Macroeconomic Indicators

Economy Improving as GDP Growth Accelerates in Q2

- Q2 2017 GDP Growth at 3.1%
  - Consumption and inventory growth driving accelerated GDP growth

- Unemployment rate at 4.2% indicates U.S. near full employment
  - Hourly wage growth has remained ~2.5-2.9% y/y in recent months

- In September, industrial production, the single most predictive economic indicator of changes in rail traffic, increased to 60.8 according to the ISM Manufacturing Survey, indicating expansion among the manufacturing sector
  - Summer heat has caused utilities to gain output in recent months.
  - Mining output has slowed in recent months.

- A weaker U.S. dollar is leading to export opportunities
  - July 2017 exports were up 4.9% compared to the previous year.
  - Emerging economies may provide outlet for U.S. based products.
Improvements in Coal, Nonmetallic Minerals, Metals, and Intermodal Driving up Traffic

- Through 39 weeks, total traffic is up 3.6% in the United States compared to 2016
- Though coal has improved 12.3% y/y, it is still on pace for its second fewest carloads in recent history
- Crushed stone, sand, & gravel traffic (which includes frac sand) is up 12.6% y/y
- Petroleum & petroleum products are still showing y/y decreases

**Weekly U.S. Total Rail Traffic**

**(Carloads + Intermodal)**

*Source: AAR*
Train Speeds

Train Speeds Starting to Level Off at Most Class I Railroads

• Class I train speeds have slowed slightly compared to last year. Most railroads are still above the lows seen in 2014.

• As train speeds have slowed down, dwell times have picked up across the railroads.

Source: railroadpm.org
Railcar Orders, Deliveries, and Backlog

Though not Near Levels of 2014/2015 Peaks, Orders and Backlog Increased in Q2 2017

**Freight Car Orders, Deliveries, and Backlog**

**Tank Car Orders, Deliveries, and Backlog**
## Railcar Delivery Forecast

Reduced Railcar Demand in the Energy End Market Should Moderate Deliveries

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Freight Car Deliveries</td>
<td>48,391</td>
<td>28,253</td>
<td>27,560</td>
<td>36,740</td>
<td>36,415</td>
</tr>
<tr>
<td>Tank Car Deliveries</td>
<td>17,841</td>
<td>12,739</td>
<td>12,575</td>
<td>15,800</td>
<td>17,825</td>
</tr>
<tr>
<td>Total Railcar Deliveries</td>
<td>66,232</td>
<td>40,992</td>
<td>40,135</td>
<td>52,540</td>
<td>54,240</td>
</tr>
</tbody>
</table>

Source: ARCI and FTR (June 2017 Forecast)

- Railcar deliveries are expected to reach their near-term trough in 2017 and 2018 before slowly climbing back above 50,000 a year in the next 2-3 years
- Covered Hoppers are expected to provide largest demand on the freight side across many different car types and sizes
- Tank car delivery is expected to be strong by historical standards, but well off the production pace during the shale boom
Coal Market to Rebound from 2016, but Lower than Historically Normal Levels

- Coal carloads in 2016 were the worst in recent history with low natural gas prices, coal plant closures, environmental regulations, and a warm winter all acting as headwinds.
- ~20% of open hoppers and gondolas are currently in storage.
- The EIA is forecasting coal production to increase to 789 million short tons in 2017 and 807.9 million short tons in 2018, up from 728.2 million in 2016. This would still represent the second and third lowest production outputs in the last two decades.

Coal Carloads Terminating on U.S. Class I RR

*STCC Codes starting with 11
Biofuels

Ethanol Carloads Down to Start 2017, but Could Recover with Second Half Production

- The EIA forecasts a 3% increase in U.S. fuel ethanol production in 2017
- Other biomass-based diesel products are expected to grow by 8 Kbd between 2016 and 2018 according to the EIA
- Low marine rates and smaller than expected differentials between corn and co-product prices have led to a drop in DDG carloads
- Tariffs and trade restrictions from China and Brazil could also weigh on biofuel demand

Ethanol Carloads Terminating on U.S. Class I RR

*STCC Codes starting with 28184  Source: STB
Crude Oil, Petroleum Products, and NGLs

CBR Outlook Grim – Downstream Products and NGLs Have Upside

- U.S. CBR movements have dropped by over 75% from their peak as of Q4 2016
- Reduced crude oil prices, a narrowed WTI/Brent margin, and additional pipeline capacity have driven the downturn in crude by rail
- Export opportunities and the petrochemical capacity buildout underway will drive up demand for natural gas liquids (i.e. propane and butane).
- Energy liberalization in Mexico presents some opportunities for U.S. fuels.

![Crude Oil Originations on US Class I RR](source: AAR)
Frac Sand

Frac Sand Market Reaching New Peaks Amid Advanced Drilling Trends

- Industrial sand deliveries hit the bottom in Q1 2016, but have almost doubled since
- More frac sand is being used in horizontal wells, likely increasing the rate of carload increases into 2017
- The Permian Basin in West Texas/New Mexico is expected to provide the greatest additional demand

Industrial Sand Deliveries on U.S. Class I RRs

*STCC Codes starting with 14413  Source: STB
There Has Been a Over a 99% Reduction in the Number of DOT-111 Tank Cars Making at Least One Shipment of Petroleum Crude Oil from 2013 - 2016

<table>
<thead>
<tr>
<th>Type of Tank Car</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017Q1-Q2</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOT 111</td>
<td>21,340</td>
<td>16,349</td>
<td>6,998</td>
<td>791</td>
<td>156</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Jacketed</td>
<td>18,212</td>
<td>13,711</td>
<td>6,188</td>
<td>543</td>
<td>60</td>
</tr>
<tr>
<td>Jacketed</td>
<td>3,128</td>
<td>2,638</td>
<td>810</td>
<td>248</td>
<td>96</td>
</tr>
<tr>
<td>CPC1232</td>
<td>18,480</td>
<td>34,283</td>
<td>39,909</td>
<td>20,086</td>
<td>12,622</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Jacketed</td>
<td>11,966</td>
<td>17,163</td>
<td>17,962</td>
<td>8,498</td>
<td>4,040</td>
</tr>
<tr>
<td>Jacketed</td>
<td>6,514</td>
<td>17,120</td>
<td>21,947</td>
<td>11,588</td>
<td>8,218</td>
</tr>
<tr>
<td>DOT 117</td>
<td>0</td>
<td>0</td>
<td>1,950</td>
<td>3,383</td>
<td>2,884</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>117J</td>
<td>0</td>
<td>0</td>
<td>1,818</td>
<td>2,731</td>
<td>1,923</td>
</tr>
<tr>
<td>117R</td>
<td>0</td>
<td>0</td>
<td>132</td>
<td>652</td>
<td>961</td>
</tr>
<tr>
<td>DOT 115</td>
<td>513</td>
<td>171</td>
<td>6</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>AAR 211</td>
<td>0</td>
<td>10</td>
<td>59</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>Total Non-Pressure</td>
<td>40,333</td>
<td>50,813</td>
<td>48,922</td>
<td>24,267</td>
<td>15,662</td>
</tr>
<tr>
<td>DOT 105</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>DOT 112</td>
<td>3</td>
<td>78</td>
<td>53</td>
<td>47</td>
<td>0</td>
</tr>
<tr>
<td>DOT 114</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>DOT 120</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>598</td>
<td>733</td>
</tr>
<tr>
<td>Total Pressure Cars</td>
<td>8</td>
<td>78</td>
<td>57</td>
<td>645</td>
<td>733</td>
</tr>
<tr>
<td>GRAND TOTAL</td>
<td>40,341</td>
<td>50,891</td>
<td>48,979</td>
<td>24,912</td>
<td>16,395</td>
</tr>
</tbody>
</table>

The baseline fleet only include tank cars that shipped FL during 2013-2015. In past reports (prior to 1st 4 2017) it including tank cars that "potentially shipped flammable liquids." This report corrects the numbers for the current and previous years.

FAST Act deadlines for unrefined petroleum products:
- 1/1/18 non-jacketed DOT-111’s (11/1/16 in Canada)
- 3/1/18 jacketed DOT-111’s (11/1/16 in Canada)
- 4/1/20 non-jacketed CPC-1232’s
- 5/1/25 jacketed CPC-1232’s
Number of Unique Tank Cars Making at Least One Shipment Of *Ethanol* by Year 2013 – 2\textsuperscript{nd} Quarter of 2017

<table>
<thead>
<tr>
<th>Type of Tank Car</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017Q1-Q2</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOT 111</td>
<td>26,628</td>
<td>28,609</td>
<td>30,668</td>
<td>29,045</td>
<td>24,520</td>
</tr>
<tr>
<td>Non-Jacketed</td>
<td>26,423</td>
<td>26,484</td>
<td>30,529</td>
<td>28,870</td>
<td>24,382</td>
</tr>
<tr>
<td>Jacketed</td>
<td>205</td>
<td>125</td>
<td>159</td>
<td>175</td>
<td>138</td>
</tr>
<tr>
<td>CPC1232</td>
<td>456</td>
<td>2,077</td>
<td>3,763</td>
<td>3,485</td>
<td>3,200</td>
</tr>
<tr>
<td>Non-Jacketed</td>
<td>456</td>
<td>1,709</td>
<td>2,598</td>
<td>2,638</td>
<td>2,543</td>
</tr>
<tr>
<td>Jacketed</td>
<td>0</td>
<td>368</td>
<td>1,165</td>
<td>847</td>
<td>657</td>
</tr>
<tr>
<td>DOT 117</td>
<td>0</td>
<td>0</td>
<td>348</td>
<td>3,385</td>
<td>6,493</td>
</tr>
<tr>
<td>117J</td>
<td>0</td>
<td>0</td>
<td>341</td>
<td>2,133</td>
<td>4,191</td>
</tr>
<tr>
<td>117R</td>
<td>0</td>
<td>0</td>
<td>7</td>
<td>1,252</td>
<td>2,302</td>
</tr>
<tr>
<td>DOT 115</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>AAR 211</td>
<td>25</td>
<td>48</td>
<td>111</td>
<td>23</td>
<td>18</td>
</tr>
<tr>
<td>Total Non-Pressure</td>
<td>27,109</td>
<td>30,734</td>
<td>34,913</td>
<td>35,941</td>
<td>34,234</td>
</tr>
<tr>
<td>DOT 105</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>DOT 112</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>DOT 114</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>DOT 120</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>131</td>
<td>176</td>
</tr>
<tr>
<td>Total Pressure Cars</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>131</td>
<td>177</td>
</tr>
<tr>
<td>GRAND TOTAL</td>
<td>27,109</td>
<td>30,734</td>
<td>34,914</td>
<td>36,072</td>
<td>34,411</td>
</tr>
</tbody>
</table>

The baseline fleet only include tank cars that shipped FL during 2013-2015. In past reports (prior to 1\textsuperscript{st} 4 2017) it including tank cars that “potentially shipped flammable liquids.” This report corrects the numbers for the current and previous years.

**FAST Act deadlines:**
- 5/1/23 non-jacketed & jacketed DOT-111’s
- 5/1/23 non-jacketed CPC-1232’s
- 5/1/25 jacketed CPC-1232’s
Number of Unique Tank Cars Making at Least One Shipment in the Year

<table>
<thead>
<tr>
<th>Type of Tank Car</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017Q1-Q2</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOT 111</td>
<td>27,392</td>
<td>26,404</td>
<td>26,643</td>
<td>25,321</td>
<td>20,183</td>
</tr>
<tr>
<td>Non-Jacketed</td>
<td>20,864</td>
<td>20,389</td>
<td>21,030</td>
<td>19,695</td>
<td>15,617</td>
</tr>
<tr>
<td>Jacketed</td>
<td>6,528</td>
<td>6,015</td>
<td>5,613</td>
<td>5,626</td>
<td>4,566</td>
</tr>
<tr>
<td>CPC1232</td>
<td>3,245</td>
<td>5,118</td>
<td>6,185</td>
<td>7,600</td>
<td>7,304</td>
</tr>
<tr>
<td>Non-Jacketed</td>
<td>1,956</td>
<td>3,302</td>
<td>3,405</td>
<td>3,745</td>
<td>3,310</td>
</tr>
<tr>
<td>Jacketed</td>
<td>1,289</td>
<td>1,816</td>
<td>2,780</td>
<td>3,855</td>
<td>3,994</td>
</tr>
<tr>
<td>DOT 117</td>
<td>0</td>
<td>0</td>
<td>131</td>
<td>1,448</td>
<td>2,466</td>
</tr>
<tr>
<td>117J</td>
<td>0</td>
<td>0</td>
<td>125</td>
<td>1,060</td>
<td>1,671</td>
</tr>
<tr>
<td>117R</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>388</td>
<td>797</td>
</tr>
<tr>
<td>DOT 115</td>
<td>18</td>
<td>19</td>
<td>12</td>
<td>12</td>
<td>10</td>
</tr>
<tr>
<td>AAR 211</td>
<td>1,233</td>
<td>773</td>
<td>1,030</td>
<td>816</td>
<td>690</td>
</tr>
<tr>
<td>Total Non-Pressure</td>
<td>31,888</td>
<td>32,314</td>
<td>34,001</td>
<td>35,197</td>
<td>30,655</td>
</tr>
<tr>
<td>DOT 105</td>
<td>2,900</td>
<td>3,000</td>
<td>2,943</td>
<td>2,913</td>
<td>2,614</td>
</tr>
<tr>
<td>DOT 112</td>
<td>5,411</td>
<td>5,613</td>
<td>4,935</td>
<td>4,383</td>
<td>2,905</td>
</tr>
<tr>
<td>DOT 114</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>DOT 120</td>
<td>23</td>
<td>23</td>
<td>23</td>
<td>66</td>
<td>38</td>
</tr>
<tr>
<td>Total Pressure Cars</td>
<td>8,335</td>
<td>8,639</td>
<td>7,904</td>
<td>7,364</td>
<td>5,558</td>
</tr>
<tr>
<td>GRAND TOTAL</td>
<td>40,223</td>
<td>40,953</td>
<td>41,905</td>
<td>42,561</td>
<td>36,213</td>
</tr>
</tbody>
</table>

The baseline fleet only include tank cars that shipped FL during 2013-2015. In past reports (prior to 1st 4 2017) it including tank cars that “potentially shipped flammable liquids.” This report corrects the numbers for the current and previous years.

FAST Act Deadlines: 5/1/25 for Packing Group I
For other FL's 5/1/29 Packing Groups II & III
DOT 117J and 120J200 Fleet Growth

August 2017

117J = 13,609 cars
120J = 1,141 cars

Combined = 14,750 cars

Based on 8/1/2017 UMLER

Source: Railway Supply Institute 9/12/17
DOT 117R Fleet Growth

Source: Railway Supply Institute 9/12/17
Based on Year End 2016 Numbers the Number of Cars that Need to be Replaced/Retrofit to DOT-111J or DOT-117R by Service/Date

<table>
<thead>
<tr>
<th>Commodity Category</th>
<th>Compliance Date</th>
<th>Number of Cars</th>
<th>Cars per Month</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crude Oil</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Jacketed DOT-111's</td>
<td>1/1/2018</td>
<td>60</td>
<td>10</td>
</tr>
<tr>
<td>Jacketed DOT-111's</td>
<td>3/1/2018</td>
<td>96</td>
<td>12</td>
</tr>
<tr>
<td>Non-Jacketed CPC-1232's</td>
<td>4/1/2020</td>
<td>4,404</td>
<td>133</td>
</tr>
<tr>
<td>Jacketed CPC-1232's</td>
<td>5/1/2025</td>
<td>8,218</td>
<td>87</td>
</tr>
<tr>
<td>Total Crude Oil</td>
<td></td>
<td>12,778</td>
<td>242</td>
</tr>
<tr>
<td>Ethanol</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>JKT &amp; Non-JKT DOT-111's</td>
<td>5/1/2023</td>
<td>24,520</td>
<td>350</td>
</tr>
<tr>
<td>Non-Jacketed CPC-1232's</td>
<td>7/1/2023</td>
<td>2,543</td>
<td>35</td>
</tr>
<tr>
<td>Jacketed CPC-1232's</td>
<td>5/1/2025</td>
<td>657</td>
<td>6</td>
</tr>
<tr>
<td>Total Ethanol</td>
<td></td>
<td>26,795</td>
<td>391</td>
</tr>
<tr>
<td>Other Flammable Liquids</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Packing Group I</td>
<td>5/1/2025</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Packing Groups II &amp; III</td>
<td>5/1/2029</td>
<td>255-385</td>
<td></td>
</tr>
<tr>
<td>Total Other Flammable Liquids</td>
<td></td>
<td>36,213</td>
<td></td>
</tr>
<tr>
<td>Total All</td>
<td></td>
<td>76,711</td>
<td></td>
</tr>
</tbody>
</table>

Average of between 888 - 1,018 cars per month to 5/1/29