

Ports in Peril:

The Alarming Economic Cost of Declining Market Share at the San Pedro Bay Port Complex

Executive Summary



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Introduction

The San Pedro Bay Ports are of monumental importance to the economy of Southern California as well as California's statewide economy. Their significance extends far beyond the waterfront, with most of the direct jobs they generate existing in many other industries "downstream" of port operations.

The twin ports support more than 12 percent of the State's Gross Domestic Product, supporting nearly 188,000 direct, induced and indirect jobs. Another 1.1 million jobs with importers and exporters within the State are supported by the containers, autos, break bulk, and dry bulk cargoes moving via these ports.

In 2019, overall import/export activity at the Ports of Los Angeles and Long Beach supported more than 75,000 direct jobs amounting to \$5.1 billion in wages. This activity also accounted for \$2.3 billion in state and local tax revenue.

The Critical Economic Value of Intermodal Containerized Cargo

The servicing of the vessels and the handling and processing of cargo at the San Pedro Bay Port Complex generate the direct employment impact. The vast majority of the direct jobs supported by the ports are related to the movement of containerized cargo, a segment that on its own directly supports nearly 70,000 jobs. As seen in the chart below, workers in the trucking industry and at warehouses and distribution centers where cargo is transloaded for national and regional distribution comprise more than 51,000 of these jobs.

Exhibit 1
Direct Jobs Generated in California by Cargo and Vessel Activity
at the San Pedro Bay Port Complex, 2019

JOB CATEGORY	San Pedro	
	All San Pedro Port Facilities	Containerized Cargo
RAIL INDUSTRY	3,289	3,129
TRUCKING INDUSTRY	31,947	31,116
TERMINAL OPERATORS	1,849	1,092
ILWU	8,852	7,284
PILOTS/TUGS	267	122
MARITIME SERVICES*	2,215	1,150
FREIGHT FORWARDERS	4,540	4,232
DISTRIBUTION CENTER/WAREHOUSE/TRANSLOAD	20,596	20,079
GOVERNMENT/INSURANCE/BANKING/LEGAL	<u>1,825</u>	<u>1,492</u>
TOTAL	75,379	69,698

*Includes Steamship Agents, Chandlers, Surveyors, Marine Construction

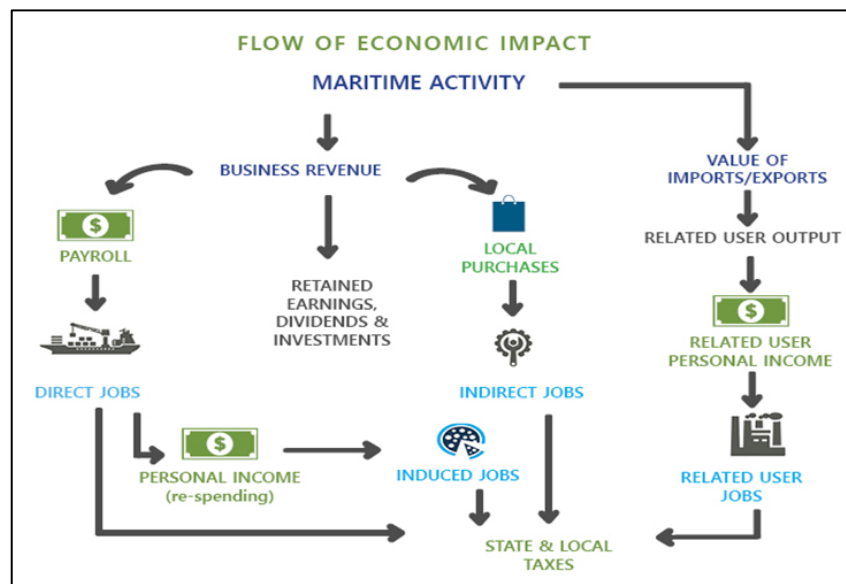
The Bigger Jobs Picture

The employment impact at the Ports of Los Angeles Long Beach reach beyond the direct jobs to include induced jobs, indirect jobs and related jobs. **In 2019, a total of 187,702 direct, induced, and indirect jobs were generated in the State of California by the maritime activities located at the Ports of Los Angeles and Long Beach.** Of these jobs:

- 75,379 direct jobs were created by the marine cargo activity at the Port Complex.
- 86,673 induced jobs were supported in the State as the result of the re-spending of the direct income and the value of the local consumption purchases of \$13.1 billion. The induced jobs are supported by the purchases of goods and services by those directly employed and would also cease to exist if the direct jobs were discontinued. Hence, the induced jobs are dependent upon the direct jobs and the associated level of wages and salaries, as well as the resulting local purchases made by those directly employed (direct jobs) by activity at the Port Complex.
- 25,651 indirect jobs within the State were supported by the \$3.4 billion of in-state purchases of goods and services by the firms employing the direct job holders. These indirect jobs are generated in the local economy by the purchases of goods and services by the firms which provide the direct jobs.

A total of 1.1 million are related jobs. Related jobs are jobs with shippers/consignees using the marine terminals for the export and import of cargo. These shippers/consignees also use other ports and are not completely dependent upon the San Pedro Bay Port Complex facilities.

The chart below illustrates the flow of economic impacts of activity at the Ports of Los Angeles and Long Beach throughout the state of California's economy.



Source: Martin Associates

The Role of Discretionary Cargo

A meaningful portion of the ports' economic activity (and jobs, wages, tax revenue, etc.) derives from handling intermodal discretionary cargo. This is cargo destined primarily for the Midwest and other areas east of the Mississippi – areas that are increasingly served by competing ports on the Atlantic and Gulf coasts, and Western Canada, and to a lesser extent Mexico. This containerized cargo is shipped either by rail directly via intermodal trains that move to and from the Port Complex daily, or are trucked from the marine terminals to local distribution centers and transload facilities where the goods are transloaded into domestic containers and then moved to inland destinations by intermodal rail. Intermodal discretionary cargo is most at-risk to diversion to competing ports in North America – and indeed, the San Pedro Bay Ports' share of this important cargo has been declining steadily for well over a decade.

Scope of Study

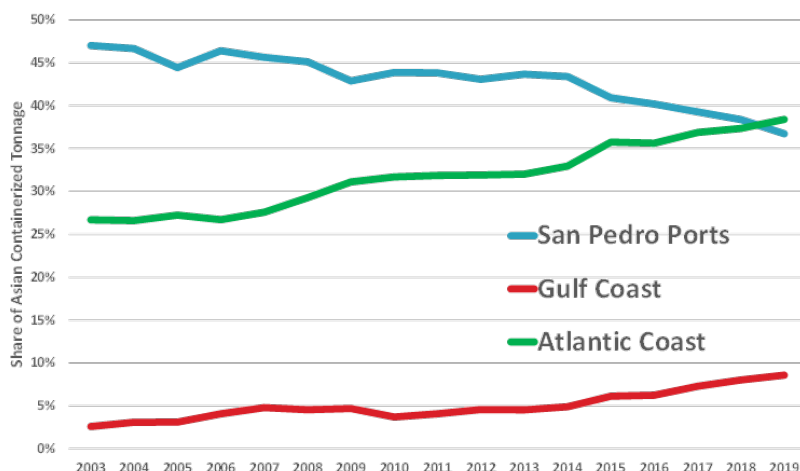
This study seeks to provide information to decision-makers seeking answers to basic questions:

- What impacts could further discretionary cargo loss at the Ports of Los Angeles and Long Beach have on employment and overall economic activity?
- What are the factors driving the discretionary cargo loss?
- What action steps can be taken to stem the outflow and win back this business?

Sustained Discretionary Cargo Market Share Decline

The trendline since 2003 tells the story of the San Pedro Bay Ports' ongoing market share loss of intermodal discretionary cargo. In 2003, the Ports of Los Angeles and Long Beach handled about 47.0 percent of total Asian imported and exported containerized cargo moving through all U.S. ports, compared to 26.7 percent handled by U.S. Atlantic Coast ports and 2.6 percent handled by U.S. Gulf Coast ports. By 2019, the share of total Asian containerized cargo handled at the Ports of Los Angeles and Long Beach had fallen to 36.7 percent, while the share handled at the Atlantic Coast ports rose to 38.4 percent – exceeding the share at San Pedro Bay -- and the share at Gulf Coast ports increased to 8.6 percent.

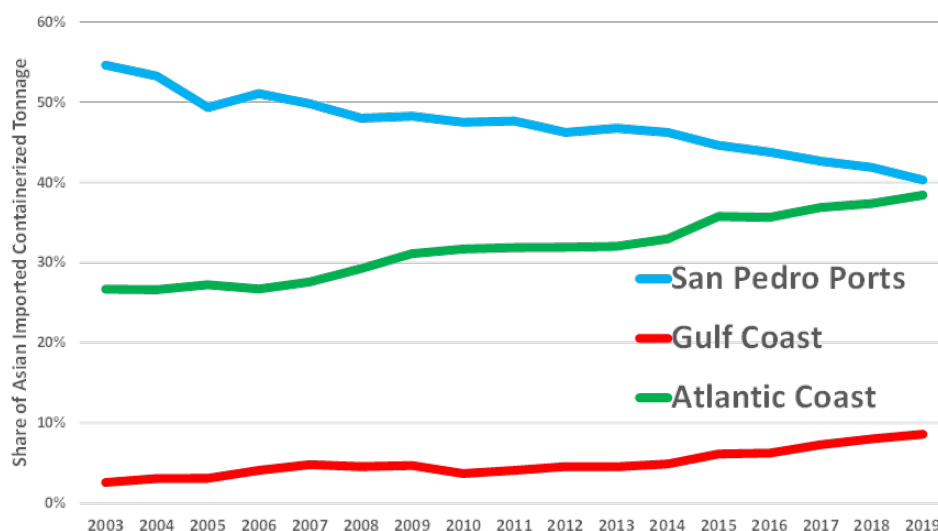
Exhibit 2: San Pedro Bay Ports Share of Total Asian Containerized Tonnage at U.S. Ports



The loss of market share of Asian containerized cargo tonnage at the San Pedro Bay Port Complex is most pronounced for imports, as shown in Exhibit 3, which indicates a share decline from 54.6 percent in 2003 to 40.3 percent in 2019 compared to a gain in market share at Atlantic Coast ports from 26.6 percent to 38.4 percent over the same period. The Gulf Coast ports also posted a gain in Asian imported containerized tonnage from 2.6 percent in 2003 to 8.6 percent in 2019.

This loss of market share is also important because it generally reflects a decline in sailings as well, as carrier service falls as more discretionary cargo is lost to competing ports. As a result, export cargo capacity from the San Pedro Bay Ports will also decline, impacting local exporters.

Exhibit 3
San Pedro Bay Ports Share of Total Asian Imported Containerized Tonnage at U.S. Ports



Market Share Decline = Large Job Losses, Particularly for Off-Dock Workers

To demonstrate the potential distribution of job losses by category due to market share loss, the Martin Associates economic impact model for the San Pedro Bay Ports was used to estimate the potential job loss across all categories of port service providers at the Port Complex for a 1 percent loss in total U.S. container market share.¹

The economic risks posed by this ongoing market share loss are dire: a 1 percent loss of market share translates into a reduction of 6,800+ direct, induced and indirect jobs, \$700 million in lost wages, salaries and personal consumption annually, and \$15.6 billion in total economic impact to the State.

¹ The 1 percent loss in market share equals about 4 percent loss in total containerized tonnage at San Pedro Bay Ports based on total containerized cargo imported and exported in 2019, as reported by USA Trade OnLine

In addition, it is estimated that another 43,095 jobs with importers and exporters in California would be impacted by the same 1 percent market share loss, along with a loss of about \$2.0 billion of wages and salaries received by the importers and exporters. Of these, some 2,769 direct jobs would be at risk of elimination. The largest share of the directly-supported jobs at risk are with the trucking industry moving the cargo to and from the marine terminals, followed by jobs with the distribution centers, warehouses and transload facilities in the Southern California area, in which goods are repackaged and readied for further distribution to intermediate stops on the logistics supply chain or to the final consumers.

Overall, it is estimated that more than one-third of all containers handled at the San Pedro Bay Ports move to and from the San Pedro Bay Ports by rail. Of these intermodal containers, it is estimated that more than 50 percent are transloaded in the region, whereby the marine containers are trucked to local warehouses and distribution centers, repackaged and loaded into larger domestic containers for further distribution to final destinations². The empty marine container is then returned by truck from the warehouses, transload facilities and distribution centers to the marine terminals. The transloaded containers are then loaded onto rail cars for further delivery into eastern consumption markets such as Denver, Dallas, Chicago, St. Louis, Nashville, Atlanta, and even coastal cities such as New York, Boston and the Washington-Baltimore Corridor.

The following chart shows the direct jobs that are projected to be lost with a 1 percent reduction in market share at the Ports of Los Angeles and Long Beach.

Exhibit 4
Distribution by Type of Direct Job Projected to be Lost By a 1 Percent Loss in the San Pedro Bay Ports' Market Share of Total U.S. Container Tonnage

JOB CATEGORY	1% Loss of Market Share
RAIL INDUSTRY	125
TRUCKING INDUSTRY	1,245
TERMINAL OPERATORS	44
ILWU	291
PILOTS/TUGS	40
MARITIME SERVICES*	46
FREIGHT FORWARDERS	169
DISTRIBUTION CENTER/WAREHOUSE/TRANSLOAD	803
GOVERNMENT/INSURANCE/BANKING/LEGAL	6
TOTAL	2,769

*Includes steamship line agents, chandlers, ship and cargo surveyors, marine construction

² "Is the Alameda Corridor In Trouble?", [Railway Age](#), November 22, 2019, by Jim Blaze, Contributing Editor

It should be noted that although nearly 300 jobs with the International Longshore and Warehouse Union (ILWU) are projected to be lost with a 1 percent decline in market share, the majority of these ILWU jobs are covered by a pay guarantee plan (PGP). The Pacific Maritime Association (PMA) and the ILWU agreed to increase the guaranteed number of hours an eligible registered longshore worker is paid if that worker is unable to obtain full-time work for any reason including automation. If an eligible registered longshore worker is unable to obtain a 40-hour work week, the PGP provides guaranteed weekly income to industry registrants until they retire. Therefore, the impact on the local economy of the loss of an ILWU registered job is tempered by the PGP, unlike the impact of the loss of truckers and employees of the warehouses, distribution centers and the transload facilities. These workers do not have such guarantees. The only waterfront workers who do not enjoy the PGP are members of the “casual workforce.” Casuals are part-time workers who are not registered members of the ILWU. Any reductions in shifts or hours are likely to reduce work opportunities for the casual workforce.

Key Factors Contributing to Cargo Share Loss

A variety of factors, from global economic trends to local regulations, are contributing to the steady market share losses at the San Pedro Bay Ports.

- **Imbalance in Terminal Costs**

The San Pedro Bay Port Complex is a high cost port complex in terms of container terminal costs charged to steamship lines, and ultimately reflected in the cost to importers and exporters to do business through these ports. Based on an analysis of container terminal charges throughout the U.S., the terminal charges per container at the San Pedro Bay Port Complex average between 90 percent and 160 percent higher than the terminal charges at ports on the Atlantic and Gulf coasts.³

In order to counter the dynamic market events that are impacting the competitive position of the San Pedro Bay Port Complex, it is critical that these terminal charges be controlled, if not reduced. Failing to do so could result in a potentially greater loss of market share and economic impact to the region and the State in the future. These per container charges consist of several factors, including: allocated lease payments per container paid to the port authorities, gate fees, insurance, miscellaneous terminal charges, labor wages paid for stevedoring and terminal work, the labor benefits charge per container, equipment charges, etc. In addition, the terminal charges per container also reflect environmental compliance charges paid by the terminal operator, as well as any additional cost recovery fees imposed by the individual port authorities.

A recent report by Mercator indicated that ship-to-train handling costs, plus surcharges, are \$660 per container at the San Pedro Bay Ports versus \$401 at the Ports of Vancouver and Prince Rupert on the Canadian West Coast.

³ “Sustaining the San Pedro Bay Community – The Ports of Los Angeles and Long Beach”, April 2019, prepared for the Pacific Maritime Association, by Dr. Michael Nacht, Mr. Larry Henry, and Dr. John Martin

This cost differential does NOT include the estimated \$9.5 billion in compliance costs for the Advanced Clean Truck requirements, Harbor Maintenance Tax, and other state-imposed emissions requirements for vessels and terminal handling equipment. These costs are estimated to account for over \$200 more per container, expanding the cost gap even more.

Looking forward, there are three issues that could result in even higher terminal charges for containerized cargo at the San Pedro Bay Port Complex:

- Environmental Regulations

The cost of compliance with environmental regulations is significant and raises the cost of moving goods through the San Pedro Bay Ports. These increased costs have significant implications on the financial sustainability of the terminal operators, especially as port competitors on the Atlantic and Gulf Coasts are not subject to these regulations and their related costs. If these increased costs cannot be absorbed by terminal operators or offset by other cost savings within the terminal operation, market share will continue to erode, potentially causing total volumes to decline through the complex as well.

While they come at a cost, the emissions reductions resulting from these sustainability measures also have economic benefits for port communities and the State. The State has estimated that the freight-related emissions reductions at the San Pedro Bay Ports could reduce the costs of associated health effects by half (about \$10 billion).⁴ The environmentally disadvantaged communities surrounding the complex will experience the greatest per-capita health benefit from emissions reductions strategies.⁵

- Declining Intermodal Rail Volumes on the Financial Capacity of the Alameda Corridor Transportation Authority

Revenue for the Alameda Corridor Transportation Authority (ACTA) and hence its ability to cover its annual debt service payments is driven by intermodal container volume at the Ports of Los Angeles and Long Beach. As the intermodal volumes continue to decline reflecting the loss of discretionary cargo, the ability to cover the annual debt payments is at risk.

⁴ CAAP November 2017 Economic and Workforce Consideration

⁵“Sustaining the San Pedro Bay Community – The Ports of Los Angeles and Long Beach”, Spring 2019, prepared for the Pacific Maritime Association, by Dr. Michael Nacht, Mr. Larry Henry, and Dr. John Martin

Based on an analysis of the future intermodal volume projected through the Alameda Corridor, “if the loss in intermodal containers at the San Pedro Bay Port Complex continues, ACTA will experience a significant cash flow deficit beginning in 2024 growing from \$47 million per year in 2024 to more than \$100 million annually in 2029. The cumulative shortfall would climb to roughly \$1.2 billion by 2038.”⁶ This potential inability to cover ACTA’s annual debt service payments has important implications regarding terminal charges at the Port of Los Angeles and Long Beach.

- Fixed Terminal Operating Costs Amid Declining Container Volume at San Pedro Bay Ports

Terminal operators face many fixed costs, including the payroll of the terminal operator employees, fixed lease payments, insurance, equipment replacement costs and ongoing maintenance costs borne by the terminal operator. Of particular focus is the assessment for labor costs. Given that the annual benefit cost for ILWU members set by the industry labor contracts must be funded, a decline in container volume at the San Pedro Bay Ports will result in the need to increase the per-container assessment. With the declining volume, and a fixed annual benefits cost, the cost per TEU and hence per container will need to increase, which will be reflected in the overall terminal charges per container. Again, as the per container assessment increases, overall terminal costs of moving containers through the San Pedro Bay Ports will increase (as well as at other West Coast ports), further adding to the high cost of moving containers through the complex and leading to continual loss of discretionary cargo. A similar scenario holds for the other fixed costs faced by terminal operators. As volumes decline, these allocated fixed costs per container faced by the terminal operator will increase, further exacerbating the terminal charges per container at the San Pedro Bay Ports.

- Changes in Logistics Patterns of Importers/Exporters Due to Interruptions of Port Operations and Dependability of the Supply Chain at the San Pedro Bay Ports

The impact of the 10-day port West Coast shutdown in 2002 has had a long-lasting impact on the use of West Coast ports by importers and exporters that have responded by developing alternative logistics supply chains. After the 2002 port closure, importers and exporters responded by using Atlantic Coast and Gulf Coast ports to handle Asian cargo.

To support this change in the logistics supply chain, these importers and exporters have established an increasing number of import distribution centers on the Atlantic and Gulf Coasts, which are now served by all water Asian cargo services calling such ports as New York, Baltimore, Norfolk, Charleston, Savannah, the Florida ports of Jacksonville, Port Everglades, Miami, Houston and Mobile. Amid the rise of e-commerce, distribution

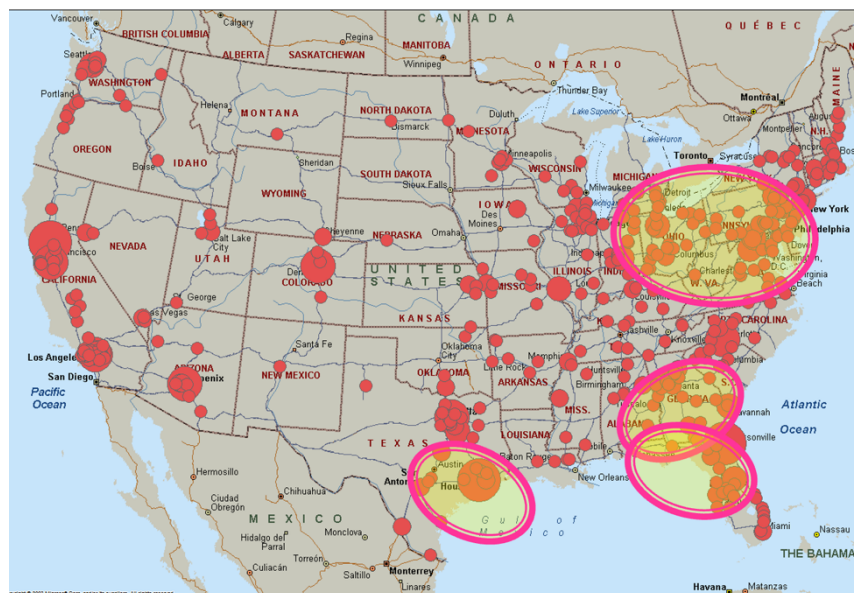
⁶ IBID

centers are also doubling as fulfillment centers and being located closer to major population centers. Exhibit 5 shows the distribution center locations of the top 25 retailers in the United States.

As indicated by the highlighted areas in the map below, these distribution centers are highly concentrated in the northeast, southeast and the Houston area, which are all in close proximity to key ports of New York, Baltimore, Norfolk, Charleston, Savannah, Jacksonville, Miami/Port Everglades, Houston and Mobile.

Hence, these ports have become the logical gateways to serve these markets on all trade lanes, including China, Southeast Asia, Southwest Asia, the West and East coasts of South America, as well as Europe, the Mediterranean/Middle East, Africa, Central America and the Caribbean.

Exhibit 5
Location of Top 25 Retail Chains Import and Regional Distribution Centers



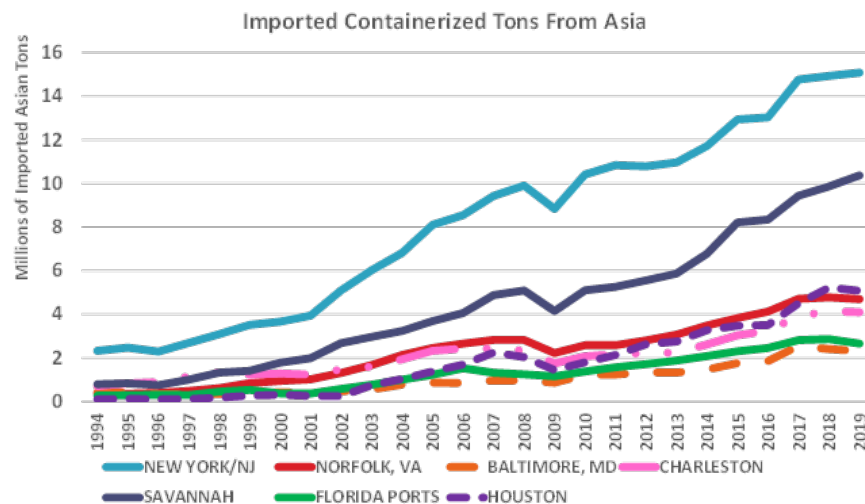
Source: Chain Store Guide

- Growth in the Deployment of All-Water Services Connecting Asia and the Atlantic and Gulf Coasts

Exhibit 6 highlights the growth in Asian imported containerized tonnage at the U.S. Atlantic and Gulf Coast ports as a result of direct, all-water services from Asia. It is to be noted that this growth accelerated after the West Coast port shutdown in 2002. The impact of labor contract issues in 2014 and 2015 at the West Coast ports that led to service disruptions and terminal congestion is also visible in the increased rate of growth in Asian imports at the Ports of New York and Savannah during this time. In addition, the

impact of the opening of the expanded Panama Canal in 2016 (to accommodate larger vessels operating on the all water Trans-Pacific trade) is clearly seen by the accelerated growth in Asian imports at these key Atlantic and Gulf Coast ports.

Exhibit 6 Asian Imported Containerized Cargo by Key Atlantic and Gulf Coast Port



Source: U.S. Census, USA Trade OnLine

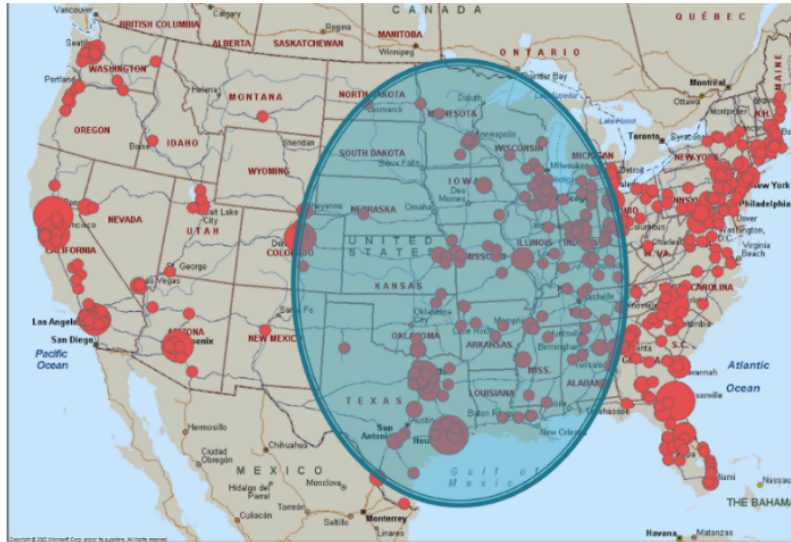
- Nearly \$13 billion of investment has been or are planned to be invested over the next 5-7 years in port terminal investments to accommodate the growth in all-water service and increased intermodal service via U.S. Atlantic and Gulf Coast Ports

As shipping vessels have increased in size, requiring deeper and wider channels at the Atlantic and Gulf Coast ports, the key container ports embarked on channel deepening and widening projects, and also invested in larger (post Panamax) container cranes and terminal upgrades.

Investments in rail service at the Atlantic and Gulf Coast ports also increased in order to serve more inland markets and logistics centers than were previously served via the West Coast ports. These investments in deeper channels, terminal infrastructure and equipment, and intermodal rail terminals at the Atlantic and Gulf Coast ports are not only focused on serving local consumption markets, but also on increasing the markets of these Atlantic and Gulf Coast ports to serve distribution centers in the midwestern states that have historically been served intermodally via the West Coast ports for Asian trade, particularly the San Pedro Bay Ports Complex. This battleground market area is shown in Exhibit 7.

Exhibit 7

Region for Intermodal Competition Between Atlantic, Gulf Coast and West Coast Ports



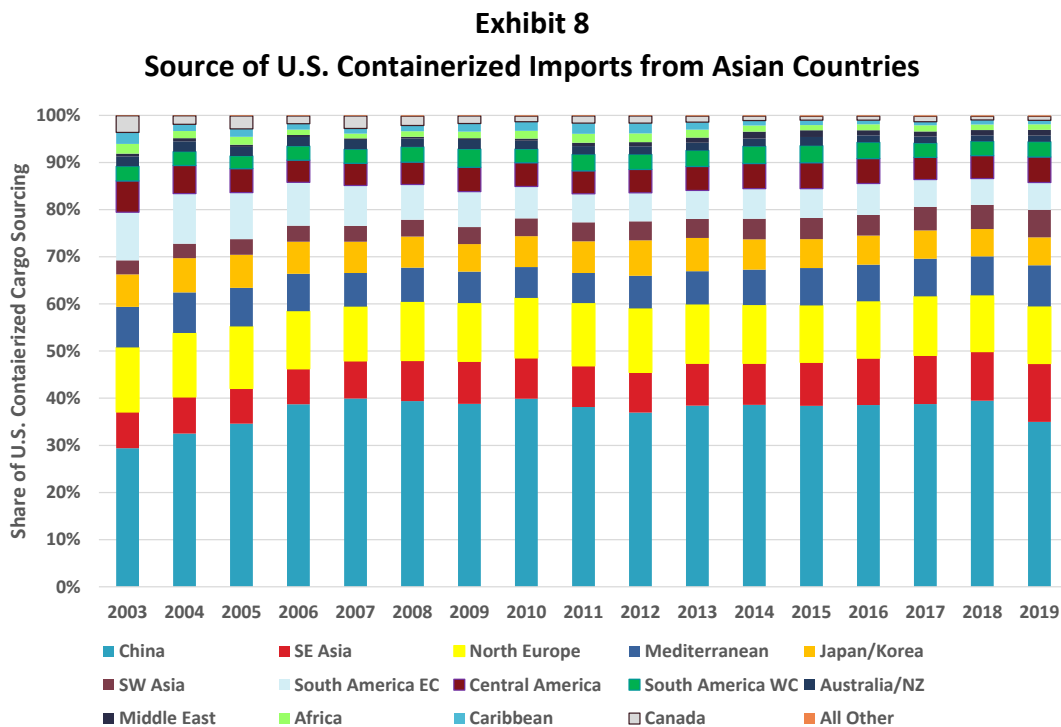
- Port Terminal Investment at Pacific Coast Canadian and Mexican Ports
In addition to the investments in terminal expansion, intermodal rail terminals, and channel deepening at the U.S. Atlantic and Gulf Coast ports, terminal capacity and intermodal rail investments are also occurring at Pacific Coast Canadian and Mexican ports that also target the discretionary cargo now moving between the San Pedro Bay Ports and midwestern states. At the Port of Vancouver, three key expansion projects are planned. Currently the \$400 million Centerm Expansion Project and the South Shore Access Project will increase the Centerm Container Terminal capacity by 600,000 TEUs, and includes a reconfiguration of the existing container yard, expansion of the intermodal yard, and eastern and western expansion of the Centerm. The proposed \$2 billion Roberts Bank Terminal will consist of a new container terminal that would increase overall port capacity by 50 percent, and the Vanterm terminal is also undergoing an expansion project to add an additional 200,000 TEUs of capacity.
- Shifting Intermodal Trade Volumes
A comparison of trends in the share of Inland Point Intermodal (IPI) activity, which is the movement of import/export marine containers by rail (excluding transloaded containers), underscores the impact that the investment in marine terminal development and accompanying rail infrastructure at the U.S. Atlantic and Gulf Coast ports and the Pacific Canadian ports have had on intermodal traffic destined for the midwestern United States consumption markets. Gross Transportation Consulting conducted an analysis of the changes in the volume of IPI cargo moving between the Southwestern ports to the midwestern U.S and the Atlantic Coast ports to the midwestern U.S.⁷ The analysis indicated that the largest loss in intermodal IPI moves has been in intermodal import

⁷ Inland Point Intermodal Flows Shift Away from U.S. West Coast. Journal of Commerce, June 10, 2020.

container moves from the West Coast into the American interior. The California IPI flows have fallen by 4.2 percent in share, while the IPI moves from the West Coast ports has declined by 6.2 percent since 2006. Intermodal moves of international maritime containers also recorded a loss of market share from 9.2 percent in 2006 to 4.4 percent in 2020.

- Changes in U.S. Import Sourcing

The production centers in Asia for imports destined for the United States have gradually been shifting away from China to other regions, particularly counties in Southeast Asia. Exhibit 8 shows that China continues to be the leading source of imports into the United States, but the share of U.S. imports from China has been declining over the period. As shown in Exhibit 8, China has been the major source of U.S. containerized imports over the past 17 years. After a growth in market share between 2003 and 2007, imported containerized cargo from China into the United States has accounted for about 40 percent of total U.S. imported containerized tonnage through 2018. However, this share has fallen in 2019, reflecting the impact of trade policy actions, and is likely to continue to fall as importers diversify the logistics supply chain away from China into countries in Southeast Asia such as Vietnam, Thailand, and Cambodia as well as Southwest Asian countries such as India and Pakistan.



Source: U.S. Census, USA Trade OnLine

These changes in the sourcing of imports to diversify the supply chains of key U.S. importers away from China has further implications on future shipping patterns. For example, as supply sources shift away from China into Southeast Asia, the Suez Canal

becomes the preferred trade lane to serve all water services into the Atlantic and Gulf Coast ports, and transit time differentials to serve the midwestern consumption markets with Southeast Asian cargo via these two coasts become more competitive with the use of the San Pedro Bay Port Complex. As near market sourcing continues, overall Trans-Pacific trade will likely be negatively impacted, affecting not only the discretionary cargo moving via the San Pedro Bay Ports destined for the midwestern and southeastern U.S., but the overall level of containers moving via the San Pedro Bay Port Complex into California and Western U.S. states.

Winning Back the Business

Given the tremendous economic value of discretionary containerized cargo both to the Southern California region and the state, it is vital that the ongoing market share erosion be halted, and ideally reversed. Some of the policies to win back business are within the jurisdiction of local and state regulators. Suggestions are summarized below.

- **Market the San Pedro Bay Ports' Inherent Strengths**

The San Pedro Bay ports have enormous capabilities to handle Asian imports – physical proximity to Asia that limits travel time, deep water terminals capable of handling the largest vessels in the world, on-dock rail capabilities that can handle more volume than any other port complex in North America, inland warehousing capabilities for the vital transloaded cargo, connectivity to the national rail and highway networks, the skilled and experienced ILWU workforce, and port authorities and municipal governments that recognize the economic importance of the ports.

Yet, these inherent strengths have not withstood the onslaught of competition for intermodal discretionary cargo from Canadian ports on the West Coast and ports on the East Coast and in the Gulf.

Regaining the 30 percent plus market share of all containerized imports and exports that once moved through the San Pedro Bay ports, and in particular the 47 percent market share of all Asian import and export containerized cargo that was handled by the San Pedro Bay ports in 2003, has become a key focal point for maritime industry stakeholders. Many of these stakeholders – including the Ports of Los Angeles and Long Beach, and 52 affiliated organizations providing services to and moving cargo through the San Pedro Bay ports -- signed a letter to California Governor Gavin Newsom dated July 13, 2020 in which they recommended promoting California ports “as the most efficient and environmentally progressive,” in the country.

- **Review of Environmental Regulations**

The stakeholder organizations that reached out to Governor Newsom also recommended an evaluation of California and regional environmental regulations. Beyond that effort, the stakeholders and governmental decision-makers might evaluate whether a national

standard for port emissions should be considered. In particular, the stakeholders recommended that the Governor take two actions:

- ‘Reexamine the state and regional regulations that are creating a disincentive to use California gateways. Determine whether the policies, particularly in environmental areas, are backfiring and encouraging more greenhouse gas emissions by sending more business to ports that are far behind California’s climate program.’
- ‘Reconcile state laws encouraging environmental and efficiency mandates with the need to retrain workers to adapt to a changing work environment.’”⁸
- Evaluate the Potential Impacts of Terminal Automation
Underlying the areas that must be addressed is the common thread of increasing the efficiencies of the San Pedro Bay Ports and maintaining the balance of environmental responsibility and port competitiveness to grow the economic contribution of these ports to the California economy.

Increased efficiencies ultimately improve the competitive position of the port operations to the container vessel owners by improving and maintaining schedule integrity, and to the beneficial cargo owner by providing dependable, reliable and cost-effective service.

The growing vessel sizes and volume of container exchanges that are now moving through gateway ports such as the San Pedro Bay ports result in the need to evaluate automation of the container terminals that are served by the mega containers.

The respected trade publication Journal of Commerce explored the prospect of additional automation last year, quoting a recent report by Moody’s.

“ ‘The industrial logic (automation) is strongest for facilities handling both local and discretionary or transshipment volumes brought by mega-ships,” according to recent report by Moody’s Investment Services. “Mega-ships’ load/discharge patterns require consistent and reliable performance, added storage capacity that is maximized through ground-slot density, and the ability to extend the daily operating window — for example, to better optimize the container stack or to handle gate transactions — without meaningful incremental costs, in order to distribute activity over a 24-hour period and maintain acceptable productivity.””⁹

By increasing the efficiencies of the San Pedro Bay Container ports, the overall competitiveness of this port complex will increase, attracting discretionary cargo that has been lost to Atlantic Coast, Gulf Coast and Canadian ports since 2003.

⁸ California Governor Urged to Reverse Port’s Receding Market Share, FreightWaves, July 14, 2020, Kim Link-Wills

⁹ “More North American Port Automation Expected”, Journal of Commerce, July 4, 2019, by Bill Mongelluzzo

Another issue tied to automation that impacts the competitiveness of the San Pedro Bay Ports and contributing to the continued loss of market share is compliance with environmental regulations and mandates.

In order to minimize the costs of the Clean Air Action Plan implemented at the port complex, terminal operators will need to move to a more automated terminal operation. The use of automated equipment in emissions reductions is referenced in the 2017 CAAP Update. Specifically, automated guided vehicles and intermodal yard cranes are cited as examples of zero-emissions cargo-handling equipment that promote the Plan's sustainability objectives¹⁰.

As noted in a study last year authored by Dr. Michael Nacht of UC Berkeley, "Automation of container terminals will not automatically mean a reduction of work, as the ILWU dispatch hall will enable [longshore workers] to be reassigned to non-automated terminals and not all will automate their terminals. Additionally, the impact of automation on the social sustainability of San Pedro community will not be a material economic impact.

"In fact, the failure to automate will result in a major economic impact to the San Pedro community and to the broader region and the state. Automation provides for a vibrant container port which will ensure their continued employment, and which will be critical in maintaining, and hopefully recapturing market share of the U.S. container market."¹¹

The Moody's Investors report on container automation cited earlier identified that another advantage of automation is the residual benefit of slashing emissions due to the fact that the automation equipment is powered by electricity, not diesel that powers the non-automated terminal equipment. Moody's also noted that "LBCT (Long Beach Container Terminal, which is an automated terminal at the Port of Long Beach), is already almost compliant with the goal of zero emission cargo handling equipment by 2030 stipulated in the Los Angeles-Long Beach Clean Air Action Plan, while the 10 conventional container terminals in the San Pedro Port face aggregate costs approaching \$3 billion in equipment replacement and infrastructure costs to comply with the CAAP."¹² All told, the CAAP estimates these costs could be as high as \$3.9 billion.

As noted in the previous section regarding the high terminal cost structure of the San Pedro Bay Ports, the ability to cost-effectively comply with environmental regulations at the complex will be critical in improving the competitive position of the ports to compete with the Atlantic, Gulf Coast and West Coast Canadian ports for discretionary cargo.

¹⁰ "Sustaining the San Pedro Bay Community – The Ports of Los Angeles and Long Beach", op.cit.

¹¹ "Sustaining the San Pedro Bay Community – The Ports of Los Angeles and Long Beach", op.cit.

¹² "More North American Port Automation Expected", Journal of Commerce, July 4, 2019, Bill Mongelluzzo

Given these findings, it appears that automation is clearly a major consideration by the terminal operators in attempting to reverse the loss of market share that has plagued the San Pedro Bay Ports. Automation will improve the competitive position of the San Pedro Bay Ports by improving terminal efficiency within the environmental climate of California, and provide an advantage for the San Pedro Bay Ports to increase market share vis a vis the Atlantic and Gulf Coast ports, and provide a path for compliance with environmental regulations.

However, it is to be recognized that terminal automation is not the answer for all the container terminals operating in San Pedro Bay, as the automation concept is best suited for high volume terminals serving mega container vessels in excess of 10,000 TEUs.

Because many terminals are not expected to automate, and those that do are likely to shift work from the movement of containers in the yard to maintenance and repair positions associated with the new technology, Nacht is correct that work impacts associated with automation on the registered longshore workers should be negligible. The change in the nature of the work for registered ILWU members is recognized in the coastwise agreement between the ILWU/PMA, and via a 2008 Letter of Understanding that established the quid pro quo on implementation of automated terminals. As noted in Exhibit 4, the greatest threat to longshore jobs is the continued loss of discretionary cargo. The best job protector is maintaining and growing market share.

- Training Program for ILWU Members in Southern California

In 2019, the PMA and ILWU reached agreement on a worker training program in Southern California that will empower ILWU members to keep pace with the modernization in the container shipping industry through specialized technical training designed to maintain and repair environmentally friendly, zero-emission terminal equipment.

Specifically, the program will re-skill ILWU longshoremen to be Journeyman Mechanics and provide up-skill training to current ILWU mechanics. As container logistics platform Xchange explains, “These programs developed under union-harbor agreements offer a fully paid training program to re-skill and up skill longshore workers to equip them for the next generation of work on the waterfront.”¹³

- Ensure the Dependability of the San Pedro Bay Ports in the Logistics Supply Chain of the Nation’s Importers and Exporters

The dependability and reliability of the logistics supply chain to the nation’s importers and exporters provided by the San Pedro Bay Ports is critical to reverse the continual erosion of market share and markets served by these ports. The West Coast Port Shutdown in 2002 was a critical catalyst for the market share losses. The 10-day closure of terminals and the 90-day period that ensued to get the network back to normal operations disrupted supply

¹³ “Container Terminal Automation and Its Benefits Explained”, Container-Xchange, <https://container-xchange.com/blog/container-terminal-automation/>

chains, and importers and exporters and rail and trucking companies incurred severe costs in terms of inventory carrying costs, lost sales, demurrage penalties, as well as loss of overseas markets for agricultural exports.

The supply chain disruptions that also occurred in 2014 and 2015 at the San Pedro Bay Ports and other West Coast ports further reduced the reliability and dependability of these ports to the nation's importers and exporters, leading to an increased shift to East and Gulf Coast Ports as gateways for Asian container traffic.

Further disruptions in port operations at the San Pedro Bay Ports must be minimized, and in fact eliminated, if the San Pedro Bay Ports have any potential to regain market share lost since the 2002 disruptions.

- Work with the Railways Serving the Ports to Provide Competitive Intermodal Pricing and Equipment Availability

In addition to providing reliable and port operations at the San Pedro Bay Ports, it is critical that the railroads serving these terminals provide competitive rates with those offered via the Pacific Canadian ports to U.S. inland destinations, and to further provide competitive intermodal pricing to inland locations. The need to ensure rail equipment availability is also vital in maintaining and growing the competitive position of the San Pedro Bay Ports vis a vis the East and Gulf Coast ports as well as the Pacific Canadian Ports.

Final Thoughts

It is important to note that should the market share loss at the San Pedro Bay Ports continue, job losses throughout all sectors providing cargo handling services at the complex will increase, most likely at a much greater level than the potential impact on ILWU jobs that will not be retrained for work in those terminals that move to automation.

In fact, introducing automation will protect more jobs in total than it displaces with proper retraining, due to the punishing impacts of continued market share losses. These and other measures will be required to prevent San Pedro Bay Ports from becoming a regional port complex serving just a small portion of the nation and delivering a fraction of its potential benefit at a higher cost.

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