



Exclusive to Intermodal Insights

Intermodal Seasonality — A Thing of the Past?

By Ted Prince

Intermodal transportation is a seasonal business. It has always been a more economical and practical method for shipping cargo, which is subject to surges and extreme imbalances. These surges may occur frequently (e.g., Friday night is the highest volume of the week); occasionally (e.g., the last week of the month — or quarter — is higher than the rest of the period); or, annually (e.g., “peak season”).

This seasonal legacy survives for a few reasons. Intermodal has grown in a two-step process. The seasonal surge of previous years has become base cargo in subsequent years. This recurring phenomenon triggers the perennial debate about whether or not to build infrastructure capacity for volume which is only occasionally anticipated. Intermodal’s year-round growth was the result of those who “built the church for Easter Sunday.” Nevertheless the impression of seasonality persists, with specific calendar focus applied by major customers which can elevate subsets of traffic with more lavish attention than the rest of the business.

As intermodal moves into the mainstream of American transportation, there may be value in examining just how seasonal it really is. This analysis seeks to quantify it.

Chart #1 demonstrates the methodology used to quantify seasonality.

- Volume is categorized by each calendar year quarter and then calculated as a percent of the total year’s volume;
- The maximum value is the largest quarter’s share of the given year (i.e., 27.6%);
- The minimum value is the smallest quarter’s share of the given year (i.e., 22.2%); and,
- Seasonality measures the difference between the maximum and minimum quarters.

CHART 1

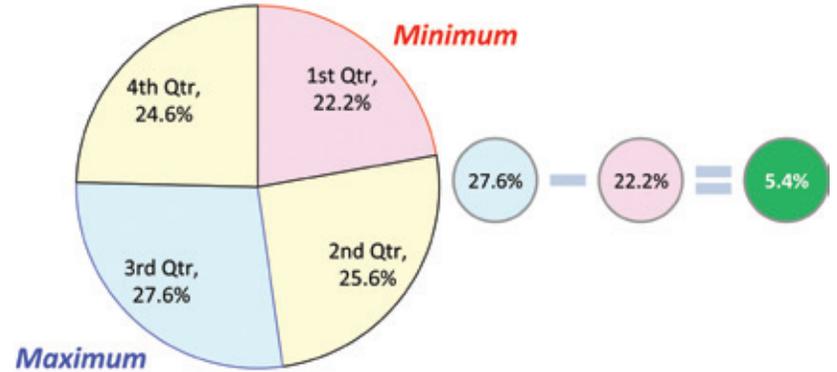


CHART 2

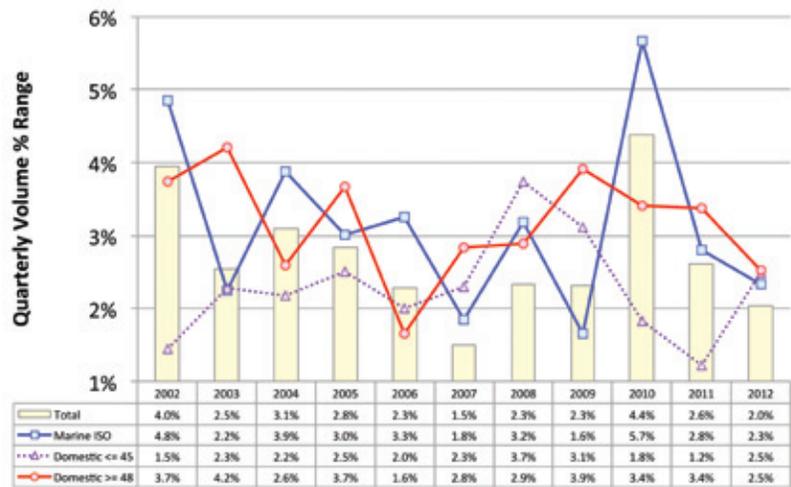


CHART 3

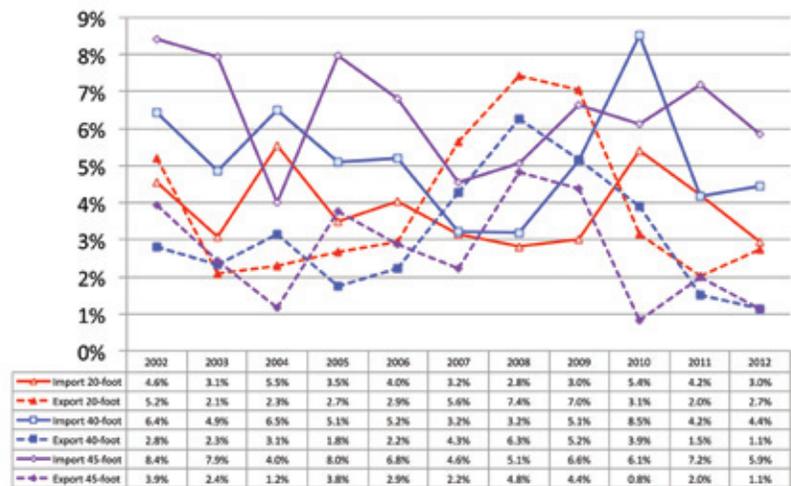


Chart #2 analyzes the seasonality of the three rail intermodal traffic segments — and industry total (yellow bar).

- The traffic classification follows a previously adopted methodology. In 2012, the Marine ISO segment (blue line) was 53% of intermodal volume; the Domestic >= 48 segment (red line) was 44%; and the Domestic <= 45 volume (purple line) an increasingly irrelevant 3%.
- The Marine ISO segment has had wider swings in seasonality than the Domestic >= 48. This would indicate that the two sectors have different economic drivers.
- The two years with the highest overall seasonality were 2002 and 2010. Both of those years were driven by high Marine ISO seasonality.
- This data demonstrates that the seasonal peaks traditionally characteristic of intermodal volumes have decreased. This would signal intermodal's emergence as a core carrier rather than a peak supplement.

Chart #3 analyzes the seasonality of marine traffic (import and export) by container size over the US West Coast. This data is provided by the Pacific Maritime Association (PMA.) While it is very granular, it only includes US West Coast ports.

- In three of the eleven years, imports proved to be more seasonal than exports. While imports are driven by the seasonality of consumer purchasing, exports are slightly more complicated. The data does not permit the analysis by commodity. While agricultural exports are seasonally driven, the largest volume of US exports, waste paper, is not. The increased export seasonality in 2008-2010 would suggest an export mix change.
- Within imports and exports, the seasonality of individual container sizes was generally closely correlated, with two noteworthy anomalies. In the absence of specific commodity information, the seasonality assessment of 45-foot imports and 20-foot exports might be used as proxies for import consumer demand and agricultural export demand respectively.
- 45-foot imports exhibited the greatest seasonality. This equipment is usually

CHART 4

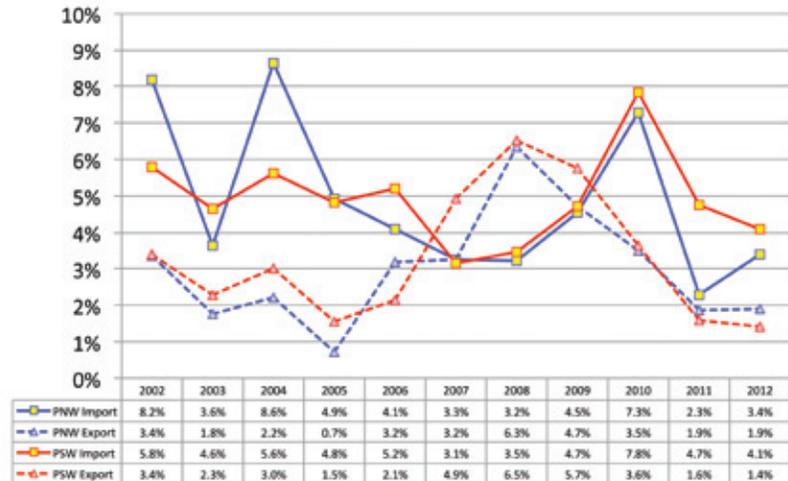


CHART 5

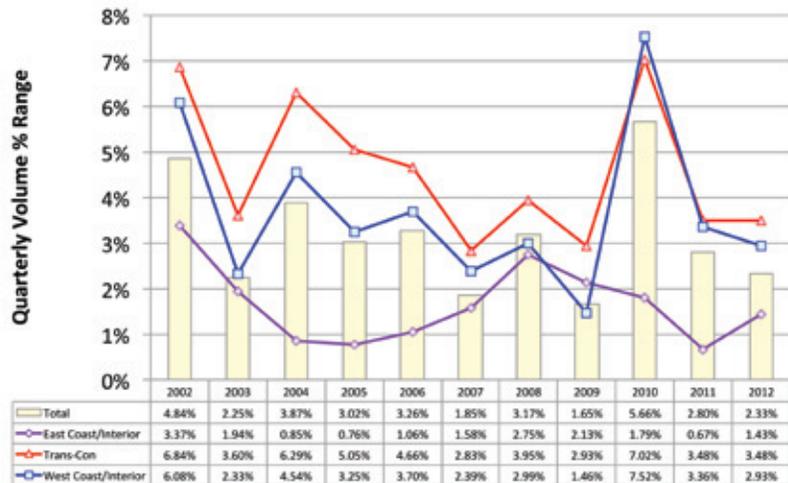
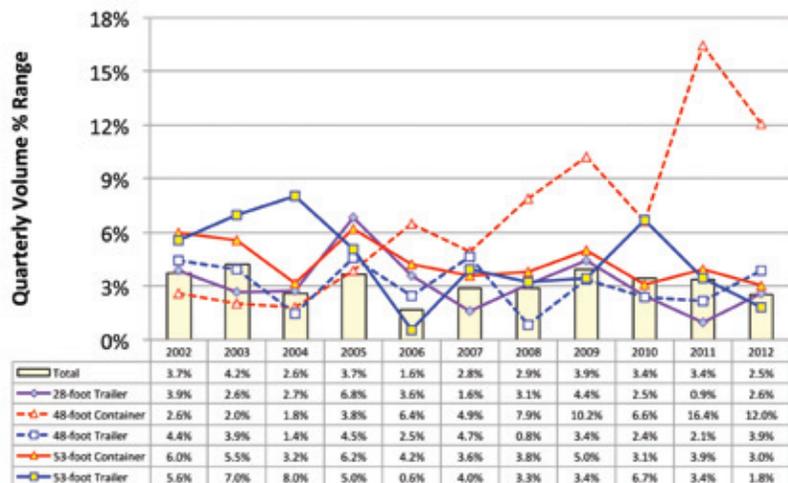


CHART 6



loaded with lighter, seasonal consumer imports (e.g., sneakers and toys.)

- 20-foot exports also demonstrated a great deal of seasonality. This equipment is frequently used to accommodate agricultural exports. This cargo is very dense, and since it “weighs” out, is best handled in a 20-foot container.

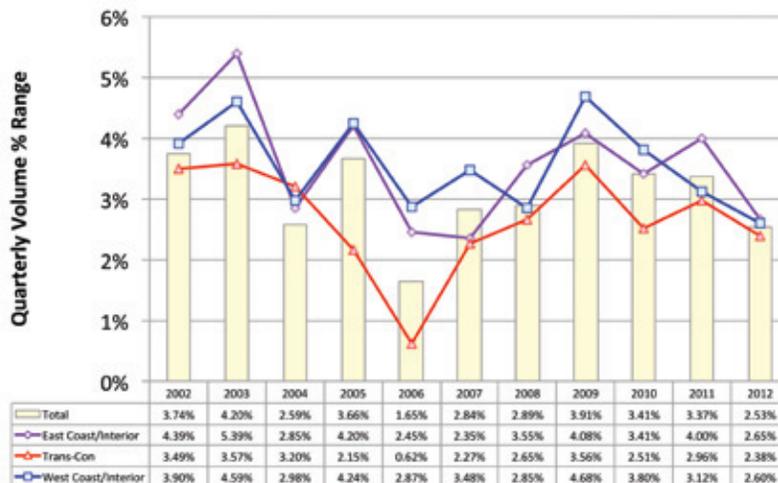
Chart #4 analyzes the seasonality of marine traffic (import and export) by US West Coast port region.

- The import peak season in 2010 is clearly seen in both the PSW and PNW. This was the last year that US trans-Pacific imports had a “real” peak season. This has had real economic implications to the trade.
- Peaks for both import and export traffic are closely correlated between both the PSW and PNW. Neither port region seems to experience either a peak surge, or non-peak decline. This would indicate that vessel deployment strategies are fairly consistent year-round. Lines do not appear to be assigning one of the regions overflow status.

Chart #5 analyzes the seasonality of ISO rail intermodal traffic by geography. Generally, traffic between the East Coast and interior points appears to be much less seasonal than movements to and from the West Coast. There are several possible explanations.

- Asian cargo transiting through the East Coast may be more focused on less seasonal importer replenishment, whereas more time sensitive — and seasonal — cargo from Asia transits the West Coast;
- Other east coast liner services — such as the Trans-Atlantic — are much less seasonal than the trans-Pacific; or,
- The mix of East Coast — Interior rail intermodal may be a mixture of several significant components that experience a portfolio balancing effect throughout the year.

CHART 7



- With the exception of 2010, rail intermodal over the West Coast has been relatively stable over the past 6 years. The past three years have seen almost no discernible difference in seasonality between ISO traffic moving to the interior, or to the East.

Chart #6 analyzes the seasonality of domestic rail intermodal traffic by equipment type. For the past two years, 53-foot trailers and containers have had very low seasonality. This would imply that the highway standard has evolved into a year-round intermodal workhorse.

- The 53-foot container has remained at a fairly constant level throughout the period. This indicates that the bi-modals and railroad programs have employed an asset yield strategy that has enable the asset to remain productive all year.
- The 53-foot trailer has a more erratic history. This equipment seems to have utilized intermodal on a seasonal basis. This segment may represent the vanguard of highway conversion. Whereas truckload carriers may have utilized intermodal as overflow capacity in the past, they appear more recently to be deploying year-round.
- Conversely, the 28-foot trailer has consistently low seasonality. It

would appear that LTL carriers, once they convert a lane to intermodal, have kept it there year-round. While the 48-foot container is obsolete, it would appear that this residual capacity appears on a seasonal basis — perhaps when there is no other equipment available.

Chart #7 analyzes the seasonality of domestic rail intermodal traffic by geography. Over most of the period — and especially the past five years — seasonality has remained fairly consistent. There have been some minor changes, but the domestic intermodal product seems to exhibit remarkable consistency in its temporal distribution.

Intermodal has been a key part of the transportation landscape for over 60 years and it is well accepted. This analysis strongly suggests that intermodal is replacing its highly seasonal past with a year-round volume consistency, reflecting its maturity and increased transportation prominence.

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