



THE FUTURE IS HERE

CARGO HANDLING SOLUTIONS FOR MEGA-SHIPS



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The first 18,000 TEU vessel arrived at the US West Coast towards the end of 2015. This paper addresses what this means for the Trans-Pacific trade lane and how the Port of Long Beach is positioned to handle these massive vessels.

A NEW ERA BEGINS

The arrival of the CMA CGM Benjamin Franklin to the US West Coast marked a new milestone for the Trans-Pacific trade lane and simultaneously raised questions about what this latest development could signal for the shipping industry and the ports handling these massive vessels. The Benjamin Franklin arrived in Los Angeles in December, 2015 and will be making its second voyage to North America in February, 2016, calling Long Beach. There is only one way to describe these ships: They are massive.

Beyond its physical size, the Benjamin Franklin is considered to be a test of the West Coast's readiness for this class of vessels. The test could not come at a better time as West Coast ports recovered the market share they had lost in early 2015.

Year-over-year, container volume at the Port of Long Beach grew 5.4%, most of it driven by the strongest third quarter in the Port's 105-year history. What is especially remarkable is the fact that Long Beach ended in positive territory after beginning the year with double-digit declines. The arrival of the Benjamin Franklin is further validation that confidence has been restored in the US West Coast.

BIGGER NEEDS FASTER

It is not known how soon it will be before the US West Coast continues to see vessels like the Benjamin Franklin on a regular basis. CMA CGM considers this a test run. But the fact is that the big ships have arrived and the ports are taking this test very seriously. The West Coast presents an opportunity to deploy the largest vessels in the Trans-Pacific trade lane, which many view as the least unprofitable in this climate of depressed freight rates. However, the efficiencies of these 18,000 TEU ships have to be met with efficiencies at landside in order for the advantages to materialise.

We are all familiar with the adage: "To whom much is given, much will be required." There will be much required of those ports that are fortunate enough to welcome these massive ships. Berth productivity as well as velocity and efficiency in the yard and at the gates will be expected to be strong.

The Port of Long Beach has the physical infrastructure, rail connections and skilled labor to deliver these efficiencies today and is investing US\$4 billion this decade to upgrade infrastructure, modernise terminals and enhance rail capacity. By the end of this decade, the port will have the ability to handle 24,000 TEU ships. But the physical infrastructure is only half of the equation. Bigger ships require faster turn-arounds. This means that operations have to be tightened, coordination improved and efficiencies enhanced.

FOCUS ON RAIL

In Long Beach, nearly 30% of all inbound containers leave the terminals by rail. With the arrival of bigger ships, trains have grown considerably in length and capacity.

Double-stacked trains that run the length of two miles are not uncommon today. On-dock rail is critical to the port's ability to handle more volume efficiently, which is why the port is investing \$1 billion in its rail infrastructure.

Moving containers via rail is faster and more efficient than hauling by truck. A mid-west bound container that leaves the terminal by rail, on average, arrives to destination two days faster. Moreover, it is estimated that one on-dock train can replace up to 750 truck trips. The comparative advantage of trains over trucks is not limited to operations; it is also cleaner. That is why Long Beach has set an aggressive goal of reaching 50% on-dock rail within 10 years. This means nearly doubling the number of containers that leave the terminal on rail today. But the real benefit will be felt in the years and decades ahead as the port's volumes continue to soar. Increasing on-dock capacity will significantly enhance the Port's ability to handle more containers more efficiently and in a more sustainable manner.

APPOINTMENTS

Fifty% on-dock still leaves half of the port's containers for pick-up and delivery by trucks. In San Pedro Bay, 13 different terminals are visited by more than 10,000 trucks each day. To manage this level of truck traffic, terminals in the ports of Long Beach and Los Angeles have adopted appointment systems to improve predictability, availability and velocity. To date, eight of the 13 terminals already have some kind of appointment system in place and others have plans to move in that direction. Clearly, this is a major step in the right direction. To make appointments across the complex more efficient in the future, terminals will need to make sure there is alignment between the different systems so that truckers are able to make multiple trips each day. The terminal's ability to improve truck turn times is critical to its ability to reduce dwell time and increase throughput.

FLEXIBLE FREE TIME

In another effort to enhance container velocity through terminals, the Port of Long Beach recently announced a proposal to redefine free time. Free time is currently set at four days, excluding weekends and holidays. This means that cargo owners have four days to pick up their container from the terminal before demurrage fees begin to accrue. The port is in the process of evaluating the merits of changing the free time period from four days to six consecutive shifts in order to meet two needs that have been identified

by both the terminal operators and cargo owners: velocity and availability.

By changing free time from days to shifts, terminals would have the option of increasing the number of shifts they offer on any given day. More shifts equals more container moves. For the cargo owners, this means their containers could become available sooner and more reliably. The Port of Long Beach understands that other factors also have to be considered, however. For instance, the way containers are stowed at the port of origin has downstream effects on terminal operations at the port of destination.

SOLVING THE 'RUBIK'S CUBE'

As ships get bigger, the need for block stowage is even more important. The vessel alliances add a layer of complexity to this. When sequential loading is compromised at the port of origin, it complicates vessel discharge and container handling at destination. Over the past year, however, the alliances have tightened their stow plans and the shipping lines have better aligned their operations. Coordination between alliance partners and with the terminal operators has also improved considerably. This level of coordination has been key to solving the 'Rubik's Cube'.

FREE FLOW

Another way terminals are handling containers more efficiently is by employing the free flow model which has been compared to the taxicab model at airports where passengers line up and are picked up by the next available taxi, regardless of destination. In a free flow model, containers are hauled by truck to nearby, off-dock sites as they are discharged from the vessel. Once there, the containers are staged for distribution to their destinations. This helps move containers out of the terminal quicker and opens space at the yard for additional volume. Two Long Beach terminals have been operating this model successfully for years and other terminals are running tests during certain hours of the day.

CHASSIS, CHASSIS, CHASSIS

Since March, 2015, the gray chassis fleet servicing the San Pedro Bay — also known as the Pool of Pools — has significantly improved the fluidity of chassis by cutting down on repositions and split moves. There is also greater visibility and coordination between the chassis pools and the ocean carriers, terminals and truck operators. That was not the case in 2014 when the US West Coast faced severe congestion. The San Pedro Bay ports worked with the chassis providers to adopt a more efficient model that improves interoperability and

cuts down on unnecessary repositions, which is key to a port's ability move containers more efficiently.

SUPPLY CHAIN OPTIMISATION

In addition to the efforts described above, all aimed at increasing velocity and efficiency, improving container handling in the port requires a systems approach that looks beyond the terminal and encompasses the entire supply chain, end-to-end. Since April, 2015, the ports of Los Angeles and Long Beach have jointly engaged all supply chain partners in a series of discussions and working groups to identify choke points and, together, generate solutions to optimise the entire supply chain.

LOOKING AHEAD

2015 was a breakout year for the Port of Long Beach. After starting the year with congestion and declines, container volumes soared to the port's third-highest container count on record. With its aggressive capital investments and focus on improving the supply chain, Long Beach is poised for another solid year.

ABOUT THE AUTHOR

Dr Noel Hacegaba is the Chief Commercial Officer for the Port of Long Beach. He is responsible for the port's commercial operations and leads the port's business development, terminal operations, customer service and security divisions. He joined the port in 2010 and has also served as Chief Operating Officer and Executive Officer to the Board of Harbor Commissioners.

ABOUT THE ORGANISATION

The Port of Long Beach is the premier US gateway for trans-Pacific trade, the nation's second-busiest container seaport and a trailblazer in innovative goods movement, safety and environmental stewardship. With annual trade valued at \$180 billion, the port supports hundreds of thousands of jobs and is 'Mega-Ship Ready', serving 175 shipping lines with connections to 217 international seaports. The port is five years into a decade-long capital improvement program worth \$4 billion, the largest in the US.

ENQUIRIES

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