Feuding With Economic Growth Prospects?
Surprises Abound For 2016 & The Survey Says... • By Jim Gauntt

In the September/October 2015 Crossties article on the state of the industry, numerous warnings were posted for tie demand going forward. Some of these issues were reiterated in the two 2016 RTA market update articles.

Recently, the International Monetary Fund (IMF) wrote:

*The American economy will expand by only 1.6 percent this year, down from 2.6 percent in 2015... [That latest forecast is 0.6 percentage points lower than what the fund predicted just three months ago, predicting]... global growth will also slow in 2016, prompting interest rates to stay lower for longer...[IMF expects growth of 3.1 percent in 2016, down from 3.2 percent last year, suggesting that global] ...growth will pick up slightly in 2017.*

Yet, in defiance of this anemic U.S. and World GDP growth, Brexit, Zika, and electoral mania, railroads and tie suppliers have forged ahead. 2016 procurement has remained robust, maybe too much so, and purchases? Well, purchases through the end of August are almost in pedal-to-the-metal range with the 12-month rolling purchases total at the third highest level of the last 30 years.

Will this continue? Will a probable December U.S. Fed Funds interest rate hike have any effect?

Since the RTA econometric model won’t be updated again for a few weeks, maybe this year’s exclusive RTA surveys and most recent data, provided by the Association of American Railroads (AAR) in joint, long-standing cooperative efforts, will cast a different light on the path forward.

U.S. Class 1 Historical R-1 Data
2014 saw disappointing U.S. Class 1 tie installations of new wood ties compared to 2013. Speculation swirled around the idea that this reduction in installs was a result of constrained tie supply. If that supposition was correct, it then wouldn’t be a surprise if 2015 tie installations saw some kind of rebound as tie supplies increased. While railroads did install more ties in 2015, the increase was a paltry 1.5 percent (see Tables 1 and 2, with data provided courtesy of Clyde Crimmel, AAR Director - Statistical Information).

To be fair, tie inventories remained well short of railroad demand well into 2015, so it’s quite possible the lingering effects of supply issues played a continuing role in 2015. Note: 2015 installations of new wood ties did not even measure up to 2013.

With 2016 tie purchases remaining so high with a rolling 12-month total exceeding 25 million ties (see RTA Industry Statistics feuding with economic Growth prospects? Surprises Abound For 2016 & The Survey Says... • By Jim Gauntt

### Table 1 - Crossties Laid in Replacement Statistics for Class I Railroads in the United States in 2015

<table>
<thead>
<tr>
<th>District and Railroad</th>
<th>Treated wooden crossties laid in replacement (number)</th>
<th>New crossties laid in replacement other than wooden (number)</th>
<th>Track maintained by reporting railroad</th>
<th>Percent renewal to all ties</th>
<th>Number laid per mile</th>
<th>Switch and bridge ties laid in replacement (board ft.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>New ties (1)</td>
<td>Second-hand ties (2)</td>
<td>Miles occupied by crossties (4)</td>
<td>(7)</td>
<td>(8)</td>
<td>(9)</td>
</tr>
<tr>
<td>Eastern District</td>
<td></td>
<td></td>
<td>Total crossties (5)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSX</td>
<td>2,989,531</td>
<td>0</td>
<td>2,250 (d1)</td>
<td>29,978</td>
<td>89,574,264</td>
<td>2.34%</td>
</tr>
<tr>
<td>Grand Trunk Corp. (CN)</td>
<td>754,908</td>
<td>0</td>
<td>21,052 (c)</td>
<td>9,277</td>
<td>29,268,935</td>
<td>2.65%</td>
</tr>
<tr>
<td>Norfolk Southern</td>
<td>2,372,395</td>
<td>161,603</td>
<td>20 (c)</td>
<td>29,066</td>
<td>89,407,016</td>
<td>2.65%</td>
</tr>
<tr>
<td>Total Eastern District</td>
<td>6,116,834</td>
<td>161,603</td>
<td>23,322</td>
<td>29,978</td>
<td>89,574,264</td>
<td>2.95%</td>
</tr>
<tr>
<td>Western District</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BNSF Railway</td>
<td>3,215,403</td>
<td>0</td>
<td>127,348 (d2)</td>
<td>39,926</td>
<td>123,570,970</td>
<td>2.71%</td>
</tr>
<tr>
<td>Kansas City Southern</td>
<td>545,715</td>
<td>0</td>
<td>0</td>
<td>4,041</td>
<td>12,927,159</td>
<td>4.22%</td>
</tr>
<tr>
<td>Soo Line Corp. (CP)</td>
<td>402,938</td>
<td>0</td>
<td>42 (c)</td>
<td>4,490</td>
<td>13,555,310</td>
<td>2.97%</td>
</tr>
<tr>
<td>Union Pacific</td>
<td>3,594,832</td>
<td>89,338</td>
<td>314,782 (d3)</td>
<td>43,420</td>
<td>129,391,600</td>
<td>3.02%</td>
</tr>
<tr>
<td>Total Western District</td>
<td>7,758,888</td>
<td>89,338</td>
<td>442,172</td>
<td>91,877</td>
<td>279,445,039</td>
<td>2.93%</td>
</tr>
<tr>
<td>Total United States</td>
<td>13,875,722</td>
<td>250,941</td>
<td>465,494</td>
<td>160,198</td>
<td>487,695,254</td>
<td>2.94%</td>
</tr>
</tbody>
</table>

Source: R-1 Annual Reports to the Surface Transportation Board
General Notes: 2,564 Second-Hand Other-Than-Wooden ties, which are not shown in the table above, were laid in replacement in 2015.
Footnotes: (a) Total mileage operated at the end of year, excluding mileage under trackage rights. (b) Based on crossties per mile of track in 1967, the last year reported. (c) Concrete ties (d1) 1350 concrete ties and 900 non-wooden non-concrete ties (d2) 123,738 concrete ties and 3,610 non-wooden non-concrete ties (d3) 303,085 concrete ties and 11,697 non-wooden non-concrete ties (e) Includes 6,242,268 bd ft of wooden ties plus 1008 concrete or steel switch ties assigned 65 board feet per tie.
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U.S. Class 1 Survey Data

And, the survey says...2016 will see only the same number of new wood tie installations as 2015 (see Table 3). Does this suggest that maybe the installations are optimal or “steady-state” at that level? How can this info be reconciled with current elevated tie purchases?

More importantly, what are Class 1s projecting for the next two years right now? The surveys show a bias to the upside in the estimates for new wood installs in both 2017 and 2018. That’s a positive sign that railroads at least for now are planning for growth in traffic and in tie demand.

Does that mean tie suppliers will benefit? Well, that depends on what kind of tie supplier is being discussed. If you’re a sawmiller, and depending on where you are located in the country, you may see some softness in orders if the air-dry yards at the treating plants you serve are now at or approaching capacity.

If you’re a treater, on the other hand,

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### Table 2—For Calendar Year 2015
Crossties Laid In Addition Statistics for Class I Railroads In The United States

<table>
<thead>
<tr>
<th>District and Railroad</th>
<th>Treated wooden crossties laid in replacement (number)</th>
<th>New crossties laid in replacement other than wooden (number)</th>
<th>Switch and bridge ties laid in replacement (board ft.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>New ties (10)</td>
<td>Second-hand ties (11)</td>
<td>Bridge Timbers</td>
</tr>
<tr>
<td>Eastern District</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSX</td>
<td>42,215</td>
<td>0</td>
<td>17,538 (c)</td>
</tr>
<tr>
<td>Grand Trunk Corp. (CN)</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Norfolk Southern</td>
<td>40,246</td>
<td>0</td>
<td>15,432 (s)</td>
</tr>
<tr>
<td>Total</td>
<td>82,461</td>
<td>0</td>
<td>32,970</td>
</tr>
<tr>
<td>Western District</td>
<td></td>
<td></td>
<td>409,785</td>
</tr>
<tr>
<td>BNSF Railway</td>
<td>60,038</td>
<td>0</td>
<td>362,550 (c)</td>
</tr>
<tr>
<td>Kansas City Southern</td>
<td>12,397</td>
<td>0</td>
<td>3,347 (s)</td>
</tr>
<tr>
<td>Soo Line Corp. (CP)</td>
<td>57,742</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Union Pacific</td>
<td>200,094</td>
<td>412,732</td>
<td>70,872</td>
</tr>
<tr>
<td>Total</td>
<td>330,271</td>
<td>412,732</td>
<td>436,769</td>
</tr>
<tr>
<td>Total United States</td>
<td>412,732</td>
<td>412,732</td>
<td>1,187,761</td>
</tr>
</tbody>
</table>

Source: R-1 Annual Reports to the Surface Transportation Board
Footnotes: (c) Concrete ties (d) Includes 66,728 concrete ties and 4,144 steel ties (s) Steel ties

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### Table 3—Railway Tie Association Annual Survey
Estimated Crosstie Requirements • Class I Railroads
2016-2018 Inclusive

#### Authorized Crossties for 2016

<table>
<thead>
<tr>
<th>District and Railroad</th>
<th>Total Track</th>
<th>New Wood Crossties</th>
<th>Wood Relay</th>
<th>New Non-Wood Crossties</th>
<th>Switch Ties (Units)</th>
<th>Bridge Timbers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mileage</td>
<td>Hardwood</td>
<td>Softwood</td>
<td>Crossties</td>
<td>Concrete</td>
<td>Steel</td>
</tr>
<tr>
<td>Eastern U.S.</td>
<td>33,100</td>
<td>3,350,000</td>
<td>0</td>
<td>30,000</td>
<td>72,000</td>
<td>3,000</td>
</tr>
<tr>
<td>Western U.S.</td>
<td>98,223</td>
<td>7,022,190</td>
<td>800,000</td>
<td>55,000</td>
<td>965,000</td>
<td>0</td>
</tr>
<tr>
<td>Canada</td>
<td>49,978</td>
<td>4,800,000</td>
<td>0</td>
<td>180,000</td>
<td>30,000</td>
<td>36,000</td>
</tr>
<tr>
<td>TOTAL</td>
<td>181,301</td>
<td>15,182,190</td>
<td>800,000</td>
<td>265,000</td>
<td>1,067,000</td>
<td>39,000</td>
</tr>
</tbody>
</table>

#### Authorized Crossties for 2017

<table>
<thead>
<tr>
<th>District and Railroad</th>
<th>Total Track</th>
<th>New Wood Crossties</th>
<th>Wood Relay</th>
<th>New Non-Wood Crossties</th>
<th>Switch Ties (Units)</th>
<th>Bridge Timbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eastern U.S.</td>
<td>33,100</td>
<td>3,350,000</td>
<td>0</td>
<td>0</td>
<td>74,000</td>
<td>3,000</td>
</tr>
<tr>
<td>Western U.S.</td>
<td>98,223</td>
<td>7,322,471</td>
<td>600,000</td>
<td>150,000</td>
<td>915,000</td>
<td>0</td>
</tr>
<tr>
<td>Canada</td>
<td>49,978</td>
<td>5,000,000</td>
<td>0</td>
<td>180,000</td>
<td>30,000</td>
<td>31,000</td>
</tr>
<tr>
<td>TOTAL</td>
<td>181,301</td>
<td>15,672,471</td>
<td>600,000</td>
<td>330,000</td>
<td>1,019,000</td>
<td>34,000</td>
</tr>
</tbody>
</table>

#### Authorized Crossties for 2018

<table>
<thead>
<tr>
<th>District and Railroad</th>
<th>Total Track</th>
<th>New Wood Crossties</th>
<th>Wood Relay</th>
<th>New Non-Wood Crossties</th>
<th>Switch Ties (Units)</th>
<th>Bridge Timbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eastern U.S.</td>
<td>33,100</td>
<td>3,150,000</td>
<td>0</td>
<td>0</td>
<td>74,000</td>
<td>3,000</td>
</tr>
<tr>
<td>Western U.S.</td>
<td>98,223</td>
<td>7,325,000</td>
<td>600,000</td>
<td>150,000</td>
<td>915,000</td>
<td>0</td>
</tr>
<tr>
<td>Canada</td>
<td>49,978</td>
<td>5,000,000</td>
<td>0</td>
<td>180,000</td>
<td>30,000</td>
<td>31,000</td>
</tr>
<tr>
<td>TOTAL</td>
<td>181,301</td>
<td>15,575,000</td>
<td>600,000</td>
<td>330,000</td>
<td>1,019,000</td>
<td>34,000</td>
</tr>
</tbody>
</table>

Notes: From CP Rail: Pre-plated ties approximately 50,000 in 2016 or approximately half of 2015’s quantities. Overall tie demand down approximately 10% versus 2015. Demand not expected to increase for 2017. From CN: Depending on funding, CN is looking to replace all wood ties on curves of 4 degrees and greater with concrete. That program would add another 100,000 concrete ties annually to the basic program of 65,000. From NS: NS does not provide forward-looking guidance beyond the current capital year.
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with a full air-dry yard and demand stable or increasing, even marginally, the glasses you’re wearing for treated tie output in 2017 may be a little rosier.

All three RTA January 2016 forecasts (base, downside and upside cases) suggested that 2017 demand would be substantially higher than 2016. By June, the economic data and traffic were so weak that all three cases predicted a decline in tie demand for 2017. Now, with this new survey data in-hand, it certainly looks as if a more bullish case for tie demand is in play (see Table 4 – upside case from June).

Of course, the economy may finally have reached that for-better-or-worse inflection point for U.S. and world GDP growth. With the Fed and the stock market essentially treading water for much of the past 12 months, and a momentous election at hand, it’s anyone’s guess how economic growth will measure in the near-term.

At the risk of using a very tired phrase, RTA members should know that the data-dependent-mode switch is definitely turned on at RTA HQ regarding forecasts. There will be more input coming in the next few weeks that could impact the econometric model-generated forecast for 2017 and beyond.

Speaking of data, what are the short lines telling us about 2016 and 2017?

The Rest Of The Market

In the 2015 survey of short lines, 2016 looked to be abysmal with a drop in demand of 21.6 percent. And as of the completion of this year’s survey would suggest, this drop in tie demand did occur, just not quite to the extent projected. The 2016 class of survey respondents suggested tie demand ~5 percent ahead of the 2015 projections (see Table 5).

This still would suggest that 2016 has been a tough year for short lines even with the 45G Tax Credit in effect. And, it would seem that RTA’s 2016 forecast for a 13 percent drop in smaller market purchases is roughly in line with what short lines experienced this year.

The survey results from short lines do not provide the whole picture of the markets outside Class 1 purchases. There are export markets, government and industrial markets, plus markets for track work that contractors perform beyond those. Unfortunately, there are not any reliable measures of this activity; thus, RTA must rely on only overall economic activity and member reports to gauge those sectors.

It’s a given that any survey is likely to be less than perfect. Not every road that reports in a given year will report in the next, and some that didn’t report previously will start reporting. This happened, for example, in 2016 with 30 more short lines reporting than in 2015. In that regard, the survey projections may be more telling.

With those thoughts in mind, what do short lines expect for 2017? Apparently, short lines expect a further softening in their demand for ties, down 14 percent. This would match RTA’s forecast as well (the latest June upside scenario forecast is still -13.4 percent for the smaller market).

Confounding? Not Really…

There are a couple of points to reconcile with regard to all of this data. Tie procure-

### TABLE 4 - UPside SCENARIO (From Crossties May/June '16 Issue)

<table>
<thead>
<tr>
<th>Year</th>
<th>Real GDP</th>
<th>Class 1 Purchases</th>
<th>Small Market Purchases</th>
<th>Total Purchases</th>
<th>Pct</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>2.2%</td>
<td>16,968</td>
<td>6,054</td>
<td>23,023</td>
<td>5.2%</td>
</tr>
<tr>
<td>2013</td>
<td>1.5%</td>
<td>17,131</td>
<td>7,317</td>
<td>24,448</td>
<td>6.2%</td>
</tr>
<tr>
<td>2014</td>
<td>2.4%</td>
<td>15,931</td>
<td>7,083</td>
<td>23,014</td>
<td>-5.9%</td>
</tr>
<tr>
<td>2015</td>
<td>2.4%</td>
<td>16,566</td>
<td>7,417</td>
<td>23,983</td>
<td>4.2%</td>
</tr>
<tr>
<td>2016</td>
<td>2.7%</td>
<td>16,612</td>
<td>6,426</td>
<td>23,038</td>
<td>-3.9%</td>
</tr>
<tr>
<td>2017</td>
<td>2.8%</td>
<td>17,342</td>
<td>5,568</td>
<td>22,910</td>
<td>-0.6%</td>
</tr>
</tbody>
</table>
ment has been at an all-time high in 2016. Tie purchases are near record highs. With traffic down and surveys less than robust, what gives?

For the past 18 months, RTA has pointed out in presentations that if tie procurement is 30 percent less than what the demand is for a period of 18-24 months, then air-dry inventories at treating plants will draw down to uncomfortable levels. In order to rebuild those inventories, procurement will have to exceed demand by a similar margin, for a long enough period of time, for air-dry yards to recover.

That appears to be what has happened regarding procurement, with an uptrend in the RTA Inventory-to-Sales Ratio (ISR) beginning ~12 months ago. It does not mean that every air-dry yard is at optimal levels, but in many cases they are. This, coupled with flat market demand potential, would suggest a reduction in the current torrid pace of white tie procurement beginning soon.

Producers and users alike are encouraged to visit www.rta.org > Industry Statistics > Purchases Report & RTA Interactive Spreadsheet to look at the raw data and use the interactive spreadsheet to set up alternative scenarios. The ISR exists in a relatively happy place for producers and users at around 0.78-0.82. Any significant deviation above or below is indicative of some level of imbalance. The current default values in the interactive spreadsheet have inventories rising to 0.86 by year end. That does not mean this will happen; it’s just one scenario to consider.

Other factors to consider can be found at www.rtastats.org, where field procurement staff input current data for trends-in-the-field (see the last page of this issue’s Tie Trends for an example of what can be found on that RTA website).

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**Table 5 - Short Line Survey Summary 2016**

<table>
<thead>
<tr>
<th>Tie Categories</th>
<th>2015 Usage</th>
<th>2016 Projected</th>
<th>2017 Projected</th>
<th>2018 Projected</th>
</tr>
</thead>
<tbody>
<tr>
<td>New 6” and 7” Ties</td>
<td>3,302,286</td>
<td>2,586,361</td>
<td>2,295,355</td>
<td>2,169,108</td>
</tr>
<tr>
<td>Relay 6” and 7” Ties</td>
<td>255,167</td>
<td>157,310</td>
<td>61,616</td>
<td>449,133</td>
</tr>
<tr>
<td><strong>Grand Total All Wood Ties</strong></td>
<td><strong>3,557,453</strong></td>
<td><strong>2,743,671</strong></td>
<td><strong>2,356,970</strong></td>
<td><strong>2,618,241</strong></td>
</tr>
<tr>
<td>Switch Ties</td>
<td>70,340</td>
<td>44,197</td>
<td>45,545</td>
<td>39,456</td>
</tr>
<tr>
<td>Bridge Timbers</td>
<td>44,339</td>
<td>38,064</td>
<td>41,375</td>
<td>35,357</td>
</tr>
<tr>
<td>Concrete Ties</td>
<td>3,102</td>
<td>0</td>
<td>1,300</td>
<td>500</td>
</tr>
<tr>
<td>Steel Ties</td>
<td>55,060</td>
<td>0</td>
<td>700</td>
<td>1,275</td>
</tr>
<tr>
<td>Composite/Plastic Ties</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Track Miles Reporting</td>
<td>23,232</td>
<td>20,620</td>
<td>24,964</td>
<td>25,391</td>
<td>18,217</td>
<td>21,116</td>
<td>26,696</td>
<td>15,116</td>
<td>14,966</td>
<td>28,516</td>
<td>19,924</td>
<td>17,663</td>
<td>30,648</td>
<td>29,913</td>
<td>23,883</td>
</tr>
<tr>
<td>Total Track Miles</td>
<td>51,584</td>
<td>51,584</td>
<td>51,584</td>
<td>51,584</td>
<td>51,584</td>
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<td>50,859</td>
<td>50,859</td>
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<td>50,859</td>
<td>50,859</td>
<td>50,859</td>
<td>50,859</td>
<td>50,859</td>
</tr>
<tr>
<td>% Reporting</td>
<td>45.04%</td>
<td>39.97%</td>
<td>48.39%</td>
<td>49.22%</td>
<td>49.9%</td>
<td>50.9%</td>
<td>52.5%</td>
<td>30%</td>
<td>29%</td>
<td>57%</td>
<td>40%</td>
<td>37%</td>
<td>61%</td>
<td>60%</td>
<td>53%</td>
</tr>
<tr>
<td>Total Roads Reported</td>
<td>206</td>
<td>176</td>
<td>197</td>
<td>192</td>
<td>157</td>
<td>185</td>
<td>191</td>
<td>117</td>
<td>116</td>
<td>139</td>
<td>130</td>
<td>115</td>
<td>170</td>
<td>111</td>
<td>114</td>
</tr>
<tr>
<td>Total Short Lines</td>
<td>558</td>
<td>558</td>
<td>558</td>
<td>572</td>
<td>572</td>
<td>572</td>
<td>572</td>
<td>572</td>
<td>306</td>
<td>455</td>
<td>633</td>
<td>633</td>
<td>633</td>
<td>533</td>
<td>575</td>
</tr>
<tr>
<td>% Reporting</td>
<td>36.92%</td>
<td>31.54%</td>
<td>35.30%</td>
<td>33.57%</td>
<td>27.4%</td>
<td>32.3%</td>
<td>33.4%</td>
<td>20.5%</td>
<td>38%</td>
<td>31%</td>
<td>21%</td>
<td>18%</td>
<td>27%</td>
<td>21%</td>
<td>20%</td>
</tr>
</tbody>
</table>

In cooperation with the American Short Line and Regional Railroad Association.

Note: Calculation based on survey responses from 206 roads representing 45.04% of operating trackage.

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