The addition of a third set of locks in the Panama Canal capable of handling container vessels more than twice as large as those able to transit today is widely characterized as game changer for the maritime industry, with many assuming more trade from Asia will flow to the Eastern half of the United States by the all-water route to the benefit of East and Gulf coast ports.

But the impact of the Panama Canal expansion, now due to be completed by 2015, may be much more subtle than generally anticipated in large measure because the factors that impact all-water services have already happened, analysts say.

“It doesn’t mean because you open the canal that the volume will increase. It’s the logistics costs that become critical,” John Martin, an economist who specializes in port development studies and strategic planning, said March 20 at the American Association of Port Authorities’ spring conference in Washington.

More important than the Panama Canal widening is the advent of monster contain-
The fact that market shifts are largely baked in place underscores that U.S. West Coast ports and the Panama Canal are not significant competitors for containerized cargo, according to Scudder Smith, principal consultant for infrastructure-engineering giant Parsons Brinckerhoff and an advisor to the Panama Canal Authority about the ocean shipping market.

Smith, whose job includes conducting market analyses for major port-related financial transactions and freight planning studies for public and private sector clients, says ocean carriers and Panama are the main beneficiaries of the canal expansion, not shippers. A wider, deeper canal that can accept 12,500-TEU vessels allows carriers to increase efficiency, while Panama’s strategically located ports and logistics capabilities presents a convenient hub for trunk lines to split off cargo to feeder services for North-South trade in the Americas. The new Panama Canal will mostly alter how cargo is delivered to and from the East Coast, but that doesn’t mean East Coast and Gulf ports should expect a rise in import volumes, he says.

“The thought that bigger ships will use the same shipping patterns and a whole lot more volume will be coming is a fairly simplistic view, as all else is not equal. The use of larger ships will not translate to the same carrier schedules and calling patterns. There will be fewer ports of call and services may be further consolidated through [vessel] sharing agreements,” Smith said on a Feb. 10 conference call hosted by Baltimore-based securities brokerage and investment banking firm Stifel Nicolaus.

The Panama Canal will not affect aggregate volume or support a rising tide of container business for all ports, he stressed. There simply isn’t enough new international trade to spread around.

And a much ballyhooed shift in container market share from West Coast to East Coast ports due to the expanded canal is not likely to materialize either because of vessel substitution and the fact that many of the trends that supported rapid growth of the container industry have run their course, Smith told Stifel clients.

There are few, if any, non-bulk products today that are not shipped by containers, so there is no room for growth from conversion of loose cargo to containers. Outsourcing by U.S. manufacturers has already been maximized to the greatest extent possible, sourcing shifts from Canada and Mexico to China last decade are mostly complete and there are a growing number of companies that have begun to relocate production in Mexico or the United States for reasons having to do with cost, quality control and time-to-market. The fewer number of plants opened overseas will help slow ocean import growth, Smith said, reiterating a favorite argument about why double-digit container growth over 15 years was not sustainable.

Between 1992 and 2007, U.S. imports of shipping units grew at 2.5 times the growth of Gross Domestic Product and analysts assumed the rate of growth would continue based on past volumes, not fundamental economic factors. That all changed with the recession in 2008. Smith and other analysts predict slow growth and more trade volatility for the immediate future, with competition for throughput among ports turning into a zero-sum game of winners and losers.

Smith also debunked the notion that the new Panama Canal option for mega-vessels would induce demand from shippers seeking a cheaper alternative than landing cargo on the West Coast and transporting it by rail to destinations across the country. The largest vessels now entering the container industry roughly generate $400 per TEU in operating savings.

But, according to Smith, few of those savings will be passed onto the shipper. Carriers will have higher operating costs when, as expected, the Panama Canal Authority raises tolls to help pay for its expansion project and will want to retain some of that money to help cover the expense of their new ships. A 5,000-TEU ship today, for example, can pay $360,000 in tolls to use the canal.

The maximum capacity of vessels transiting the Panama Canal is about 5,000 TEUs. Larger ships frequently call Atlantic ports with channels less than 45 feet, but they cannot load to their full capacity or must wait until their arrival and departure with the tides.

Discretionary cargo flows could also be influenced by factors such as the size of the Panama Canal’s toll increase, bunker fuel prices (recently running at $700 a ton) and rail rates from the West Coast.

The net cost reduction for shippers may be closer to $200, Smith said. That translates into a 0.2 percent savings per TEU based on an approximate cargo value of $150,000 for a typical container — hardly enough to attract the attention of an importer, let alone cause a company to reconfigure its supply chain.

Meanwhile, the cost of shipping through West Coast ports will also decrease as carriers deploy big ships on transpacific lanes. In the end, shippers may only achieve a net saving of $70 to $100 per TEU relative to the West Coast, Smith said.

Furthermore, West Coast carriers, ports and railroads have the advantage of being able to differentiate pricing by market segment and could lower prices for less premium service with slower transit times if they feel pressure from the all-water services going through the Panama Canal, he said. The West Coast services also have the ability to price shipments on a door-to-door basis. The Panama Canal simply collects tolls and cannot differentiate between origins and destinations in its pricing.

“Believe me, railroads are not going to sit back and gouge prices as they did between 2002 and 2007 and let intermodal
The argument that East Coast ports will capture significant container volumes from the West Coast is flawed, Smith said, because it doesn’t take into account the type of products involved.

All-water service via the canal can be one to two weeks slower, and less expensive, than transcontinental intermodal transport, but there no longer are hard and fast rules about transit time because transportation providers offer so many types of service levels. And shippers also have to factor in the reverse intermodal or trucking service to inland destinations.

High-value or perishable products that must quickly get to market will continue to rely on the faster transit times available through the West Coast corridor. East Coast ports currently handle 40 percent of all cargo bound for the eastern United States from Northeast Asia that is under $2.50 per kilogram. That share drops to 10 percent for electronics and other products worth $20 per kilogram or more.

Besides, an 8 percent to 10 percent shift in market share from the West to the East Coast already occurred last decade independent of the canal as shippers sought to diversify ports of entry in response to labor disruptions, rail capacity shortages, high intermodal rates, better sourcing opportunities in Southeast Asia and India via the Suez Canal, and a desire to locate import distribution centers closer to customers, according to various experts.

South Atlantic and Gulf ports could still benefit, however, from recent investments by Chinese apparel and consumer goods manufacturers in Guatemala, Honduras and the Caribbean to produce merchandise closer to U.S. consumption markets and shorten their supply chains, said Martin, president of Martin Associates.

Chinese computer maker Lenovo, for similar reasons established a $40 million plant in Mexico in 2009 to sell computers to the North and South American markets.

The real competition for cargo, Smith said, lies between West Coast ports like Long Beach, Oakland and Seattle, and more importantly, between U.S. ports and ports on the western side of Canada (Prince Rupert) and Mexico (Lazaro Cardenas).

The battlefield for West and East coast ports will mostly be limited to states in the Ohio River Valley, now that the Norfolk Southern and CSX railroads have developed much more efficient double-stack intermodal connections to the region from the ports of New York and New Jersey, Baltimore and Norfolk, as well as the rest of their eastern networks.

That’s the market, in terms of economics and transit times, where transcontinental moves and reverse intermodal off the East Coast are comparable, and up for grabs.

The Atlanta area, which is partly served by rail from the West Coast, is a big logistics center for the Southeast that could effectively be reached by direct water services, but the current inability of the ports of Savannah, Ga., and Charleston, S.C., to handle fully-loaded larger ships may limit carrier deployments and cargo shifts, Smith said. The Port of Houston may also capture some additional container volume, but any potential gains could be counteracted by cargo from Lazaro Cardenas that can reach the Texas market via the Kansas City Southern railroad, he added.

Strawbridge agreed in late January, during a presentation at the Transportation Research Board’s annual confab in Washington, that the East vs. West coast competition will be concentrated in the Ohio River Valley. The area represents 1.5 million TEUs, or 10 percent of the volume at the twin ports of Los Angeles and Long Beach. Some of that volume currently moves through Atlantic ports, so Southern California ports risk losing somewhat less than 10 percent of the market but also stand to gain a few points of market share, depending on how shippers behave.

Chicago, Memphis, and Dallas are the other big markets for Los Angeles-Long Beach.

“We don’t see a big change because many of those cargoes are time sensitive,” Strawbridge said in a phone interview. “And the railroads are also increasing their hot-shot services. It’s not just a one-dish on the menu. You’ve got many different choices. You can pay more and have a faster service, or pay less for slower service. That’s where the supply chains have become more sophisticated” in recent years.

The complexity of logistics requirements in today’s business means that generalizations about the best transit time, transport mode or route no longer apply, Martin concurred. Logistics decisions are based on a host of factors, most importantly the type of product being shipped. Shippers can take advantage of transpacific intermodal service to distribution centers in the Midwest, the Panama Canal, direct calls through the Suez Canal or transshipment hubs in the Mediterranean or Caribbean. They can also choose to store products in offshore distribution centers in the hemisphere until they are needed in the U.S. market. Production shifts to Central and South America will also change shipping patterns, he said.

Smith and other industry officials note that Panama is widening the canal as a defensive move to adapt to the evolution of big ships and prevent cargo owners from seeking alternative routes, more so than trying to attract new business from Asia. The project also is important in the country’s development of its
ports at either end of the canal and associated logistics capabilities, which are well suited for remixing cargo from North and South American trade lanes.

“This leads to the general conclusion that the U.S. West Coast ports/railroads and the Panama Canal are in fact not really significant competitors. There is some market overlap but over time they are probably not going to beat each other up on pricing just because of the different goals they have and because of the different capabilities they have, i.e. product value and time sensitivity as well as the U.S. regional markets served and inland destinations,” Smith said.

Strawbridge, who once headed business activities in Panama for terminal operator Ports America, called the Panama Canal expansion “the next big non-event” and one of many influences on shipping patterns.

“The real game changer is rather the larger vessels and the limitations that will be put on ports in handling the larger vessels,” he said. “The Panama Canal has been around for 98 years. Have we been competing with the Panama Canal for 98 years?”

The reality of the Panama Canal’s limited impact on the West Coast, however, hasn’t stopped the Southern California ports, business groups and local officials from characterizing the canal as a major threat to the goods movement industry and thousands of jobs. A coalition there is working under the slogan “Beat the Canal!” to educate the public and politicians about the importance of approving major highway, rail and port infrastructure projects on the drawing board in a way that minimizes environmental impact.

“West Coast ports are extremely productive and moving very strongly towards a unified approach,” Martin said, referring to the coalition between railroads, ports, labor and cargo owners. “They’re not going to let erosion occur, just as (East Coast) ports aren’t going to let erosion occur back to the West Coast.”

**Infrastructure Limitations.** Smith points out that the third set of locks will only have capacity for about 14 transits per day.

Super post-Panamax container vessels could be crowded out by larger dry-bulk vessels carrying commodities such as grain or coal, vehicle carriers or big liquid-bulk ships with petroleum or liquefied natural gas, Smith warned.

That could accelerate the use of the canal’s fee-based reservation system so that vessels with more time-sensitive cargo such as containers would pay to guarantee passage without waiting at sea, he said.

Although the waterway’s expansion may not enable East Coast ports to steal container business from West Coast ports like Los Angeles and Long Beach, the new big-ship environment will have significant repercussions for ports. Some of those big ships will increasingly come to the East Coast from Southeast Asia via the Suez Canal.

Container lines, meanwhile, are expected to decrease the number of vessels operated because fewer super-sized vessels can move the same amount of cargo, taking advantage of their economies of scale.

Given that next-generation vessels can accommodate much more cargo while only marginally increasing fuel and other operating costs, the only way for carriers to fully realize profit on a per box basis is to rationalize services through vessel-sharing agreements or by merging loops, and run full ships. A carrier that operates a dozen 6,000-TEU vessels to maintain a weekly service may replace them with 10,000- to 12,000-TEU vessels, but the substitution will probably involve more ships than simply cutting them in half to ensure weekly service and allow for slow-steaming to save on fuel costs. Carriers also need access to right-size infrastructure and terminals to load and unload vessels much faster, as well as a stable labor environment, they say.

The big debate in the maritime industry is over which eastern ports will receive those vessels. By 2015, only the ports of Norfolk, New York-New Jersey, Baltimore and Miami will have 50-foot channels and berths capable of handling the largest vessels, although access to New York will be restricted above water by the Bayonne Bridge. The larger vessels require ports with deep-water access, high-volume rail facilities, bigger turning basins, and larger and taller cranes. Ports are aggressively competing for federal and state dollars to launch dredging, rail and other projects to make themselves ready for the big ships even though carriers will only make direct calls at a handful of ports and are widely expected to make use of transshipment facilities in Panama and the Caribbean to deliver containers to secondary ports with smaller vessels.

Jim Newsome, chief executive officer of the South Carolina State Ports Authority, and Rodolphe Saadé, executive officer of CMA CGM, have argued that carriers will prefer concentrating Asia-origin calls at a handful of U.S. load centers because transshipment adds cost and transit time. Transshipment, they have said, primarily will be done to consolidate cargo between North and South America.

CMA CGM is heavily investing in the expansion of its terminal in Kingston, Jamaica.

East Coast port authorities have a keen interest in portraying transshipment as ineffective because they’re trying to get carriers to bring their big ships to their container terminals. Many of these ports are also struggling to obtain sufficient levels of federal funds for harbor deepening.

But the higher utilization rates and operating efficiencies of the mega-vessels can offset the transshipment costs and make the process economical, Strawbridge said. Direct calls are always better if a carrier can maximize its lifts, he acknowledged, “but you’re not going to bring 12,000 lifts into Miami, Savannah or Charleston.”

Mediterranean Shipping Co., for example, heavily relies on transshipment in the ports of Balboa and Colon in Panama, as well as Freeport, Bahamas and last year became the market-share leader in the U.S. trade.

“I think you’re seeing more pendulum and butterfly services doing transshipment, not just north-south,” Strawbridge added.

**Big-Ship Ready.** As port calls become more concentrated and longer, carriers will adjust their service schedules and ports that receive the big ships will need more yard space and intermodal capacity, as well as more efficient cargo handling and truck-gate operations to handle the surge in volumes.

Automation is the key to achieving pro-
ductivity gains necessary to justify major capital expenses, Strawbridge said.

“The amount of time it takes to work that ship just doubled. It takes twice as long in today’s operating environment,” he explained.

Crane productivity varies by port, but West Coast ports typically lift about 27 boxes per hour, while some East Coast ports have lift rates in the 35-to-40 range, according to port analysts.

“If productivity remains static a carrier has only two choices: add more vessels or decrease the number of ports called,” Strawbridge said.

Western ports, especially in Southern California, already have most of the deep-water, terminal and intermodal connections necessary to efficiently handle the super-size vessels, he said. But they are not resting on their laurels.

The Port of Long Beach, for instance, has a 76-foot channel and is making a huge strategic investment to be ready for the biggest ships with its redevelopment of the Middle Harbor.

On April 3, Hong Kong-based Orient Overseas Container Line finalized a $4.6 billion, 40-year lease of the property, which is currently being expanded and reconfigured into a single terminal from two disjointed ones to optimize waterside and landside operations.

The $1.2 billion project will increase capacity from 1.3 million TEUs to 3.3 million TEUs, plus add about 100 acres for container storage when completed. Construction is ahead of schedule and could be finished by 2017 because work is unencumbered by existing operations after one of the two tenants there opted to sublet property at another terminal, Strawbridge said.

The Middle Harbor Project is part of a $4.5 billion capital improvement program at Long Beach over the next decade that includes the replacement of the Gerald Desmond Bridge with a higher span that will allow larger ships to reach the port’s back channels.

Electric rail-mounted gantry cranes for transferring boxes to and from truck chassis and railcars, and semi-automated ship-to-shore cranes, planned for the modernized terminal are key components to increasing efficiency and turning ships quickly out to sea, where carriers make their money.

Dockside cranes will no longer be operated by longshoremen in cabs at the top of the superstructure. Computers will handle the lifts until the last five feet, when a technician sitting in a central office will use a joystick to maneuver the spreader and latch onto or release a container.

“We believe it’s a model that is sustainable long-term and we believe we’ll realize productivity gains that will be much higher on a per acre basis than anything else that exists in North America,” Strawbridge said.

Productivity remained static for 20 years with manned crane operations, but taking labor out of the equation will result in greater productivity levels, safety and quality of work life, he said.

OOCIL’s Long Beach Container Terminal successfully negotiated with the International Longshore and Warehouse Union to accept the transition to technology.

The number of crane operators may decrease, but the new system will result in other jobs with higher skills that are transferable to other industries, making workers more valuable, Strawbridge said.

The former Ports America executive knocked most East Coast ports as unable to make a business case for the type of infrastructure investment necessary to handle extra Panama Canal traffic. Most berths at major West Coast ports will have access to 50-foot, or deeper, water.

East and Gulf coast ports collectively seek $30 billion to $40 billion for infrastructure projects to make them big-ship ready, but at most they could potentially siphon off 10 to 15 percent of West Coast cargo, according to Strawbridge.

The $100 million to $200 million in revenues those ports could collect each year from that additional volume is too slow a payback for the investment required, he said. “The math doesn’t add up to the amount of cargo that would be diverted.”

The Port of Long Beach, as well as Los Angeles, are the two largest container ports in the nation and have the throughput to justify ongoing strategic investments, Strawbridge argued. And the earlier the ports are ready for big ships, the earlier shippers can consider them in their routing decisions, he added.

In 2010, the United States imported $562 billion worth of containerized goods, of which $362 billion came from Asia. Almost half the total imports, or $250 billion, arrived at West Coast ports, and 56 percent of that total, or $205 billion, was funneled through the ports of Los Angeles and Long Beach.

About 35 percent of U.S. containerized imports move through the San Pedro Bay ports, according to U.S. Maritime Administration data.

The BNSF Railway and Union Pacific have invested $12 billion on facilities and mainlines serving Southern California alone during the past five years, more than double the cost of the Panama Canal expansion, Strawbridge added.

The arrival on March 19 of the 12,500-TEU MSC Fabiola underscores why Long Beach is investing to upgrade its infrastructure, Strawbridge said. The Fabiola is the largest container ship, so far, to call North America. It called at the Hanjin-operated Total Terminals International facility on Pier T.

It was followed a week later by the 11,500-TEU MSC Francesca, the second-largest container vessel to dock in North America and the 11,312-TEU MSC Lasciana in early April.

Strawbridge noted that the Panama Canal will not be able to handle a Fabiola-class vessel for 2.5 more years.

“All of what we’ve been planning for is now coming to fruition. We still have more work to do. We’re not going to take for granted what we have here,” he said.

“At the end of the day, we want our customers and stakeholders to believe they’re getting significant value by moving through the Port of Long Beach.”