CASE STUDY:
A MODEL FOR SOLVING THE CHASSIS PROBLEM

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THE BUSINESS CASE (CHALLENGE)

- Ocean carriers releasing themselves of chassis responsibility, transfer of burden to shippers or their truckers.
- Incremental cost to Lowe’s of accepting market solutions would be in the millions of dollars per year.
- No uniform solutions set forth.
- Industry promoting existing pools as the solution, which carries high cost and unknown maintenance and repair (M&R) factor.
- Existing pools may have insufficient supply during seasonal periods or under uncontrollable circumstances (i.e., weather, congestion).
- The “internal sell” was straightforward, given the costly alternatives which would not fulfill Lowes’ specific requirements.
LOWE’S REQUIREMENTS

• No Intermodal Equipment Provider responsibility, M&R included

• Avoid incremental cost to the greatest extent possible

• No 3rd party to be involved, as that would carry a mark-up

• Only pay for what we use

• Cost to reflect actual asset utilization (10% on the road, 90% dwell)

• Cost must be associated to specific Purchase Order No. (PO)

• Account for seasonality factor
SOLUTION

OPTION #1

- Straight Lease
  - Lowe’s leases a fixed amount of assets for a set period of time
  - Rate is established by the number of units and/or term of the lease
  - Lowe’s/BCO would be the Intermodal Equipment Provider
  - Lowe’s/BCO would be responsible for M&R
OPTION #2

- Pool Usage Agreement
  - Common-user pool where multiple chassis providers combine assets to create a “grey pool” for usage
  - Rate is based on per use day and dependent on pool cost structure
  - In the South Atlantic, the pool is SACP and managed by CCM
  - Pool manager is the Intermodal Equipment Provider
  - Pool manager is responsible for M&R
  - Rate reductions are available if user commits to a monthly minimum
OPTION #3 (Lowe’s selection)

- Dedicated Managed Fleet
  - Chassis fleet assigned to service Lowe’s business and NOT domiciled at a marine terminal
  - Number of baseline units is fixed to establish rate structure with a provision to allow flexibility during peak- and slack-season volume
  - Flexi-Van is the Intermodal Equipment Provider and responsible for M&R
  - Rates/cost per day significantly lower than common-user pool
  - Single factor use day rate applied to Lowe’s purchase orders
WHY LOWE’S CHOSE OPTION 3

• Price per day better reflects how Lowe’s uses units (majority of time spent idle, low risk/impact on units).

• Lower cost per day more in line with goal of cost avoidance.

• “All-in” cost structure (less liability to Lowe’s, convenience).

• Lowe’s has full control of solution, which caters to our specific business requirements.

• Availability is assured, not communal or shared, not affected by factors beyond Lowe’s control.

• Provides support for seasonal demand.
OPERATIONAL FLOW

• The BCO chassis fleet cycle operation is streamlined, limited to the following components…
PHASED IMPLEMENTATION

CURRENT

- **Phase I (Savannah, all motor)**
  - Began Sept. 2012
  - 1 port of discharge (Savannah)
  - 3 distribution centers (2 local, 1 long haul)
  - 22,000 annual loads (22% of volume)

- **Phase II (Entire Southeast, all motor)**
  - Began July 2013
  - Added 4 ports of discharge (Norfolk, Wilmington, Charleston, Jacksonville)
  - Added 6 DCs (all long haul)
  - Additional 15,000 loads (combined 37% of volume)
PHASED IMPLEMENTATION

FUTURE

• Phase III (Northeast, all motor) – Estimated Mid-2014
  o NY-NJ port of discharge, 5 DCs (2 local, 3 long haul)
  o Additional 25,000 loads (combined 62% of volume)

• Phase IV (West Coast, all motor) – Estimated Late 2014
  o Add 6 ports of discharge (LA, Long Beach, Seattle, Tacoma, Vancouver, Prince Rupert)
  o Add 3 DCs (2 local, 1 long haul)
  o Additional 18,000 loads (combined 80% of volume)

• Phase V (Intermodal) – TBD
  o Add 6 DCs
  o Additional 20,000 loads (combined 100% of volume)
IN USE FLEET

CURRENT PROGRAM

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<tr>
<th>Month</th>
<th>Units</th>
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<tr>
<td>SEPT 2012</td>
<td>62</td>
</tr>
<tr>
<td>NOV 2012</td>
<td>210</td>
</tr>
<tr>
<td>MAY 2013</td>
<td>375</td>
</tr>
<tr>
<td>AUG 2013</td>
<td>848</td>
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<td>SEPT 2013</td>
<td>1,117</td>
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<tr>
<td>DEC 2013</td>
<td>845</td>
</tr>
<tr>
<td>FEB 2014</td>
<td>1,045</td>
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</table>

PROJECTION

<table>
<thead>
<tr>
<th>Date</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>FEB 2014</td>
<td>1,045</td>
</tr>
<tr>
<td>JUNE 2014 (EST) NE EXPANSION</td>
<td>1,800</td>
</tr>
<tr>
<td>LATE 2014 (EST) WC EXPANSION</td>
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</tr>
<tr>
<td>MID 2015 (EST) INTERMODAL EXPANSION</td>
<td>2,800</td>
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</table>
COMPONENTS OF THE PROGRAM

TURN TIME

- Crucial variable factor influencing the cost of any chassis model
- Measures the number of days each container/chassis combo are “on the street”
- Purchase order is “on the clock,” charged the daily chassis fee for this period
- Seasonality and volume will affect turn time (Volume = Velocity)
- There is a true $$ impact for every +/- day of turn time, which can affect margin
COMPONENTS OF THE PROGRAM

DWELL DAYS

• **Dominant element within turn time**, measures the number of days each container/chassis combo are at DC, loaded or empty

• Factors affecting dwell may include:
  - Purchasing, inventory levels
  - Low purchase order demand at DC
  - No space in the building, high inventory at DC
  - Drop/pick pool management
    - Low volume over port
    - No “match” at port
  - M&R needed at DC
COMPONENTS OF THE PROGRAM

FLEET ADJUSTMENT (LOWE’S)

• The practical application of seasonal volume to fleet size

• Monthly, Lowe’s has the option to adjust fleet size based on volume fluctuations

• This assures we only pay for the chassis needed

• Operationally, the number of chassis deployed may be used to influence turn time

• Number of chassis needed is calculated using actual volume and turn time assumptions over a period of time, for example…

<table>
<thead>
<tr>
<th>amt of 40' vol arriving CHS Dec 2013</th>
<th>turn time assumption</th>
<th>total usage days</th>
<th>days measured</th>
<th>daily chassis requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>110 times</td>
<td>12 equals</td>
<td>1,320 divided by 31 equals</td>
<td>43</td>
<td></td>
</tr>
</tbody>
</table>
COMPONENTS OF THE PROGRAM

DATA REQUIREMENTS (LOWE’S)

- Weekly PO Forecast (Lowe’s > Flexi-van) – facilitates invoicing by PO number

- Weekly Landing Projection (Lowe’s > Marine Terminals) – facilitates terminal gate activity for Lowe’s

- Terminal Gate Activity Reporting or EDI 322 (Marine Terminals > Lowe’s) – “Visibility” tool for marine terminal transactions

- Yard Check/Activity Reporting (Chassis Yard > Lowe’s) – “Visibility” tool for chassis yard inventory and activity
COMPONENTS OF THE PROGRAM

DATA REQUIREMENTS (FLEXI-VAN)

• Consistent and accurate data feeds from all the ports involved

• Flexi-Van has accessibility to view all Lowe’s transactions from the ports’ websites

• Open line of communication with the motor carrier’s to reconcile transactions that can’t be matched to POs
COMPONENTS OF THE PROGRAM

Maintenance & Repair

> MRS – CMC exclusive provider in Phase I & II

• M&R is conducted in conformance with all labor jurisdictions

• Flexi-Van pays CMC a per diem rate to cover all M&R-related expenses with the exception of driver negligence

• Off-terminal yard provided for major maintenance, inspections and overflow

• Over-the-road service provided for off hours
COMPONENTS OF THE PROGRAM

INVOICING

• Flexi-Van receives weekly invoice forecasts from Lowe’s with purchase order information

• Flexi-Van matches the POs with chassis activity

• Flexi-Van determines fleet use days

• Data is summarized back to Lowe’s by the regional distribution center

• Flexi-Van sends Lowe’s a customized invoice and summary recap based on customer requirements for approval

• Upon Lowe’s approval, Flexi-Van issues final invoice

• Multiple daily transactions (shared days) with the same chassis are reconciled and reflected in the specific daily chassis fee for that month
COMPONENTS OF THE PROGRAM

MANAGING THE FLEET

• Process/Flow/Tools
  o Release and schedule review/requests
  o Coordination of physical aspects of the process and usage
  o Data collection
  o Customer reports/requirements

• Reporting
  o To the customer
  o To the Intermodal Equipment Provider
  o In-house back-up

• Benefits and Challenges
  o Changing the mind-set
  o Understanding that initial process will be fine-tuned
  o Velocity of turns
  o Better condition of equipment
  o Less “red tape,” streamlined resolution for roadside problems
RESULTS

- Lowe’s chassis are in better condition than pool operator units.

- Drilling into the details has shed light internally on the broad impact of buying behaviors, inventory, demand and dwell/turn times across the supply chain.

- Served as the catalyst needed to adjust behaviors and bring about positive change.

- Early adoption has allowed Lowe’s flexibility and preferred conditions.

- Increases value of doing business with Lowe’s, which transfers benefits to other areas of critical need (ie: capacity protection).

- Chassis expenses vary from one PO to another (based on costs driven by seasonality, volume, discharge port and other factors) making pre-cost estimation and post-cost reconciliation tricky to assess.
LESSONS LEARNED (LOWE’S)

• Direct management of the program is an administrative burden, but one worth taking on to have full control over chassis and their cost.

• Processes must be automated to a greater degree to accommodate implementation across the entire network.

• Several factors affect turn time and program success, including seasonality, volume and discharge port.

• Every day of turn time reduction helps control expense.

• Adjustments and tweaks may be required to adapt to different operations (grounded/wheeled operation, single/multiple marine terminals per complex, length of haul, climate, etc…).
LESSONS LEARNED (LOWE’S)

• Delivery distance from port of discharge affects turn time. Local deliveries turn far quicker than long hauls, which causes an imbalance in program results.

• Chassis yard’s proximity to each ocean terminal will limit “empty miles” to drivers needing to “swap out” a different size chassis, or on-hire/off-hire due to fleet adjustment.

• Balancing the number of chassis needed vs. efficient use of the fleet is key (less units may force more efficient use of the asset).

• A dedicated fleet assures supply of chassis assets vs. pool models in which availability may be affected by market demand or circumstances out of your control.
LESSONS LEARNED (FLEXI-VAN)

• Partial implementation complicates start-up

• Accurate forecasting of volume and dwell essential for reliable supply

• FMCSA inspections need to be scheduled and spread over time

• Dedicated fleet condition was much better than expected and M&R costs lower than that of common pool

• Higher asset utilization rate with a dedicated fleet as opposed to contributing assets into common pools
LESSONS LEARNED (AIS)

- Alternatives can work, There is more than one way to “skin a cat.”
- Challenges can be opportunistic.
- Has the process worked and, more importantly, has it helped?
- Terminology needs to be defined.
THANK YOU TO THE FOLLOWING BUSINESS PARTNERS FOR YOUR COLLABORATION WITH LOWE’S IN THIS INITIATIVE…

SPECIAL THANK YOU TO OUR CORE DRAY CARRIERS AND OCEAN CARRIERS, WITHOUT WHOM THIS INITIATIVE WOULD NOT BE POSSIBLE!