# Uncertainty

## Economists Suggest Recovery At Hand…Premature Optimism?

**By Fred Norrell**

Uncertainty. It's heavy in the air. Some economists, citing a reduced July unemployment rate and increased July industrial production (among other things), see a V-shaped recovery. Others point to a reduction in June personal income and drooping retail sales and expect a prolonged dip. Looking further out, some predict a restructured U.S. economy wherein consumers, burdened with debt, no longer lead growth. Recent concerns include deflation (falling overall price level) as well as inflation down the road, the reward for monetary excess. This constitutes quite a menu but little in the way of comfort food.

One of the most recent outlooks comes from a survey conducted between July 31 and Aug. 11 by the Federal Reserve Bank of Philadelphia. Thirty-four forecasters responded, and the average (V-shaped) result calls for 3.4 percent GDP growth in the third quarter, 2.2 percent in the fourth quarter, and 2.3 percent in 2010. This "Philly scenario" is more optimistic than most forecasts recently considered by RTA's forecasters. Worth noting, this survey coincides with the Commerce Department's July 31 release of Gross Domestic Product (GDP) data that was comprehensively revised back to 1929. Briefly, the historical revisions reveal stronger long-term growth but weaker performance since the onset of our current recession (the end of 2007).

Just before going to press, RTA acquired S&P's latest economic forecast, also recalibrated to include historical GDP revisions. As expected, this projection is not as optimistic as the Philly scenario and the GDP graph below illustrates. Still, it includes a nearby light at the end of the tunnel in the form of 1.5 percent GDP growth in 2010. Considering the uncertainty described in the first paragraph, these two scenarios are strikingly similar yet fail to reassure.

**FRB Philadelphia Scenario New Wood Crossties (in thousands)**

| Year approx. | Real GDP | Class 1 Purchases | Small Market Purchases | Total Purchases | Pct |
|---|---|---|---|---|---|
| 2005 | 3.1% | 15,029 | 3,639 | 18,668 | 4.2% |
| 2006 | 2.7% | 15,937 | 4,668 | 20,606 | 10.4% |
| 2007 | 2.1% | 15,285 | 4,961 | 20,246 | -1.7% |
| 2008 | 0.4% | 16,186 | 4,091 | 20,277 | 0.2% |
| 2009 | -2.6% | 15,384 | 3,665 | 19,049 | -6.1% |
| 2010 | 2.3% | 15,284 | 3,681 | 18,965 | -0.4% |

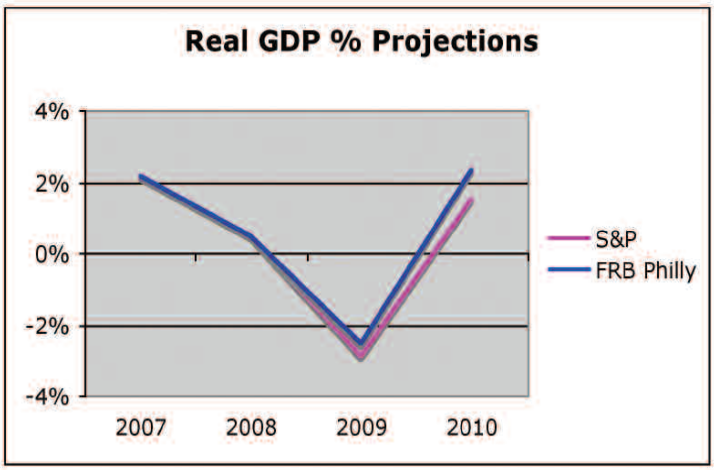
**S&P Scenario New Wood Crossties (in thousands)**

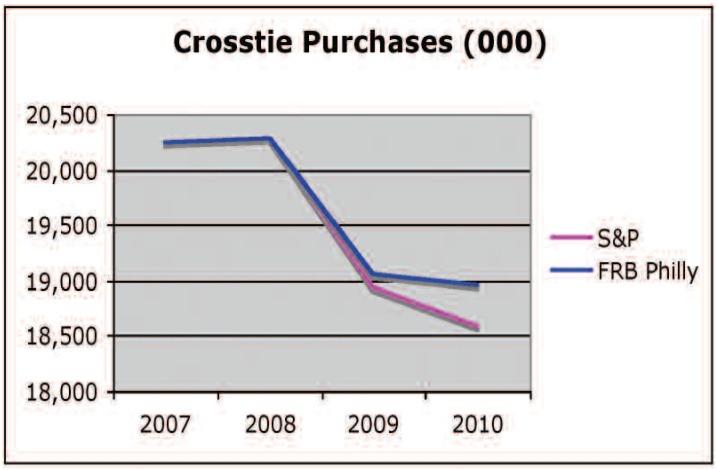
| Year approx. | Real GDP | Class 1 Purchases | Small Market Purchases | Total Purchases | Pct |
|---|---|---|---|---|---|
| 2005 | 3.1% | 15,029 | 3,639 | 18,668 | 4.2% |
| 2006 | 2.7% | 15,937 | 4,668 | 20,606 | 10.4% |
| 2007 | 2.1% | 15,285 | 4,961 | 20,246 | -1.7% |
| 2008 | 0.4% | 16,186 | 4,091 | 20,277 | 0.2% |
| 2009 | -2.9% | 15,323 | 3,617 | 18,939 | -6.6% |
| 2010 | 1.5% | 15,040 | 3,538 | 18,579 | -1.9% |

Since historical GDP data form an integral part of RTA's tie forecasting model, the model itself has been updated and modified. Having had the old compass smashed, in what direction does the new one point? Again, recent economic forecasts call for a recovery after a dismal 2009. The tie market results are shown in the Crosstie Purchases graph below. Details of both scenarios are presented in the tables above.

A well-known pattern persists in the data: one year of economic decline brings about two years of reduced tie purchases. This can be explained as follows: GDP and rail freight move together…up together one year, down together yet another year. However, tie replacements in the current year depend on the amount of freight moved in the current year *and the previous year*. Thus, lower freight in 2009 reduces the maintenance needs in that year and in 2010.

The crosstie graph below displays what may be a deceptively narrow range of possible futures, which masks the underlying dilemma: uncertainty. RTA forecasters will watch for new economic forecasts and incorporate them into this journal's year-end market outlook article. §



# Uncertain & Also Unusual

## 2010 Demand In Question, Even As Railroads Remain Committed To Maintenance Spending

**By Jim Gauntt**

This year is shaping up to be not only one of the most uncertain years in U.S. economic history, as the accompanying article on page 12 suggests, but also one of the most unusual for tie producers and users.

One would think that in the midst of an economic downturn, as deeply felt in the United States as during the Great Depression, tie sales and tie production would not continue to bolt ahead as they have during the first seven months of the year. Yet, defying all odds, tie purchases could exceed 20 million in 2009 and tie production could exceed 23 million units.

Does this make sense? And, if not, what does it forebode? Readers will note that throughout 2009, the Railway Tie Association (RTA) has proposed a variety of scenarios for illustrating the possible paths tie demand will follow.

This has occurred, in large part, because recent economic data have not provided a clear and guiding light from which to sign off on a definitive forecast. In addition to the economic uncertainty, the flurry of proposed new spending programs from Washington, with or without new taxation to support it, has kept us flinching; we've simply been unable to pull the trigger on a solitary target.

To sort it all out (maybe), please first look at the 2008 Class 1 data prepared for RTA by the Association of American Railroads. Then, for further insight, take a look at RTA's exclusive surveys of the Class 1 railroads and short line industry.

Finally, the last thing on the agenda will be a review of this year's hard facts. Sprinkle in some things that have proven to be solid patterns along with some educated speculation and hopefully a clearer picture will emerge.

### CLASS 1 Installations For 2008

For years, the Class 1 railroads replaced ties in track at a rate in the 1.8 to 2.3 percent range as compared to the total number of ties in track. Based on this, one could say that wood ties lasted, on average, 43-55 years system-wide. The last few years that replacement rate has crept up closer to 3 percent. This year, it hit that rate of replacement exactly (see Table 1).

What this doesn't mean is that treated wood ties are performing worse in terms of lifespan. The industry has known for some time that the average life of a wood tie "system-wide" under all traffic and track conditions has been in the 35-year range. This would mean in a perfect world, tie replacements would occur at about a 2.85 to 3 percent pace each year…almost exactly what we've seen the last two to three years.

The real reason this replacement rate ▶

**TABLE 1—Crossties Laid In Replacement Statistics For Class 1 Railroads In The U.S. In 2008**

| District & Railroad | Treated wooden crossties laid in replacement (#) New Ties (1) | Treated wooden crossties laid in replacement (#) Second-Hand Ties (2) | New crossties laid in replacement other than wooden (#) (3) | Track maintained by reporting railroad: Miles occupied by crossties (a) (4) | Track maintained by reporting railroad: Total crossties (b) (5) | Crossties per mile (1967) (6) | New crosstie replacement avg.: % renewal to all ties (7) | New crosstie replacement avg.: # laid per mile (8) | Switch and bridge ties laid in addition (board ft.) (9) |
|---|---|---|---|---|---|---|---|---|---|
| **Eastern District** | | | | | | | | | |
| CSX | 3,121,206 | 0 | (c) 2,192 | 30,714 | 91,773,432 | 2,988 | 3.40% | 102 | 7,358,230 |
| Grand Trunk Corp. (CN) | 880,416 | 0 | 0 | 10,199 | 32,177 | 3,155 | 2.74% | 86 | 886,111 |
| Norfolk Southern | 2,647,114 | 312,310 | 0 | 29,887 | 91,932,412 | 3,076 | 2.88% | 89 | 10,460,810 |
| Total Eastern District | 6,648,736 | 312,310 | 2,192 | 70,800 | 215,883,689 | 3,049 | 3.08% | 94 | 18,705,151 |
| **Western District** | | | | | | | | | |
| Burlington Northern Santa Fe | 3,007,632 | 0 | (c) 29,992 | 39,847 | 123,326,465 | 3,095 | 2.46% | 76 | 4,859,530 |
| Kansas City Southern | 525,944 | 0 | (c) 178 | 3,914 | 12,20,886 | 3,199 | 4.20% | 134 | 148,615 |
| Soo Line (CPR) | 170,337 | 0 | 0 | 2,543 | 7,677,317 | 3,019 | 2.22% | 67 | 530,380 |
| Union Pacific | 3,774,099 | 1 | (d) 502,678 | 43,136 | 128,545,280 | 2,980 | 3.33% | 99 | (e) 6,721,407 |
| Total Western District | 7,478,012 | 1 | 532,848 | 89,440 | 272,069,948 | 3,042 | 2.94% | 90 | 12,259,932 |
| **Total United States** | **14,126,748** | **312,311** | **535,040** | **160,240** | **487,953,637** | **3,045** | **3.00%** | **91** | **30,965,083** |

**Note:** 249,597 second-hand, other-than-wooden ties, not shown on this page, were laid in replacement in 2007.
***Source: R-1 Annual Reports to the Surface Transportation Board**
(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. (d) 489,752 concrete ties, and 168,061 non-wooden-non-concrete ties. (e) Includes 504 concrete or steel switch ties, all assigned 65 board feet per tie.

has crept up is that Class 1 railroads have finally gotten close enough to their goals of earning enough capital to be in a position to optimize track maintenance. This is not the place to get into the subject of railroad re-regulation, but as a side note, this is one of the main reasons it's a bad idea. Almost 30 years after The Staggers Act, railroads are just now beginning to generate enough revenue to maintain and operate at their goal levels of efficiency.

Thus, in 2008, U.S. and Canadian Class 1s operating track in the United States installed 14.1 million new wood ties along with 312,000 relay ties. Add to this the 2.3 million ties installed by Canadian roads in Canada and you have an astounding 16.4 million "new" wood ties installed by Class 1s—plus a few hundred thousand relay ties. This, by the way, is almost exactly what RTA forecast for the year in January 2008's Market Outlook article.

So, this is a good thing for all parties. Suppliers benefit with a steady pace of tie demand and railroads benefit with improving and more efficient operating conditions.

The new construction side of things is a different matter. New construction tie installations are not nearly what they will need to be to produce a large increase in capacity. Less than 300,000 new wood ties and only 353,000 new concrete ties were required for new track construction in 2008 (see Table 2). This translates into less than 250 miles of new construction and it's a good bet that some of this was in new yard facilities.

Even with the improvements that some additional track and improved yard facilities will bring, this is nowhere near enough new construction, on an annual basis, to meet the needs for increasing the nation's freight rail capacity. Note that over the next 25 years the U.S Department of Transportation has forecasted that freight transportation demand in the United States alone will increase by 92 percent. AAR's position paper on the subject suggests that there is a $1.8 billion shortfall in capital required annually to achieve the rail capacity necessary to meet the nation's needs by 2035. It would seem that the tax credit legislation idea promoted by AAR for Class 1s, or some sort of stimulus, will be needed to help railroads get where they need to be by then.

**Table 2—For Calendar Year 2008**

**Crossties Laid In Addition Statistics For Class 1 Railroads In The U.S.**

| District & Railroad | Treated wooden crossties laid in addition (number) | | New crossties laid in replacement other than wooden (number) (12) | Switch and bridge ties laid in addition (board ft.) (13) |
|---|---|---|---|---|
| | New Ties (10) | Second-hand ties (11) | | |
| **Eastern District** | | | | |
| CSX | 89,736 | 0 | (c) 23 | 24 |
| Grand Trunk Western (CN) | 0 | 0 | 0 | 0 |
| Norfolk Southern | 54,117 | 0 | 23 | 51,773 |
| Total Eastern District | 143,853 | 0 | 23 | 51,773 |
| **Western District** | | | | |
| Burlington Northern Santa Fe | 17,887 | 0 | (c) 111,367 | 29,490 |
| Kansas City Southern | 5,123 | 0 | 26,955 | 1,562 |
| Soo Line (CPR) | 0 | 0 | 0 | 0 |
| Union Pacific | 105,960 | 1,000 | (c) 215,378 | (f) 305,865 |
| Total Western District | 128,970 | 1,000 | 353,700 | 336,917 |
| **Total United States** | **272,823** | **1,000** | **353,723** | **388,690** |

***Source: R-1 Annual Reports to the Surface Transportation Board**

(c) Concrete ties. (f) Includes 126 concrete ties which were assigned 65 board feet per tie.

So, how do railroads see the balance of 2009 playing out and what's the prognosis for the industry in tie demand in 2010? A review of the surveys offers insight.

### Exclusive RTA Railroad Surveys

As would be expected in a soft economy, the Class 1s indicate a bit of belt tightening for 2009. Compared to what they projected for 2009 a year ago, now the Class 1s say that they only expect to purchase 15.5 million ties in 2009, about a 3.5 percent reduction. In an environment where carloads are off by almost 20 percent, this illustrates the deep reluctance of Class 1s to pare back essential and optimal maintenance practices.

But, true to form and history, most recognize that 2010 will likely be the year when budgets are impacted the most. Not a lot—only 150,000 ties or so according to the survey—but one must remember that this data was collected in June of this year. There may be further economic impacts yet to be dialed in.

All roads are more optimistic that 2011 will bring a rebound with projections reaching demand of 15.9 million ties.

Short lines are not as sure of what the future will bring. This year's survey was limited to only asking for a future projection of what 2010 will bring, yet many short lines declined to provide even that short-term information. So, RTA had to use a variable extrapolation methodology that has not been employed in the past to reach survey results that are deemed meaningful (see Table 3).

Considering that it is late in the year for railroads to be booking orders for 2010, the lack of response for 2010 poses concern. With the RMI freight report showing that short line traffic is down 27 percent, maybe cash is that tight. Maybe hope is being held out that the tax credit will be extended into 2010 and beyond before committing to purchases.

Whatever the reason, with the reduced confidence expressed by the lower response rate to questions about 2010 and the overall reduction in projected tie purchases compared to prior year surveys, it would not be surprising if short lines were hit harder than Class 1s in the coming year.

### Hard Facts, Agnostic Speculation

Here's where it gets weird. It was mentioned in the opening paragraphs about

the pace of purchases and production of wood ties so far in 2009. These are the facts:

As of the end of July 2009, new wood tie purchases are clipping along at a terrific pace. RTA member companies report that YTD tie purchases were 13.2 million through the first seven months. That translates into a 12-month rolling total of 20.9 million ties.

What's even more unusual is that tie production from those same companies stands at 14.8 million ties through the same time period. This places the 12-month rolling annual total at just over 24 million ties. Practically ballistic.

The data have been checked, double and triple checked. Yep, that's what's being reported.

So, what gives? Are the Class 1s and short lines just being conservative in their demand projections?

Maybe not. Remember, there are other buyers of ties out there. There are government entities, contractors, industrial complexes, and even a burgeoning export market (also including Mexico, where investment has been increasing in recent years).

When you add up short line and Class 1 ▶

# TABLE 3—Railway Tie Association Annual Survey*

## Estimated Crosstie Requirements • Class 1 Railroads
## 2009-2012 Inclusive

### Authorized Crossties for 2009

| Region | Total Track Miles | New Wood Crossties | | Wood Relay Crossties | New Non-Wood Crossties | | | Switch Ties (Units) | | Bridge Timbers Units |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Hardwood | Softwood | | Concrete | Steel | Other | Wood | Other | |
| Eastern U.S. | 51,814 | 6,100,000 | 0 | 0 | 100 | 56,000 | 0 | 250,000 | 0 | 62,000 |
| Western U.S. | 84,975 | 6,815,000 | 400,000 | 18,000 | 599,000 | 70,000 | 162,000 | 282,000 | 0 | 30,162 |
| Canada & Canadian Owned U.S. Track | 36,921 | 2,565,000 | 171,000 | 25,000 | 61,500 | 5,000 | 0 | 85,000 | 0 | 4,000 |
| **TOTAL** | **173,710** | **15,480,000** | **571,000** | **43,000** | **660,600** | **131,000** | **162,000** | **617,000** | **0** | **96,162** |

### Authorized Crossties for 2010

| Region | Total Track Miles | New Wood Crossties | | Wood Relay Crossties | New Non-Wood Crossties | | | Switch Ties (Units) | | Bridge Timbers Units |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Hardwood | Softwood | | Concrete | Steel | Other | Wood | Other | |
| Eastern U.S. | 51,814 | 5,950,000 | 0 | 0 | 100 | 6,000 | 0 | 250,000 | 0 | 62,000 |
| Western U.S. | 84,975 | 6,815,000 | 400,000 | 18,000 | 599,000 | 70,000 | 162,000 | 282,000 | 0 | 30,162 |
| Canada & Canadian Owned U.S. Track | 36,921 | 2,580,000 | 217,500 | 25,000 | 52,500 | 5,000 | 0 | 85,000 | 0 | 4,000 |
| **TOTAL** | **173,710** | **15,345,000** | **617,500** | **43,000** | **651,600** | **81,000** | **162,000** | **617,000** | **0** | **96,162** |

### Authorized Crossties for 2011

| Region | Total Track Miles | New Wood Crossties | | Wood Relay Crossties | New Non-Wood Crossties | | | Switch Ties (Units) | | Bridge Timbers Units |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Hardwood | Softwood | | Concrete | Steel | Other | Wood | Other | |
| Eastern U.S. | 51,814 | 5,950,000 | 0 | 0 | 100 | 6,000 | 0 | 250,000 | 0 | 62,000 |
| Western U.S. | 84,975 | 6,965,000 | 400,000 | 18,000 | 599,000 | 70,000 | 162,000 | 282,000 | 0 | 30,162 |
| Canada & Canadian Owned U.S. Track | 36,921 | 2,965,000 | 291,000 | 25,000 | 52,500 | 5,000 | 0 | 90,000 | 0 | 4,000 |
| **TOTAL** | **173,710** | **15,880,000** | **691,000** | **43,000** | **651,600** | **81,000** | **162,000** | **622,000** | **0** | **96,162** |

### Authorized Crossties for 2012

| Region | Total Track Miles | New Wood Crossties | | Wood Relay Crossties | New Non-Wood Crossties | | | Switch Ties (Units) | | Bridge Timbers Units |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Hardwood | Softwood | | Concrete | Steel | Other | Wood | Other | |
| Eastern U.S. | 51,814 | 5,950,000 | 0 | 0 | 100 | 6,000 | 0 | 250,000 | 0 | 62,000 |
| Western U.S. | 84,975 | 6,815,000 | 400,000 | 18,000 | 599,000 | 70,000 | 162,000 | 282,000 | 0 | 30,162 |
| Canada & Canadian Owned U.S. Track | 36,921 | 3,065,000 | 291,000 | 25,000 | 52,500 | 5,000 | 0 | 90,000 | 0 | 4,000 |
| **TOTAL** | **173,710** | **15,830,000** | **691,000** | **43,000** | **651,600** | **81,000** | **162,000** | **622,000** | **0** | **96,162** |

*Eastern Railroads reporting - CSX Transportation and Norfolk Southern. Western Railroads reporting - Burlington Northern Santa Fe, Kansas City Southern Railway and Union Pacific. Canadian Railroads reporting - Canadian Pacific Railway (includes Soo Line) and CN/IC (includes GTW).

## Volume of Wood Necessary To Produce Estimated Crosstie Requirements For Class 1 Railroads *(000's omitted)*

| | Thousand Board Feet | | |
|---|---|---|---|
| | **2009** | **2010** | **2011** |
| Crossties - U.S. & Canada | 619,200 | 613,200 | 635,200 |
| Switch Ties - U.S. & Canada | 40,105 | 40,105 | 40,430 |
| Bridge Timbers - U.S. & Canada | 13,041 | 13,041 | 13,041 |
| **TOTAL BOARD FEET** | **672,346** | **666,946** | **688,671** |

new wood tie demand projections for 2009, you arrive at a total of 18.2 million. Yet, it's probably a stretch to suggest that the rest of the tie buying world could be purchasing 2.7 million additional ties to reach the 20.9 million current tie purchasing pace. It begs the question, will this pace hold?

It's been surmised by some that so far in 2009, the Class 1s maxed out tie purchases. Not only did they do this because their needs required the budget for that level of maintenance, but also because they have been cognizant of the market conditions facing hardwood sawmills.

The plight this critical link in the supply chain is currently facing has been reported many times, and railroads have noted it and responded. But now there is a glut of inventory being held by and for Class 1s, according to market reports. So, there are those who suggest Class 1s and other buyers may be forced into significantly curtailing purchases starting now as they attempt to balance inventories headed into 2010 and meet the end-of-year financial goals expected by Wall Street.

Since that seems likely, what would that type of pull back look like? First, it would require an unprecedented drop in purchases to reach one of our earlier forecast scenarios of 19.9 million ties for 2009 (Recession Scenario, January/February 2009 *Crossties*). If railroads have already purchased 13.2 million ties through July, then the last five months of the year would have to see an average of 1.34 million ties per month (or 6.7 million total) purchased to bring the totals for 2009 down near 19.9 million ties.

That's not impossible. More than half the time in the last 21 years, purchases for the last five months of the year have been 6.7 million ties or less. But—and this is the big *but*—during that time period it has *never* happened when purchases have exceeded 18 million ties on an annual basis. So, which will it be—something unprecedented, or will the industry see a total of 19.9 million ties or more purchased by the end of the year?

The conditions would seem to be ripe for the bottom to drop out. As previously shown, slowing purchases are likely, inventories are already higher than they need to be, and the economy is still anemic.

On the other hand, as the companion forecast article has illustrated, there are many that are optimistic that the recession has ended or will soon end. And, for that reason, it might be easy to buy into the notion that all is well. But, if one looks closely at what has been happening in production, one starts to feel queasy.

As of July, the 12-month rolling production rate is a staggering 24 million ties. With inventories throughout the system climbing each month and an inventory to sales ratio 20 percent higher than the long-term average and 12 percent above the most recent five-year average, the industry is clearly in uncharted waters. Add to this the fact that all the RTA forecast scenarios have been weakening throughout the year, and it's clear that something has to give.

Whether the bottom drops out or there is a methodical unwinding of this manufacturing juggernaut, there is no doubt that these levels of production are unsustainable even under the best of the current scenarios.

That's where the real danger lurks for the supply infrastructure. Where, when, and how will this situation begin to self-correct? It may already be occurring by the time this article is in readers' hands.

Furthermore, there are the historical precedent and the economic reasons explained in the companion article that illustrate why tie demand will likely retreat further in 2010 no matter how 2009 ends. Add to this the growing concern that the recovery will be a long and slow process, and simply put, tie procurement at the sawmill will suffer for some time in the (near?) future.

Is there a silver lining? Probably the most positive spin that can be put on the next few months is that the Class 1s have so far been unwavering in their commitment to the best levels of track maintenance that budgets will allow. Thus, even though 2010 will probably bring less demand, railroads will remain reluctant to reduce maintenance spending any more than necessary. §

**TABLE 4—The Railway Tie Association* 2008 Regional & Short Line Crosstie Survey**

| Tie Categories | 2008 Usage | 2009 Projected | 2010 Projected | 2011 Projected |
|---|---|---|---|---|
| New 7" Ties | 1,067,794 | 1,126,041 | 1,277,032 | 0 |
| New 6" Ties | 684,598 | 726,101 | 389,788 | 0 |
| Sub-Total New | 1,752,393 | 1,852,143 | 1,666,820 | 0 |
| Relay 7" Ties | 271,898 | 486,234 | 494,578 | 0 |
| Relay 6" Ties | 26,870 | 60,027 | 0 | 0 |
| Sub-Total Relay | 298,769 | 546,261 | 494,578 | 0 |
| Industrial 7" Ties | 799,882 | 666,807 | 652,061 | 0 |
| Industrial 6" Ties | 105,912 | 77,894 | 162,147 | 0 |
| Sub-Total Industrial | 905,794 | 744,701 | 814,208 | 0 |
| **Grand Total All Wood Ties** | **2,956,955** | **3,143,105** | **2,975,607** | **0** |
| Switch Ties | 50,489 | 86,935 | 41,206 | 0 |
| Bridge Timbers | 15,051 | 26,461 | 20,549 | 0 |

***In cooperation with the American Short Line and Regional Railroad Association.**
Note: Calculation based on survey responses from 116 roads, representing 25%-28% of operating trackage.

**The Railway Tie Association wishes to thank the American Short Line and Regional Railroad Association for its expertise and assistance in conducting the Short Line Survey used in developing the tables for this report.**