At the end of the movie “The Man Who Shot Liberty Valance,” newspaper editor Maxwell Scott tells Ransom Stoddard, “This is the West, sir. When the legend becomes fact, print the legend.” As we face a future of growing import traffic, let’s take a moment to separate legend from fact.

Containerization observed its 50th anniversary this past April. For at least half of its lifetime, containerization has been closely linked to rail intermodal. Stacktrains are considered by some to be the most important transportation development since containerization. But a close examination of the legend here uncovers some generally overlooked facts:

The forces driving intermodal import cargo have changed.

Shipment of intact containers by intermodal rail was never a given. While there were many early experiments with rail intermodal, the development of APL’s liner train in 1980 is generally thought to be the true beginning of trans-Pacific intermodal movement. While the subsequent results have been spectacular, the introduction of import intermodal was a “bet-the-farm” strategy by a company that could not afford to maintain vessel service to both the East and West coasts.

When it staked its future to intermodal, APL was locked in mortal commercial combat with all-water advocate, United States Lines, until U.S. Lines declared bankruptcy in 1986. Other lines quickly embraced stacktrains, and by the early 1990s, ocean carriers were operating scores of stacktrain services from West Coast ports.

Several factors supported the coming of age of intact intermodal between the mid-1980s and early 1990s. Let’s examine those factors, and how many of them have changed:

- Industrial development was nascent in China. Manufactured goods were collected and routed through Hong Kong, where they were consolidated into containers for through movement to U.S. inland points.
- Consolidation was also taking place in other major import origins such as Taiwan, Korea and Singapore. China now commands the Asian-export economy, with Chinese factories easily capable of loading full containers.
- Ports in China were still in early phases of development. The mainland infrastructure was not mature enough to support direct trans-Pacific vessel calls. In 1996, Shanghai was the only Chinese port among the world’s top 30 container ports. By 2004, Shanghai (No. 3), Shenzhen (No. 4), Qingdao (No. 14), Ningbo (No. 17), Tianjin (No. 18) and Yantian (No. 26) were on this list.

Chinese ports are now world-class, and offer numerous direct China services.

Why transloading will grow faster than on-dock rail
- Store-door pricing was a necessary pricing ruse. Pricing of intermodal shipments to the receiver’s door was developed to avoid compliance with regulatory requirements that ship lines offer identical rates to “similarly situated shippers.” Confidential contracting, permitted by the Ocean Shipping Reform Act of 1998, has eliminated this practice.
- West Coast local rates were artificially high. Conferences used these rates to benchmark all rates. Independent lines generally followed these guidelines. Confidential contracting has also eliminated this situation.
- Intermodal capability was viewed as a proxy for overall excellence. Some lines used intermodal management capabilities as proof of their overall service quality. Now that it has become mainstream, intermodal is no longer a unique selling point.
- On-dock movement became desirable. In the face of trucker agitation starting in the late 1980s, on-dock became de rigueur for all marine terminals. Because Southern California port development has allowed ports to require on-dock rail (as part of their support for the Alameda Corridor project), on-dock is no longer unique.
- Railroad service quality faltered. In the early 1990s, fifth-morning service from Los Angeles to New York for imports was fairly common. It no longer is. As intermodal volume has continued its growth, service challenges have become routine.

**Rail intermodal market power has shifted**

The growth of intermodal came at a fortuitous time for railroads and ship lines. Railroads had been deregulated in 1980 and were seeking ways to expand business and cut costs. Import intermodal cargo was attractive for several reasons:

- International trade was growing rapidly. Few businesses had as much new volume growth potential as international intermodal.
- Containers were long-haul traffic. To compensate for local pickup, delivery and terminal handling, intermodal movements needed to be more than 750 miles. Import containers fit this requirement.
- Intermodal relied on mainline service. It focused on the railroads’ core competency, and it did not require branch-line service, which the railroads were trying to abandon.

This marriage of convenience between railroads and ship lines took off after the adoption of Presidential Emergency Board 219 in 1991. PEB 219 was a labor settlement that granted railroads the right to reduce crew size from five to two, in exchange for a limited form of job guarantee. In the early 1990s, there was still substantial competition among railroads. There were four Class 1 railroads in the West and three in the East. Excess capacity and the realities of PEB 219 induced the railroads to reduce rates in exchange for traffic guaranteed over multiple years. In this period, steamship lines could move containers by rail for about 30 to 40 cents per mile.

Many people believe that today’s market has changed because of rail duopolies in the West and East. But this is an oversimplification. The excess capacity created by regulation has been consumed in 25 years of deregulation. Before deregulation, railroads had the choice of attracting low-priced business or having unused capacity. They were willing to accept low-priced freight if they could recover long-term variable costs.

Today, there is still plenty of demand, but railroads must invest to handle growth. Variable cost recovery is no longer a sound pricing strategy. Railroads — like all businesses — must recover their cost of capital, something they continue to struggle to do. While railroads have not implemented a pure tariff system — as they have with other commodities — they have with the contracts and implemented more price structures that reflect railroad reality. From the West Coast, ship lines now must pay 55 to 75 cents per rail mile, nearly twice what they paid 10 to 15 years ago.

While rates of $1,500 for a 40-foot box from Los Angeles to Chicago seem high, they may still feel like a bargain to some. The cost to truck a load in the same corridor may approach $3,000, so steamship lines must consider that rates probably still have a ways to go before they “top out.” For some carriers, additional intermodal expense may exceed $100 million a year.

Ironically, ship lines have created some of their own problems through growth and mergers. Ocean carriers no longer have an “or else” negotiating option with the railroads. Railroads know that most ship lines are too large...
to be able to shift their business to a competing railroad. A II-water services may grow, but the West Coast will remain the primary gateway for U.S. containerized imports.

**Inventory deferral has increased**

The Shipping Act of 1984 allowed ship lines to quote rates without prior regulatory approval, but they were required to quote the same rates to “similarly situated shippers.” Because contracts were public, carriers relied on intermodal rates and store-door delivery to differentiate pricing while adhering to the rule of the law.

Most of the store-door rates were to inland distribution locations. This strategy made sense in a market of low interest rates and relatively low numbers of stockkeeping units. Today the situation has changed. Interest rates are increasing, and SKUs are proliferating. Not only does this make inventory more expensive to carry, it increases the risk of obsolescence when goods sit in inventory too long.

In the past seven to 10 years, two types of shippers have perfected inventory deferral as an operating strategy. Big-box retailers now defer their inland routing decisions until after Asian goods arrive in the U.S. for distribution to stores and inland distribution centers. Importers of high-value products have learned to concentrate their inventory in a single location — frequently near the West Coast import gateway.

Inventory deferral changes the import paradigm. Rather than determine final U.S. destination when the box is loaded in Asia, the decision is deferred until U.S. arrival, when cargo is transloaded from marine containers to domestic containers or trailers for local consumption or further movement inland. The savings from inventory deferral depends on the inland mix and the value of the cargo.

It is believed that inventory deferral enables companies to maintain sales levels that would require 30 to 35 percent more inventory with a traditional distribution model.

**Bimodal intermodal carriers continue to grow**

Companies such as Pacer Stacktrain, Hub Group, J.B. Hunt, Schneider National and Swift Transportation have expanded from their traditional markets into rail intermodal transportation. Wall Street’s recognition — and reward — of this business model is noteworthy because it will likely encourage other traditional carriers to expand into this niche.

Bimodal carriers’ growth has been supported by the development of stacktrain cars with wells that could carry 53-foot domestic containers. Previously, stacktrains were limited to 48-foot boxes. This meant that 53-foot boxes — the trucking industry standard — were limited to no more than 50 percent of capacity (what could be loaded on top of lesser-sized containers).

From 2000 to 2005, the proportion of 53-foot equipment moving in domestic intermodal increased nearly 20 percent. The trend is more noticeable in the Southern California market, where the proportion doubled and now represents nearly two-thirds of the domestic intermodal movements. While the introduction of 53-foot equipment was not solely the result of the bimodal carriers, the companies’ other product lines — primarily trucking and logistics — were a natural complement to transloading by their customers.

Bimodal carriers also have an advantage when dealing with the railroads. A rail network congestion becomes more of an issue, railroads must consider the desirability of different business segments. In many cases, the bimodal business is more desirable than ship line business because of higher revenue and profitability and ease of business. In some market sectors, there is a perception, whether correct or not, that bimodal carriers enjoy better rail service than ship lines do.

Bimodals may be the channel through which smaller retailers finally achieve the benefits of transloading. Although there is not a unique model, most bimodals offer services such as logistics support, distribution and trucking. Some are non-vessel-operating common carriers that can provide international freight transportation. This could significantly expand the transload market.

**Transloading solves imbalance problems**

Traffic volumes to and from Southern California exhibit a dichotomy. The dominant flow of containers is eastbound, with most boxes returning empty to West Coast ports. Domestic cargo, meanwhile, is primarily westbound. Southern California is a huge consumer market but produces little.

Stacktrains allowed import containers to be hauled inland, unloaded and reloaded with westbound domestic cargo. In the 1990s, the domestic cargo was often more profitable than the underlying international move — especially when measured by profit per equipment day.

But this equation has changed. While marine containers could price effectively against 48-foot domestic equipment, they cannot effectively compete with the 53-foot box. Meanwhile, railroads have greatly increased the cost for repositioning steamship line empties back to the West Coast.

Transloading solves two imbalance problems. It eliminates the need for a carrier to return empty containers to the West Coast. And it allows domestic equipment to be filled with import cargo at Southern California transloading centers.

Transloading benefits steamship lines, which eliminate the cost and effort of inland movement, and see their
boxes returned more quickly to Asia. The percentage of import containers moving intact to inland points continues to decrease.

Transloading will outstrip on-dock rail

As new marine terminals have been built, on-dock operations have increased significantly. When the terminals were designed, on-dock was considered to be a huge advantage, but this may be changing.

In some large new terminals, the rail portion may consume more than 15 to 20 percent of overall acreage. To squeeze more productivity from limited acreage, terminal operators may be forced to reclaim land dedicated to on-dock operations for basic marine operations. This already has been done at facilities such as the Port of Seattle's Terminal 18 and Hanjin Shipping's Pier A in Long Beach. Even if a conscious decision to reclaim on-dock real estate is not made, parking congestion may preclude 100 percent use of existing on-dock.

Southern California's status as an import center with a large population and excellent transportation infrastructure makes it the most desirable location for transloading. Real estate is available to the north and east of California's Inland Empire, where most such operations now are based, and economically depressed areas of California are eager to attract distribution-center jobs.

Transloading could receive a further boost from imposition of new fees at Southern California ports. The fees, coupled with tightening infrastructure capacity, could change the traffic mix — with local containers (including transloaded boxes) making up a much larger share as intact intermodal containers shift to other gateways. If short-haul train service can be introduced through improved highway and rail infrastructure, transloading could grow even more.

Naturally, several things could alter the scenarios anticipated above.

Some think that the development of inland logistics parks near rail hubs will obviate the need for transloading by providing distribution capacity readily adjacent to inland, intermodal service points. It is more likely, however, that intact movements to these inland hubs will be concentrated on year-round items instead of the more time-sensitive seasonal items that dominate import trade. Also, this cargo may move predominately through ports other than Southern California. Another outcome is that these inland logistics facilities would receive transloaded cargo in domestic intermodal equipment.

Something else to watch is development of off-dock rail capacity. Union Pacific and BNSF Railway are looking for property in Southern California for off-dock rail capacity that is closer than their Los Angeles terminals. These would benefit intact intermodal shipments.

The on-dock model could change. On-dock rail at terminals is expensive. Units are handled twice: vessel to dock, and dock to railcar. This model also requires large amounts of land for sorting and staging containers. Shuttle rail services could allow containers to be moved directly from vessels to intermediate terminals near transloading facilities. There the containers could be sorted for inland destinations and local pickup and delivery. This would free up acreage for cargo handling at marine terminals.

Transloading appears poised for further growth. It has traditionally been concentrated in Southern California, but it may increase in other locations. It is already established at ports such as New York-New Jersey, Norfolk and Savannah. The outcome will depend on the logistical business case — and the ease with which the transportation system can accommodate its execution.◆