By Fred Norrell and Jim Gauntt

Wood crosstie purchases have been gaining momentum now for several years. After a couple of slow years ending in 2000, Railway Tie Association (RTA) members’ customers have increased purchases by an amazing 3.5 million crossties. Other than brief periods in 1988 and 1998, purchases are currently higher than at any time recorded by RTA. So, as alluded to in January’s market outlook, one must wonder if a new chapter in railway history is unfolding. If so, what is driving this railroad renaissance?

RTA has employed econometric modeling to help better analyze the market forces and to help make forecasts. In doing so for various reasons, the market has been segmented into two groups of crosstie buyers: Class 1 railroads and what we call the “small market.”

The Class 1 group is made up of U.S. Class 1 railroads, CN and CP; the small market is composed of the remaining buyers: North American local and regional railroads, transits, and industrial, railroad contractor, and other buyers. RTA has developed separate but interlinked models for both market groups.

The Class 1 Model

The Class 1 model consists of two equations. The first states that freight (in ton-miles) depends on U.S. real GDP, changes in coal shipments, and the real price of diesel fuel. As any of these variables increases, so does freight. GDP and coal represent the volume of business railroads generate each year. And, when diesel price goes up, some freight apparently shifts from highways to rail, adding to the freight volume. Taking Yale University’s Fair model forecast of GDP, and making some assumptions about coal and diesel, a freight forecast can be assembled.

The next equation in the Class 1 model states that tie purchases depend on the miles of U.S. Class 1 track owned, and the amount of freight moved on those tracks. As either of these two variables increases, so do Class 1 purchases of ties. Our model’s forecast is presented below, with purchases and track mileage in thousands.

Note that freight growth has recently peaked, and track (shown in thousands of miles) is declining very slowly. This follows years of more radical rationalizing—the shedding of track of lesser value to the Class 1 roads.

In fact, this slow-down in track rationalization may be a sign of the new chapter for rail transport and its supporting industries. With track mileage largely stable, future economic growth will drive freight expansion, which in turn should drive up tie purchases. Thus, the outlook for Class 1 purchases takes on the promise of steady sustainable growth constrained only by the performance of the general economy.

The Small Market Model

This model consists of one equation, which states that tie purchases depend on U.S. non-durable manufacturing (the level of real GDP originating in the sector) and the change in real price of diesel fuel. Non-durable manufacturing has grown slowly during the past decade, and RTA’s analysis indicates it should continue this trend in the future. Thus, the outlook for Class 1 purchases takes on the promise of steady sustainable growth constrained only by the performance of the general economy.

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unsatisfied demand is several hundred short lines, you would learn that the west of the Mississippi as well as some ties. And, if you would talk to railroads expected to be no worse than 18.4 million. Even under the worst of circumstances, demand was reached 18.9 million ties. Even under the worst of circumstances, demand was expected to be no worse than 18.4 million.

The models do, however, suggest that if economic activity continues at or near the assumed pace then demand for rail services and thus ties will continue to grow for the foreseeable future. §

<table>
<thead>
<tr>
<th>Year</th>
<th>Non-Durable Manufacturing</th>
<th>Real Price of Diesel</th>
<th>Tie Purchases</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>2.4%</td>
<td>26.7%</td>
<td>2,888</td>
<td>-20.5%</td>
</tr>
<tr>
<td>2004</td>
<td>2.2%</td>
<td>24.9%</td>
<td>4,019</td>
<td>39.2%</td>
</tr>
<tr>
<td>2005</td>
<td>-0.5%</td>
<td>33.1%</td>
<td>3,375</td>
<td>-16.0%</td>
</tr>
<tr>
<td>2006</td>
<td>-0.4%</td>
<td>5.0%</td>
<td>3,975</td>
<td>17.8%</td>
</tr>
<tr>
<td>2007</td>
<td>-0.6%</td>
<td>0.0%</td>
<td>4,013</td>
<td>1.0%</td>
</tr>
<tr>
<td>2008</td>
<td>-0.1%</td>
<td>0.0%</td>
<td>3,945</td>
<td>-1.7%</td>
</tr>
</tbody>
</table>

And, going forward, this outlook reveals the expectation for potentially significant growth in business. However, two important qualifications are in order. First, this is a forecast of “potential demand” for new wood ties; that is, supply constraints play no role in our model. Second, the anticipated effects of recent tax changes are not included in these projections. Since these issues are obviously important consideration, they are subjects of the companion article.

Additionally, one has several more questions. One must wonder when interest rates will stabilize and whether they will eventually cause a recession. Some economic forecasters worry that this could occur if the Federal Reserve overshoots the mark with interest rate hikes.

Furthermore, when will oil and steel prices moderate, and what economic pains will be endured if they don’t?

And, then, what about infusion of federal dollars in the form of tax credits and newly enacted SAFTEA initiatives? How will this change the landscape?

The economic model we use calls for no recession and no major disruptions due to oil or other commodity prices and, for obvious reasons, cannot incorporate tax law or other legislative changes that may boost demand. All of these things could affect the railway business and throw our forecast off course. Thus, it is prudent to look at all the aspects of market drivers and not just the models to get a perspective on the range of possible demand for crossties.

The models do, however, suggest that if economic activity continues at or near the assumed pace then demand for rail services and thus ties will continue to grow for the foreseeable future. §

WOOD INCREASES MARKET SHARE RTA FORESEES EVEN STRONGER DEMAND FOR TIES

By Jim Gauntt
For all its genuine simplicity, the wood tie—or rather the demand for it—sure can be a complicated thing to understand. But, over the past few years, the Railway Tie Association (RTA), through its economic research, has gotten a pretty good handle on what is likely to happen with future tie purchases.

Take, for example, our predictions earlier this year. The econometric models forecast that tie purchases for 2005 would reach 18.9 million ties. Even under the worst of circumstances, demand was expected to be no worse than 18.4 million.

As of the mid-year point in 2005, annualized tie purchases stand at 18.5 million ties. And, if you would talk to railroads west of the Mississippi as well as some short lines, you would learn that the unsatisfied demand is several hundred thousand ties. So, a forecast of 18.9 million “true market demand” looks to be at the center of the bulls eye.

What is also happening is that the wood is actually increasing its share of the overall market for tie products. It’s a trend that you would expect to occur as a natural by-product of a rapidly growing railroad business since so much existing track is built on wood. But, it’s not necessarily intuitive, considering all the hype about the increasing use of alternative tie products over the past few years.

That’s probably the subject of another article as well as debate. However, it is worth pointing out since a look at historical numbers for 2004, and then what is occurring in 2005, suggests that alternative products have yet to elevate market penetration beyond certain niche applications.

So, what did happen in 2004, according the railroads themselves? A look at the tables generated from R1 reports and graciously provided by the Association of American Railroads (AAR) offer the meaningful data.

Historical Overview
Tables 1 and 2 outline what U.S. Class 1 railroads installed in track in 2004. In the first table are those ties that were laid in “maintenance” mode, and the second reports ties laid in “new construction” mode. Adding them together gives the totals for all new ties used by U.S. Class 1 railroads in 2004.

That means U.S. Class 1s “installed” 12,704,036 wood ties in track in 2004. That’s up by 128,258 ties.

Total alternative ties “installed” equaled 861,634 or 118,187 less than in