

Drewry's "US Transpacific Intermodal Today and Tomorrow" A CIGMA Commentary

January 14, 2009

Drewry Supply Chain Advisors released a September 2008 white paper titled "US Transpacific Intermodal Today and Tomorrow." The publication was widely distributed and seemed to contradict some of the observations in The Tioga Group's CIGMA 2008 report. Accordingly, Tioga principals delved deeper into the Drewry work and compared it with the CIGMA findings.

Reasons for Concern. The Drewry analysis raises issues of serious concern to U.S. West Coast ports, the customers that use them, and the carriers that serve them. The white paper reaches an alarming conclusion – that rising costs and lack of capacity at U.S. West Coast ports and on western intermodal rail routes will shift most cargo growth to all-water east coast routes, significantly reducing West Coast share of containerized trade.

While the problems raised in the white paper are real and will require real solutions, the Drewry report presents an incomplete and sometimes misleading picture. The Drewry report focuses heavily on sample cost comparisons and West Coast capacity limits. The report, however, understates the importance of transit time and reliability in shipper routing choices and the role of the Southern California consumer market. The report also ignores the substantial investments being made in West Coast port and rail intermodal capacity, and significant capacity limits on alternative routes. A more comprehensive view of North American trade lanes and ports yields a more balanced picture – one that includes substantial West Coast growth as well as growing importance of all-water options.

Routing Choices. Through the first half of 2008 North America imports from the Far East were reportedly off about 85,000 TEU from 2007¹. Import volumes at Los Angeles and Long Beach were reportedly down by about 644,000 TEU (16%) for the same period, implying that about 559,000 TEU went through other port combinations. Interviews with importers and others in the course of Tioga's CIGMA 2008 survey suggest that uncertainty over costs and drayage conditions in Southern California was a significant factor in route diversification. Importers are clearly seeking options.

Each time there have been problems in Southern California, importers have diverted some of their business. After the 2004 delays Los Angeles and Long Beach briefly lost share within the West Coast, but regained that share and more in 2006 after a quiet year in 2005. This time the diversion is larger, and some of it will likely remain on other routes even if the uncertainty goes away. But it is more likely that some of that diverted container traffic will return to Southern California in the next year or two if conditions stabilize. Moreover, a threatened trucker strike at Vancouver, friction between truckers and marine terminals at New York/New Jersey, piracy off Somalia, and a container train robbery in Mexico all suggest that the alternatives to Southern California are not trouble-free, either.

¹ Reported by MDS Transmodal in *Containerisation International*, December 2008.

Cost is indeed a fundamental concern of shippers, but it is not the only factor and not always the decisive factor. All-water routes from Asia to U.S. East Coast markets are indeed less expensive than rail intermodal service through West Coast ports, and have long been so. The cost differentials cited by Drewry in the white paper do not cite a specific Asian origin, and the comparison would vary widely between such origins as Singapore and Shanghai. Many of Drewry's concerns rest on the very high oil prices prevalent when they were preparing the analysis – prices which have since declined. It is also not clear that Drewry has used realistic contract rates. In the absence of greater insight into these outwardly alarming figures, importers and exporters will need to make their own comparisons based on the rate and service options they have available.

Importers have been paying the higher cost of West Coast intermodal service for transit time and frequency advantages, which will remain for the foreseeable future. In 2004, reliability issues plagued some Western intermodal routes, but that situation has improved. As the Panama Canal has become increasingly busy, canal transit times have edged up and reliability has reportedly declined. Slower steaming to conserve fuel will add to the transit time advantages of West Coast intermodal over both the Panama and Suez routes.

The Drewry report may have missed a subtlety in DC location trends. The new East Coast DCs of major importers are usually not replacements for West Coast facilities, but additions to total import capacity. In most cases the Southern California flows have still been growing, although not at the blistering paces of 1995 to 2003. The Southern California market itself has over 20 million consumers, and is the main gateway to another 34 million in California and other states within trucking distance.

Importers have responded to cost and service differentials with multi-coastal import strategies, continually adjusting the mix of all-water and intermodal services to balance cost and service considerations. The maturation of supply chains is leading customers to diversify out of a one-size-fits-all Southern California strategy. Large retail chains have grown their import volumes to the point where they can sustain economically scaled flows on multiple trade lanes. The largest have pursued four-port and five-port strategies, using California, PNW, Gulf, South Atlantic, and North Atlantic ports to feed regional DCs. Importers and exporters speaking at the 2008 NITL/IANA conference in Florida also emphasized their desire for flexibility in the face of uncertainty. Both trends will result in a somewhat lower market share for the Southern California ports. With flat or declining trade a diminished market share translates into an absolute decline in volume. In recovery and subsequent growth years, however, TEU volume through LA/LB and on rail intermodal routes will continue to grow.

Panama and Suez. Perhaps most critically, the Drewry work does not delve into the long-term capacity of the Panama Canal. The success of all-water services has brought a substantial volume of containerized cargo to the Panama Canal. Between 1995 and 2008 (estimated) Canal transits by container vessels grew by an average of 8% annually. Total Panama Canal container tonnage grew at an average of 12% from 1995 to 2007. In the long term, internal growth of that trade will use up much of the capacity provided by the third set of locks.

Figures in ACP reports and presentations, and Drewry's analysis in other publications, suggest that the Canal is in a race with itself. With the current slowdown in Asia-U.S. trade the ACP will probably be able to complete the new locks before current capacity tops out, but even after

completion there will be little margin to divert greater market share from West Coast ports. The chart adjacent shows that ACP expects the Canal to have capacity for 296 million PCUMS tons of container traffic by 2025 with the new locks. That allows for a 6% compound annual growth rate over that 20-year span – enough to keep up with the growth of the existing traffic base, but not enough to divert large, growing volumes from West Coast ports.

PCUMS Tons Per Market Segment*	Year 2005	Year 2025	
		Canal without an expansion	Canal with an expansion
Containers	98	185	296
Dry Bulk	55	49	73
Liquid Bulk	34	19	28
Passenger	10	13	19
Car Carrier	36	40	58
Refrigerated Cargo	19	15	22
General Cargo	7	3	4
Others	20	6	8
Total PCUMS Tons	279	330	508

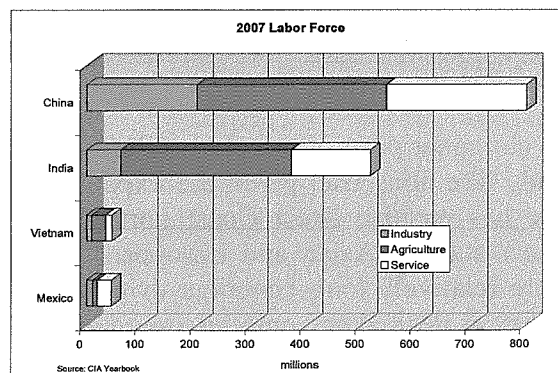
*Millions of PCUMS tons

Drewry correctly points out that the Suez route between Southeast Asia and the US East Coast provides the opportunity to fill large, efficient vessels with traffic to and from Mediterranean ports and transshipment hubs. Those intermediate stops, however, are one reason why Suez services have difficulty competing on transit times from Asia. Recent reports have Suez authorities considering transit fee cuts to recoup lost business. The white paper speculates that importers might forgive slow transits for merchandise that will be slow to sell once it reaches the U.S., but the trend has instead been to keep inventories lean and turning quickly in times of trouble.

What would make 2007-2008 a turning point? Drewry points to fuel costs as affecting the competitive balance between all-water and intermodal services. Yet we have been through this drill before. When fuel prices leapt up with the Arab embargo in 1973, rail advocates proclaimed the eventual dominance of intermodal service over highway moves. Share did shift in favor of intermodal, but the shift was slow and marginal. Future shifts to all-water are likely to be slow and marginal as well. Shippers have long had slower and cheaper options, including all water service via Panama and Suez, and have used them judiciously. They have never flocked to them in droves or in a single massive step.

China. In the midst of the general slump in US imports China has been hurt badly, as was to be expected. Does this spell the end of the Chinese export boom? Yes and no, but mostly no. There has been persistent speculation regarding a shift of export momentum to India, but India saw a 30% drop in container trade in the third quarter of 2008.

Speculation about migration of export manufacturing away from China often omits some pertinent facts. As shown in the chart, China has over double the industrial labor force of India, Mexico, and Vietnam combined. The population in China's developed coastal provinces is about 500 million, with per capital GDPs of USD5,000 to 8,000. The population in China's relatively untapped western provinces, however, is about 850 million, with per capita GDPs of USD2,000 to 3,000. Where, then, is the biggest reserve of low-cost labor? In China. China is investing in inland transportation infrastructure at a furious pace. Is it more likely that Chinese manufacturers would continue to raise wages



while business departs, or that they will compete mightily to keep and grow their newly acquired prosperity?

Much of the argument for a manufacturing migration seems to be founded on a gut-level conviction that China cannot continue to grow as it has. And indeed it probably cannot continue to grow its exports to the U.S. at the average of 15.7% attained in 2000-2005. Current Chinese economic growth is running at about 9-10% annually, consistent with Chinese government targets and the recent Chinese economic stimulus package. The World Bank has forecast 7.5% growth in the Chinese economy for 2009 – a poor showing for China, but still high by world standards. U.S. containerized imports from China are forecast to grow at a relatively conservative 7.6% annually from 2005 to 2030. That is more than fast enough for China to maintain its dominance of U.S. exports, especially given its commanding lead at present.

* **Port Capacity.** U.S. East Coast and Gulf ports are expanding but do not and will not have the capacity to divert major portions of potential West Coast growth. The numbers in Drewry's white paper illustrate the problem. U.S. West Coast volumes in 2007 were about 22 million TEU. A conservative annual post-recovery growth rate of 5% would yield an annual increase of 1.1 million TEU. One year's West Coast growth is roughly equal to the entire current trade volume at Houston. Absorbing that growth would require East and Gulf Coast ports to grow by 6%, on top of their own 5-6% internal trade growth or 11-12% overall – not a sustainable scenario over multiple years.

The Drewry white paper correctly notes the difficulty West Coast ports face when trying to add capacity in environmentally sensitive urban areas. Those difficulties are real, and have indeed delayed terminal projects. There have nonetheless been significant recent capacity increases at Oakland and at Prince Rupert, and more capacity will be forthcoming. Los Angeles is proceeding with the new TraPac terminal and Tacoma is proceeding with a new terminal for "K" Line (which will create capacity at Seattle when "K" Line moves to Tacoma in a few years). Reconfiguration of older terminals at Seattle, Oakland, and Long Beach will also increase capacity.

It is misleading to focus either on the 2004 Southern California port congestion or the rapid growth that preceded it as indicators of the future. Current forecasts anticipate much more moderate Southern California growth than in the recent past – no one is calling for double digit averages in the future. The 2004 congestion was caused by a shortage of longshore and rail labor, not by a shortage of marine terminal capacity. Without significant terminal additions Long Beach and Los Angeles handled 2005 and 2006 cargo increases without incident, and actually saw a market share increase in 2006. With trade down in 2007 and 2008, there is no capacity issue.

U.S. container ports, particularly West Coast ports, have had the luxury of abundant space. That sounds like nonsense, given the expansion difficulties they face. Yet a relative abundance of space has enabled West Coast ports to operate wheeled terminals at a lower unit cost than densely stacked Asian and European counterparts. West Coast ports have also been able to endure relatively long container dwell times, with importers enjoying some flexibility to stage delivery as desired and empties stored on dock.

In the long run densities must rise and dwell times must fall, on the West Coast and across North America. U.S. container terminals will not be able to devote on-dock space to chassis pools, empty container storage, and equipment repair. Some of those functions are already being pushed out, but all must go. East and Gulf Coast container terminals are generally tighter than their West Coast counterparts in terms of backland acres per berth. Several North Atlantic, South Atlantic, and Gulf container terminals are predominantly stacked, whereas West Coast terminals are still predominantly wheeled, especially in California. Ironically, that means East and Gulf Coast terminals are already using practices that West Coast terminals can and will adopt to raise throughputs.

It helps to look at absolute TEU growth rather than percentages. Some ports, as Drewry's comments about Portland, OR suggest, can fluctuate wildly in percentage terms as individual carriers shift vessel deployments and calls. Ultimately, however, capacity must be reckoned in terms of annual TEU.

The Drewry analysis acknowledges the ability of the West Coast ports to handle growth on their existing footprint but stops short of tracing the implications. West Coast ports and U.S. ports in general are often maligned for their relatively low annual throughput per acre, a maximum of 5,000 to 6,000 annual TEU compared to peak Asian figures of 12,000 TEU and up (driven largely by transshipment volumes). The criticism has never made sense, since to achieve higher throughputs for the same trade U.S. ports would have had to shrink their terminal acreage.

More importantly, the relatively low figures at U.S. terminals indicate substantial latent capacity within the existing footprint. Careful analysis on behalf of the San Pedro Bay ports indicates that throughputs of around 10,500 annual TEU per acre are achievable there with existing technology. On the two ports' combined current footprint of 3,032 acres those throughputs translate to an annual capacity of 31 million TEU – double the 2006 volume. With planned terminal expansions the capacity would reach 42.7 million TEU, enough to handle moderate post-recovery growth through around 2025.

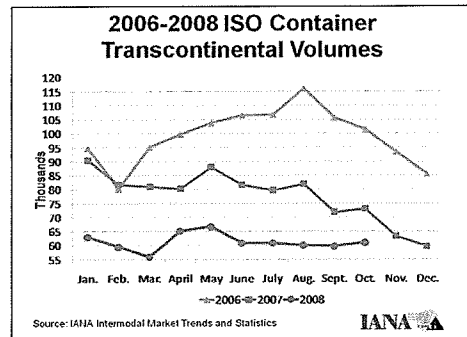
Rail Capacity and Rates. The Drewry authors may have accepted some old and misleading generalizations about U.S. railroads. The bankruptcies and mergers referred to in the report are now history. The oft-cited reduction in Class 1 rail miles came primarily at the expense of little-used branch lines and obsolete yards, while the railroads have added track miles and capacity on transcontinental intermodal routes.

BNSF has just unveiled its triple track expansion on Cajon Pass serving Los Angeles and Long Beach, a \$90 million project. UP is continuing to improve capacity between Southern California and Houston, a multi-year \$100+ million project. Both are poised to invest heavily in near-dock Southern California terminal capacity once regulatory barriers have been lifted.

In the East, NS and CSX stand ready and eager to handle intermodal growth off the East Coast ports, but cannot replicate the massive West Coast flow. Both are investing in intermodal capacity, with the NS's Heartland Corridor project and CSX's National Corridor project. UP, BNSF, CN, and CP together, however, probably load nearly 200 weekly container trains for Chicago and other mid-continent gateways in a busy year such as 2006. NS and CSX do not have that kind of capacity on top of their expected East Coast growth.

U.S. railroads actually have a strong record of expanding capacity and managing rates for traffic they want to keep. The Drewry report is correct in pointing out that intermodal growth must compete with coal and other traffic for investment dollars. That has always been a problem, and the rate increases Drewry mentioned were part of the answer.

Current transcontinental movements of ISO containers are down drastically compared to 2006 or even 2007, according to IANA data. It would be naive to suppose that western railroads will not react with rate adjustments if there is more traffic to be had. When demand pushes up against capacity, the railroads – east or west – are in the same position as ocean carriers in a booming trade, and rates will rise. When demand falls, however, railroads can cut rates faster than they raised them. It takes time to negotiate increases in multi-year contracts. Rate cuts, however, in the form of volume discounts, opting out of fuel surcharges, or incentive rebates can – and will – be implemented quickly if the railroads see their business being shifted elsewhere.



Drewry is correct in observing that the railroads are seeking and obtaining greater yields on intermodal container business. There is a tradeoff in volume – not, as Drewry suggests, in service. Ocean carrier contracts that came up for renewal in the boom years of 2004-2006 typically dated from 2000-2003, when slower import growth and ample short-term capacity led the railroads to price aggressively to build volume. Many features of those contracts, such as free or cheap movement of empties, dated from the 1990s when the railroads were using new-found double-stack economics to create a whole new business segment. As the railroad industry “right sized” to the point where intermodal growth was pushing up against capacity limits it no longer made sense to build volume at discount rates.

The railroad renaissance recognized and applauded by Wall Street is based on sustainable yields that justify reinvestment. Ironically, future capacity can and will be made available precisely *because* of the higher contribution from container business. At the former rate levels Drewry would have been correct in arguing that intermodal would have difficulty in competing with coal and other commodities for investment dollars.

The emphasis on yield rather than volume does not mean that the railroads will idly watch their business evaporate. It does mean that the least remunerative lanes and accounts will decline. Inland movements that depended on artificially low headhaul or backhaul rates will disappear from both coasts. IANA reports that 2008 YTD railroad ISO container movements were down 6.1% by the third quarter. Rail movements of international containers from the southwest (Los Angeles, Long Beach, and Oakland) to the Midwest were down 7%, compared to a 10% decline in port volume. The difference suggests that the rails held much of their regional share. The more dramatic loss was in the PNW to Midwest lane. This pattern is consistent with past downturns in which ocean carriers and customers cut back on imports through the PNW and concentrated their business in Southern California.

A Wakeup Call. While not a complete or definitive treatment the Drewry white paper is nonetheless an important wakeup call for West Coast ports and the North American port industry in general. The West Coast ports as a whole will likely exceed 80% of planned capacity

somewhere before 2030 and congestion will become more common and persistent. East and Gulf Coast port volumes will grow apace, even without massive diversions from the West Coast. The issue then will not be West Coast capacity and congestion, but *North American* capacity and congestion. With importers and exporters diversifying their trade lanes and ports of entry, it is unlikely that any efficient but uncongested options will remain. The white paper is correct in pointing out that accommodating American consumer appetites for imports will, if present trends continue, require new greenfield ports on virgin coastline. That day is farther out than the Drewry analysis suggests, but it is still coming – on East and Gulf Coasts as well as West.

