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Growing U.S. exports will drive Inland Ports

Healthy export volumes abroad are prompting many U.S. manufacturers to re-evaluate their existing supply chains. Developers finding solutions that address export demand are yielding opportunities to capture traditional warehouse/logistics users.

Until recently, real estate interests addressing the growth of global containerized shipping in the United States were predominantly focused on providing development solutions catering to import traffic.

Containers would arrive at major seaports, get stacked onto rail or drayed to a transload location for movement by truck, and many would eventually be moved to the center of the country and emptied. Much of the port-centric development occurring throughout the United States during the 2004–2009 period was focused on providing cross-dock distribution facilities, third-party logistics buildings and traditional DC projects.

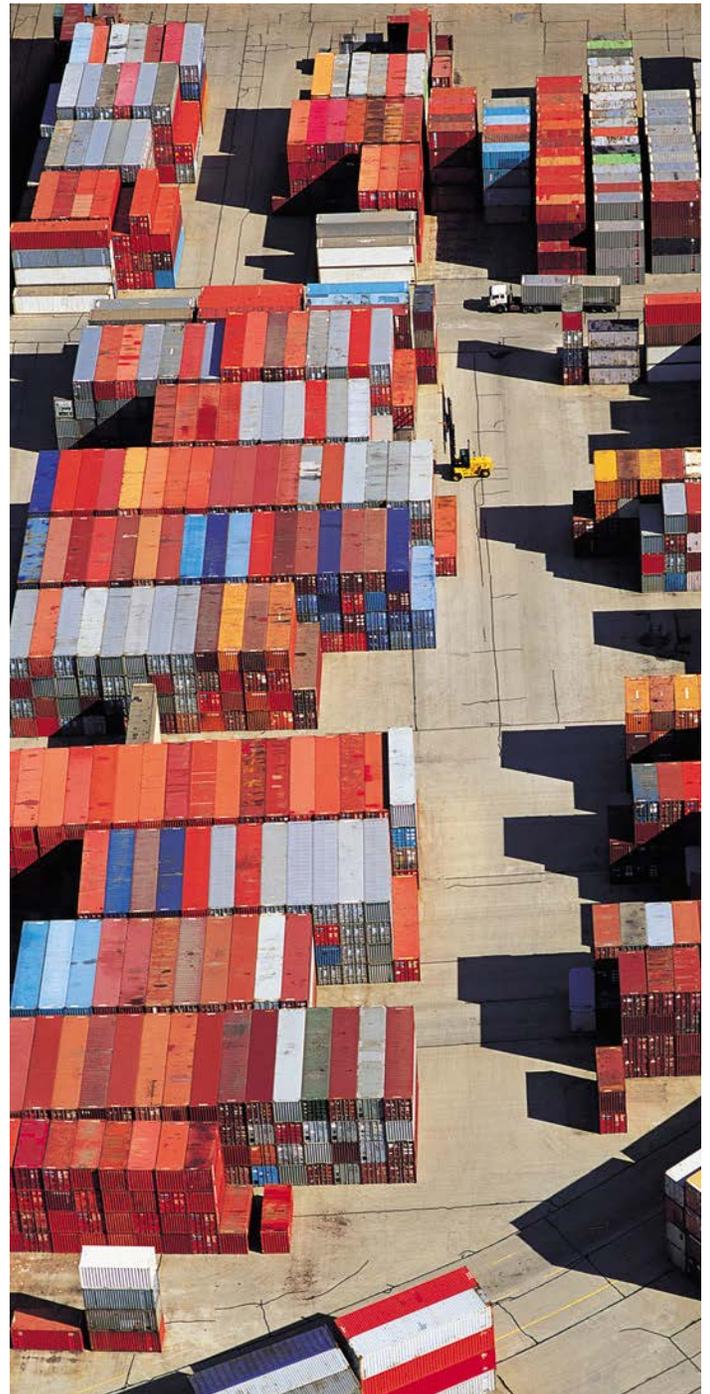
What to do with the “empties”?

This has resulted in a growing concern among the maritime industry on how to handle the concentration of empty ocean containers which would end up hundreds of miles from the waterfront, only to be returned empty. This is an inefficient use of ocean containers, which are more costly to use and store for the customer, and has resulted in lost profits for the carrier lines and terminal operators.

The increased attention to exporting of U.S. goods can and will provide a timely opportunity to change this dynamic.

Developers, investors and communities able to address U.S. cargo exports, will find greater ability to attract traditional distribution centers and third-party logistics users to their projects. Inbound cargo containers can then be better matched with export/outbound cargo, resulting in greater profitability for all concerned. This paper explores the rise of exports in the United States, which will change the role of inland ports (historically import-centric) to help funnel goods to the world's economy.

In addition, a study highlighting one of the fastest growing export industries, agriculture, is used as an example of how one industry is adapting its supply chain model and increasing its reliance on inland ports as a way to improve export efficiency. This strategy can only be realized, however, with a guaranteed supply of empty ocean freight containers. The U.S. logistics systems and the associated real estate are vital components in building a successful export capability.



Exports reach a new high

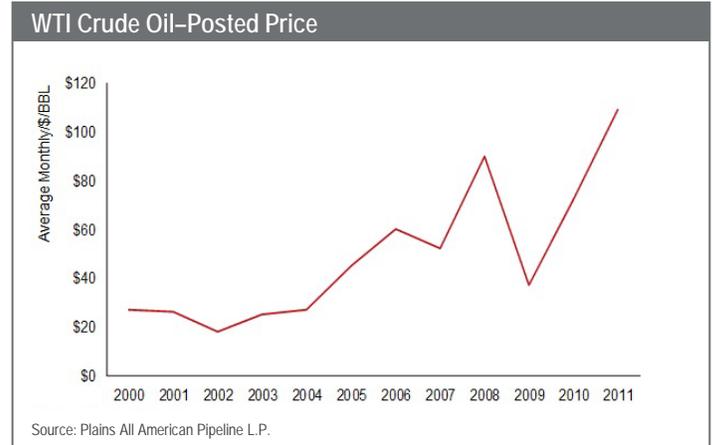
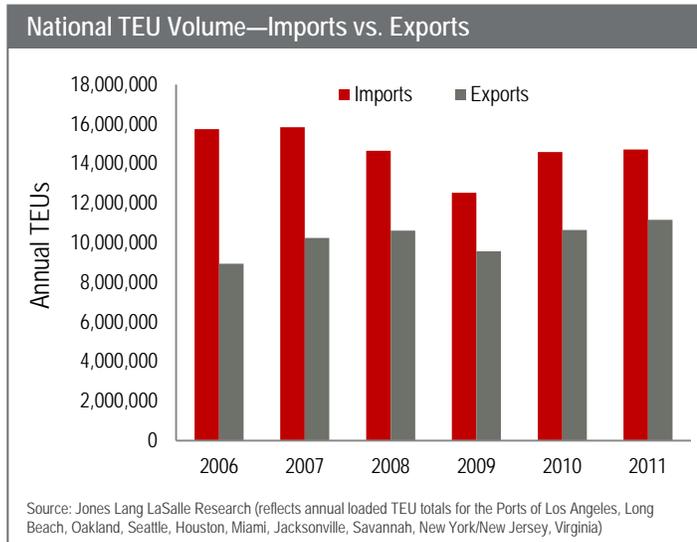
The U.S. Department of Commerce announced that U.S. exports of goods and services in February 2012 reached \$181 billion, a new monthly record. Exports in 2011 topped \$2.1 trillion, overshadowing the previous annual record established in 2008 by nearly \$300 billion. Since the end of the Great Recession, exports have accounted for half of U.S. economic growth, and are clearly one of the brighter spots in a mixed economy – a fact often overlooked.

Biggest export growth is to emerging markets

Unsurprisingly, shipments to emerging markets are growing. For example, in January to February 2012, exports to Latin America increased by 17 percent year-on-year to \$61 billion. In 2011 exports to China, rose 12 percent and for the first time exceeded \$100 billion. Of the goods being exported, several industries are reporting expansion and contributing to the export boost, they produce medical equipment, pharmaceuticals, automobiles and energy products. Shipments of agricultural, mining and oilfield equipment are booming too.

According to a survey of 191 chief supply chain officers, conducted during February 2011, 40 percent indicated they are altering their entire domestic supply chain network. Additionally, 34 percent of respondents are changing their international supply chain network*.

This has led to a new dependence on inland ports whose arterial connections to seaports are rail lines. And the cost savings of incorporating rail intermodal traffic into a supply chain can be substantial: Line-haul costs per container average one-third the cost of freight trucking.



Rising fuel prices drive rail and intermodal

As cited in a previous Jones Lang LaSalle white paper, titled “[The Emergence of the Inland Port](#),” trucking accounts for 70 percent of U.S. freight shipments. However, the fastest growing mode of transportation has been intermodal. Rail and intermodal transportation will continue to increase in popularity as rail’s economies of scale continue to improve with rising fuel costs.

Increasingly, intermodal transportation emerges as one of the most efficient ways to get products to export markets. A key indicator of this trend is the rapid increase in intermodal traffic over the past several years. The growth in container shipments of products, combined with rail infrastructure improvements—including an increase in routes capable of handling double-stacked container shipments—has sparked an intermodal surge of almost 26 percent between a recession-triggered low in May 2009 through mid-2011, and trade continues to expand.

In May 2012, the average import price of crude oil was \$108 per barrel. Although accelerated off shore shoal oil production will enhance domestic supply, and thereby reduce oil imports into the United States, fuel costs still present a challenge to the effective movement of goods over the long term. Higher oil prices have reduced consumer consumption and the rate of economic growth in many countries. As new demand for goods has slowed, so has trade and growth in demand for transportation services. Since it is more costly to move goods long distances, logistic channels are changing and more cost-effective approaches are being implemented.



* “Cost and Complexity: Top Challenges of Today’s Chief Supply Chain Officer,” Aberdeen Group, January 2012.

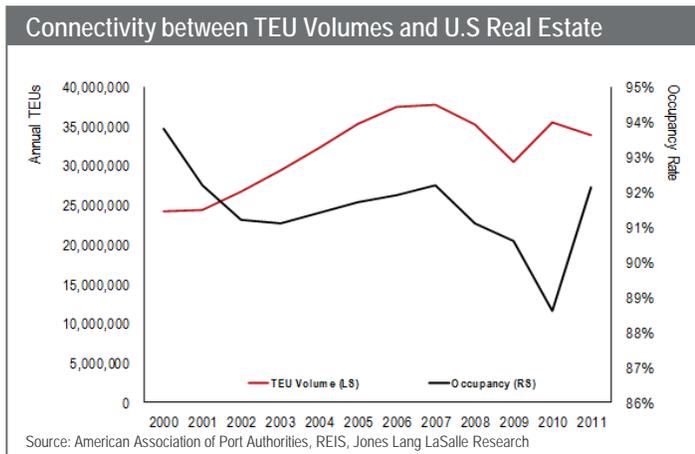
The role of inland port development grows

Helping such shipments to their destination is the emergence of several U.S. inland ports, hubs designed to move international shipments more effectively between maritime ports and locations throughout the U.S. heartland. Inland ports, connected by dedicated rail lines to one or more "sister" seaports, provide a means for inbound and outbound ocean cargo to pass through congested waterfront terminals more quickly and cost effectively.

Historically, they have been import-centric in their scope. Among the first and largest users of such centers were major retailers such as Walmart and Home Depot, who consolidated multiple distribution centers into a smaller number of hubs that have adequate logistics capacity. Inventory received from countries such as China are unloaded and dispersed at these inland ports—essentially, "access points"—to warehouses and stores throughout the United States. This strategy, in turn, attracted the attention of smaller retailers and third-party logistics providers, such as freight forwarders who adopted similar models. Given the rise of U.S. exports, however, inland ports present a compelling option for both manufacturers and movers of bulk containerized cargo.

Imports and the demand for warehouse space correlate but what about exports?

A correlation can be made between cargo volumes (measured in TEUs) and the need for warehouse space. Historically, the import side of U.S. trade has been given precedence over its export counterpart relating to additional space requirements, i.e. greater annual volumes that exceed export totals are the root of this. Yet perhaps the attention needs to undergo a shift, especially in an economy where exports are demonstrating notable gains while imports remain relatively flat.



Export growth drives which markets?

While pioneering complexes, such as the Chicago area's RidgePort and CenterPoint intermodal logistics hubs, were created mainly to handle U.S. containerized imports such as time-sensitive consumer goods, the same fast-track model can rapidly return containers filled with exports back to outbound ocean freighters too. Currently, scrap metal and agricultural goods are common items loaded into return-containers from these access points, but this can be expanded to encompass finished goods as well, such as medical and pharmaceutical products.

Secondary markets could be winners in export growth

Today, other cities such as Memphis, St. Louis and Kansas City have become full service inland ports, with other locations in development. Current inland port developments focused on providing export solutions include:



- The Port of North Dakota, a 350-acre intermodal park established in Minot, North Dakota, developed as a result of surging import volumes of "frac sand," a highly sought after component in the oil exploration process used in the Northern United States.
- The Florida Inland Port, an integrated logistics center consisting of more than 4,000 acres, providing direct rail connectivity not only to each of Florida's sea ports, but also to one of the fastest growing population bases in the country.
- Inland Port Arizona, a 580-acre regional inland port servicing the high volume ports in Southern California of Los Angeles and Long Beach.

"The emergence of the Baaken and the incredible influx of inbound supplies and materials provides a sudden and much welcomed source of capacity for outbound agricultural products that have long been disadvantaged due to the cost of transport using less efficient routings and repositioned equipment.

The Minot port project will enable both the Oil and Gas and Agriculture markets to capitalize on this newfound balance."

Port of North Dakota

A current example of a development taking advantage of its rail connectivity to one of the busiest port systems in the nation is located in Casa Grande, Arizona. Known as Inland Port Arizona, this development is set to become the first true inland port to serve the ports of Los Angeles and Long Beach.

Inland Port Arizona will introduce the ability for port customers, 3PLs and others to benefit from a more streamlined supply chain, reducing point-to-point transportation time and unit costs. For firms engaged in the export of U.S. goods and materials, Inland Port Arizona will also create a location solution for more effective preparation, loading and handling of cargo containers for their final transport by rail to the port terminals.



Functioning as the only large-scale inland port serving the southern California ports, Inland Port Arizona is poised to become an import/export hub between the West Coast and Asia Pacific.

Real estate opportunities

What does all this mean for the U.S. industrial real estate landscape? Multiple opportunities, as the logistics industry and exporters establish hubs with immediate proximity to empty import containers, and to distribution hubs for shipment by rail to deepwater ports.

“We see significant opportunities for private sector investment in logistics and transportation infrastructure to create efficiencies that will support the growth of agriculture exports from the United States.”

*Dr. Walter Kemmsies and Anne Landstrom
Moffatt & Nichol*

The trend toward establishing and expanding inland ports will continue, factoring in to site selection decisions, master planning, and development of new logistics parks and intermodal terminals.

However, this should not be perceived as an open door to anyone. Success relies on a deep understanding of the logistics patterns of inbound container destinations, regional output, rail connectivity and public-use transloading infrastructure.

In order to demonstrate the strength of U.S. exports and the likelihood for further growth in the foreseeable future, this report has chosen to analyze one of the top-ranking industries by export volume; the agriculture industry. The following insights of demand emanating out of China provide a topical case-study as to how the changing export strategy in this industry will provide a source of long-term export demand for Inland Port users.

A Closer Look: China's growing demand for U.S. agricultural products



One of the greatest success stories in recent years has been the growth of U.S. agricultural exports in general, and to China in particular. The last two years have been the strongest for agricultural exports in U.S. history. In 2011, U.S. agricultural shipments accounted for 4.8 percent of all export value, compared to 3.5 percent of the total in 2006. And in 2011, for the first time, China became the U.S.'s largest export market for agricultural goods, replacing previous top-ranking destinations such as Japan and Mexico.

There are several reasons for China's voracious appetite for foreign food products:

- For one, there are increasingly more mouths to feed. China's population of approximately 1.4 billion grew by 74 million during the last ten recorded years.
- Additionally, as the nation develops a growing middle class with increasing financial means, Chinese people also demand higher food quality and more choices.
- The deprivation mentality of the Maoist era is a distant memory as China's citizens increasingly demand not just adequate quantity, but better quality at mealtime.

Yet while Chinese agriculture accounts for more than 17 percent of global output, it cannot keep pace. Since China has channeled most of its resources for the past 20 years into manufacturing growth, only 15 percent of its land is under cultivation, compared to at least 20 percent in the United States.

Increasing industrial and urban development have resulted in large amounts of arable agricultural land being displaced to make way for local economic growth and community developments of higher commercial value.

All of this bodes well for the American agricultural industry, which has among the most efficient practices and stringent regulations in the world. Even when U.S. produce is priced higher than other market competitors such as Latin America and Southeast Asia, its consistent supply, quality and safety make it a favorite for the Chinese market.

And while American agricultural technology improves each year, Chinese production methods have remained relatively stagnant. China's agricultural output is much less consistent—and often not nearly as safe—as that of the United States. Water shortages, inclement weather, farmland contamination, low food hygiene standards, regulatory challenges, and even criminal negligence all place Chinese farm yields and quality far behind those of their American counterparts.

What are Chinese hungry for?

The most dramatic increase in U.S. agricultural exports to China are for raw agricultural products such as grain, wheat, soybeans, corn and hay. These commodities are not only used in China to manufacture finished food products, but also to feed livestock. Beef, pork and vegetables are also in demand, but in less volume largely owing to spoilage and special handling needs. In the case of U.S. beef, however, China has been imposing various import restrictions for a number of years due to quality concerns.

Circling the Point: The rise in container shipping

The challenge for exporting agricultural products is that, until recently, the container shipping industry has focused on delivering imports from ships to domestic locations. Success in an export capacity hinges on agricultural shippers getting quick access to empty import containers close to the point of production. They also require sufficient infrastructure to ship them back loaded, without further handling until the containers are loaded onto export vessels. Each "touch" of the product along the way, such as transfer to port storage terminals, adds incremental cost to the shipment.

"Key to the efficient supply chain necessary to allow U.S. agriculture to maintain foreign market share is the transportation infrastructure itself. These products are moving to the Asian markets by ocean containers, but the supply chain starts at the inland points where these products are produced.... The growing volume of agriculture products requires transportation service providers and other private entities to invest heavily in infrastructure to facilitate the efficient flow."

Peter Friedmann

Agriculture Transportation Coalition

The current challenge for U.S. producers and suppliers is to have an effective supply chain infrastructure in place to manage the growth in export volume, both in the near future but also for the long run.

Shippers are beginning to take advantage of this glut of empty containers in the United States as a low-cost solution for shipping exports to China. Large movers of products are negotiating favorable rates with container shipping lines that provide an alternative to the typical bulk shipment of many commodities. Shippers are happy to receive any income for containers that would otherwise return to China empty, so it is a "win" proposition for everyone.

Improvements in handling technologies also enable an increasing number of temperature and humidity sensitive goods to be safely and efficiently containerized, and shipped back on common cargo vessels. Critical to this strategy is the availability of empty containers at locations and regions where export products are stored and aggregated.

This transloading strategy provides cost and time savings for bulk exporters, who are increasingly burdened by rising fuel costs and challenges in docking, loading and unloading at strained American bulk export terminals. By comparison, container shipments can go straight from train to ship. While the recent recession and narrowing U.S.-Chinese trade imbalance have decreased the preponderance of empty export containers, the approach can still be the most efficient, cost-effective way for many American producers to reach Chinese markets.

KEY TAKE-AWAYS



- Rail freight costs are on average one-third of trucking costs.
- Rising U.S. exports are prompting many to re-evaluate existing supply-chain networks, which are historically import-centric. This comes at a time when fuel prices remain high and alternatives to trucking are being implemented.
- Inland ports, key access points to seaports that provide cost-savings offered by intermodal rail, present an option for manufacturers too.
- The high volume of empty shipping containers traditionally sent back to China provides a unique opportunity for exporters to obtain favorable shipping rates on common cargo vessels. Technological and logistical improvements have made this a viable alternative for producers of time-sensitive goods, such as agricultural products.
- Critical to financial success is the proximity of intermodal hubs that can provide empty containers to manufacturers and smooth, quick intermodal transloading and rail shipment to seaports.
- The agriculture industry will continue to be a major contributor to overall export volume from the United States, thereby providing a long-term user base for inland ports' outbound containers.

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