As a start, the intermodal market was segmented into three components:

- Marine ISO: (20-, 40-, and 45-foot containers);
- Domestic ≥ 48: (48-, 53-, and 57-foot trailers and containers); and,
- Domestic ≤ 45: (20-, 28-, 40-, and 45-foot trailers and 28-foot containers).

The above chart recaps absolute annual intermodal volume for the past decade. Overall volume peaked in 2006, with a slight decline 2006-2007 and more precipitous volume drop-offs the following two years.
The above chart recaps intermodal volume market share for the past decade. The results indicate some interesting results amongst the three industry segments:

- **Marine ISO:** 2009 market share (52%) was at a level last seen in 2001-2002. This was the third year in a row -- since its peak in 2006 -- in which this segment’s market share decreased.
- **Domestic ≥ 48:** By virtue of its volume resiliency in 2009, and the significant decline of the two other segments, the 2009 market share had a significant increase.
- **Domestic ≤ 45:** This segment continued its market share decline in 2009 – almost to the point of elimination.

The above chart recaps relative annual intermodal volume for the past decade. All columns are indexed to the base year (2000 = 1.00).

The results indicate a wide disparity amongst the three industry segments:

- **Marine ISO:** 2009 was the third year in a row that saw this segment’s volume drop year-over-year since its peak in 2006. The 2009 volume level was at 2002-2003 levels. Since this is the largest segment, it tracks closely to the total volume. The drastic contraction of international trade is clearly indicated here.
- **Domestic ≥ 48:** saw a slight year-over-year decrease; however, the 2009 volume level was at 2007-2008 levels. 2009 marked the first year that saw this segment with greater cumulative growth since 2000 then the total industry. The impact of transloading import cargo on the west coast (from ISO to domestic container) may be one factor keeping this sector [relatively] strong.
- **Domestic ≤ 45:** 2009 was the eighth (out of nine) years that saw volume drop year-over-year. The 2009 volume was almost one-third of 2000 volume levels.
While the domestic intermodal market has seen a clear displacement of smaller equipment with larger units, the
same is not the case in the Marine ISO segment.
For the past decade, relative market share has remained basically unchanged for each of three Marine ISO con-
tainer sizes.

The above chart recaps relative annual intermodal volume for the past decade. All volumes are indexed to the base
year (2000 = 1.00).
All three ISO container sizes follow a similar trajectory: 2009 was the third year in a row with a volume drop year-
over-year since its peak in 2006. The 2009 volume level was at 2002-2003 levels.
The intermodal market was further segmented into three components:

- West Coast – Interior: Containers moving between one of the three west coast regions and one of the two interior regions;
- East Coast – Interior: Containers moving between one of the three east coast regions and one of the two interior regions; and,
- Trans-Con: Containers moving between one of the three west coast regions and one of the three east coast regions.

Two other geographical categories were excluded:

- North – South: Containers moving between two regions of the same area were de minimus; and,
- Intra-regional: Containers with identical origin and destination regions were excluded due to data considerations.

The above chart recaps relative annual intermodal volume for the past decade. All volumes are indexed to the base year (2000 = 1.00).

The results indicate a wide disparity amongst the three geographical segments:

- West Coast – interior traffic clearly tracked the industry trend. 2009 was the second year in a row with a decrease. Volumes dropped to 2003-2004 levels.
- East Coast – interior volumes dropped off to 2002-2003 levels; however, volumes had maintained slight growth from 2004 to 2008.
- Trans-con volumes had their third year in a row of steady decline. In fact, volumes are at pre-2000 levels.
The above graph needs to be considered with the previous one.

- Trans-con traffic has lost almost 25% of its market share this decade. Traffic that used to move by rail over the west coast is now moving all-water over the east coast (with no rail movement).
- East Coast interior traffic has maintained its market share; however, there is no data to support a market share growth story – at least by rail. Many of the inland points are primarily served by truck.
- West Coast interior traffic continues to grow in importance. While post-2014 deployment arguments about what impact the Panama Canal expansion will have on this traffic will continue, there does not appear to be any competition for now.

Intact ISO Intermodal Market Share form U.S. West Coast

The above chart examines the percentage of containers moving eastbound by rail from the U.S. West Coast as a percentage of total containers discharged from vessels. The results are interesting:

- 20-foot containers have the highest percentage of intact movement. This is consistent with the fact that cargo carried in this size box is heavy and dense and does not lend itself to transloading.
- 40-foot container intact movement has trended down for the last three years. This is share – not absolute volume. Since population has not significantly changed in this timeframe, this is indicative that more import cargo is being transloaded in this period.
- 45-foot containers have the lowest percentage of intact movement. Cargo carried in this size box is light – and is ideal for transloading. Furthermore, the 45-foot container is a premium equipment type for ocean carriers. This data indicates that the majority of imports in this size container are devanned on the west coast. The 45-foot containers is also returned empty by vessel over 60% of the time, indicating a preference by ocean carriers to have these boxes move import-empty – rather than import-export.

Since 2006, ISO marine has lost 8 points of market share, while Domestic ≥ 48-foot has acquired 9 points. Increased west coast transloading would account for both numbers.
The above chart examines intact intermodal share from the US West Coast. (i.e., What percent of loads discharged from a vessel were moved by rail?)

- Intact movement in the Pacific Southwest (PSW) is less than the Pacific Northwest (PNW). This reflects the higher local population in the PSW – which in turn generates more local consumption.
- The last four years (2006 through 2009) have seen a decrease in intact movement. Overall trans-Pacific volume growth in 2006 camouflaged intermodal share loss. Since 2007 this transloading trend has had an impact on eastbound Marine ISO (decrease) and eastbound Domestic ≥ 48-foot (increase).
- Intact movement of 45-foot containers have dropped more precipitously than 40-foot containers.
- The trend of intact movement in the PNW is also decreasing. This indicates that the PNW transloading volumes are also increasing.

### U.S. West Coast Shrinkage

<table>
<thead>
<tr>
<th>2007 40-Foot</th>
<th>PMA Vessel Data</th>
<th>ETSO Intermodal</th>
<th>Combined</th>
</tr>
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<tbody>
<tr>
<td>USWC Inbound</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Activity</td>
<td>Vessel Discharge</td>
<td>Rail destination</td>
<td></td>
</tr>
<tr>
<td>Volume</td>
<td>4,106,637</td>
<td>1,387,660</td>
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<tr>
<td>USWC Outbound</td>
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<tr>
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<tr>
<td>Volume</td>
<td>3,884,915</td>
<td>1,794,867</td>
<td></td>
</tr>
</tbody>
</table>

Shrinkage

| #          | -295,771               | -209,071        |
| %          | (6.6%)                 | (11.6%)         |

Intermodal Shrinkage as a % of PMA Vessel Shrinkage 70.7%

Trans-Pacific equipment inventory movement is not balanced. An examination of PMA and ETSO data indicates an inventory shrinkage.

This slide examines data for 40-foot containers in 2007.

- 6.6% Fewer 40-foot containers were loaded on vessels than were discharged: (3,884,915 – 4,106,637)/4,106,637.
- 11.6% Fewer 40-foot containers moved by rail to the U.S. West Coast on than moved eastbound: (1,387,660 – 1,794,867)/1,794,867.
- 70.7% of the vessel shrinkage is attributable to the intermodal shrinkage: -209,071/-295,771.
The above chart examines the U.S. West Coast vessel shrinkage.

- 20-foot and 40-foot containers show a consistent shrinkage, whereas 45-foot containers have not shrunk much. This dichotomy is probably attributable to several factors:
  - Leasing company U.S. off-hire opportunities do not exist for 45-foot containers as they do for 20-foot and 40-foot containers. (Most 45-foot containers are not leased.)
  - Due to vessel size issues, east coast empty evacuation of 45-foot containers does not exist to the extent they do for 20-foot and 40-foot containers.
  - Due to highway restrictions, there are no trans-Atlantic export moves of 45-foot containers – as there are for 20-foot and 40-foot containers.

The above chart examines the impact of intermodal rail shrinkage on the U.S. West Coast vessel shrinkage.

- Intermodal accounts for 60-80% of the 40-foot shrinkage.
- Intermodal accounts for 30-50% of the 20-foot shrinkage.
The 2003 data is an outlier – due to the aftereffect of the 10-day USWC shutdown.
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