RAILCAR OEM OUTLOOK:
THE OUTLOOK FOR 2018 AND BEYOND

MISSISSIPPI VALLEY TRADE & TRANSPORT COUNCIL

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08 February 2018
Introduction

Railroad shippers, who represent over $13 billion of annual transportation spending are bullish on their businesses and expect 2.7% growth over the next twelve months.

- Cowen Equity Research
06-Feb-2018
Our Company

- Founded in 1912, celebrating over 100 years of car building excellence
- Serving the North American and International railcar markets
- Largest, single-site railcar manufacturing plant in North America, employing 2,000 team members
- Manufactures all kind of freight cars: 12 different car types / over 76 models
- Capacity to produce over 15,000 railcars annually
- 5 flexible production lines, 3 state of the art blast/paint/finishing lines
- Ongoing plant modernization with the most robust robotic welding and overall automation capabilities in the industry
- Certified to AAR M-1003
- The only car builder certified to ISO 9001-2015 in North America
Topics of Discussion

- Trends of railcar demand
- Order, Delivery, and Backlog
- Commodity Growth
- Demand Factors
Planning Ahead?
Trends of railcar demand:

- Highly cyclical in nature
- Lead times for production space
- Lead times for components
- Escalation, Surcharges, and Interest Rates
## Trends of railcar demand: Freight Cars In Service

<table>
<thead>
<tr>
<th>Year</th>
<th># Freight Cars (mil)</th>
<th>Aggregate Capacity (mil tons)</th>
<th>Average Capacity (tons per car)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>1.54</td>
<td>151.2</td>
<td>98.2</td>
</tr>
<tr>
<td>2003</td>
<td>1.52</td>
<td>150.2</td>
<td>98.9</td>
</tr>
<tr>
<td>2004</td>
<td>1.50</td>
<td>149.2</td>
<td>99.3</td>
</tr>
<tr>
<td>2005</td>
<td>1.51</td>
<td>150.7</td>
<td>99.7</td>
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<tr>
<td>2006</td>
<td>1.54</td>
<td>154.7</td>
<td>100.5</td>
</tr>
<tr>
<td>2007</td>
<td>1.58</td>
<td>160.2</td>
<td>101.4</td>
</tr>
<tr>
<td>2008</td>
<td>1.60</td>
<td>163.1</td>
<td>102.1</td>
</tr>
<tr>
<td>2009</td>
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<td>164.7</td>
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<tr>
<td>2010</td>
<td>1.57</td>
<td>161.4</td>
<td>103.1</td>
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<tr>
<td>2011</td>
<td>1.50</td>
<td>155.5</td>
<td>103.4</td>
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<tr>
<td>2012</td>
<td>1.49</td>
<td>154.6</td>
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<tr>
<td>2013</td>
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<tr>
<td>2014</td>
<td>1.52</td>
<td>158.3</td>
<td>104.4</td>
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<tr>
<td>2015</td>
<td>1.56</td>
<td>162.6</td>
<td>104.5</td>
</tr>
<tr>
<td>2016</td>
<td>1.61</td>
<td>168.1</td>
<td>104.5</td>
</tr>
</tbody>
</table>
Railcar OEM Activity: Order, Delivery, and Backlog

Railcar OEM Trends

- Orders
- Deliveries
- Backlog

Uneven growth?
Commodity Growth:

- Plastics
- Sand
- Waste
- Scrap Steel
- Grain
- Coal
- Crude Oil
Demand Factors: Impact of Velocity

- Delta of 50,000 railcars per 1 mile an hour velocity for the North American Fleet
- Assuming 1.59 million cars = 3.1% variation in fleet size per 1 mile an hour change
- For every 1,500 cars in the fleet 1 mph decrease may add 45-50 cars
- Velocity had increased from 22 mph in 2014 to 27 mph in 2016 and is currently trending down.
Demand Factors: Railcar Cost Growth

Cost of New Freight Cars


Gondola  Open Top Hopper  Covered Hoppers  2 per. Mov. Avg. (Covered Hoppers)
## Demand Factors: Car Capacity for Freight Cars in General

<table>
<thead>
<tr>
<th></th>
<th>1993</th>
<th>2003</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avg. Content</td>
<td>64.4 (base)</td>
<td>62.3</td>
<td>61.0</td>
</tr>
<tr>
<td>% Change</td>
<td>-</td>
<td>-3%</td>
<td>-5%</td>
</tr>
<tr>
<td>Average Car Capacity (tons)</td>
<td>88.6</td>
<td>101.1</td>
<td>103</td>
</tr>
<tr>
<td>% of Capacity Used (tons)</td>
<td>73%</td>
<td>62%</td>
<td>59%</td>
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</tbody>
</table>

The average car carrying capacity increased 16.25% over 20 years

Source: AAR Railroad Facts 2014 Edition
Should you optimize your car size?
Demand Factors: Car Optimization

• **Annual Estimated Savings vs. 3280 cf Hopper**
  
  - 4750 286 GRL Covered Hopper per 100 cars
    
    • 128 Less loads per year
    • @ $150 lease differential = $204,615
    • @ $50 lease differential = $324,615
    • @ $0 lease differential = $384,615

  - 4750 263 GRL Covered Hopper per 100 cars
    
    • 364 Less loads per year
    • @ $275 lease differential = $582,308
    • @ $150 lease differential = $912,308
    • @ $50 lease differential = $1,032,615
    • @ $0 lease differential = $1,092,615
References

- Cowen and Company, Navport
- Railroad Facts 2016
- North American Freight RAILINC
Thank You