
CANAL DE PANAMÁ
AGUA CLARA
2016
CANAL DE PANAMÁ
TORRE DE CONTROL

Panama Canal Expansion: Locks and Load

The Panama Canal's recent expansion has widespread ramifications for global shipping.

By Tom Gresham

On June 26, 2016, more than 30,000 people gathered in Panama to celebrate a historic achievement that had stoked the country's pride. The crowd was on hand to witness the inauguration of the expanded Panama Canal, marking the official completion of a nine-year-long construction project and launching a new era for the canal.

The $5.25-billion expansion is the canal's largest-ever enhancement project in its 102-year history. The heart of the ambitious undertaking is the construction of a new set of locks on both the Atlantic and Pacific sides of the waterway and the excavation of more than 150 million cubic meters of material. The resulting new lane of traffic doubles the cargo capacity of the canal. The new locks are 70 feet wider and 18 feet deeper than the original portion of the canal.

As part of the inauguration event, those in attendance watched the *COSCO Shipping Panama* vessel—formerly named *Andronikos* and renamed in honor of Panama and its canal—become the first Neopanamax ship to ever travel through the Panama Canal. First, the vessel journeyed through the Agua Clara Locks on the Atlantic side of Panama, and then it ventured through the Cocoli Locks on the Pacific side. Headed for Asia, the *COSCO Shipping Panama* had set sail from Greece with 9,472 TEUs (a standard 20-foot-equivalent container) worth of cargo.

Before the expansion, the most cargo the canal could accommodate on a single ship was 5,000 TEUs. Now, it can handle a ship with up to 14,000 TEUs. The ship's passage was a clear demonstration that shippers and carriers can now achieve much-improved economies of scale on their shipments through the storied canal.

Among the crowd that day were not only proud canal employees and Panamanian citizens but also a collection of state dignitaries, shipping and trade executives, and canal customers eager to see the critical next step in the canal's history.

Months later, in October, the Panama Canal Authority announced that it had recorded the third-highest annual tonnage in its history for the 2016 fiscal year, which ended Sept. 30. Canal authorities noted that 238 Neopanamax vessels had traveled through the expanded canal during the barely more than three months that it had been open. This accounted for 18.2 million of the 330.7 million Panama Canal tons that had passed through the canal during the fiscal year—a fraction of the overall tally, but a sign that even one quarter of a year after the launch, the new section was seeing encouraging activity.

Photo courtesy of Maersk Line

A Maersk Line ship passes beneath the Bridge of the Americas at the Panama Canal.

At least nine Neopanamax liner services had been deployed through the new locks as of October, according to the Panama Canal Authority. Most of the services are dedicated to the trade route connecting the U.S. East Coast to Asia.

"Despite the international shipping downturn this past year, we recorded one of the highest annual tonnage figures since the opening of the original canal 102 years ago," said Jorge L. Quijano, administrator of the Panama Canal, in a press release. "This latest success reinforces the continued strategic importance of the route and the growing value that recent investments in the canal will bring to the maritime industry."

A Hint of an Impact

Even as the larger vessels make their way through the expanded section of the canal, the true influence of the project remains an open-ended question. The early months of activity in the new locks hint at the future, but they are only hints. Experts who have been studying the canal expansion and the shipping industry's reaction to it see a wide range of forces surrounding the industry that could determine the expansion's ultimate impact.

While the canal expansion has major value, it is important to maintain perspective on its supply chain impacts, according to Rich Thompson, international director of supply chain and logistics solutions at JLL, a global commercial real estate services company, with U.S. headquarters in Chicago.

"The expanded Panama Canal is a significant improvement for supply chains today," Thompson says. "But I don't know that it is a huge game-changer. It's like changing a one-lane highway to a four-lane highway. The first time you lay down the highway, it is a game-changer. When you expand it, it's not quite to that level, even though it does improve efficiency."

The Question of a Shift

A core question that will measure the canal expansion's ultimate impact is whether it will lead to a significant shift of traffic from West Coast to East Coast ports. Specifically, will shippers opt to send more goods from East Asia through the Panama Canal expansion to reach the East Coast ports in order to access the Midwest and East Coast markets or will they continue to ship to West Coast ports and then send goods by rail across the country?

Trade between East Asia and the United States accounts for more than 40 percent of containers flowing into the country, according to *Wide Open: How the Panama Canal Expansion is Redrawing the Logistics Map*, a C.H. Robinson and Boston Consulting Group whitepaper.

"There is an opportunity with the larger canal and forthcoming new port infrastructure on the East Coast that more service will end up going through the canal and directly to the East Coast," says Roberto Rodrigues, managing director of Maersk Line Caribbean. Denmark-based Maersk Line is one of the largest container shipping companies in the world. "There is potential for that, for sure."

The possibility of a significant shift seems likely, agrees Nerijus Poskus, director of global pricing and procurement at Flexport, a freight forwarding and customs brokerage company based in San Francisco. The C.H. Robinson/Boston Consulting whitepaper projects up to a 10-percent shift in market share along those lines. In particular, the West Coast ports' traffic will continue to grow the rest of this decade, but their market share will fall as growth accelerates for the East Coast ports, the whitepaper analysis suggests.

Leveraging the Expansion

Anecdotally, Poskus has already seen shippers change their practices to take advantage of the expansion. For instance, one Flexport client, a shipper based in the Ohio Valley that ships approximately 1,000 containers annually from Asia, had previously imported everything from Asia through the ports in Los Angeles, Seattle and Vancouver, where the cargo was then moved on rail to Columbus, Cleveland, or Cincinnati. Since the canal expansion, the client has begun to import via the canal to the East Coast, and then move the shipments west on rail.

The move costs the shipper approximately 7 to 10 days in transit, Poskus says.

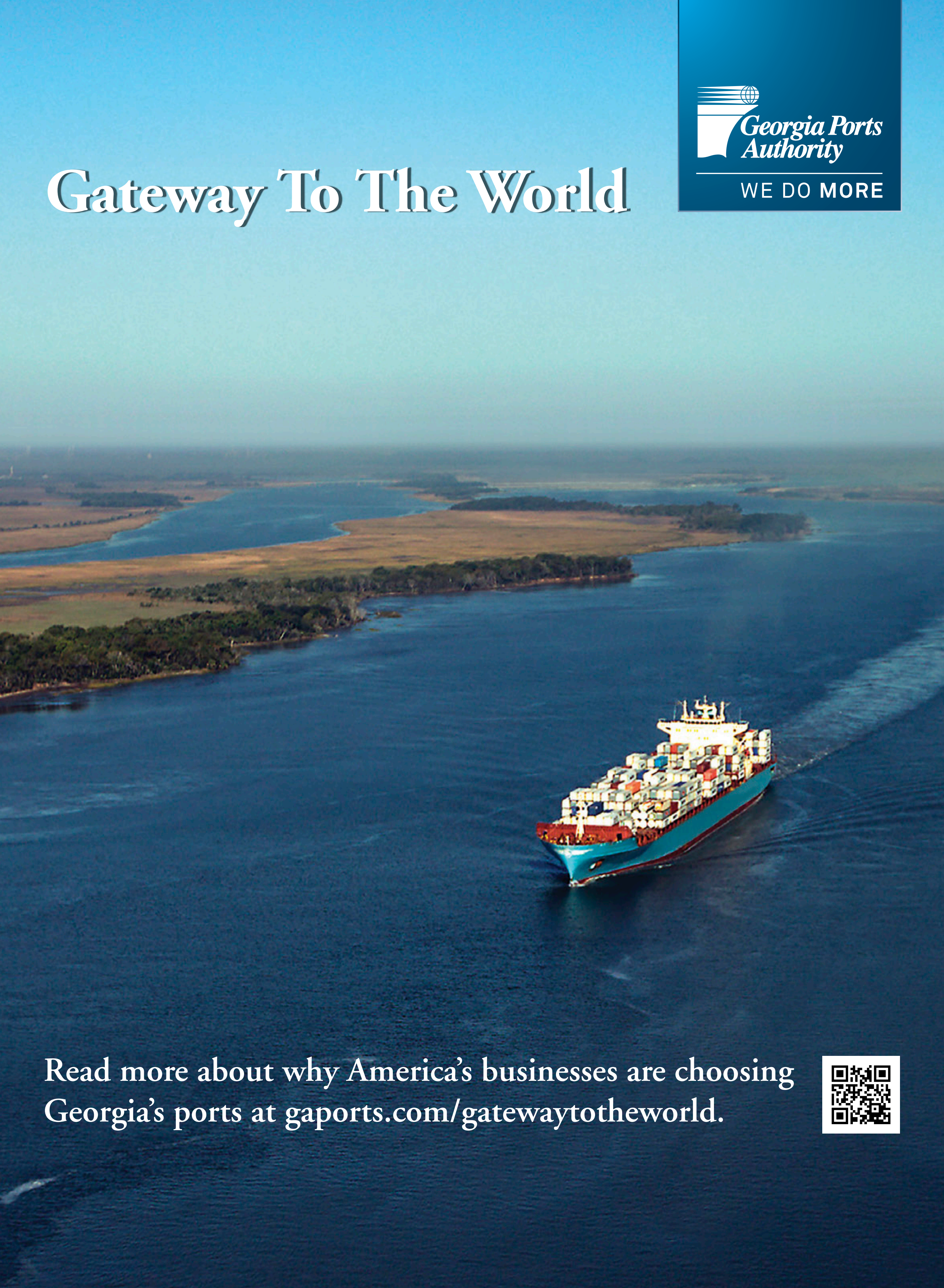
Gateway To The World
Georgia Ports Authority
WE DO MORE
Read more about why America's businesses are choosing Georgia's ports at gaports.com/gatewaytotheworld.

Photo courtesy of the Panama Canal Authority

A large Neopanamax vessel navigates the new Panama Canal expansion.

However, it also produces savings of "$400-plus per container," he adds. In ballpark figures, a shipper who saves $400 in shipping costs per container — Poskus cites that number as a low estimate — might expect to pay about $100 more in inventory costs because of the longer travel time. "If shipping a container costs $3,000, then that means you save 10 percent," he says. "That's significant."

Other shippers are eyeing similarly beneficial figures and testing it out. "It slowly is happening," Poskus says. "No one wants to do it too fast, but it definitely is happening. Shippers are curious and they see the potential to save money."

Poskus says part of the wait-and-see approach favored by many shippers is due to the newness of the renovation and the uncertainty about some key components. For instance, shippers continue to consider risks of accepting slower delivery times in exchange for lower costs.

Visibility Nets Cost Savings

Shippers that have strong visibility of their supply chain, particularly of goods that are en route, will be more likely to take advantage of the cost savings because they will have the confidence in their supply to accept longer time in transit, Poskus says. Those without that visibility will be more likely to look for the quickest route, avoiding the risk of inventory becoming depleted while reinforcements make their way.

Shippers also are well aware that many of the East Coast port infrastructure preparations to accommodate the larger vessels that can pass through the canal are ongoing and incomplete, Poskus says.

Even with the level of uncertainty, changes are in motion.

"Ocean freight carriers are already offering services to new areas such as Memphis via the East Coast — even Kansas City via the East Coast — that they hadn't offered before," Poskus says. "And the price is already better than through the West Coast."

The Role of Risk Mitigation

Examining any cargo shifts from the West Coast to East Coast ports must consider risk and shippers' increasing interest in diversifying their trade routes.

"The fact is that we are seeing a shift to East Coast ports in terms of market share," Thompson says. "The real question is why. Is it the Panama Canal? My sense is it has less to do with the canal expansion and more to do with risk mitigation. And that happens with or without the expanded canal."

In fact, East Coast ports had already seen a growth in their share of trade from Asia from 32 percent in 2010 to 35 percent in 2014, according to the C.H. Robinson/Boston Consulting Group whitepaper. Shippers have placed growing importance on avoiding an over-reliance on the same trade routes.

"Shippers previously emphasized cost and service above all else, but more recently, labor strife and natural disasters created large-scale delivery problems and raised awareness of risk," Thompson says.

A key event was the West Coast port congestion that occurred between March 2014 and July 2015, according to Geraldine Knatz, a professor of the practice of policy and engineering at the University of Southern California, in a study to be published in the *Research in Transportation Business and Management* journal. In the wake of the disruption, some large retailers reported difficulty meeting first-quarter 2015 projections, Knatz says, creating a crucial motivation to seek opportunities on the East Coast.

Walmart also implemented its own port diversification strategy. The retailer's mammoth size and influence led others to follow suit.

"Port diversification has become about cost and service balanced with risk rather than just cost and service," Thompson says. "Shippers have to find an almost equal balance of the three."

Port Preparedness

The lengthy planning and construction process the Panama Canal expansion required gave East Coast ports ample time to begin their own preparations to take advantage of the larger ships that would be passing through the canal for the first time. This meant large-scale infrastructure improvements. Funding came from federal, state, local and private sources, all with an eye on new canal traffic.

"Every port on the East Coast has various projects of some kind going on to get ready," Thompson says.

"The shipping lines welcome this kind of investment because most of the time infrastructure is a bottleneck for us," Rodrigues says. "This type of investment is good because it presents an opportunity to enhance trade in the region."

Major projects included extensive tunneling, deepening and widening of ports, and rail connectivity improvements. One of the more high-profile, yet-to-be-completed projects is the raising of the Bayonne Bridge that connects New York and New Jersey. The bridge currently is too short for the larger vessels, presenting a major obstacle to building routes to New York.

Another prominent effort was PortMiami's $1-billion capital infrastructure project, which included dredging and rail improvements that allowed it to become a deep port capable of accommodating large Neopanamax ships.

Because the infrastructure is not completed in many key ports, Rodrigues says it is difficult to project how shipping lines such as Maersk will adapt to the expanded canal over the long run.

"The reality is, there are still some different needs in different ports," he says. "When these projects are concluded, we'll be in a better position to look at our fleet and see how we can deploy larger and more efficient vessels to them."

Help From the Government?

A driver of the extensive investments in U.S. East Coast ports has been the federal government, Knatz says.

"The government has been much more active and out in front on port issues," says Knatz, who retired as executive director of the Port of Los Angeles in 2013. "And the federal government becoming more engaged in port issues has been a positive for the port industry. I attribute that to the specter of the canal expansion."

The massive investment in East Coast ports invariably will have more value for some than others.

"Bigger vessels will stop at fewer ports," Thompson explains. "There is no need for every single port to accept these post-Panamax vessels. Obviously, some ports will be more attractive than others to the ocean line carriers."

Knatz agrees that the combination of lower trade volumes and major spending projects in port facilities will create some financial challenges as ports struggle to recoup their investment. In fact, "The expanded canal…does not create an East Coast port vs. West Coast port competition for market share as much

Photo courtesy of the Panama Canal Authority

A tugboat escorts a COSCO shipping vessel through the new Panama Canal locks.

Navigating Canal Service, Rates, and Routes

Among the many variables that will determine the impact of the Panama Canal expansion is where carriers opt to provide service and how much they charge shippers.

Nerijus Poskus, director of global pricing and procurement at Flexport, says was surprised in the early going by the relatively limited service carriers are offering to the Port of Houston and Port of Mobile on the Gulf Coast. So far, he says, services from Asia via the Panama Canal expansion to those ports have been "extremely full," and there have been no indications of adding capacity to adapt to the popularity.

"We have a lot of clients who would like to use those ports because they are financially beneficial," he says. "They cannot do that currently because there's not enough space."

As an example of a specific way this can play out, Poskus says clients who currently ship containers from Shanghai to Dallas must continue to ship to Los Angeles or a similar West Coast port, and then transport the containers the rest of the way to Dallas on rail. If there was more space on the carriers to Houston, he says, his clients would simply target that port much closer to the Dallas area.

"More shippers would shift their cargo from the West Coast to services via the Panama Canal if there was more space for it," Poskus says. "Shippers are asking for it, but it's hard to get right now."

The major ocean carriers are organized in alliances so that they can share space on each other's vessels. The alliances configure their service lines together, resulting in a consolidation of selected shipping routes. The newly formed Ocean Alliance, which includes French company CMA CGM, China's COSCO Shipping, Hong Kong's Orient Overseas Container Line and Taiwanese Evergreen, has signaled plans to increase service from Asia to the East Coast and Gulf Coast ports via the Panama Canal starting in April 2017—a sign of the expanded canal's influence.

Setting rates and routes for lines through the canal expansion will be an ongoing challenge for carriers, says Roberto Rodrigues, managing director of Maersk Line Caribbean.

"We will need to offer competitive rates that are in line with the market situation," he says. "Shipping has gone through a lot of challenges linked to global economic development. For us to make the Panama Canal attractive, we have to make sure we are aligned with the current market reality."

Photo courtesy of Georgia Ports Authority/Stephen B. Morton

The MOL *Benefactor* is the first vessel to call the Port of Savannah through the expanded Panama Canal's new locks. At a capacity of 10,100 TEUs, the *Benefactor* became the largest ship ever to call on the port.

as it creates an East Coast port vs. East Coast port competition," she writes in her *Research in Transportation Business and Management* study.

Ports on both coasts are already forming partnerships of some shape "to retain and grow market share" in acknowledgement of increasingly intense competition. She cites partnerships such as those between Los Angeles and Long Beach (San Pedro Bay Ports), between Seattle and Tacoma (the Northwest Seaport Alliance) and among the Florida ports (Florida Ports Council).

"The dust hasn't settled yet, but my view of the future is that for the ports to survive, industry consolidation is needed," Knatz says. "Not all those facilities will achieve the volume they would like. I think we will see greater integration among the ports.

"It's going to be a survival mechanism," she adds. "The ports are at a crossroads. Competition is intense. With increased competition, the big question becomes: What will you do to increase your market power?"

Savannah Takes Action

The Boston Consulting Group/C.H. Robinson whitepaper authors point to certain ports as being the most likely to benefit from the canal expansion. Among them is the Port of Savannah, which is located relatively close to the canal and offers good access to rail routes to major markets—particularly those in the Southeast.

Savannah is a critical partner with Panama, handling nearly one-third of all U.S. imports transiting the Panama Canal. The effect of the expansion was evident almost immediately. Within 90 days of the opening of the canal's new locks, the Port of Savannah saw a 43-percent increase in Neopanamax vessel calls.

"We are seeing a steady increase in cargo reaching our docks via Panama as shippers take advantage of these increased economies of scale," says Griff Lynch, executive director of the Georgia Ports Authority. "With larger vessels transiting the Panama Canal, and more cargo moving on and off these vessels at major hub ports, U.S. importers have greater opportunity to deliver cargo closer to their East Coast customer base."

To prepare for the expansion, the Georgia Ports Authority initiated the Savannah Harbor Expansion Project, which is deepening the outer harbor and the Savannah River channel to better accommodate the supersized vessels. The deeper water means large vessels will be able to enter and depart the port with heavier loads and without waiting for high tides. Dredging will be completed as early as 2019.

Other steps include the addition of eight of the largest ship-to-shore cranes on the East Coast, giving Savannah 30 of the machines—the most in the country—and the Georgia Ports Authority's efforts to extend its rail network by adding port-operated rail hubs across Georgia.

Finally, plans are in motion for a major expansion of the Savannah port's on-terminal rail yards to handle more trains as long as 10,000 feet and make Savannah a more competitive option for customers who want to move cargo into the Midwest, Lynch says.

In addition, the port improvements have been made in tandem with investments from the state of Georgia to boost the free flow of cargo off terminal over the years, including a 10-year, $10-billion freight mobility plan.

"Panama's expansion is important for our state because it makes East Coast hub ports such as Savannah more competitive globally," Lynch says. "And growing cargo through our terminals means more jobs for Georgians."

A Look Ahead

With the opening of the Panama Canal expansion still fresh, speculation about its influence will continue. The expansion does not catch the canal all the way up to the current market, Thompson notes. The new locks cannot accommodate the largest ocean carrier vessels, which can carry up to 19,000 TEUs—5,000 more than the canal maximum. Overall, he says it makes sense to expect some early growing pains.

"Between the weak economy and overcapacity, the next one to two years will be rocky in the shipping industry," Thompson says. "In the long term, though, the economy will turn up, the world will continue to grow, and the Panama Canal expansion will be good for everyone."

For carriers such as Maersk, the long-term advantages are evident. The use of larger vessels through the Panama Canal will provide new economies of scale to improve the efficiency of ocean freight travel.

In addition, the fewer vessels needed to deliver the same number of containers should help reduce fuel consumption and CO_2 emissions. Maersk is in the midst of a drive to reduce CO_2 emissions by 60 percent by 2020. "Those two benefits are very clear to us," Rodrigues says.

Different interests will benefit from the expansion, but Poskus says shippers have the most to gain.

"Shippers will have more real options and that's always good," Poskus says. "They can choose to go fast or they can choose to save money. That's not necessarily a choice they had before, and that's important." ■