

SHORT LINE RAILROADS

and the impact of recent tax changes

Editor's Note: RTA Executive Director Jim Gauntt delivered the following presentation at the April conference of the American Short Line and Regional Railroad Association (ASLRRRA) in Anaheim, Calif.

Have you ever noticed that when you look more closely at something you become increasingly aware of what you don't know? A few years ago, we at the Railway Tie Association (RTA) started working with an economist in an effort to better understand the North American market for railway crossties. The experience has been humbling for all involved.

The closer we look, the more we realize what we don't know. I'm here today to share with you some of the things we have learned and, inevitably, some of the things I don't know.

History

As to short line purchases of crossties, we have no direct, continuous information, so we back into an estimate. Class 1 railroads report tie installations, but today's installs is yesterday's purchase. Thus, a time lag plays a role in our estimates. RTA views the market from the crosstie perspective. We have members in all 50 states, in Canada and in Mexico. RTA members produce an estimated 99 percent of railway crossties in North America. So, we read the pulse of the market by looking at purchases from RTA members. From this we subtract Class 1 installs, adjust for time lag, and arrive at purchases for everybody else. Now, short lines make up most of this latter group, but we have to back out TFMexicana, industrial and contractors. (100K non-RTA and 380K TFMexicana have been backed out of the "small market.") This process yields our estimate of short line tie purchases.

Do we have our historical numbers right? There is some uncertainty here, but the average annual purchases are 3.1 million over the past five years and 3.35 million over the past 10 years. We can compare our numbers with a few from ASLRRRA and with RTA survey results, as seen in the graph below. We are more confident in the calculated numbers than the survey results for a number of reasons I will share with you.

Forecast Model

RTA-estimated purchases, representing the short lines, have been used to construct an econometric model, which can be shown as an equation:

$$\text{Tie purchases} = -2706 + 0.0148 (\text{non-durables}) - 24.69 (\text{price of diesel})$$

Each variable represents the total (for purchases and non-durables) or an average (for the price of diesel) for a year. "Non-durables" represent the contribution of these manufactured goods to real Gross Domestic Product (GDP). The price of diesel is also stated in constant dollars. The historical data indicate an increase in non-durables brings about an increase in tie purchases. Also indicated is a decline in tie purchases when the price of diesel goes up. It appears the increase in operating cost cuts into maintenance spending. Why these variables?

Our model for Class 1 railroads states that real GDP is the major driver of ton-miles of freight. That is, as GDP increases, so does freight. As GDP decreases, so does freight. The Class 1 model also states that freight is a major driver of ties installed.

We do not have a good history of freight moved by short lines, so our model cannot work the same as that of the Class 1 railroads. We need a driver that represents national economic activity, and we first tried GDP, which did not perform well. Through trial and error, we discovered non-durables (the contribution of these manufactured goods to real GDP) perform well in "explaining" the year-to-year changes in short line tie purchases.

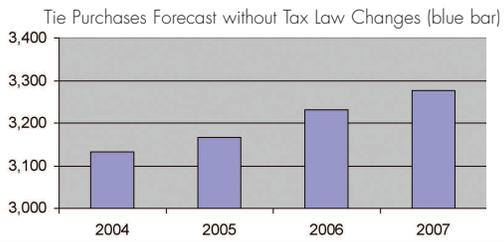
The other variable in our short line model is the real (inflation adjusted) price of diesel. Again, through trial and error, we discovered that as the real price of diesel increases, tie purchases tend to decline. When the real price of diesel falls, tie purchases tend to increase. This is consistent with economic theory (makes sense) in that as one resource changes in cost, resource mix will tend to be adjusted.

After a big increase in 2004, we have assumed the real price of diesel falls by 1 percent in 2005 and subsequent years. In other words, if inflation is 3 percent, the nominal price of diesel would increase by 2 percent—somewhat less than inflation.

The Model's Forecast Results

Using this equation, along with projections of non-durables and the real price of diesel, we can "solve" for future values of short line tie purchases.

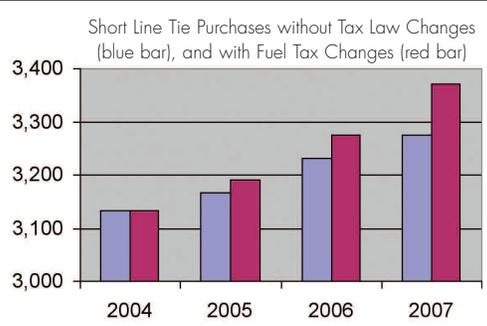
Year	Non-Durable Mfg	Real Price of Diesel	Tie Purchases
2004	3.2%	9.4%	3,133
2005	0.1%	-1.0%	3,166
2006	0.5%	-1.0%	3,232
2007	0.5%	-1.0%	3,276



However, the model implicitly assumes no change in variables outside the model (variables like tax credits, for example). So, the RTA model just gives us a starting point.

The Forecast With Fuel Tax Change

The first adjustment we make is for a reduction in the 4.3-cent fuel tax; this reduces the real price of diesel by almost 4 percent and, running this through the equation, raises tie purchases by about 24,000 in 2005, 44,000 in 2006, and 96,000 in 2007. If ties make up 35 percent of railroad capital investment, this implies an increase in total capital investment of about \$2.3 million in 2005, \$4.2 million in 2006, and \$9 million in 2007 and thereafter.



Investment Tax Credits

Our model can't help us with the impact of investment tax credits, yet there is some information we can use. ASLRRRA published results of a 2001 survey to which 145 railroads responded. Extrapolating the survey results, short line investment plans included \$224 million per year for track and structures. One way to think about the impact of tax credits is to ask how much can the short lines increase this investment during the next three years, starting now.

From Internet money reports, one can find income statements of a few short lines. These have been pooled into a small (and admittedly non-representative) sample from which we can form a "guestimate" of \$190 million tax liability. To fully offset this liability, short lines would have to invest annually \$380 million in track and structures—an increase of 70 percent. Is this a reasonable prospect?

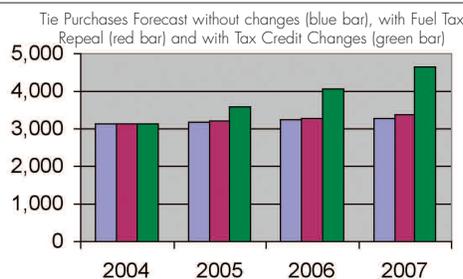
To answer that, it is helpful to review what must happen. First, the railroads must create an investment plan. Various improvements are needed, but let's categorize. Short-term needs include beefing up road rehabilitation, tie replacement and rail. Long-term needs include redesign and reconstruction of bridges and overhead clearances. Second, the railroads need to find partners. The legislation envisions shippers and suppliers playing a role. Third, financing must be arranged. I imagine long-term financing will be required, possibly involving the issuance of some securities. Fourth, the resources, people and equipment to do the work, must be acquired—and set in motion.

Increased investment in road, ties and rails could easily take place during the current year. If investment plans hold steady during the first quarter, about \$28 million can be released from income tax provision and reinvested during the second quarter. To invest all these funds during the second quarter would require an expansion of 50 percent over normal investment plans. Is this realistic? According to RTA estimates, short lines increased crosstie purchases by a record 50 percent during the three-year period 1993 to 1995, or 16 percent per year. If we take this as a practical limit in terms of marshalling resources, 2005 investment would increase from the planned \$224 million to about \$260 million; tax credit earned would be about \$130 million, up from \$112

million we can associate with no expansion beyond what was planned.

By 2006, I imagine some partners will be on board, and some shared financing will be in place. Some long-term projects will be started; bridges and overheads will be improved. Construction activity would be about 35 percent above normal. Likely, resources will have to migrate into the railroad construction industry in order to sustain the growth. If that occurs, investment would be \$300 million, and the tax credit would be \$150 million.

By 2007, applying the 16 percent practical limit to growth, and if railroads and their partners embrace this opportunity, I expect investment would be about \$340 million, and the tax credit would be about \$170 million. Construction activity would then be 50 percent above normal, matching the largest growth period in short line history—1993 to 1995. Assuming new wood crossties comprise 35 percent of this investment and assuming tie prices increase about 8 percent per year (3 percent inflation plus 5 percent demand-driven), this translates to 380,000 extra ties in 2005, 770,000 extra in 2006, and 1.1 million additional ties in 2007, as the graph below illustrates.



Notice in this scenario that I have looked to the historical growth of short lines to place limits on the improvements. Another limiting factor is a cap on the tax credit; for every mile of roadway, a credit of \$3,500 can be claimed. According to the Association of American Railroads (AAR), short lines operated 47,095 miles of roadway in 2003; this multiplied by the cap produces an annual maximum of about \$165 million in tax credits. It is permitted to carry tax credits to future years. It is also possible that short lines would acquire more track in the next few years. Further, it is possible that a lack of partners, or problems with financing, will be limiting factors as well. It is also possible that short

lines will have to use some of the cash freed up by tax credits to purchase locomotives or rolling stock. In addition, the investment stimulus provided by the fuel tax phase-out is small compared to that of the tax credit. To accomplish this expansion and make these improvements, the railroads will need more people. As we watch this historic venture unfold, I think we should keep an eye on short line employment in order to gauge to what extent the railroads are going for it.

But I also think you can see that our dearth of knowledge also places constraints on our ability to predict what is going to happen. It is one of the reasons we will need extra vigilance on the short lines' part over the next few years to answer RTA's annual tie survey. We need good quality, consistent survey results that represent the most short lines so we can improve our forecasting ability. Thus, I encourage you to fill out these surveys when you receive them and send them back to us.

Now, this leads us to the question of capacity and whether the extra demand for ties can be met at the time they are needed. There are four general areas in which constraints typically impact ties reaching their destination in track in a timely manner: processing constraints (time to treat from time of sawing—weather and lead time), treating capacity, preservative supply, and logging/sawmill capacity. I shall deal with each of these separately.

Processing Issues

As you know, you can't just snap your fingers and have a tie. There are many steps along the way. I will share with you a few of these. Before you leave, though, I suggest you pick up our new brochure, "From Tree to Track," as a guide to understanding all the steps involved in producing wood crossties. The brochure is informative and has won several awards for its design and content.

First, the tree must grow to harvestable size and be available for logging (regulations, weather and available loggers dictate the latter parameter). But let's assume we have the tree base, which we do, and that the loggers have gotten the logs to the mills and that they have been sawn into ties. The biggest stumbling block to those ties making it to track is the time for conditioning.

If ties are air dried, that means that from six to 12 months from now you may have