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Perspectives on global supply chains

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The Panama Canal's impact on U.S. industrial real estate

Game changer

The expansion of the Panama Canal is without a doubt a global "game changer." In a world of rising energy and fuel prices, it is becoming increasingly important for companies to stay competitive by operating the most cost-effective and efficient supply chains and driving down transportation costs as much as possible. The expansion of the Panama Canal is predicated on the economies of scale that can be gained through the utilization of larger container ships, thus delivering cost savings to companies also needing to quickly transport goods and materials to market.

While the implications of the Panama Canal's new set of locks and changing dynamics in the maritime industry are already broad, the eventual impact on the industrial real estate landscape in the United States will be just as significant. Some markets will benefit at the expense of others. Production and distribution strategies will certainly be impacted. This paper examines the factors that will drive current and future logistics decisions, infrastructure investment, and the need for industrial space throughout the United States.

Key takeaways

- Higher oil prices driving carrier lines to bring "Post-Panamax" vessels into service as quickly as possible upon opening of the expanded canal in 2014
- Larger ships able to transit the new set of locks mean lower shipping costs per TEU (twenty-foot equivalent units, a standard of measurement), thus realizing better economies of scale for both shippers and carriers
- Trade routes are likely to be reset as Asian firms gain better access not only to East Coast U.S. markets throughout the Americas but across the Atlantic
- Shippers still recall the West Coast lockdown of 2002 and have committed to a diversification strategy, expanding their options to alternative ports to mitigate risk and protect against supply chain grid in event of labor issues
- Panama is positioning itself to evolve from a global transshipment point to become a global logistics hub

Background: Why is the Panama Canal being expanded?

The Panama Canal was opened in 1914 under the guidance of the U.S. Army Corps of Engineers. Control was turned over to Panama at the end of 1999. Over the course of the last century, container ship capacity eventually eclipsed the maximum vessel size able to transit the canal.

Currently, only ships carrying up to a maximum of 4,400 TEUs are able to pass through the existing set of locks. Large vessels are already calling at terminals in Panama, but they must lighten their loads to less than 39 feet to be able to transit the canal. The new, third set of locks will be longer, wider, and deeper and when complete, "Post-Panamax" vessels with a

maximum of 12,600 TEUs will be able to pass. The economies of scale generated by the expanded canal are truly monumental and are expected to drive new supply chain optimization models, as well as new network strategies related to distribution.

According to the Panama Canal Authority, the $5.25 billion project is currently under budget and on schedule for an opening in 2014 to coincide with the 100-year anniversary of its original opening. As part of its construction, the amount of growth and investment within the broader logistics universe will be exponential, impacting everything from shipping and rail line construction to warehousing and terminal development around the world.

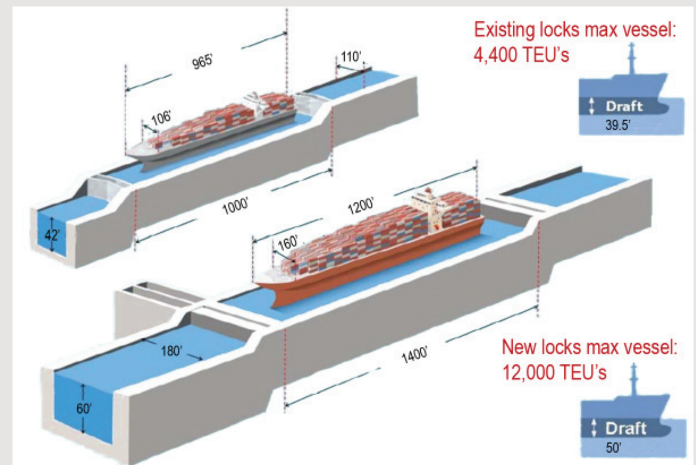
The expansion program broke ground on September 3, 2007

Project components included:

- Deepening of the Pacific and Atlantic canal entrances
- Widening and deepening of the Gatun Lake navigational channel, and deepening of the Culebra Cut
- Design and construction of the new locks and water re-utilization basins on the Pacific and Atlantic sides
- Raising of the Gatun Lake maximum operational level

Source: Panama Canal Authority

Expansion will add a third set of locks that will allow longer, wider and deeper draft vessels to transit.



Source: Panama Canal Authority

Key impacts of the expanded Panama Canal on U.S. industrial real estate

1. Oil price volatility and slow steaming

Oil prices play a prominent role in both the transportation of ocean cargo and the decisions of supply chain executives to keep costs down while still meeting timing demands. Higher fuel costs are the driving trend toward slow steaming, with shippers trading slower delivery of raw materials and products in exchange for reduction in shipping costs, resulting from fuel conservation at slower speeds. Savings in containership fuel costs of up to 55 percent result by slowing transpacific vessels from 25 knots to 18 knots. As oil prices rise, this delta will become even more pronounced.

Slower steaming means a slower supply chain, with more inventory needed on hand by U.S. manufacturers and retailers. As a result, additional warehousing space will be required by these companies.

2. Increased port market share competition

Larger vessels traversing the expanded Panama Canal will likely lead to fewer ports of call. Consequently, there will be winners and losers along the U.S. eastern seaboard. Currently, only the port of Norfolk has the 50' draft depth necessary for larger "Post-Panamax" container ships to call there; while the ports of New York/New Jersey and Miami have projects approved and/or underway to increase depths by 2014.

The competition for market share is not only amongst the U.S. East Coast ports, however. High-valued cargo will still likely come to the United States via the West Coast, but an expanded canal and cost efficiencies have the potential to shift the line for "discretionary" cargo within the United States. In the complex world of logistics, the Panama Canal expansion project is a prime example of the time value of money, as shipping via Panama will become cheaper but still take longer.

The market share for discretionary cargo will get smaller, and the East Coast captive share of container growth will increase.

This discretionary cargo, such as furniture and household products, could now more viably reach the East Coast of the United States via all-water routes, and then be transloaded westward to demand centers in the Midwest United States as far as Dallas, whereas the demarcation line without an expanded canal was Memphis. Increased container volumes through the new Panama Canal locks will drive ports to be more efficient, and put pressure on throughout.

The market share demarcation line for discretionary cargo could shift further west with an expanded Panama Canal.

Existing Panama Canal System

After the Panama Canal Expansion

Source: Panama Canal Authority

3. Port diversification strategies

Shippers still recall the Los Angeles/Long Beach lockdown of 2002 and have committed to a diversification strategy, expanding their options to alternative ports to protect their supply chain grid in event of labor issues or other external shocks.

This is giving boost to areas such as Savannah and Charleston, which have the critical mass of port infrastructure, rail intermodal and population base to provide a safety valve for large U.S. retailers and logistics companies.

Additionally, the expanded canal allows for quicker delivery of goods via all-water routes to the East Coast of the United States.

Other considerations

Shipping via the Suez Canal currently carries with it increased insurance costs due to risk of piracy and unrest in the Middle East. Therefore, shippers will pay a premium to carry goods from Asia to the United States via a westerly route. Furthermore, oil price volatility will likely include additional premiums for Suez-U.S. traffic.

As a result, some of the trade from emerging Asian nations likely to take a Pacific route, and requiring longer lead times, will lead to greater inventory on hand by shippers and increase the need for U.S. warehousing space. Interestingly, there will still be ships too large to pass through the expanded canal. These will continue to circulate around the Pacific Rim and European waters, preserving market share for U.S. West Coast ports and select East Coast ports with depth of draft to accommodate.

Green Panama

The new set of locks will be approximately 40 percent longer and 60 percent wider than the original locks, supplemented by a system of water saving basins. Additionally, they are expected to utilize 7 percent less water per transit than the existing system, also allowing this water to be reused rather than flushed back out to sea. Moreover, the new reutilization basins are expected to capture and recycle 60 percent of the water from the locks as they are emptied, rather than lose it, and partially refill the locks for another ship to pass through.

Panama as a global logistics gateway — "the only port with two oceans"

In addition to merely servicing the transit of larger vessels through the new locks and transshipment of containers to other destinations, global commerce in Panama is growing as strategically designed by the Panama Canal Authority. The canal is already experiencing growth outside of the container industry, with dry bulk carriers expanding their trade through Panama, as well as liquid bulks, especially LNG.

Concurrent with the expanded canal, China and other emerging Asian markets will have greater access to needed raw materials from South America, and growing Latin America economies access to consumer products from Asian companies. This represents a paradigm shift from the old ways of doing business through the canal. To go along with the new set of locks, container terminal operators are working hard on plans to build new or expand operations on both the Atlantic and Pacific sides, all in coordination with the canal expansion.

The Panama Ports Company (Hutchison Whampoa Limited) currently operates terminals in Balboa on the Pacific side and in Cristobal on the

Caribbean, with additional investment in expansion at each. Also on the Caribbean are Evergreen's Colon Container Terminal, planning a three-stage expansion, and the Manzanillo International Terminal (MIT), a partnership between Carrix, Inc. and the Motta and Heilbron families and operated by SSA Marine. The first greenfield site specifically designed for the Post-Panamax era, the Panama Canal Port Colon, is one of the new development projects that will create significant additional capacity.

Growth at the Panama Canal has been driven by the evolution of the movement of goods and materials by container.

Port development in Panama:
- 1996: 235K TEUs
- 2010: 5.6M TEUs
- 2015: 8.4M TEUs (projected)

Source: Panama Canal Authority

Meanwhile, the Colon Free Trade Zone continues to grow, with more than 2,500 companies operating within its 450 hectares. It is the world's second-largest free zone after Hong Kong and is currently building upon its existing stock of warehouse, distribution and retail trade space.

Conclusion

It may be too soon to tell what the full impact of the expanded Panama Canal will be in 2014 and thereafter. It seems evident that as soon as the new locks are open, it is expected that container lines will begin deploying larger vessels through immediately. A competitive edge for many companies still lies in effective supply chain management. However, shifts in discretionary cargo from one port to another in the United States will take longer to play out.

Competition amongst ports and positioning for capital investment to ensure they have the channels to support deep-draft vessels began several years ago, and in many cases, is only now beginning to firm up. A key challenge for the location of distribution centers becomes if carrier lines want to employ larger vessels; what happens if they can only call on one or a few East Coast U.S. ports? It does, however, validate the continued "coast inward" recovery currently underway in the U.S. industrial property market. If anything, the expanded canal will clearly give companies access to more options to consider as they contemplate their supply chain strategies.

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