



Stop! Go! Proceed with...Optimism?

Earlier this year, the Railway Tie Association projected that as bad as production would look in the first quarter of 2000, that by mid-year it might be even worse. Recent mid-summer conversation in the tie industry proved that this sentiment of a poor outlook for the remainder of 2000, extending well into 2001, was correct. And, thus if this analysis had been published a month ago, the tone would have been depressing. RTA also predicted, though, that the worst would appear in production just ahead of a second-half turn around in 2000. And, lo and behold, what's this? The Class 1 and short line surveys, conducted exclusively by RTA, show that maybe there is a light at the end of the tunnel—and that the light is becoming brighter more quickly than most imagined just a month ago.

We'll get to that. But, first, let's look at the final confirmed numbers from 1999 for Class 1 railroads.

R-1 Data – 1999

Combined total U.S. tie installations for Class 1 railroads in 1999 (maintenance and construction) were 12,049,580 (see tables 1 and 2). That's down slightly (less than 1 percent) from 12,161,738 in 1998. Included in 1999 totals are 987,314 alternative tie material installations (down a whopping 31.2 percent), and 296,541 relay ties, also down by almost 30 percent from 1998. That leaves U.S. Class 1 installations of new wood ties in 1999 at 10,765,725—up 4.4 percent from 1998.

Plugging this recently finalized data into the TieLife™ forecasting model the projection of new wood tie installations for 2001 is 12,065,413 for U.S. Class 1 railroads (13,951,350 when calculating to include Canadian trackage). Will programs in 2001 for maintenance and constructions really jump 1.3 million ties? A difficult question to answer mid-year

2000, but the surveys themselves say, quite possibly, yes.

2000-2001 Class 1 Surveys

This year's survey results (table 3) are presented in a slightly modified format. This is due to recent mergers and the influence of Canadian ownership of significant trackage in the United States. Thus, the totals are shown as Eastern United States, Western United States and Canadian-owned (including IC, GTW and Soo Line U.S. trackage).

This year's surveys show a significant increase for 2001 in both the Eastern and Western U.S. markets for all crossties. Add it all up and the new wood tie projected installations for all U.S. and Canadian track will total 14,303,838. This compares favorably to the TieLife™ prediction of 13,951,350, particularly when one considers that last year's surveys overestimated actual installations by about 4 percent.

Mellott
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p/u july/aug 2000

Table 1—Crossties laid in replacement statistics for Class I railroads in the U.S. in 1999

District & Railroad	Treated wooden crossties laid in replacement (#)		New crossties laid in replacement other than wooden (#)	Track maintained by reporting railroad		Crossties per mile (1967)	New crosstie replacement avg.		Switch and bridge ties laid in replacement (board feet)
	New Ties (1)	Second-Hand Ties (2)		Miles occupied by crossties (a) (4)	Total crossties (b) (5)		% renewal to all ties (7)	# laid per mile (8)	
Eastern District									
Conrail	346,059	24,852	0	0*	0*	0*	0.68%**	20**	449,750
CSX	2,601,639	57,005	30,935	34,172	102,105,936	2,988	2.58%	77	5,979,195
Grand Trunk Western	114,559	0	0	1,397	4,403,344	3,152	2.60%	82	301,539
Illinois Central	190,703	0	361	3,940	12,501,620	3,173	1.53%	48	943,020
Norfolk Southern	1,928,778	128,555	0	31,918	98,179,768	3,076	1.96%	60	8,049,000
Total Eastern District	5,181,738	210,412	31,296	71,427	217,190,668	3,041	2.40%	73	15,772,504
Western District									
Burlington Northern Santa Fe	1,978,579	0	75,838	42,240	130,732,800	3,095	1.57%	49	3,603,316
Kansas City Southern	244,813	0	0	3,682	11,778,718	3,199	2.08%	66	322,982
Soo Line	279,940	0	800	2,860	8,634,340	3,019	3.25%	98	530,343
Union Pacific	2,277,127	49,124	390,194	48,770	145,334,600	2,980	1.84%	55	6,847,856
Total Western District	4,780,459	49,124	466,832	97,552	296,480,458	3,039	1.77%	54	11,304,497
Total United States	9,962,197	259,536	498,128	168,979	513,671,126	3,040	2.04%	62	27,027,001

According to a regional breakdown, producers in the East in 2001 will see an increase in installations of 400,000 to 500,000 wood ties; in the West, producers can expect to see an increase of 1 to 1.2 million ties.

Before too much excitement builds, though, a reality check may suggest something different. A projected increase in tie installations of 1.5 million, system wide, even if it does materialize, may not mean that 1.5 million more ties will actually be installed. Why? There are many reasons. First, just coming up with 1.5 million more ties for 2001 when you are nine months into 2000 is a daunting task. If there is no excess inventory in the system (which some experts are beginning to suspect), procuring all the ties that will be needed might be very difficult. Realizing that it takes several months to air dry wood ties, procurement must be under way now to secure these ties if air dried ties are what is sought. Getting exactly what the railroad engineers want in species mix, air dried, and in a timely fashion may get tough.

The Eastern roads may be in better shape than their Western counterparts to get what they need, as the total increase expected is smaller and sawmills and treating plants may be in a better position to ramp up production quickly. West of the Mississippi River, however, there will

Source: R-1 Annual Reports to the Surface Transportation Board (Furnished to RTA by Association of American Railroads).

* These numbers for Conrail are represented in the totals on CSX and Norfolk Southern.

** These figures are based on Conrail tie replacements for the first 5 months of 1999 and track at the end of that period.

(a) Total mileage operated at the end of the year, excluding mileage under trackage rights.

(b) Based on crossties per mile of track in 1967, the last year reported.

Table 2—For Calendar Year 1999

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				
Conrail	4,162	0	0	33,164
CSX	120,128	2,529	3,793	303,869
Grand Trunk Western	0	0	0	0
Illinois Central	0	0	0	0
Norfolk Southern	364,929	0	0	1,687,323
Total Eastern District	489,219	2,529	3,793	2,024,356
Western District				
Burlington Northern Santa Fe	62,444	0	247,072	101,308
Kansas City Southern	25,577	0	0	21,270
Soo Line	15,687	0	0	67
Union Pacific	210,601	34,476	238,321	624,515
Total Western District	314,309	34,476	485,393	747,160
Total United States	803,528	37,005	489,186	2,771,516

Source: R-1 Annual Reports to the Surface Transportation Board (Furnished to RTA by AAR)

probably be a significant issue on the green tie supply side that could spill back over to the East side of the river. That could impact everyone to some degree.

All of this is speculative at this point, but the surveys, backed by recent confirmation conversations with railroad personnel, make it clear that producers should expect a stronger 2001. Since there are still some

unanswered questions, such as inventory levels, and whether these maintenance programs will be revised downward by year-end, predicting the actual volume increase in procurement and purchases is hard to quantify. Still, all the signs are there for an improving picture for producers in the later portions of 2000, building into 2001 and possibly beyond.

Short Line Railroads

Conducted in cooperation with the American Short Line and Regional Railroad Association, this year's surveys were returned in record numbers. With a 21 percent response rate representing 38 percent of all short line track mileage, the outcome can be said to be the most accurate yet.

This year's results show that short line

Table 3—Railway Tie Association Annual Survey
Estimated Crosstie Requirements Class 1 Railroads (000's omitted)
2000-2003 Inclusive

AUTHORIZED CROSSTIES FOR 2000										
Region	Total Track Miles	New Wood Hardwood	Crossties Softwood	Wood Relay Crossties	New Non-Wood Concrete	Crossties Steel	Other	Switch Ties Wood	(Units) Other	Bridge Timbers Units
Eastern U.S.	45,435	5,068,300	0	70,000	75,790	0	0	215,700	0	53,300
Western U.S.	92,806	4,946,800	700,000	40,000	428,000	3,500	3,500	166,046	0	5,000
Canada & Canadian Owned U.S. Track	34,250	1,554,000	645,000	122,000	15,000	2,500	0	77,315	5,500	9,385
TOTAL	172,491	11,569,100	1,345,000	232,000	618,790	6,000	3,500	459,061	5,500	67,685
AUTHORIZED CROSSTIES FOR 2001										
Region	Total Track Miles	New Wood Hardwood	Crossties Softwood	Wood Relay Crossties	New Non-Wood Concrete	Crossties Steel	Other	Switch Ties Wood	(Units) Other	Bridge Timbers Units
Eastern U.S.	66,840	5,418,500	0	95,000	108,000	0	0	208,500	110,000	55,500
Western U.S.	92,806	5,771,338	1,100,000	40,000	584,000	4,000	21,550	162,100	0	5,000
Canada & Canadian Owned U.S. Track	34,250	1,335,500	678,500	90,000	16,500	2,500	0	76,015	5,500	9,000
TOTAL	193,896	12,525,338	1,778,500	225,000	708,500	6,500	21,550	446,615	115,500	69,500
AUTHORIZED CROSSTIES FOR 2002										
Region	Total Track Miles	New Wood Hardwood	Crossties Softwood	Wood Relay Crossties	New Non-Wood Concrete	Crossties Steel	Other	Switch Ties Wood	(Units) Other	Bridge Timbers Units
Eastern U.S.	45,435	5,518,500	0	95,000	108,000	0	0	208,035	0	53,000
Western U.S.	92,806	5,784,904	1,100,000	40,000	584,000	4,000	22,000	162,350	0	5,000
Canada & Canadian Owned U.S. Track	34,250	1,450,000	680,000	90,000	16,000	2,500	0	75,615	5,500	9,000
TOTAL	172,491	12,753,404	1,780,000	225,000	708,000	6,500	22,000	446,000	5,500	67,000
AUTHORIZED CROSSTIES FOR 2003										
Region	Total Track Miles	New Wood Hardwood	Crossties Softwood	Wood Relay Crossties	New Non-Wood Concrete	Crossties Steel	Other	Switch Ties Wood	(Units) Other	Bridge Timbers Units
Eastern U.S.	45,435	5,518,600	0	95,000	108,000	0	0	207,885	0	53,000
Western U.S.	92,806	5,793,451	1,100,000	40,000	584,000	4,000	22,000	162,500	0	5,000
Canada & Canadian Owned U.S. Track	34,250	1,500,000	680,000	90,000	16,000	2,500	0	75,615	5,500	9,000
TOTAL	172,491	12,812,051	1,780,000	225,000	708,000	6,500	22,000	446,000	5,500	67,000

Volume of Timber Necessary To Produce Estimated Crosstie Requirements (000's omitted)

	Thousand Board Feet		
	2000	2001	2002
Crossties - U.S. & Canada	516,560	572,120	574,120
Switch Ties - U.S. & Canada	29,838	28,990	28,990
Bridge Timbers - U.S. & Canada	8,710	8,970	8,710
TOTAL BOARD FEET	584,946	610,080	611,820

Notes:

- The Mexican Railways were not surveyed in 2000; however, their total purchase of ties have been previously reported to be approximately 1.5 million per year of which approximately 600,000 are wood.
- Based on 40 board feet average for crossties, 65 board feet average for switch ties, and 130 board feet average for bridge timbers.

**Table 4—The Railway Tie Association*
2000 Regional & Short Line Crosstie Survey**

<u>Tie Categories</u>	<u>1999 Usage</u>	<u>2000 Projected</u>	<u>2001 Projected</u>	<u>2002 Projected</u>
New 7" Ties	958,337	958,392	1,277,724	1,058,513
New 6" Ties	1,403,063	1,302,226	1,015,789	853,684
Sub-Total New	2,361,400	2,260,618	2,293,513	1,912,197
Relay 7" Ties	444,113	359,466	294,408	308,842
Relay 6" Ties	148,565	99,692	91,053	84,737
Sub-Total Relay	545,763	427,676	385,461	393,579
Industrial 7" Ties	700,016	839,526	859,474	802,895
Industrial 6" Ties	292,381	100,469	212,558	164,071
Sub-Total Industrial	900,066	908,268	1,072,032	966,966
Switch Ties	117,653	98,092	94,795	100,711
Bridge Ties	62,174	61,797	44,566	44,345
Concrete Ties	1,711	1,842	0	0
Steel Ties	12,345	21,979	18,421	18,421
Grand Total All Ties	4,001,111	3,780,274	3,908,787	3,436,218

*In cooperation with American Short Line and Regional Railroad Association

Note: Calculation based on survey responses from 124 Roads, representing approximately 38% of operating trackage.

TieLife™ Forecasts The Next 5 Years

One of the greatest difficulties that exists for casual observers of tie market data is understanding the differences between tie installations for Class 1 railroads as predicted by TieLife™ and the numbers from the Association of American Railroads (see tables also published in this companion article). TieLife™, in its current version, predicts a total of tie replacements and ties for new construction for all U.S. and Canadian Class 1 railroads just like the totals published in the surveys. The AAR-supplied data does not include ties for railroad trackage existing in Canada. This is because the U.S. Government requires U.S. roads to follow strict reporting criteria on miles of track operated in the United States. The U.S. requirement obviously doesn't apply to track outside U.S. borders, so Canadian-only data is not reported in these U.S. charts.

TieLife™ takes this into account by way of its internal calibration. Thus, the following new forecasts, based on U.S. data, but extrapolated by TieLife™ to include all Canadian-owned track, are totals for all new wood tie installations.

Year	Forecast Usage As Of 8/15/00
2001	13,951,350
2002	14,442,789
2003	14,432,624
2004	13,597,799
2005	14,772,696

**Table 5—The Railway Tie Association*
2000 NRC Survey**

<u>Categories</u>	<u>1999 Purchased</u>	<u>2000 Projected</u>	<u>2001 Projected</u>	<u>2002 Projected</u>
Wood	1,446,768	1,426,400	1,448,000	1,576,000
Concrete	2,900	500	500	500
Steel	2,600	0	0	0
Other	0	0	0	0
Switch Ties	140,144	130,920	143,896	149,744
Bridge Timbers	2,320	2,400	2,400	2,400
Grand Total All Ties	1,594,732	1,560,220	1,594,796	1,728,644
Class 1 Railroads	3.9%	4.0%	3.9%	3.9%
Short Line Railroads	12.2%	13.0%	12.8%	13.3%
Transits (Including Amtrak)	2.2%	2.0%	2.2%	3.9%
Government Projects	6.1%	7.0%	7.2%	7.2%
Industrial Clients	75.6%	74.0%	73.9%	71.7%
Other	0.0%	0.0%	0.0%	0.0%
Total	100%	100%	89%	89%

*In cooperation with the National Railroad Construction & Maintenance Association

NOTE: Calculation based on survey responses from contractors representing approximately 12.5% of railroad contractor activity.

railroads in the United States installed 3.78 million ties in 2000. The results also predict a modest increase for 2001 to 3.9 million ties. Of this 2001 program, about 10 to 12 percent of ties are expected to be relay ties. That still means well more than 3 million new grade and industrial tie purchases from the short line railroad industry in 2001—a significant number. And, all of these ties will be wood ties. Short line railroads continue their influence in new tie purchasing to the tune of a 25 percent market share.

Railroad Contractors

As in past years, RTA surveys are conducted in conjunction with the National Railroad Construction and Maintenance Association Inc. Also, as in the past, the variability in responding companies colors the ability to consistently paint an accurate picture. What is consistent, though, is that in the past few years the number of contractors reporting an enormous amount of their business in the "industrial client" arena has increased.

This year is no exception. Fully 80 per-

cent of the ties that contractors bought in 2000 and expect to buy in 2001 will be for private industrial accounts or non-Amtrak government projects. And the projected number of purchases will exceed 1.5 million ties (see Table 5).

Contractors are a significant source of tie purchasing power with a 7 to 8 percent overall impact on the new wood tie marketplace.

Analysis Proves Market Power

RTA member-reported production totaled 16,256,000 ties in 1999. Non-member production was estimated to at least equal or exceed 1 million ties. This estimate of non-member production has been shown in 2000, with the admission of several new member companies, to be conservative. Total new North American wood tie production in 1999 approached 18 million ties. If Class 1 railroads installed only 10,765,725 ties in 1999 and inventories rose only 700,000 ties from January 1999 to January 2000 as *Crossties* magazine reports, then at least 6 million ties were produced and sold to short line railroads, contractors and elsewhere. This means that in 1999, short lines, contractors and the export market accounted for 34 percent of all new ties produced.

The Market Statistics Committee and RTA staff could not produce these valuable industry statistics without the assistance and cooperation of many individuals and companies. First, there are the RTA producer reporters who diligently report monthly statistics on production and inventory. Then, there are the engineering and purchasing personnel for the Class 1 railroads who fill out the surveys. Finally, there are the American Short Line and Regional Railroad Association and National Railroad Construction and Maintenance Association Inc. and their members who work very hard to support RTA in its request for information that is sometimes difficult to calculate. To everyone involved in this annual process, Marketing Statistics Committee Chairman Gene Mall, and all RTA members express our deep appreciation for your efforts. Without your work much would be misunderstood or, worse yet, simply unknown. §

In 2000, that total market influence seems intact. For 2001, it is likely, as Class 1 programs expand, that the percentage attributed to short lines and contractors may drop some. Yet, for planning purposes, producers and users alike must not ignore the total market power that exists in these smaller users of wood crossties.

Stop. Go. Proceed With Caution

The balance of 2000 and 2001 now appears to be shaping up much stronger than was anticipated as recently as late July. Procurement moves in the field are already evidence to the validity of a forecast of significantly larger programs in 2001. RTA's TieLife™ model predicts the same strength. It could easily be argued that tie

installations will jump at least 1 million ties in 2001.

Stop!...Go!...or proceed with...caution. Which button should producers push? The cautiously optimistic approach seems in order for now. Given the history of the past 12 to 14 years, if the market demand matches or exceeds this forecast (and particularly if the winter is hard), there will be significant problems in supply come spring. On the other hand, industry officials have seen projections of big programs before at mid-year, just to have them revised downward by year-end.

But, again, the signs are all there, and the stars are aligning just right. Now's the time to start preparing. Full speed ahead? Not yet, but soon. Maybe real soon. §

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