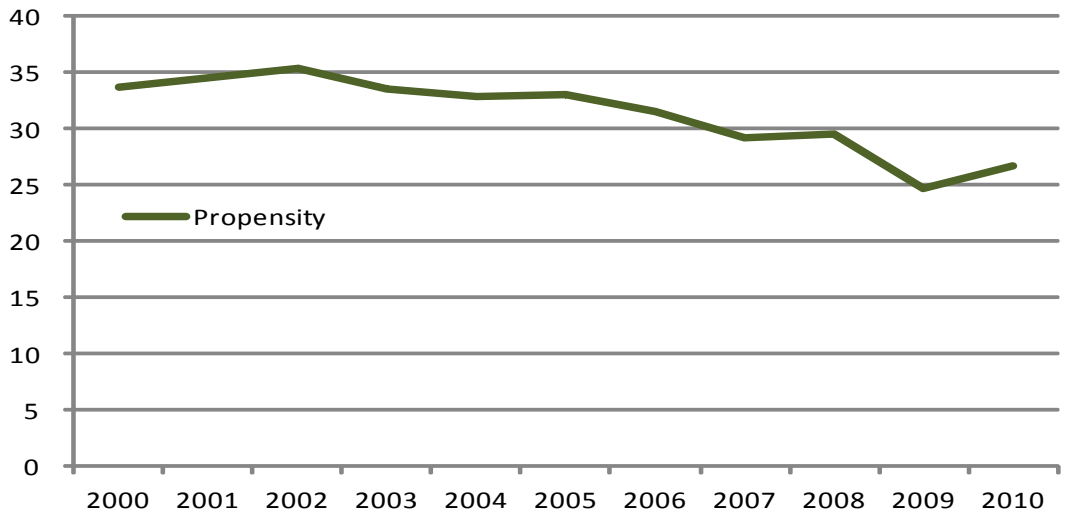

Table 3: U.S. Exporters' Use of Canadian Ports

	Import TEU Bound for Canada	Import TEU Bound for Canada Entering via U.S. Ports	Propensity TEU routed through the U.S. per 1,000 TEU bound for Canada
2000	1,307,863	141,132	108
2001	1,319,614	136,222	103
2002	1,581,849	149,392	94
2003	1,702,207	137,256	81
2004	1,880,439	174,509	93
2005	2,053,263	214,494	104
2006	2,103,192	145,064	69
2007	2,153,563	150,086	70
2008	2,212,179	149,580	68
2009	1,895,013	128,825	68
2010	2,241,342	137,372	61

Source: Table adapted from CP Rail's response to the NOI citing Transport Canada as the data source.

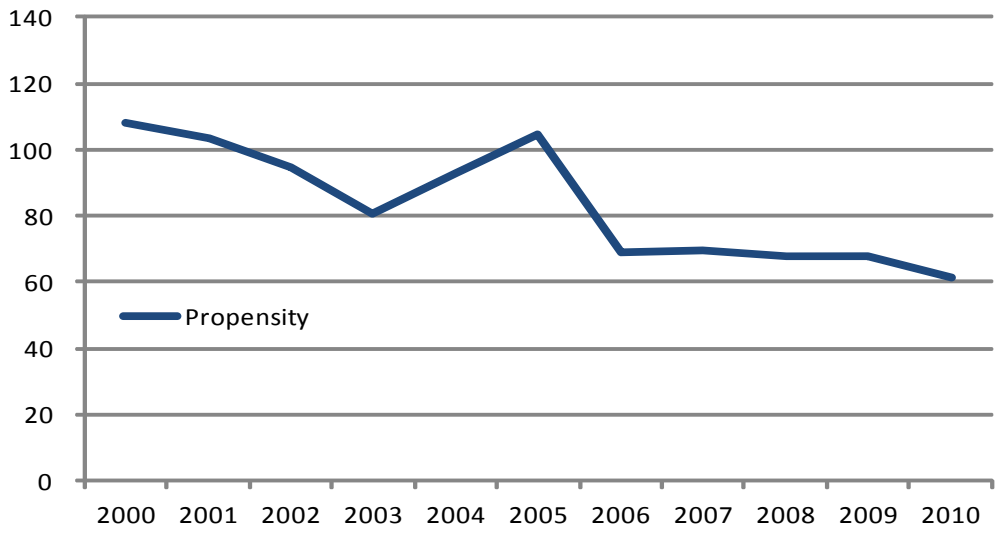

Table 4: Canadian Importers' Use of U.S. Ports

	Export TEU Originating in Canada	Export TEU Originating in Canada Leaving via U.S. Ports	Propensity TEU routed through the U.S. per 1,000 TEU originating in Canada
2000	1,402,822	150,175	107
2001	1,355,766	151,009	111
2002	1,431,683	139,404	97
2003	1,581,888	164,595	104
2004	1,747,440	194,748	111
2005	1,788,275	211,486	118
2006	1,774,205	206,402	116
2007	2,041,566	233,582	114
2008	2,051,746	228,416	111
2009	1,919,938	214,096	112
2010	2,007,192	216,478	108

Source: Table adapted from CP Rail's response to the NOI citing Transport Canada as the data source.

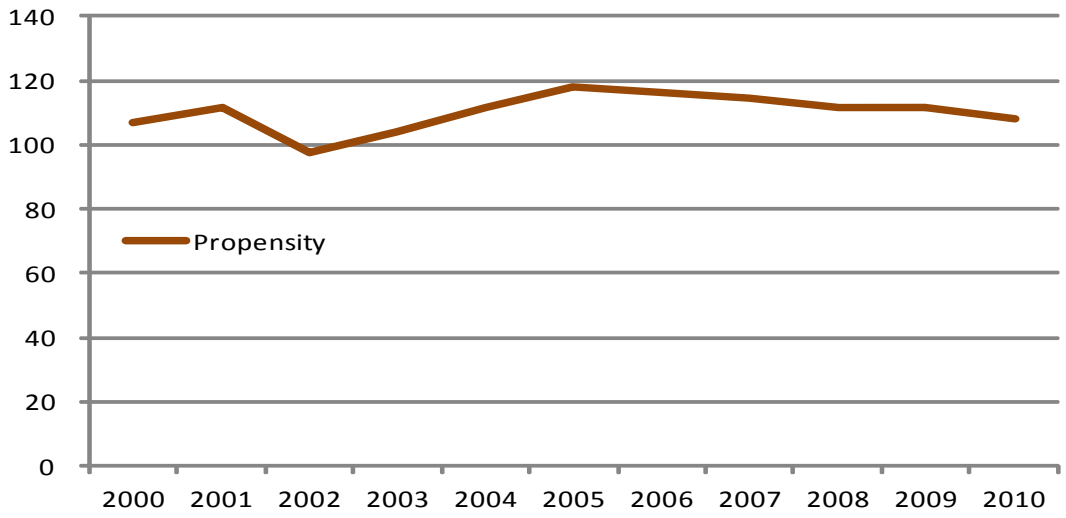

Table 5: Canadian Exporters' Use of U.S. Ports

FMC Estimates based on U.S. Surface Transportation Board Data

The information in the tables that follow has been tabulated using the STB confidential Carload Waybill Sample dataset to estimate the absolute volume and the relative share of US waterborne import containers that move through US west coast and Canadian ports to inland regional destinations in the United States. The dataset contains rail shipment data such as, origin and destination points; type of commodity; number of cars, tons, revenue; length of haul; participating railroads; interchange locations; and shipment variable cost estimates. To convert from carloads to TEU, the number of carloads was multiplied by 1.7.

Since the Waybill Sample contains confidential information, it is not available for public use and any aggregations of confidential data must guard against inadvertent disclosure of individual shipper or individual railroad data. Two rules of confidentiality are followed. First, the Three-Shipper rule states that at least three shippers' data are included in the level of aggregation being released. Second, the Individual Railroad rule states that when the aggregation involves exactly two railroads, both railroads must operate at least two stations. These rules are applied to both origin and destination. The aggregations that fail one or both of these rules have been redacted.

Four tables are presented showing estimates for import containers leaving each of four gateway regions by rail – the ports of LA/LB; other major US west coast ports (Oakland, Seattle, Tacoma and Portland); western Canadian ports (Vancouver and Prince Rupert); and eastern Canadian ports (Halifax and Montreal). Import container volumes leaving each gateway region are shown in terms of carload units, metric tons and TEU. Total rail revenues generated by these movements have also been tabulated along with estimated revenue per carload and revenue per TEU. Having to adhere to the rules of confidentiality resulted in just two inland regions being used – the "Midwest states" and "all other US states." At these levels of aggregation, none of the annual data for container imports leaving the ports of LA/LB and "other US west coast ports" by rail had to be redacted. This was not the case for the western Canadian ports and eastern Canadian ports regional aggregations. For both gateway regions, all the annual data involving the US Midwest could be disclosed, but the available data for all other US states failed to pass the required confidentiality tests in several years and had to be redacted.[13]

The growth in carload and TEU rail volume from the western Canadian ports region to the US Midwest states since 2006 is noteworthy, given that this increase seems to mirror the introduction of Prince Rupert.

[13] We also note that, while we were unable to use its data for this report, the North American Transportation Statistics Database also contains useful information regarding trade and other commercial data between and among the United States, Canada, and Mexico.

Table 6: Estimated US Container Imports through LA/LB to US Regions by Rail

CARLOADS	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Midwest States	652,408	759,520	767,280	771,600	868,080	882,080	1,115,040	1,090,840	954,280	698,160	766,920
All Other States	534,032	568,080	580,908	623,600	689,880	795,520	906,240	861,520	782,280	615,760	707,960
Total US	**1,186,440**	**1,327,600**	**1,348,188**	**1,395,200**	**1,557,960**	**1,677,600**	**2,021,280**	**1,952,360**	**1,736,560**	**1,313,920**	**1,474,880**

METRIC TONS	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Midwest States	8,788,440	9,752,240	9,752,040	9,526,800	10,474,480	10,715,280	13,899,320	13,531,480	12,017,760	8,659,920	9,447,800
All Other States	7,414,960	7,732,360	7,630,180	7,860,280	8,415,280	9,928,560	11,432,640	10,863,760	10,016,280	7,554,360	8,607,080
Total US	**16,203,400**	**17,484,600**	**17,382,220**	**17,387,080**	**18,889,760**	**20,643,840**	**25,331,960**	**24,395,240**	**22,034,040**	**16,214,280**	**18,054,880**

REVENUE	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Midwest States	$482,003,952	$578,709,440	$581,833,680	$586,554,040	$695,435,480	$749,449,920	$999,095,640	$1,018,401,720	$965,627,040	$800,325,520	$963,064,120
All Other States	$370,209,160	$407,088,360	$413,353,224	$446,332,720	$558,149,320	$674,176,680	$829,509,560	$833,643,400	$856,674,920	$681,769,160	$836,754,680
Total US	**$852,213,112**	**$985,797,800**	**$995,186,904**	**$1,032,886,760**	**$1,253,584,800**	**$1,423,626,600**	**$1,828,605,200**	**$1,852,045,120**	**$1,822,301,960**	**$1,482,094,680**	**$1,799,818,800**

REVENUE/CARLOAD	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Midwest States	$739	$762	$758	$760	$801	$850	$896	$934	$1,012	$1,146	$1,256
All Other States	$693	$717	$712	$716	$809	$847	$915	$968	$1,095	$1,107	$1,182
Total US Rev/Carload	**$718**	**$743**	**$738**	**$740**	**$805**	**$849**	**$905**	**$949**	**$1,049**	**$1,128**	**$1,220**

ESTIMATED TEU	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Midwest States	1,109,094	1,291,184	1,304,376	1,311,720	1,475,736	1,499,536	1,895,568	1,854,428	1,622,276	1,186,872	1,303,764
All Other States	907,854	965,736	987,544	1,060,120	1,172,796	1,352,384	1,540,608	1,464,584	1,329,876	1,046,792	1,203,532
Total US	**2,016,948**	**2,256,920**	**2,291,920**	**2,371,840**	**2,648,532**	**2,851,920**	**3,436,176**	**3,319,012**	**2,952,152**	**2,233,664**	**2,507,296**

EST. REVENUE/TEU	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Midwest States	$435	$448	$446	$447	$471	$500	$527	$549	$595	$674	$739
All Other States	$408	$422	$419	$421	$476	$499	$538	$569	$644	$651	$695
Total US	**$423**	**$437**	**$434**	**$435**	**$473**	**$499**	**$532**	**$558**	**$617**	**$664**	**$718**

Source: STB Waybill Sample

Midwest States include Iowa, Illinois, Indiana, Kansas, Michigan, Minnesota, Missouri, North Dakota, Nebraska, Ohio, South Dakota, Tennessee, and Wisconsin

Table 7: Estimated US Container Imports through Other US West Coast Ports to US Regions by Rail

CARLOADS	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Midwest States	379,996	319,180	330,840	348,360	391,200	511,440	486,320	374,800	350,520	260,880	330,480
All Other States	43,800	43,000	60,000	73,000	83,920	113,800	114,200	47,840	95,880	68,320	76,800
Total US	**423,796**	**362,180**	**390,840**	**421,360**	**475,120**	**625,240**	**600,520**	**422,640**	**446,400**	**329,200**	**407,280**

METRIC TONS	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Midwest States	4,808,720	4,162,160	4,447,400	4,992,920	5,388,880	6,946,160	6,195,000	4,672,240	4,429,200	3,288,800	4,321,480
All Other States	585,600	622,560	846,720	1,049,400	1,172,040	1,483,240	1,357,600	558,040	1,202,480	879,080	947,760
Total US	**5,394,320**	**4,784,720**	**5,294,120**	**6,042,320**	**6,560,920**	**8,429,400**	**7,552,600**	**5,230,280**	**5,631,680**	**4,167,880**	**5,269,240**

REVENUE	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Midwest States	$297,651,528	$256,476,360	$265,280,280	$281,333,200	$333,209,000	$443,894,960	$458,095,960	$376,916,120	$381,459,520	$324,549,720	$442,680,920
All Other States	$32,181,720	$31,464,440	$44,692,120	$51,679,520	$67,579,040	$102,082,520	$113,628,320	$52,060,840	$127,744,920	$83,584,040	$101,228,560
Total US	**$329,833,248**	**$287,940,800**	**$309,972,400**	**$333,012,720**	**$400,788,040**	**$545,977,480**	**$571,724,280**	**$428,976,960**	**$509,204,440**	**$408,133,760**	**$543,909,480**

REVENUE/CARLOAD	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Midwest States	$783	$804	$802	$808	$852	$868	$942	$1,006	$1,088	$1,244	$1,340
All Other States	$735	$732	$745	$708	$805	$897	$995	$1,088	$1,332	$1,223	$1,318
Total US Rev/Carload	**$778**	**$795**	**$793**	**$790**	**$844**	**$873**	**$952**	**$1,015**	**$1,141**	**$1,240**	**$1,335**

ESTIMATED TEU	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Midwest States	645,993	542,606	562,428	592,212	665,040	869,448	826,744	637,160	595,884	443,496	561,816
All Other States	74,460	73,100	102,000	124,100	142,664	193,460	194,140	81,328	162,996	116,144	130,560
Total US	**720,453**	**615,706**	**664,428**	**716,312**	**807,704**	**1,062,908**	**1,020,884**	**718,488**	**758,880**	**559,640**	**692,376**

EST. REVENUE/TEU	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Midwest States	$461	$473	$472	$475	$501	$511	$554	$592	$640	$732	$788
All Other States	$432	$430	$438	$416	$474	$528	$585	$640	$784	$720	$775
Total US	**$458**	**$468**	**$467**	**$465**	**$496**	**$514**	**$560**	**$597**	**$671**	**$729**	**$786**

Source: STB Waybill Sample

Other US West Coast Ports include the Ports of Oakland, Portland, Seattle, and Tacoma
Midwest States include Iowa, Illinois, Indiana, Kansas, Michigan, Minnesota, Missouri, North Dakota, Nebraska, Ohio, South Dakota, Tennessee, and Wisconsin

Table 8: Estimated US Container Imports through Western Canadian Ports to US Regions by Rail

CARLOADS	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Midwest States	17,480	15,680	53,120	63,640	53,840	51,720	46,280	50,000	102,120	93,080	
All Other States			2,760	5,760		3,440					
Total US			**55,880**	**69,400**		**55,160**					**139,080**

METRIC TONS	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Midwest States	266,800	221,920	844,120	1,008,720	789,440	770,080	716,320	667,880	1,265,400	1,111,080	
All Other States			54,000	96,240		37,960					
Total US			**898,120**	**1,104,960**		**808,040**					**1,699,800**

REVENUE	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Midwest States	$13,215,360	$11,750,320	$44,442,080	$56,344,320	$52,303,240	$52,948,280	$50,058,080	$55,567,480	$126,922,080	$104,931,480	
All Other States			4,701,600	8,969,200		8,898,400					
Total US			**$49,143,680**	**$65,313,520**		**$61,846,680**					**$174,925,640**

REVENUE/CARLOAD	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Midwest States	$756	$749	$837	$885	$971	$1,024	$1,082	$1,111	$1,243	$1,127	
All Other States			1,703	1,557		2,587					
Total US Rev/Carload			**$879**	**$941**		**$1,121**					**$1,258**

ESTIMATED TEU	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Midwest States	29,716	26,656	90,304	108,188	91,528	87,924	78,676	85,000	173,604	158,236	
All Other States			4,692	9,792		5,848					
Total US			**94,996**	**117,980**		**93,772**					**236,436**

EST. REVENUE/TEU	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Midwest States	$445	$441	$492	$521	$571	$602	$636	$654	$731	$663	
All Other States			$1,002	$916		$1,522					
Total US			**$517**	**$554**		**$660**					**$740**

Source: STB Waybill Sample

Western Canadian Ports include the Ports of Vancouver and Prince Rupert
Midwest States include Iowa, Illinois, Indiana, Kansas, Michigan, Minnesota, Missouri, North Dakota, Nebraska, Ohio, South Dakota, Tennessee, and Wisconsin

Data in these cells are suppressed because of confidentiality concerns

Table 9: Estimated US Container Imports through Eastern Canadian Ports to US Regions by Rail

CARLOADS	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Midwest States	142,100	131,560	139,560	147,600	159,960	152,840	140,880	132,920	126,360	64,480	
All Other States			5,160	8,480		3,160	2,480	1,640	2,280		
Total US			**144,720**	**156,080**		**156,000**	**143,360**	**134,560**	**128,640**		**94,360**

METRIC TONS	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Midwest States	2,191,140	2,171,000	2,381,800	2,553,680	2,657,680	2,520,600	2,332,920	2,141,800	2,008,080	1,018,000	
All Other States			83,960	121,040		48,200	29,040	21,040	35,000		
Total US			**2,465,760**	**2,674,720**		**2,568,800**	**2,361,960**	**2,162,840**	**2,043,080**		**1,521,680**

REVENUE	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Midwest States	$87,650,860	$80,728,400	$86,486,000	$92,810,960	$103,270,840	$97,045,600	$95,845,920	$91,677,520	$91,259,600	$44,001,360	
All Other States			$4,184,480	$8,058,480		$4,822,000	$5,241,640	$3,385,600	$6,769,200		
Total US			**$90,670,480**	**$100,869,440**		**$101,867,600**	**$101,087,560**	**$95,063,120**	**$98,028,800**		**$68,208,360**

REVENUE/CARLOAD	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Midwest States	$617	$614	$620	$629	$646	$635	$680	$690	$722	$682	
All Other States			$811	$950		$1,526	$2,114	$2,064	$2,969		
Total US Rev/Carload			**$627**	**$646**		**$653**	**$705**	**$706**	**$762**		**$723**

ESTIMATED TEU	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Midwest States	241,570	223,652	237,252	250,920	271,932	259,828	239,496	225,964	214,812	109,616	
All Other States			8,772	14,416		5,372	4,216	2,788	3,876		
Total US			**246,024**	**265,336**		**265,200**	**243,712**	**228,752**	**218,688**		**160,412**

EST. REVENUE/TEU	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Midwest States	$363	$361	$365	$370	$380	$373	$400	$406	$425	$401	
All Other States			$477	$559		$898	$1,243	$1,214	$1,746		
Total US			**$369**	**$380**		**$384**	**$415**	**$416**	**$448**		**$425**

Source: STB Waybill Sample

Eastern Canadian Ports include the Ports of Montreal and Halifax
Midwest States include Iowa, Illinois, Indiana, Kansas, Michigan, Minnesota, Missouri, North Dakota, Nebraska, Ohio, South Dakota, Tennessee, and Wisconsin

Data in these cells are suppressed because of confidentiality concerns

History of Diversion: Regulation, Adjudication and Legislation

Some have perceived the term "diversion" to have a negative connotation, associating the expression with an inference of misconduct. The Canadian Government commented publicly that they and their many partners are "…concerned by the inference that US cargo is somehow being 'diverted' through Canadian ports given the deeply integrated North American transportation system, welcome the opportunity to dispel any misconceptions regarding Canadian transportation policies and practices."[14] The Canadian Chamber of Commerce echoed the sentiments of the Canadian Government, stating that "the term 'diversion,' which suggests that it is improper for trade from one our countries to use infrastructure provided by the other, are against the very nature of our integrated economy and represents a repudiation of free market competition."[15]

However, the use of "diversion" by commentators is rooted in the history of American regulation of common carriage, and is not unique to this study. The term originated in late 19th century cases of the Interstate Commerce Commission (ICC) based on rail rate disparities. Domestic "diversion" cases throughout the 20th century followed, involving disputes over "naturally tributary" cargo under the jurisdiction of the Federal Maritime Board (FMB), United States Maritime Commission (USMC) and FMC. Therefore, the term itself was decided on long before the maritime industry began to see the movement of U.S. bound cargo through foreign ports.

Cargo Diversion

The idea that market actors may change behavior to avoid the constraints of regulation and its associated costs is not new. The concept of diversion is rooted in the history of American regulation of common carriage, originating under the jurisdiction of the ICC in the late 19th century. In *Investigation of Overland and OCP Rates and Absorption,* 12 F.M.C. 184 (1969) the FMC recognized the Supreme Court holding in the *Import Rate Case*, 162 U.S. 197 (1896), that the ICC was "…'empowered to fully consider all the circumstances and conditions that reasonably apply'…including competition that affects rates in the case of traffic originating in foreign ports as well as the competition that affects rates in the case of domestic traffic."[16] A carrier under ICC jurisdiction could therefore legally charge export and import rates between a port and an interior point less than it charged for domestic carriage domestic rates between the same points.[17] Long before the notion of cross-border cargo diversion had been established, the FMC

[14] Government of Canada response to NOI, 2.

[15] Canadian Chamber of Commerce response to NOI, 2.

[16] *Investigation of Overland and OCP Rates and Absorptions*, 12 F.M.C. 184, 190-91 (1969) (citing Import *Rate Case, Tex. & Pac. Ry v. Interstate Commerce Comm'n*, 162 U.S. 197, 233 (1896)).

[17] *Id.* at 191.

and its predecessor agencies,[18] as well as several Federal courts, heard cases regarding domestic cargo diversion.[19, 20]

The majority of these domestic diversion cases stemmed from issues arising under Sections 16 and 17 of the Shipping Act of 1916 (1916 Act).[21, 22] In general, these sections addressed concepts of "undue or unreasonable preference" and unjust discrimination.[23] Section 16 forbade a common carrier by water from making or giving, "any undue or unreasonable preference or advantage to any particular person, locality, or description of traffic to any undue or unreasonable prejudice or disadvantage in any respect whatsoever"[24] Section 17 stated that a common carrier by water in foreign commerce could not demand, charge or collect "any rate, fare, or charge which is unjustly discriminatory between shippers or ports…"[25]

These domestic cargo diversion cases have often involved disputes regarding "port equalization"[26] or overland "transshipment."[27] In *Intermodal Service to Portland, Oregon*, 14 S.R.R. 107,121-122 (F.M.C. 1973), Stockton Port District (Stockton) argued that port equalization occurs "when a carrier calls inbound at a port other than that nearest the consignee, provides for transportation of the cargo overland to the consignee, and absorbs that portion of the cost of inland transportation which exceeds what the consignee would have paid had the cargo been delivered at the port nearest

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[18] The United States Shipping Board was created by Congress in 1916, followed by the United States Maritime Commission from 1936 to 1950. In 1950, the regulatory programs of the United States Maritime Commission were transferred to the Federal Maritime Board at the Department of Commerce, where they resided until the creation of the Federal Maritime Commission in 1961. *Federal Maritime Commission Website: History*<http://www/fmc.gov/history.aspx> (last visited June 6, 2012).

[19] *See Portland v. Pac. Westbound Conf.*, 5 F.M.B. 118 (1956), modifying 4 F.M.B. 664 (1955), aff'd 246 F.2d 711 (D.C. Cir. 1957); *Intermodal Serv. to Portland, Or.*, 14 S.R.R. 107 (F.M.C. 1973); *Beaumont Port Comm'n. v. Seatrain Lines*, Inc., 2 U.S.M.C 699 (1943); *Mobile v. Balt. Insular Line*, 2 U.S.M.C. 474 (1941).

[20] 1956 is the well-accepted genesis of the age of containerization with the sailing of the *SS Ideal X* from Newark to Houston. Marc Levinson, *The Box: How the Shipping Container Made the World Smaller and the World Economy Bigger* 50 (2006).

[21] *See* Footnote 19.

[22] 46 U.S.C. §§ 815-816 (1976). When Congress passed the Shipping Act of 1984 (1984 Act) with respect to international cargo shipments, the 1916 Act's jurisdiction was limited to the U.S. domestic offshore commerce. Section 17 was completely abolished and parts of Section 16 were abolished when Congress passed the Interstate Commerce Commission Termination Act (1995). The remaining portions of Section 16 are a part of the current 1984 Act and are codified at 46 U.S.C. § 41101 (E)(8).

[23] *Dart Containerline Co. LTD. v. F.M.C.*, 639 F.2d 808, 812 (D.C. Cir. 1981).

[24] *Id.* (citing 46 U.S.C. § 815). *See supra* Footnote 22.

[25] *Id.* (citing 46 U.S.C. § 816). *See supra* Footnote 22.

[26] See *Investigation of Overland and OCP Rates and Absorptions*, 12 F.M.C. at 211-12.

[27] *Intermodal Serv. to Portland*, Or., 14 S.R.R. at 121-122.

him."[28] Stockton also maintained that transshipment occurs when cargo is offloaded at a port other than that of the cargo's final destination port and transported at the carrier's expense to the port of final destination by another carrier, either by water, truck or rail.[29] The Commission held that both were "merely variations on the common theme of serving a port without directly calling [at that particular port].[30] The Commission went on to say that these practices were unlawful if they "deprive[d] a port of [its] naturally tributary cargo or subject[ed] it to undue prejudice or unjust discrimination."[31]

Actions brought under sections 16 and 17 of the 1916 Act usually involved not only claims of port equalization or overland transshipment, but also claims that the diverted cargo was naturally tributary to the offended port.[32] The FMC developed the concept of naturally tributary cargo from Section 8 of the Merchant Marine Act of 1920[33] which "speaks in terms of 'territorial regions and zones tributary to…ports' and which demands the investigation of any 'matter that may tend to promote and encourage the use by vessels of ports adequate to care for the freight which would naturally pass through such ports.'"[34] The Commission has acknowledged that this Congressional policy should "be given weight."[35]

Port equalization gave rise to a violation of Section 16 of the 1916 Act "…where it (1) diverts traffic from a port to which the area of origin is tributary, to a port to which the area is not naturally tributary, and (2) is not justified, in the shipper's interest, by lack of adequate service of the port from which traffic is so diverted."[36] In *Intermodal Service to Portland, Oregon,* 14 S.R.R. at 125 (F.M.C. 1970), the Commission stated that "…the concept of naturally tributary cargo has as its purpose the maintenance of the movement of cargo through those ports which, because of a combination of geographic, commercial, and economic consideration, would naturally serve such cargo."[37]

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[28] *Id.*

[29] *Id*.

[30] *Id*. at 130.

[31] *Id*.

[32] See *Dart Containerline Co.*, 639 F.2d at 813; *Port of N.Y. Auth. v. F.M.C.*, 429 F.2d 663 (5th Cir. 1970); *Stockton Port Dist. v. Pac. Westbound Conf.*, 6 S.R.R. 1105 (F.M.C. 1966) *aff'd sub nom*., *Stockton Port Dist. v. F.M.C.*, 369 F2d 380 (9th Cir. 1966), *cert. den*. 386 U.S. 1031 (1967*); Intermodal Serv. to Portland, Or*., 14 S.R.R. at107; *Sea-land Serv., Inc. v. S. Atl. and Caribbean Line Inc*., 6 S.R.R. 1105 (F.M.C. 1966).

[33] 46 U.S.C. § 867 (1976). This is currently the Shipping Act (after 1998 OSRA amendments) codified at 46 U.S.C. § 50302.

[34] *Dart Containerline Co.,* 639 F.2d at 812 (citing *Port of N.Y. Auth. v. F.M.C.*, 429 F.2d 663, 668-70 (5th Cir. 1970).

[35] *Port of N.Y. Auth.*, 429 F.2d at 670.

[36] *Sea-Land Serv.*, 6 S.R.R. at 1111.

[37] *Intermodal Serv. to Portland, Or*., 14 S.R.R. at 125.

Therefore, in considering whether a complainant has a valid claim relating to cargo diversion under Sections 16 and 17 of the Shipping Act, 1916, the Commission was tasked to first define whether the allegedly diverted cargo was naturally tributary to the complaining port. Answering this legal question has not always been an easy task, and the Commission as well as Federal appeals courts have been wary of awarding the claim of naturally tributary cargo to a single port. *In Port of New York Authority v. F.M.C.*, 429 F.2d 663 (5th Cir. 1970), the Fifth Circuit was hesitant to allow certain ports to claim Midwestern cargo destinations as their own, stating "…we are not prepared to hold that the Midwestern portion of the United States is naturally tributary to petitioner ports. No authority has been called to our attention which would extend the natural tributary scope of [Section] 8 to such limits."[38]

Later, in an effort to diminish some of the ambiguities associated with the legal definition of cargo diversion, the Commission outlined key principles[39] that guided courts in subsequent cases. In *Council of North Atlantic Shipping Associates, et al v. American Lines*, 18 S.R.R. 774, 779 (F.M.C. 1978), the Commission gave a clear and concise definition of naturally tributary cargo, stating:

> Certain cargo may be naturally tributary to a port, but any "naturally tributary zone" surrounding a port is constantly changing. In a particular case, this zone is determined by consideration of: (a) the flow of traffic through the port prior to the conduct in question, including points of cargo origin or destination; (b) relevant inland transportation rates; (c) natural or geographical transportation patterns and efficiencies; and (d) shipper needs and cargo characteristics.[40]

Additionally, the Commission added that not only will a port's tributary zone vary over time, but also with the nature of the commodity shipped.[41] After outlining the criteria pertinent to the definition of naturally tributary cargo, the Commission gave guidelines for what constituted diversionary tactics that would give rise to a Section 16 and 17 of the 1916 Act claim, saying:

> A carrier or port may not unreasonably divert cargo which is naturally tributary to another port. When diversion of naturally tributary cargo occurs, the reasonableness of the practice must be determined. The reasonableness of the particular practice is determined by consideration of: (a) the quantity and quality of cargo being diverted (is there substantial injury?) ; (b) the cost to the carrier of providing direct service to the port; (c) any operational difficulties or other transportation factors that bear on the carrier's ability to provide direct service (e.g., lack of cargo volume, inadequate facilities); (d) the competitive conditions existing in the trade; and (e) the fairness of the diversionary method or methods employed (e.g., absorption, solicitation).[42]

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[38] *Port of New York Auth.*, 429 F.2d at 670.

[39] *Dart Containerline Co.*, 639 F.2d at 813.

[40] Council of N. Atl. Shipping Ass'ns v. Am. Mail Lines, LTD., 18 S.R.R. 774, 779 (FMC 1978).

[41] *Id*.

[42] *Id*.

The Commission declared that these guidelines should be considered in all future proceedings where Sections 16 or 17 of the 1916 Act are alleged based on cargo diversion from a port.[43]

The notion of domestic diversion was made moot by the deregulation of domestic rates with the passage of the 1984 Act and the Interstate Commerce Commission Termination Act (1995).

Applying the Concept of "Diversion" to Adjacent Foreign Ports

The international maritime community has grappled with the issue of containerized cargo diversion for decades. Scholars, jurists, and veterans of the maritime industry alike accept that some American exports and imports will flow naturally through Canadian ports. The unanswered question, which has lingered since the late 1970's, is whether this diversionary trend is one of natural cargo flow and competitive influences, or of an artificial legislative catalyst.

Representative of these cargo diversion concerns was Austasia Container Express (Austasia). Austasia, and the subsequent litigation in which they were involved, was the topic of a 1984 law review article that shed light on the trend of U.S. exports and imports moving increasingly more through Canadian ports.[44] The authors, (current FMC Chairman) Richard A. Lidinsky Jr., then of the Maryland Port Administration, and Robert E. Hellauer Jr. sought to explore the history of Canadian cargo diversion and the American response to those cargo diversion trends.[45, 46]

The particular concern with diversion at the time consisted of Canada based carriers targeting and soliciting cargo from U.S. exporters, transporting it by rail or truck from the U.S. to a Canadian port, and then shipping it overseas on their vessels; this process was also reversed for imports.[47] Austasia and other Canadian carriers engaged in this practice.[48] Austasia argued that,

> the language of section 1 itself *connotes* port-to-port service; legislative history demonstrates that section 1 requires actual United States port calls for carriers in both domestic and foreign commerce…the "through route" portion of section 18(b)(1) is inapplicable to through routes not involving U.S. ports…the "through route" language of section 18(b)(1) was intended to cover only through arrangements *among water*

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[43] *Id*.

[44] Richard A. Lidinsky Jr. & Robert E. Hellauer Jr, *American-Canadian Cross Border Container Traffic: Innovation or Cargo Diversion?*, 15 J. Mar. L. & Com. 103 (1984).

[45] *Id.*

[46] *Id.* at 114.

[47] *Id.* at 104-105.

[48] *Id.* at 109, n.26

> *carriers*…section 536.16 is inapplicable to its NVOCC service because the Commission lacks jurisdiction over the inland portion of the intermodal movements.[49]

In *Austasia Container Express v. F.M.C.*, 580 F.2d 642 (D.C. Cir. 1978), the D.C. Circuit agreed, and held that the FMC's jurisdictional authority did not include cargo originating from or ultimately bound for U.S. inland destinations that was exported or imported through a foreign port.[50]

Other carriers, such as CAST North American Ltd., moved cargo in the same fashion as Austasia, and cited ports like Montreal as their preferred port of entry for U.S. bound cargo because of its uncongested facilities, and the added efficiency provided by technology such as the trans-Atlantic computer system that had direct on-line access to CAST's branch operations centers.[51] Presumably, though, these carriers were also taking advantage of the jurisdictional gap that allowed them to operate free from FMC regulation. There were Congressional efforts to address this gap beginning with the 95th Congress.[52] These efforts proved ultimately to be unsuccessful, and the issue went unaddressed legislatively.[53]

As such, the FMC's authority regarding the regulation of U.S.-bound cargo through foreign ports has changed little today.[54] After the *Austasia* cases made clear the FMC lacked jurisdiction, the issue was put to rest until this current competitive controversy.

Passage of the HMT and Subsequent Legislative Action

In 1986, Congress passed the Water Resources and Development Act, establishing the HMTF, which is funded by the HMT. Originally, the HMT was levied at 0.04% of the value of the imported, exported, and domestic cargo handled at a port.[55] The same percentage was levied per cruise ship ticket. The revenues were originally designed to cover 40% of the United States Army Corps of Engineers (Corps) port operation and maintenance costs, and 100% of the Corps' operation costs for the St. Lawrence Seaway.[56]

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[49] *Austasia Container Express, A Division of Austasia Intermodal Lines, Ltd. – Possible Violations of Section 18(b)(1) and General Order 13,* 19 F.M.C. 512, 517 (1977).

[50] *Austasia Container Express v. FMC*, 580 F.2d 642 (D.C. Cir. 1978).

[51] Lidinsky & Hellauer, *supra* at 104-105,n.5 (citing R. Kursar, *Cast North American Plans Expansion of Intermodal Container Operation*, Traffic World, Jul 7, 1980).

[52] Lidinsky & Hellauer, *supra.* at 110-111

[53] *Id. at 114-115.*

[54] See *Gum Tree Fabrics, Inc. v. Ever Logistics Int'l Forwarding Lmtd.,* F.M.C. Informal Docket No.1916(1)(2011).

[55] John Fritelli, Cong. Research Serv., R41042, Harbor Maintenance Trust Fund Expenditures 1-2 (Jan. 10, 2011).

[56] *Id.* Water Resources Development Act of 1986, Pub. L. No. 99-662 § 1406 (1986).

The WRDA also called for a study of cargo diversion that could result from the implementation of the HMT, specifically the diversion of cargo from U.S. ports to ports in Canada and Mexico. The Secretary of Transportation (in consultation with the United States ports), Secretary of the Army, and the U.S. Trade Representative were specifically listed in the WRDA as the individuals who were tasked with carrying out this study. The Act required the report to be submitted no later than one year from the day of enactment. The Commission attempted to locate a copy of the study, but has found no indication that the study was ever conducted.[57]

There was some concern from members of the House of Representatives regarding the possibility of the HMT causing cargo diversion that would be detrimental to U.S. ports. Beginning in 1985, Representative Don Bonker (WA) voiced concerns about the proposed "port-user fees." His concern was mainly with the HMT's effect on the ports in the Pacific Northwest. More specifically he felt, "the operating margin of exporters using these ports [was] not adequate to take on a new tax", and he feared that, "the export-import business in Washington State [would] shift to Canada where the government [played] a more supportive role in their transportation system."[58] Another voice of concern during the 1985 House debates was Representative Robert Borksi (PA). He voiced opposition to raising the HMT. He also felt that the user fees would diminish the competitiveness of the United States' foreign commerce and the U.S. Merchant Marine.[59]

In January 1986, the Senate Committee on Finance submitted a report on the Harbor Maintenance Revenue Act of 1985. In this report, the Committee stated that the .04% charge on the value of cargo would not cause competitive or economic burdens on U.S. ports.[60] However, the Committee amendment did require the Secretary of the Treasury to study whether this charge would result in cargo diversion from U.S. ports to Canada or Mexico.[61] Later, Senator Slade Gorton (WA) proposed an amendment that would allow U.S. ports that competed with Canadian ports to be exempted from paying the HMT.[62] The argument in favor of this amendment was that having to pay this tax would put these ports at a competitive disadvantage.[63] Senator William Bradley supported Senator Gorton's amendment. He was concerned that thousands of jobs would be in jeopardy if the HMT were passed, and that the .04% tax would create a substantial shipping cost for some shippers. He concluded that, "a maintenance tax that [raised] the

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[57] Water Resources Development Act of 1986, Pub. L. No. 99-662 § 1406 (1986).

[58] 131 Cong. Rec. 31613 (1985).

[59] *Id.* at 31,614-15.

[60] S. Rep. No. 99-228, at 5 (1986).

[61] *Id.*

[62] S. AMDT. No.1692, 99th Cong. (2nd Sess. 1986))(amending S.1567, 99th Cong. (2nd Sess. 1986).

[63] 132 Cong. Rec. 6238 (1986).

cost of the United States ports for cargo that could be diverted to Canadian ports [would] kill the business on which the tax was based".[64]

In 1990, the HMT was increased to .125% of the value of the imported and exported domestic cargo, and cruise ship tickets.[65] This was to cover 100 percent of the Corps' port operation and maintenance costs.[66] In 1992, legislation to reduce the HMT back to the 0.04% and to expand the uses of the funds was proposed.[67] In 1995, Representative Jim McDermott (WA) introduced H.R. 1138 that proposed reducing the HMT to an amount equal to the applicable percentage of the value of the commercial cargo involved, if the trust fund became over funded.[68]

In 1995, the U.S. Court of International Trade (CIT) held that the collection of HMT on exports violated the Export Clause of the United States Constitution.[69] The U.S. Supreme Court reexamined the issue in *United States v. United States Shoe Corporation*, 523 U.S. 360-361 (1998) and upheld CIT's original ruling.[70] The Court also held that even though the HMT was a tax on exports, exporters were not necessarily exempt from all user fees that were designed to mitigate the cost of harbor development and maintenance.[71] In another case, the CIT determined that the HMT as it applied to exports was a tax, but that the HMT on imports was a user fee and not a tax.[72]

The year 1998 also saw challenges to the HMT under the General Agreement on Tariffs and Trade (GATT) and provisions enforced by the World Trade Organization (WTO).[73] The European Economic Community (EEC, now the European Union) cited concerns with the United States' obligations under Article I, II, III, VIII, and X of GATT 1994 and the WTO Understanding on the Interpretation of Article II: 1(b) of GATT 1994.[74] Following the request for consultations by the EEC on March 3, 1998, Canada

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[64] *Id.*

[65] *Id*.

[66] *Id.*

[67] H.R. 5896, 102nd Cong. § 1 (2nd Sess. 1992).

[68] H.R. 1138, 104th Cong. § 1 (1st Sess. 1995).

[69] *U.S. Shoe Corp. v. United States*, 907 F.Supp. 408 (Ct. Int'l Trade 1995).

[70] *United States v. U.S. Shoe Corp.,* 523 U.S. 360-361 (1998).

[71] *Id.*

[72] *Thomson Multimedia Inc. v. United States*, 219 F.Supp.2d 1325 (Ct. Int'l Trade 2002).

[73] Marrakesh Agreement Establishing the World Trade Organization, Apr. 15, 1994, 1867 U.N.T.S. 154. (GATT was incorporated into the new agreements for the World Trade Organization during the Uruguay Round of the GATT trade round discussions).

[74] Request to Join Consultations by Canada, United States – Harbour Maintenance Tax WT/DS118/2 (Mar. 3, 1998).

requested to join the consultations as they had "substantial trade interest[s]" involved.[75] No further actions beyond consultation were pursued.

There have been more recent proposed revisions to the HMT. In 1999, the Clinton Administration proposed the Harbor Services Fund Act.[76] The bill proposed a charge on commercial vessels based on a vessel capacity unit.[77] The bill had provisions that if the amount appropriated in any given fiscal year was less than the amount collected in fees for the prior fiscal year, then the rate of the fee for a given category would be reduced in the year of the appropriation so that the collections did not exceed the total appropriated for the Harbor Services Fund.[78] This particular bill was reintroduced by the Clinton Administration in the FY2001 budget, but failed to pass again.[79]

In 2002, the U.S. Port Opportunity and Revitalizing Trade Act was proposed.[80] This bill proposed to revise the HMT so that any port that was within 200 miles of a container port of Canada or Mexico would be exempt from the HMT.[81] The Short Sea Shipping Tax Exemption Act was proposed in 2005.[82] This bill would have exempted cargo in intermodal containers loaded and unloaded by crane or wheeled technology in one port in the mainland United States and destined for another port in the United States by coastal route or river from the HMT.[83] Neither of these bills has passed into law.

Congressional Research Service Report

In January, 2011, the Congressional Research Service issued a report on the HMTF entitled, *Harbor Maintenance Trust Fund Expenditures*. The report provided detail on the surplus in the HMTF at the time. In FY2010 the HMTF surplus was expected to be over $5 billion.[84] The interest on collections exceeded $100 million. The main use of the HMTF is to pay the costs of harbor maintenance by the Corps. This ranges from $525

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[75] *Id*.

[76] H.R. 1947, 106th Cong. § 2 (1st Sess.1999).

[77] *Id.*

[78] *Id.*

[79] *Energy and Development Appropriates for Fiscal Year 2001*: *Hearing on H.R. 4635, H.R. 4733, and H.R. 4733 Before the Subcomm. of the S. Comm. on Appropriations*, 106th Cong. 7 (2000). (Statement of Dr. Joseph Westphal, Assistant Sec'y of the Army, U.S. Dep't of the Army Civil Works).

[80] S. 2787, 107th Cong. § 2 (2nd Sess. 2002).

[81] *Id*.

[82] H.R. 3319, 109th Cong. § 2 (1st Sess. 2005).

[83] *Id.*

[84] The actual amount of the HMTF surplus at the end of FY2010 was over $5.6 billion dollars. The current HMTF balance is over $6 billion.

million to $700 million annually.[85] The fund is also used to cover the costs of the operations and maintenance of the St. Lawrence Seaway ($15 million to $20 million annually), and the administrative costs of collecting the HMT by Customs and Border Protection (CBP) ($3 million annually).[86] The report also described several ancillary activities that are covered by the HMTF. HMTF funds can be used for, among others, the construction costs for dredged material disposal facilities ($10 million to $15 million annually), and a standby emergency dredge ($5 million annually).[87]

According to the report, as of 2005, the top five ports that generate HMT revenue, in descending order, are: Los Angeles, New York, Long Beach, Houston, and Charleston.[88] Together they generated 48.5% of the total value of the imported cargo that enters the United States.[89] Imported oil generates more funds for the HMT than any other commodity. Consumer goods including vehicles, clothing, toys, furniture, etc., collectively, generate a significant amount for the HMT as they account for more than a third of the total value of imported goods.[90]

The Congressional Research Service report also states that though, "the top ten ports account for nearly 70% of the total value of foreign goods shipped through U.S. ports, these ports have received about 16% of total HMTF expenditures over the past decade."[91] Of the top 25 ports that generate the most value of imported cargo, the report noted that the ports of Los Angeles, Long Beach, Tacoma, and Seattle stood out as ports whose customers generated a substantial amount of HMT revenues that were spent on maintaining other harbors.[92] Also noted was that the ports of Los Angeles and Long Beach received less than a penny, and the ports of Seattle and Tacoma received just over a penny on every dollar of HMT paid by shippers who use their ports.[93]

Current Issues and Proposals Regarding HMT

In FY2010, the Obama Administration proposed a Low Commercial Use Navigation Pilot Project. The purpose of the project was to make some of the larger net HMTF recipients, with little commercial traffic, self-funding. The FY2010 budget included a $1.5 million project that would develop and encourage alternative means to fund

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[85] John Frittelli, Cong. Research Serv., R41042, Harbor Maintenance Trust Fund Expenditures 9 (Jan. 10, 2011).

[86] *Id*.

[87] *Id*.

[88] The Ports of Seattle and Tacoma were sixth and eighth, respectively.

[89] *Id* at 7.

[90] *Id* at 8.

[91] *Id* at 16.

[92] *Id.*

[93] *Id.*

maintenance of the low commercial use harbors and waterways.[94] The project would identify which Federal harbors and inland waterways supported lower levels of commercial use, and their non-Federal sponsors. The project would also develop long term methods for funding and operating these facilities.[95]

In January 2011, the Realize America's Maritime Promise Act (RAMP Act), was proposed. If passed, the RAMP Act would require that the total budget resources made available from the HMTF each fiscal year be equal to the level of receipts plus interest credited to the HMTF for that fiscal year. These funds would only be made available for harbor maintenance programs.[96] It would also guarantee that no funds would be appropriated for harbor maintenance programs until that amount had been provided.[97]

The above and additional alterations to the HMT will be discussed in greater detail later in this study.

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[94] *FY2010 Budget for the Army Civil Works Program, Hearing, Before the Subcomm. On Energy and Water Dev. of the S.Comm. on Appropriations*, 111th Cong. 5 (2009). (Statement of Terrence C. Salt, Acting Assistant Sec'y of the Army, U.S. Dep't of the Army).

[95] *Id*.

[96] H.R. 104, 112th Cong. § 2 (1st Sess. 2011).

[97] *Id*.

“Natural” Competitive Factors

Ocean Freight Rates

Comparison of Aggregated Freight Rates

One of our first lines of inquiry to try to understand why importers, who are obviously well aware of the HMT not being applied at U.S. land border crossings under relevant provisions of the North American Free Trade Agreement (NAFTA), might choose to utilize services calling at neighboring foreign ports was to determine what sort of rate differentials might apply between services calling at Prince Rupert and those calling at U.S. ports. Service contracts filed at the FMC between shippers and carriers are done so with an understanding of confidentiality. As such, we cannot divulge the actual rates that shippers and carriers contract for. Therefore, in order illustrate the difference between Canadian and west coast port rates, we aggregated the total freight rate differentials based on the rates themselves.

This data includes the ocean freight rate, terminal charges, and the rail rate. We did not take into account bunker, inland fuel charges, or Alameda Corridor charges as these charges are not uniform, and would skew the data. Additionally, as intermodal rail contracts are confidential between railroads and carriers, we are unable to determine what factors in addition to rail line haulage are used to determine how carriers establish pricing for final cargo destinations.

We expressed the lowest aggregated rate as the “base rate” and then provided the increased aggregated rate differentials for other ports in dollars. In general, we found that freight rates via Prince Rupert and Vancouver to Chicago are generally less costly than via U.S. west coast ports. Rates from Shanghai to Memphis via Prince Rupert are also generally less costly than the equivalent rate using U.S. ports, although we note that for a 20’ container, LA/LB is the least expensive option, and Prince Rupert the most expensive.

To: Chicago				To: Memphis			
	20'	40'	40' HQ		20'	40'	40' HQ'
Via:							
LA/LB	160	200	275		BASE	BASE	150
Seattle/Tacoma	120	150	225		40	50	200
Vancouver	92	115	100		20	25	25
Prince Rupert	BASE	BASE	BASE		60	BASE	BASE

Table 10: Aggregated Total Freight Rate Differentials: Shanghai to Chicago/Memphis via Canadian and U.S. West Coast Ports

The Average Cost of Shipping One FEU Through Prince Rupert

In comparing the average cost to ship one Forty-foot Equivalent Unit (FEU)[98] of cargo to Chicago via Prince Rupert and west coast ports, we found that the differential increases, when factoring in HMT. For the purposes of this study, we calculated the average HMT per FEU to be $109.[99]

We added the aggregated freight rate differential to the average HMT per FEU, and determined that Prince Rupert is less costly than all west coast ports. We again did not factor in bunker or inland fuel surcharges, though this differential would only increase for west coast ports if we had, as U.S rail fuel surcharges are generally 10% higher than those of CN, the only rail provider to Prince Rupert. (See Images 4 and 5 below)

While these figures would seem to suggest that Prince Rupert is simply a less expensive corridor for cargo heading to the Midwest, even prior to the inclusion of the HMT, discussions with importers suggest that this may not be the case. In fact, it has been suggested that rates through Prince Rupert are lower to offset higher transportation costs at other places in the supply chain. For example, many shippers have made infrastructure investments closer to rail facilities operated by U.S. railroads. In order to utilize Prince Rupert, the cargo must travel by rail on CN; the lower ocean rates are offered to account for the increased trucking cost to move containers from the CN railhead to the ultimate destination. As such, it is difficult to conclude that transportation costs are significantly lower when importers opt to use Prince Rupert as their seaport of choice.

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[98] One FEU is the size of two TEU. Most U.S. imports arrive in forty-foot containers.

[99] We determined this number by first identifying the top-moving commodities imported in containers. Once this data had been compiled, for each commodity, we determined the number of containers imported, average weight per container in metric tons, and average value per metric ton. With this information, we were able to develop a weighted average which serves as a reasonable approximation of average HMT paid per FEU. See Table 11.

Commodity	USATO Value	USATO Weight	USATO Value/Mton	PIERS Mtons	PIERS TEU	PIERS Mtons/TEU	Value/TEU	HMT/FEU	Wgt Ave Contribution
Apparel	62,857,446,905	4,329,847,893	14,517	4,495,794	1,142,278	3.9	57,137	$142.84	$31.62
Electronics	74,888,834,957	6,187,302,950	12,104	3,190,297	656,667	4.9	58,803	$147.01	$38.77
Furniture	26,791,264,221	8,198,717,388	3,268	6,940,717	1,667,062	4.2	13,605	$34.01	$3.21
Woodenware	5,238,205,017	3,982,782,114	1,315	1,172,303	141,064	8.3	10,930	$27.32	$0.50
Toys & Sport Equip	23,135,787,966	2,904,945,027	7,964	2,954,589	691,766	4.3	34,016	$85.04	$6.93
Autos & Auto Parts	32,437,873,713	5,027,862,515	6,452	1,346,869	192,571	7.0	45,124	$112.81	$12.89
Plastic Products	21,046,301,183	6,151,721,586	3,421	2,172,638	399,972	5.4	18,584	$46.46	$3.44
Beverages, Spirits & Vinegar	13,606,282,475	6,394,435,078	2,128	6,786,019	582,863	11.6	24,773	$61.93	$2.97
Hardware	4,313,174,814	607,793,580	7,096	1,973,624	259,566	7.6	53,958	$134.90	$2.05
Footware	19,644,070,280	1,672,597,600	11,745	1,611,718	449,037	3.6	42,155	$105.39	$7.29
Total	283,959,241,531	45,458,005,731							
								Weighted Avg:	**$109.67**

Table 11: HMT Averages/FEU by Commodity (Source: USA Trade Online/PIERS Interactive)

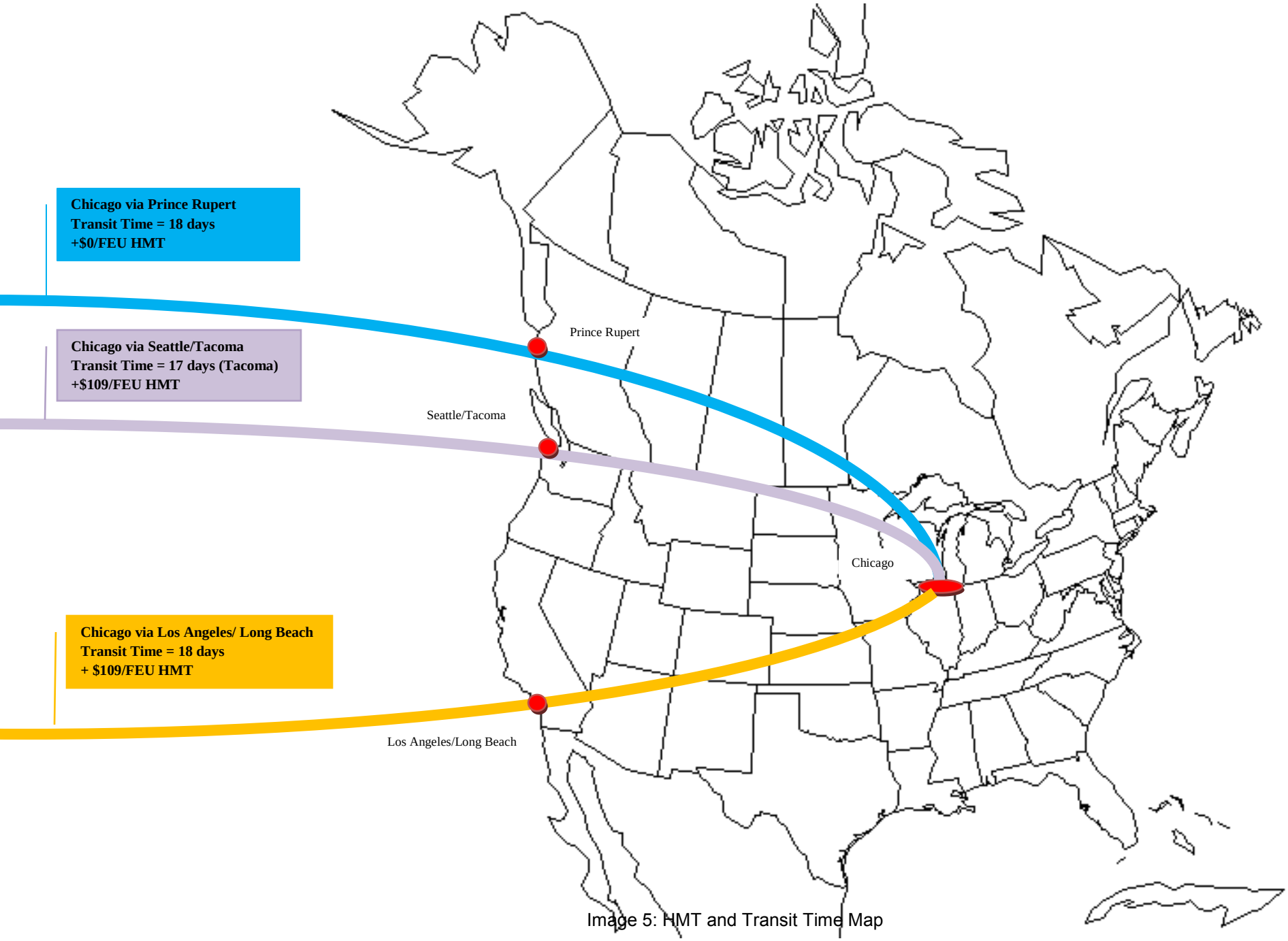

Image 5: HMT and Transit Time Map

Total Transit Times Vary Little

It is widely acknowledged that the Canadian port of Prince Rupert is closer to North Asia than U.S. west coast ports. Many have commented that Prince Rupert is preferred by shippers because of its geographic proximity to Asia. Logically, one would assume that because Prince Rupert is closer to North Asia, the overall transit times to inland destinations in the U.S. would be faster. Our research has indicated that this assumption is not necessarily true.

The faulty rationale in the perception that transit times via Prince Rupert are faster than U.S. west coast ports lies not in Prince Rupert's proximity to Asia, but in the Canadian ports' distance from the U.S. Midwest, which can be clearly seen in Table 11 below.

COSCO and Hanjin Lines both have ten day transits out of Shanghai to the Port of Prince Rupert. This beats the best transit times offered by APL, Maersk, and Hanjin Lines into the ports of LA/LB by two days (10 vs.12 days), but COSCO and Hanjin's faster transit times into Prince Rupert do not always translate into faster delivery to U.S. inland points. Both COSCO and Hanjin Lines provide a service out of Shanghai to Chicago, with an eighteen day transit time, via the port of Prince Rupert. This same transit time is offered by APL via the port of Los Angeles. Orient Overseas Container Line (OOCL) actually bests COSCO and Hanjin transit time by one day (17 vs. 18 days) via the port of Tacoma.

The same can be said for cargo moving to Memphis. COSCO and Hanjin Lines calling Prince Rupert direct offer a transit time out of Shanghai to Chicago of 20 days (COSCO), and 18 days (Hanjin). Hanjin beats its own transit time into Memphis by 1 day (17 vs. 18 days), via the port of Long Beach, and American President Line (APL) matches Hanjin's Prince Rupert transit time of 18 days, via the port of Los Angeles.

	Prince Rupert	Vancouver, BC	Tacoma	Seattle	Los Angeles/Long Beach	Chicago via Prince Rupert	Chicago via Vancouver, BC	Chicago via Tacoma	Chicago via Los Angeles	Memphis via Prince Rupert	Memphis via LA/Long Beach
APL				13	12				18		18
COSCO	10					18				20	20
HANJIN	10				12	18				18	17
MAERSK		15		12	12		23				22
OOCL			13		13			17			19

Table 11: Transit Times: Shanghai to Chicago/Memphis via West Coast Canadian and U.S. Ports

The transit times advertised by Prince Rupert are general and only reference certain origin points and destinations. As such, Prince Rupert is not a viable port for cargo originating from, and destined for, large swaths of the United States. While Chicago and Memphis are important industrial areas, and do represent the destination for a considerable portion of U.S. imports, we spoke with importers who indicated that they have distribution centers located all over the country, and cargo destined for these locations in places like Pennsylvania, California, or Texas would likely never be routed through Prince Rupert. Likewise, Prince Rupert's claims of rapid transit times only currently apply for cargo being sourced from northern and central China, Japan, and Korea; importers who are sourcing cargo from the rapidly growing industrial centers in Southeast Asia or the Indian Subcontinent have no access to direct services calling at Prince Rupert.[100]

The vast majority of the impact of infrastructure differences comes from independent logistical decisions made by specific shippers. Each importer builds and maintains a supply chain in which the seaport of entry is only one small part; these chains also include warehouses, trans-loading facilities, distribution centers, and retail stores. The location of these facilities often has a far greater impact on the decision to use a specific seaport, and often does not involve the seaport at all, only the railroad line that carries the cargo inland. In some cases, importers reported that their logistics facility investments afforded them no option to change to a different seaport of entry due to a reliance on CN or one of the U.S. railroads.

Finally, while the on-ocean transit time is important for importers who cite speed-to-market as a reason for preferring Prince Rupert to U.S. ports, access to regular services is just as vital: three days less at sea for a container is only valuable if they do not spend those three days at terminal waiting for a vessel to depart. As can be seen in Images 5 - 7 below, the use of Prince Rupert significantly reduces the available service strings and frequency of sailing vs. larger ports on the U.S. West Coast. For example, two ships leave Shanghai each week for Prince Rupert compared to 23 sailings per week for LA/LB and 14 to Seattle-Tacoma. Moreover, the latter sailings include some "express services" which offer transit times competitive with those of Prince Rupert.

[100] We note, however, that the opening of transport corridors utilizing ports in Mexico may provide such an alternative entry point.

Comparison of Weekly Service Frequency and Ocean Transit Times from Hong Kong & Yantian to Prince Rupert, Seattle-Tacoma and Los Angeles-Long Beach

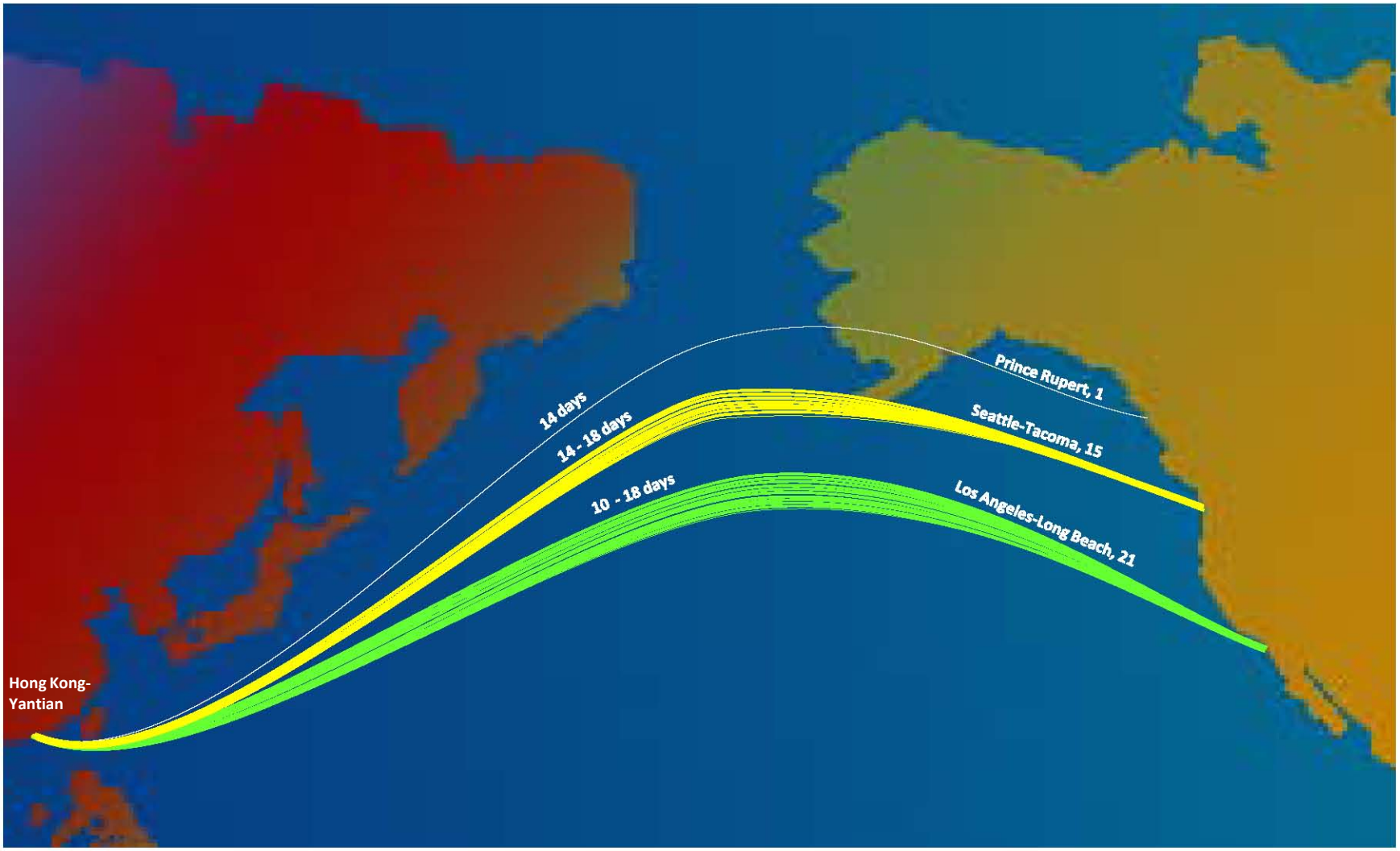

Image 5

Data source: CI-Online, Liner Services

Comparison of Weekly Service Frequency and Ocean Transit Times from Shanghai to Prince Rupert, Seattle-Tacoma and Los Angeles-Long Beach

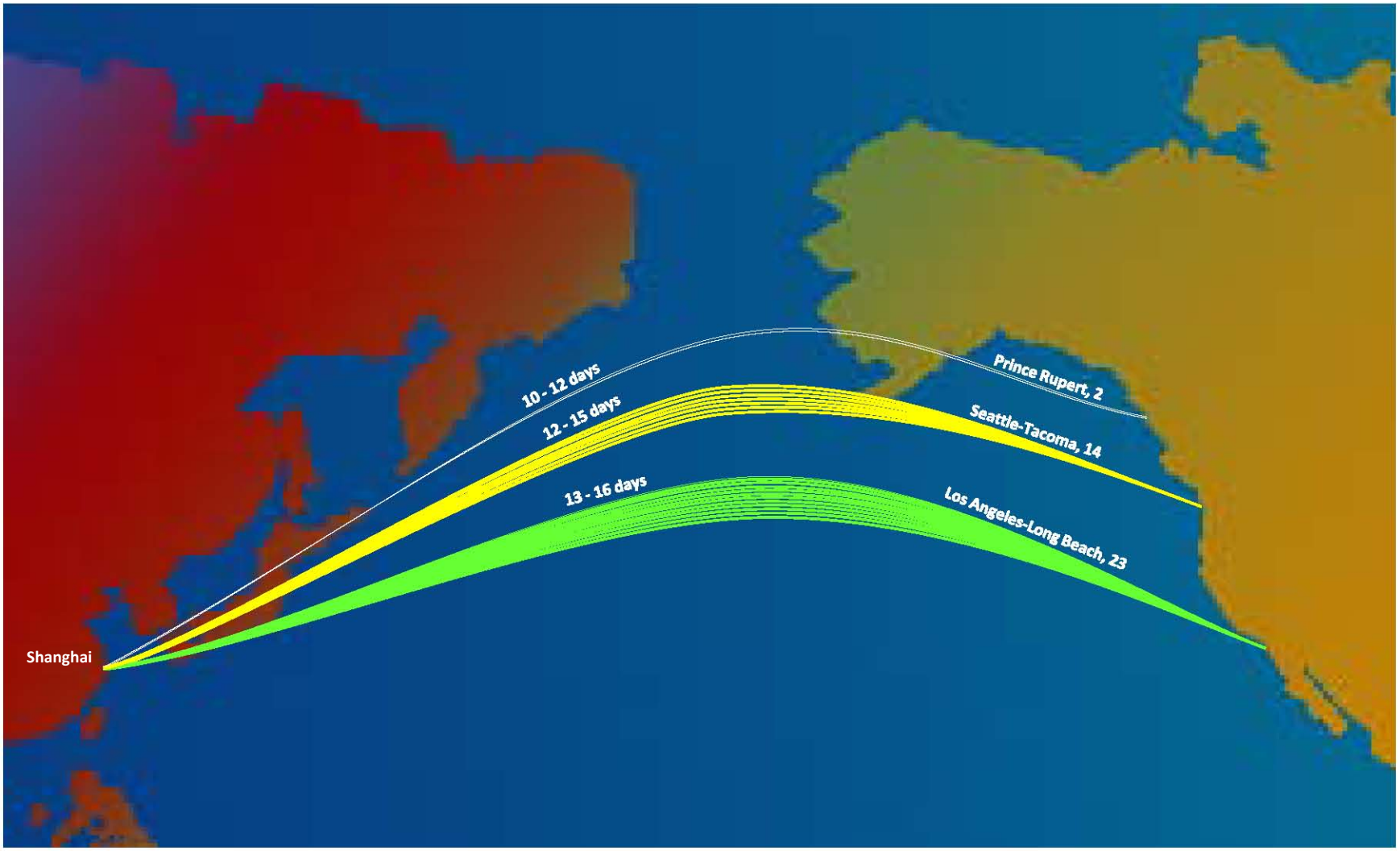

Image 6

Data source: CI-Online, Liner Services

Comparison of Weekly Service Frequency and Ocean Transit Times from Busan to Prince Rupert, Seattle-Tacoma and Los Angeles-Long Beach

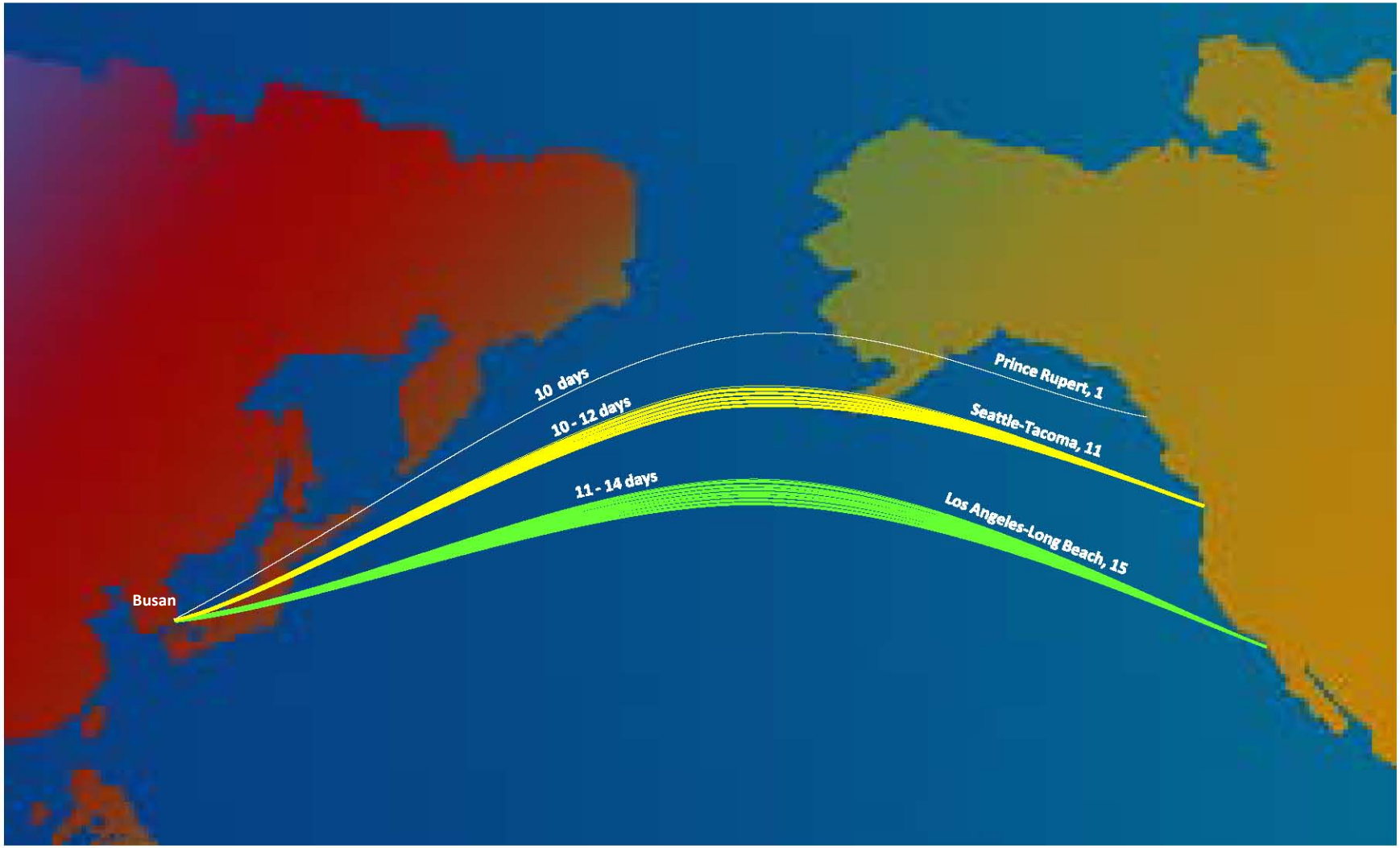

Image 7

Data source: CI-Online, Liner Services

Port Diversification to Mitigate Risk

Nine respondents to the FMC's NOI included Prince Rupert in their port selection process to mitigate risk and avoid supply chain disruptions. By employing the use of more than one port to import and export products in and out of the United States, they reduced the chances of supply chain disruption, both by forces that occur naturally and those that result from human influence.

Natural forces come about in various forms. Some of the most common are torrential rains, blizzards, hurricanes, tornadoes, and forest fires. All the aforementioned events can disrupt or delay the movement of cargo along the entire length of a supply chain; from the cargo's place of origin to its final destination. The cost of these delays can run into the hundreds of millions, sometimes billions of dollars, depending on the extent of damage to the port, supporting infrastructure, and the time it takes to bring these assets back into use.

Recent examples of supply chain disruptions caused by natural forces include Hurricane Katrina, which all but wiped out the ports of New Orleans, Baton Rouge, Mobile, and Gulfport. The 1995 earthquake in Kobe, Japan, destroyed the majority of the port's infrastructure, leaving only nine berths intact out of a hundred and eighty six.[101] Roads to and from the port were severely damaged. More recently, 2010's tsunami in Japan virtually destroyed the port of Sendai, Japan. Certainly any shipper using just one of the aforementioned ports would have its supply chain severely disrupted, either by having their cargo diverted to another port, or by delays caused by congestion due to the ports damaged infrastructure. Japan's auto makers are just now getting their supply chain back on track following last year's devastating earthquake in Sendai province, Japan.

Labor issues are equally capable of disrupting supply chains. The 2002 lockout at west coast ports was so severe that ships were forced to start calling at Canadian and Mexican ports to discharge cargo. The congestion that resulted backed up cargo for months, as ships waited their turn to unload. The disruption at the west coast ports interfered with the flow of goods to U.S. retailers just before the Christmas season, and of auto parts to U.S. auto makers. By some estimates, the cost to the U.S. economy was $2 billion per day.[102]

The 2012 strike at Canadian Pacific Rail in Canada left cargo standing at ports like Vancouver, and at inland points in Canada and the U.S. The strike cost millions of dollars as shippers sought other means to move their cargo. Cross border traffic between Canada and the U.S. was also affected as U.S. auto makers with plants in Canada had to look at alternate means to supply their plants in Canada with parts, and deliver final products to markets in the U.S.

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[101] http://www.city.kobe.lg.jp/life/access/harbor/english/shinsai_e.html

[102] http://money.cnn.com/2002/10/02/news/economy/ports/index.htm

Past disruptions at ports and other points along the supply chain, whether caused by nature or human influence, have taught major retailers, insurance companies, and logistics companies to mitigate risk by introducing multiple entry and exit points to their supply chain. They have seen over the years that one entry and exit point in a supply chain can have devastating consequences when disruption occurs. A shorter transit time, or a less expensive freight rate does not necessarily have a positive effect on a company's bottom line if the supply chain is disrupted by a natural or artificial event.

Rail Rates

While rail contract rates are confidential, BNSF, UP and CN all publish their monthly intermodal fuel surcharge on their websites, which are available to the public. CP is unique whereby it publishes an inland fuel surcharge twice a month. Note CN's published intermodal fuel surcharge is generally 10% less than BNSF and UP. The fuel surcharges for the first six months in 2012 can be found in Table 12 below. Note that for CP, the percentages are different for the first half of the month vs. the second.

	BNSF	UP	CN	CP
January	27.5	34.5	18.06	33.2 (1-15) – 31.6 (16-31)
February	26.5	34	18.29	33.6 (1-25) – 32.8 (16-29)
March	26	35	18.75	32.4 (1-15) – 34.4 (16-31)
April	27.5	37.5	20.13	35.6 (1-15) – 35.6 (16-31)
May	29	38	20.13	34.4 (1-15) – 34.4 (16-31)
June	29	36	19.44	33.2 (1-15) – 30.0 (16.31)

Table 12: Intermodal Fuel Surcharges (%)

As railroads and ocean carriers sign confidential contracts, we are unable to verify whether or not the tariff filed inland fuel charges assessed by each railroad is charged at face value or if there are any discount provisions offered.[103]

"Artificial" Legislative/Regulatory Factors

Liability, General Oversight, and Security

When evaluating different options for the transport of cargo overland to inland destinations in the United States, one of the issues that must be addressed by importers is that of liability: if something happens to a container while it is in a foreign country, how is liability determined? Under current U.S. law, the Carriage of Goods by Sea Act (COGSA) is likely to cover cargo moving through U.S. ports; and it may also be extended to cover non-carrier parties and multi-modal "door to door" shipments.[104] On

[103] We note that, while we list rail rates as a form of natural competition, there have been suggestions in the past that Canadian railroad regulations may allow for the lower rates charged by CN and CP. We were unable to find any proof of these allegations, but neither did we demonstrate any free-market reason for them to charge a lower fuel surcharge given the distance required to travel from Prince Rupert to destinations in the U.S.

[104] *See e.g.*, *Kawasaki Kisen Ltd. v. Regal Beloit Corp.,* 130 S. Ct. 2433, 561 U.S. __ (2010); *Norfolk S. Ry.* v. *James N. Kirby, Pty Ltd.*, 543 U.S.14 (2004). This case also affirmed the FMC's intermodal authority.

the other hand, cargo moving over Canadian or Mexican ports to a final U.S. destination would be subject to domestic Canadian or Mexican law and therefore their cargo liability regimes, though it appears that the regimes are generally similar.[105] By using a U.S. seaport, importers and steamship lines can have greater certainty as to the applicability of U.S. law for the entire movement.

While the inspection processes appear to be somewhat different, there do not appear to be any significant advantages related to U.S. bound cargo moving through Canadian ports.[106] The main difference between the U.S. inspection process and that of Canada appears to be what is known as the "10+2" program, which recently imposed requirements on U.S. importers to enhance security. The "10+2" program does impose a burden on importers to the United States that is not currently imposed on importers to Canada; it is anticipated that Canada will implement a similar program soon.

Additionally, CBP has 58 operational Container Security Initiative (CSI) ports that prescreen more than 86 percent of United States destined containerized cargo; Vancouver, Montreal and Halifax are CSI ports, Prince Rupert is not.

Harbor Maintenance Tax

Trends over the last decade in the propensity of U.S. shippers to route container cargo through Canadian ports were described and briefly discussed earlier in this document. To properly understand those trends, and the factors that may cause those propensities to change, one must gain an appreciation of the basic supply chain strategies used by U.S. importers and what influences the shape of those strategies.

Economist Dr. Robert C. Leachman has conducted extensive empirical studies of the market dynamics of container flows through the west coast ports of North America.[107] He developed a rather complex spatial-economic multimodal transportation simulation model for U.S. west coast ports that determines optimal (i.e., least generalized cost) container flows from the ports of importation to the inland distribution points for final consumption in the U.S. Simulation models are used in this context to capture the

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[105] The adoption of the Rotterdam Rules (United Nations Convention for Contracts for the International Carriage of Goods Wholly or Partly by Sea, G.A. Res. 63/122. Annex, U.N. Doc. A/RES/63/122 (Feb. 2, 2009)) by all three jurisdictions would appear to resolve any difference in these cargo liability regimes and hence any advantage that may result from the cargo routing.

[106] The Canada Border Services Agency (CBSA) and U.S. Customs and Border Protection recently established several initiatives to enhance security while simultaneously accelerating the speed with which cargo moves from Canada into the United States. They include the CSI, the Customs Trade Partnership Against Terrorism (C-TPAT), Partners in Protection (PIP), the Free and Secure Trade Program (FAST), the Border Information Flow Architecture Program, and the Beyond the Border Initiative, which was announced jointly by Canadian Prime Minister Stephen Harper and President Obama in June 2012. Through FAST, Canada and the United States coordinate customs clearance processes for commercial shipments. The Border Information Flow Architecture (BIFA) is a partnership between the U.S. Federal Highway Administration, the U.S. Department of Transportation, and Transport Canada.

[107] Leachman & Associates, LLC. "Port and Modal Elasticity Study," September 2005 & "Port Modal Elasticity of Containerized Asian Imports via the Seattle-Tacoma Ports," December 2007.

anticipated changes in container flows under different scenarios in order to evaluate port competitiveness and to study relative trade-offs between important parameters used in the model (as between transit time and inventory cost, for example). Leachman's model, and others like it,[108] are also used to assess the effects of congestion and the responsiveness of container flows to port users fees of different magnitudes (i.e., to assess the price elasticity of demand). The underlying premise in each of these applications is that U.S. importers seek to minimize the total generalized cost (i.e., the transportation, in-transit, and inventory storage costs) of moving containers from overseas sources to their final domestic destination markets.

One key finding of Leachman's work has substantial implications for this study of U.S. importers' propensity to route containers through Canada and/or Mexico, and it relates to an inherent trade-off between transportation and inventory cost. Leachman's study found that small importers with few final destinations, and importers bringing in comparatively low value products, tend to minimize their overall transportation and inventory costs by shipping inland directly from the port because they lack the scale or the scope to transload marine containers into larger but fewer domestic containers. In contrast, according to Leachman, nationwide importers who ship imports to multiple destinations, or importers who have moderate to high value products and have sufficient overall volume, tend to minimize total transportation and inventory costs by transloading their imports in the immediate hinterland of one or more ports of entry. The process of transloading, which is used commonly by large volume importers and importers of moderate-to-high value products that move in sufficient volume, involves deconsolidating the contents of marine containers and then consolidating those contents into a fewer number of larger domestic containers for onward U.S. domestic distribution.[109]

Transloading of U.S. bound cargo at a Canadian port of entry, however, is considered infeasible because, if U.S. bound containers were devanned in Canada, both Canadian and U.S. duties would be assessed.[110] In this situation, the U.S. shippers most susceptible to routing containers through Canada's west coast ports are those who ship comparatively small volumes and those who ship comparatively low value products. These key influences on U.S. shipper's import supply chain strategies, identified by Leachman and others, suggest that Canada's west coast ports are likely constrained in their ability to attract large volumes of U.S. bound containers.

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[108] Meifeng Luo & Thanas A. Grigalunas. "A Spatial-Economic Multimodal Transportation Simulation Model for US Coastal Container Ports." University of Rhode Island Transportation Center, July 2002.

[109] The contents of three standard 40 ft containers typically can be accommodated by two 53 ft domestic containers.

[110] Leachman (2007), p. 39. (It is possible this situation may have changed since 2007.)

Shipper Volume	Low-to-Moderate Value	Moderate-to-High Value
Small-scale importers	Direct shipping using nearest ports for low-to-moderate value products (*e.g., tires, appliances*)	Direct shipping using west coast ports (time savings) for high value products (*e.g., electronics*)
Large-scale importers	Direct shipping to nearest port for low value products (*e.g., flat-packed furniture*)	Transload at LA-LB for high value products (e.g., shoes, apparel) Transload at multiple ports for moderate value products (*e.g., auto parts, toys*)

Table 13: Import Supply Chain Strategy as a Function of Import Volume & Product Value[111]

In 2010, an estimated 236,436 TEU of U.S. import cargo entered Canada's west coast ports of Vancouver and Prince Rupert and crossed the border by rail.[112] How much of this container volume could be regained if HMT were eliminated, or if an equivalent fee was imposed at the border, will depend on the price elasticity of container demand for discretionary container movements. Using cost models that simulate the sensitivity of container flows to changes in price and other cost inputs, several studies have examined the extent to which container volumes shift from one optimized route to another based on changes in costs or fees. Leachman, for example, applied this type of model to obtain long-run estimates of container demand elasticity at the San Pedro Bay (SPB) ports of Los Angeles and Long Beach and also at the ports of Seattle and Tacoma.[113] Lou and Grigalunas applied a similar model to evaluate the impact on container demand of varying port user fees at the Port of New York/New Jersey.[114] Subsequently, Lei Fan and others used this type of model to evaluate the diversion of container traffic from U.S. west coast ports due to non-price factors such as congestion and poor landside infrastructure.[115]

With respect to the ports of Los Angeles and Long Beach, Leachman estimated that an increase in fees of $100 per FEU at that complex *relative* to all other west coast ports in

[111] Adapted from Leachman (2007), p. 13.

[112] The FMC estimates that for 2011, based on published sources, 289,888 TEU crossed into the U.S. over the Canadian border by rail from Canada's west coast ports.

[113] Leachman 2005 & 2007, op. cit.

[114] Meifeng Luo & Thanas A. Grigalunas, "A Spatial-Economic Multimodal Transportation Simulation Model for US Coastal Container Ports." University of Rhode Island Transportation Center, July 2002.

[115] Lei Fan, William W. Wilson, & Denver Tolliver, "Optimization Model for Global Container Supply Chains: Imports to the United States." North Dakota State University, 2009.

2005 would reduce the ports' discretionary (Inland Point Intermodal, IPI) container volumes from 43 percent of the ports' total volume to 27 percent. Given that the average cost of an IPI container moved from Asia to the U.S. Midwest was about $4,000 at the time the study was conducted, an increase in fees of $100 per FEU is equivalent to a change in price to the shipper of 2.5 percent. A reduction in the share of discretionary (IPI) container volume from 43 percent to 27 percent as a result of this price change (+2.5%) at a price point of $4,000 per FEU, represents a reduction in demand of 37.5 percent. This set of relationships implies that the long-run elasticity of demand for discretionary IPI containers at the SPB ports was about 15; that is to say, a positive change in price of *x* percent would result in a negative change in volume of 15*x* percent. Discretionary IPI volumes would appear to be highly elastic.[116] With respect to container volumes at the ports of Seattle and Tacoma, Leachman later estimated that an increase in fees of $60 per FEU relative to all other ports would reduce container volumes by 30 percent, implying in this case a long-run price elasticity of about 20 depending on the initial price point assumed.[117]

As was demonstrated in Table 11 earlier, we believe that $109 is a reasonable approximation of the average weighted HMT charged per FEU at U.S. ports. If U.S. importers were relieved from paying this tax or, equivalently, if a fee of this magnitude was imposed at the border on U.S. bound containers having used Canada's west coast ports, a portion of the U.S. cargo that comes through the ports of Vancouver and Prince Rupert likely would revert to using U.S. west coast ports. The long-run elasticity estimates derived from Leachman suggest that up to half of the U.S. containers coming into Canada's west coast ports could revert to using U.S. west coast ports if these fee adjustments were made. Based on 2010 container volume, this would amount to up to a maximum of 118,000 TEU and up to a maximum of 145,000 TEU based on 2011 container volumes.[118]

Using data for calendar year 2010, an estimate is made below of the maximum volume in 2010 of U.S. import containers that entered through west coast ports that was at risk of being routed through Canada. The data for this vulnerability exercise come from several sources. U.S. container imports overall and into individual west coast ports were obtained from PIERS. U.S. import containers routed into Vancouver and Prince Rupert are derived from the STB Waybill Sample file. This latter file also was used to derive the

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[116] Long-run estimates of the sensitivity of changes in container flows at any given location to changes in costs or fees that are derived using cost-based models tend to over-estimate the amount of containers that may shift to other lower cost alternative routings. This is because such models fail to properly account for anticipated dynamic responses from other actors in the market who likely will alter their economic behavior to mitigate any potential loss. Behavioral models based on actual observation of responses to increased fees, etc., most likely would produce more accurate (and possibly lower) elasticity estimates.

[117] The paper by Lou estimated that an increase in port charges of $80 per FEU at the Port of New York/New Jersey relative to other ports could reduce container throughput by 42 percent.

[118] As these figures are derived from the long-term elasticity estimates developed earlier, but it should be recognized that a shift in container volumes of these magnitudes would not occur immediately but rather over a period of years.

inland distribution of U.S. import containers from each west coast port of entry to each U.S. state. The STB Waybill Sample file in conjunction with PIERS data was used to derive the percent of containers leaving each port of entry by rail. The data from these sources are used to assess the vulnerability of U.S. bound containers to further incursions by Canada's west coast ports. The volume of U.S. import containers that are most at risk of being routed through Canada's west coast ports are estimated by quantifying the volume of containers that moved from U.S. west coast ports to individual U.S. states in the Midwest served by CP Rail or CN Rail from Vancouver and Prince Rupert; these flows are viewed as being the most at risk of being routed through Canada.

As shown in the tables below, 2.6 percent of total U.S. import containers that entered through west coast ports came through Canada in 2010.

Total US import containers through North American west coast ports, 2010	9,268,022 TEU
US-bound import containers through Canadian west coast ports	236,436 TEU
% of west coast U.S. bound import containers routed through Canada	2.6%

Based on 2010 data, the table below contains an estimate of the proportion of import containers handled by the ports of Los Angeles and Long Beach that potentially are IPI and Midwest destined, and therefore are most likely to be routed through Canada's west coast ports.

2010 import container volume at POLA & POLB	6,872,943 TEU
Of that number, estimated volume of IPI containers	2,949,760 TEU
Of that number, estimated IPI volume to Midwest states	1,303,764 TEU
Percent of POLA/POLB container volume in 2010 that was at risk of Canada routing	19.0%

The equivalent figures for other U.S. west coast ports (Oakland, Seattle, Tacoma, and Portland) are presented below on a consolidated basis.

2010 import container volume at other US west coast ports (combined)	2,105,319 TEU
Of that number, estimated number of IPI containers	692,376 TEU
Of that number, estimated IPI volume to Midwest states	561,816 TEU
Percent of container volume in 2010 at these US ports that was at risk of Canada routing	26.7%

Using 2010 data, the table below summarizes the extent to which import containers bound for west coast gateways may be vulnerable to incursions by Canada's west coast ports.

US bound import containers sent through Canadian west coast ports	236,436 TEU
Estimated IPI volume from US west coast ports to Midwest states	1,865,580 TEU
Of the above "at-risk" cargo, the percent routed through Canada in 2010	12.7%

The total size of the U.S. market targeted by the APGC initiative is almost two million TEU (based on 2010 data). In 2010, about 1-in-8 IPI containers destined for the Midwest from west coast ports entered through Canada, representing a container volume of 236,436 TEU.

Based on the above numerical exercise, and its underlying assumptions, it seems clear that removal of the HMT would drive some U.S. discretionary cargo going through Canadian ports back to U.S. west coast ports, but by no means all. That being said, the HMT does appear to be one competitive force that is not based on natural competition, but may indeed be a legislative disadvantage on some U.S. ports.

Congressional Policy Considerations

The FMC has an interest in ensuring that U.S. ports remain competitive in the waterborne commerce arena. This task is not simple, as there are many factors involved. U.S. ports are competitive internationally; however, it would appear that the HMT makes the challenge more difficult. This is especially the sentiment of the ports that are competitive with Canadian and Mexican ports. According to Tay Yoshitani, CEO of the Port of Seattle, "A lot of factors go into the routing of cargo and a lot of carriers/shippers want diversity in how they get cargo to warehouses…cost is always an issue, and the HMT clearly disadvantages us against Canadian Ports."

It is clear that HMT is one of many factors affecting the increased use of foreign ports for cargo bound for U.S. inland destinations. While a user fee is necessary for U.S. ports to grow, the number of proposals in both the House and Senate as well as from other sources, suggest that amendment to the current HMT structure should be given consideration.

The majority of the nation's bulk commodities and containerized goods are shipped via the U.S.'s national ports and waterways. When the HMT was originally implemented, its purpose was to cover 40% of the Corps' port operation and maintenance costs. The HMT was later increased to cover 100% of the Corps' port operations and maintenance costs. Millions of dollars are collected every year from the assessment of the HMT and those monies make up the Federal funding for the maintenance of navigation channels

in U.S. ports. It cannot be used for the expansion of water and landside facilities, or dredging alongside wharves.

There have been calls from members of Congress to use the HMT to its full potential. Reports by the Corps tracked 59 of the nation's ports that handled the largest amount of tonnage. Thirty-three percent of the time, the ports were not dredged adequately, which resulted in vessels being forced to carry smaller loads so that two vessels would be able to pass each other in the channel.[119]

Currently, there are several proposals to allow for a more efficient use of the HMT. The **Revitalize America's Maritime Promise Act (RAMP Act)** would restructure the HMT collection process so that the total budget resources made available from the Harbor Maintenance Tax Fund for a given fiscal year equal the level of receipts plus interest credited to the Harbor Maintenance Trust Fund for that fiscal year. Under the RAMP Act, all of the HMT collected would be spent on harbor dredging and maintenance.

On February 16, 2011, Senator Frank Lautenberg (NJ) and others introduced **S. 371: Focusing Resources, Economic Investment, and Guidance to Help Transportation Act** of 2011. While this bill does not specifically address the HMT, it would take steps towards establishing a national transportation policy, and provide funding for infrastructure projects.

The Ports of Los Angeles, Long Beach, and Tacoma have created a joint proposal for the reformation of the HMT. The draft proposed **Harbor Maintenance Tax Reform Act of 2012**, incorporates sections one and two of the RAMP Act, but expands the uses of the HMT in section three. Section three proposes amending Section 9505 of the Internal Revenue Code of 1986 (relating to the expenditures of the HMTF), to include subsection (d), which would allow ports who collect $25 million/year and whose expenditure of HMT collected at the port is less than 1/10 of the amount collected for the previous five fiscal years and whose channels are built to the authorized widths and depths, to receive monies from the HMTF annually, beginning with the following (6th) fiscal year, to spend,

> (1) on any improvement in or adjacent to the navigable waters in or near such port that the Secretary of the Army is authorized to make, including environmental mitigation and habitat construction;
> (2) on any improvement in berthing areas in such port pursuant to a channel widening project;
> (3) on maintenance of berthing areas accessible from Federal navigational channels in such ports; and
> (4) dredging and disposal of clean sediments unsuitable for ocean disposal that are in or that affect the maintenance of Federal navigation channels, or that are in berths accessible by Federal channels.

[119] R.G. Edmonson, *Ramping Up Dredging Support*, THE JOURNAL OF COMMERCE ONLINE (Feb. 13, 2012 5:00 AM), http://www.joc.com/government-regulation/ramping-dredging-support.

On January 17, 2012, former Congresswoman and FMC Chairwoman, **Helen D. Bentley (MD)**, delivered a speech at the 25th annual Tacoma Propeller Club meeting. In this speech, she proposed that the Harbor Maintenance Tax be replaced by a system wherein a uniform user fee of $100 per container would be charged for each container entering the United States, regardless of the mode of transportation.

P.L. 112-141, The Moving Ahead for Progress in the 21st Century Act, or **MAP-21**, was signed into law on July 6, 2012. Among other provisions in this sweeping transportation bill is a provision that would recommend that the Administration fully use the HMTF to operate and maintain navigation channels of the U.S.

Maintaining the competitiveness of the U.S. ports requires in part, improving port infrastructure. Prince Rupert, for example, is geared toward handling intermodal rail traffic and has on dock rail facilities that allow the gang to make fewer moves with the cargo. The design of the Port of Prince Rupert allows a single gang to move the cargo from ship to train and then move the train to the switching yard. In other ports, there are separate gangs that discharge the cargo, move the cargo to rail sidings, and then to switching yards to be consolidated with other flatcars.

The new proposed bills, and former Congresswoman Bentley's proposal, have been a part of a larger movement to promote the concept of a national transportation policy as Congress moves to resolve these issues.[120] Currently, many U.S. ports, highways, and bridges are slowly decaying due to lack of investment and strategic long-term planning. Our closest competitors, Mexico and Canada, have national transportation policies that ensure that their ports, highways, and bridges, all of which play important roles in the intermodal transportation of commerce, are sustained. **Our country's decisions regarding infrastructure investments today will directly impact our ability to compete in a global economy for years to come.**

[120] As part of the *We Can't Wait Initiative* the Obama Administration announced on July 19, 2012, that 7 nationally and regionally significant infrastructure projects will be expedited to help modernize and expand 5 major ports in the United States, including the Port of Jacksonville, the Port of Miami, the Port of Savannah, the Port of New York and New Jersey, and the Port of Charleston. <http://www.whitehouse.gov/the-press -office/2012/07/19/we-can-t-wait-obama-administration-announces-5-major-port-projects-be-ex> (last visted July 19, 2012).