Cost Analysis of the U.S. Intermodal System

Análisis de Costo del Sistema Intermodal de los EE.UU.

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Resumen Ejecutivo

1 Executive Summary

The purpose of this study was to conduct an historical cost analysis of US rail intermodal traffic over the past twenty years. In addition, it was to quantify anticipated cost increases over the next twenty years. The consultant was to also provide a qualitative assessment of the industry's current situation and the underlying components that could the system's performance.

1.1 Rail Cost History Study

The decision was made to focus on a rail cost history -- to the exclusion of other factors. Rail cost is the largest non-vessel cost for steamship lines, and indexed data was available for the 40-year study period. Other components of point-to-point line profitability (i.e., rates, terminal expenses and vessel costs) are not able to be compared in a similar method.

The quantitative study focused on two corridors: Los Angeles/Long Beach to Chicago and Los Angeles/Long Beach to New York. These corridors were selected because they represent the two largest concentrations of international intermodal volume with the smallest chance of service variables affecting the result

Using 1985 as the base year (1985=1.00) the study showed that over forty years, actual and projected increases were in the range of 77% to 98%. There are two primary reasons for this result.

- There was a period of drastically reduced costs in the period from 1985 to 1995. In 1995, every respondent enjoyed rates that were lower than the rate they were charged in either 1990 or 1985. General trade growth – accompanied by new vessel capacity – made it possible for every line to negotiate lower rail rates in exchange for higher volume.
- Subsequent to 1995, many new lines emerged as competitors to established lines. Many of these lines had very high rates in the 1985-1995 time period because their base volume was inconsequential. Their growth enabled them to achieve rate reductions in a tightening market.

In both corridors, roundtrip rates (eastbound import load/westbound empty return) increased at a faster rate than the eastbound import loaded rate by itself. This reflects the market trend of westbound, backhaul empty rates increasing at a faster rate than headhaul import rates. There are several reasons for this market phenomenon.

- Since the late 1990s, intermodal exports over the west coast have generally disappeared. Westbound domestic cabotage container repositioning, unable to compete with the 53-foot domestic equipment, has also disappeared. Steamship lines now reposition at least 75% (of eastbound volume) back empty westbound.

- Railroads have adopted a pricing strategy of raising the roundtrip yield – while allowing lines to think they got a "good deal" on the eastbound import rates.

In order to eliminate the statistical distortion of the rate decreases prior to 2000, expected cost increases for the period of 2005 to 2025 were examined separately. For this period, average expected annual price increase ranged between 2.5% and 3.5%. These numbers are slightly below – but not broadly inconsistent with Wall Street's expectations for future intermodal price increases. There are several aspects to consider.

- Intermodal is now the largest railroad commodity – and is no longer the least profitable railroad commodity segment. In fact, intermodal is very close to earning its cost of capital today, so railroads can continue to invest without significant rate increases.
- Steamship lines may be projecting their customer experience with their suppliers. It would appear that the lines retain their belief that larger volumes can always be leveraged for lower rates – and trade is growing at 10%+ annually.
- Over time, west coast transloading may reduce international intermodal unit volume – causing railroads to take price action.

1.2 Present Situation of US Intermodal Network

Although there have been several sever interruptions in the past four years, it is not universally accepted that the west coast is in crisis. Over the last twenty years southern California has far surpassed all the other US ports. The reasons for this success include the following:

- Land was made available for acquisition and development so that steamship lines could develop their own facilities.
- The local population is the largest on the west coast.
- As double-stack transportation developed, LA's network advantage in terms of capacity, speed and clearance were significant. It also had three railroads competing for business.

Twenty years ago double-stack emerged from southern California and it changed the industry. Five years ago, a new revolution was started there -- transloading. Rather than move containers intact from Asian origin to US destination, cargo is initially loaded only as far as LA. Upon arrival in southern California, the cargo is only then assigned to its final destination. This practice allows retailers to defer inventory deployment – and reduce actual inventory levels by 20-25%. The result has been a significant decrease in the percentage of west coast discharge imports moving by intermodal.

Nevertheless, southern California has seen several traumatic events in the past 12 months causing significant traffic flow disruption.

On the US East coast, the Port of New York has also struggled to accommodate growth of 8-10% per year. Rail intermodal into the US Midwest is growing by 15-20% per year. Throughout the country, there is concern about how the increased volume of trade will be accommodated.

On the west coast, there does not appear to be any current threat to widespread diversion from southern California. There does not appear to be any major threat from the existing ports; nor do the economic factors supporting southern California's dominance show signs of lessening.

Since intermodal will not disappear, there are some west coast items to watch.

- Service through Lazaro Cardenas may offer a direct intermodal service into the US Gulf (now that the merger of KCS and TFM is final.) This may offer a competitive service to points in Texas – and as far away as Kansas City and Atlanta.
- Prince Rupert, BC, in partnership with Maher Terminals, is planning to create a major container terminal that will serve intermodal cargo only. (It has to – there is no local population and it is almost 1,000 miles north of Seattle.)
- The Union Pacific and Hutchison Port Holdings are reportedly considering building a new terminal about 125 miles south of Los Angeles. If this project takes place, it will need to re/construct 150-200 miles of railroad to connect to the UP mainline in Yuma, AZ. This could cost almost $1 billion by itself.
- Major ports may create additional capacity by relocating non-container business to smaller, regional ports that are not focused on liner shipping (e.g., Port of Hueneme.)
- Steamship lines may discharge container cargo on the west coast of Mexico for rail movement to a Mexican east coast port for roll-on-roll-off service to US gulf and east coast ports. (Note: The Panama Canal Railway Company was not considered a viable alternative for this type of service due to Panama's distance from the United States.)

The east coast has similar challenges. The major port complexes: New York/New Jersey, Hampton Roads, Charleston, Savannah and Miami are all suffering congestion and land scarcity. Jacksonville and Baltimore have some capacity. Philadelphia and Boston are not considered viable due to continued labor recalcitrance. The Gulf coast ports seem to have some potential for expansion; however, Houston – which represents over 60% of all Gulf volume -- has significant congestion problems.

International trade in the United States has been forecast to triple in the next twenty years. This expansion, which is greater than the economy, will pose significant problems for the surface freight transportation industry. In many port locales, environmental and other anti-growth groups are frequently challenging the unquestioned benefit of being an international trade gateway. Highway capacity is increasingly a problem in port areas. Southern California has focused attention on other alternatives such as:

- Extending hours of marine terminals to allow volume to be spread over a greater portion of the day.
- Increasing the use of on-dock rail to reduce the amount of traffic being drayed to Los Angeles.
- Running a short-haul shuttle train between the port and the distribution center area.
- Change the on-dock paradigm from a carefully stowed train to a conveyor belt of containers that would be resorted further inland.

Many of these solutions require rail solutions. Although railroads suffer from congestion, they also appear to have unused capacity. Intermodal has become the largest commodity, and there is some question if certain commodities – grain and coal – will suffer traffic declines from macroeconomic factors.

1.3 Regulatory Impact

Regulatory impact could impact the intermodal market in several ways.

- Hours of service (HOS) regulations mandate how much time a driver can drive each day. The response has been for trucking companies to greatly increase driver wages. The impact of this rule has been much debated. Some believe that it will be good for domestic intermodal, because trucking companies will need to convert current over-the-road transportation to intermodal due to a shortage of drivers. Others believe that it will hurt intermodal because intermodal drayage drivers will "move up" the employment pyramid and become longhaul truckers.
- The intermodal industry has been struggling with resolving responsibility for equipment safety. Resolution of this "roadability" challenge could greatly increase intermodal cost – whether by rail or ocean.
- Environmental regulation has become an increasing challenge as environmentalists stymie capacity expansion. Greatly reduced truck emissions standards have caused motor carriers to accelerate planned 2007 tractor purchases into 2005 and 2006. This will bring in additional capacity at a faster rate and put temporary pressure on intermodal rates.
- Rail re-regulation is often discussed. Bulk and chemical shippers would welcome a return to formulaic costing that lowered the rates on their captive shipments and increased the price on intermodal. However, there does not appear to be any realistic chance of this happening.

1.4 All-Water Market

Interviews with steamship lines indicate that the proportion of east coast-destined cargo moving all-water to east coast points from Asia is now 20-25%. The cargo volume is

expected to continue to grow with the trade. Some lines believe that all-water service is growing a bit faster than total Asia – U.S. traffic. Although, the price difference between all-water and intermodal rates continues to shrink, lines are also encouraged by all-water rates rising faster than west coast rates.

All lines expect more growth in the Gulf. Most lines are studying an all-water route direct to the Gulf from Asia. However, they all admitted that they were concerned by the port congestion in Houston – and less than enthusiastic about serving Texas points over New Orleans.

There seems to be an emerging consensus that manufacturing in Southeast Asia and the Indian Subcontinent will grow. This will give rise to service through Suez – and cause the East Coast ports' share of Asian trade to grow. (Four out of seven lines expected that Suez Canal volume would grow faster than overall Asian trade.) All ports – except the Canadian ports -- are expected to benefit from this change.

As the all-water service from Asia to the US East Coast grows, lines are deploying vessels with direct service to New York. For example, the Grand Alliance's East Coast North Express (ECN) offers 22-day service direct from Hong Kong to New York. This deployment eliminates the intermediate calls at South Atlantic and Mid Atlantic ports. There are a number of variables in comparing the intermodal and all-water route to New York. However, in a comparison of best case (East Coast) versus worst-case (West Coast) the all-water route to New York is both faster – and cheaper.