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New Wood Crosstie Purchases

The outlook presented here reveals the likelihood of a significant market expansion. The primary driver is seen in the Class 1 group where track rationalization has met its goal and freight continues to expand with U.S. economic growth.

Purchases from RTA members for the 12 months ending July 2004 are running at about 17,914 ties (in thousands). This is 3 percent above the RTA forecast. One possible explanation is that some over-correcting may have occurred in constraining freight growth. Alternatively, there are reports of new track additions being made to relieve congestion and ease bottlenecks. Also, in the small market, there is a bit of uncertainty with the forecast results. So, is the RTA forecast of total market purchases too low?

The question may be posed from another angle. Will purchases be able to sustain at this level through year-end? Perhaps not. One should remember that freight is constrained not only in the RTA model but also in terms of railroads' revenues, possibly impacting budgets negatively. Also, steel prices have reached fairly high levels, which could introduce budget pressure through rail purchases. The volume of rail required in the immediate future is expected to be up as well. Another issue to consider is UP's plans to expand its use of concrete ties. While it is not a given, these are the kinds of issues that could be a drag on wood tie purchases between now and the end of the year.

Stepping back for a moment from the market mechanics and taking a broader view, it is important also to consider the possibilities of terrorist attacks, war mishaps, weak economic performance and so on. With all these negative possibilities looming, it is difficult to raise the 2004 forecast above 17.4 million ties. In fact, RTA is more inclined to question the strong purchases projected for 2005.

One major question still looms. How will the railroads deal with freight growth? A current lack of resources (human, locomotives, cars and track) is throwing the business into a new mode of operation. Additionally, it takes time to train personnel or to acquire equipment needed to move freight. As a result, RTA projections show that the next 16 months will be a period of great challenge for railroads. During this timeframe, overall tie purchases may moderate somewhat. §

Steady As She Grows...

Railroads Buy More Wood As Traffic Increases

By Jim Gauntt

Through the first seven months of 2004, tie production and demand has been at a torrid pace. Production is 20 percent ahead of July 2003, while purchases are 7 percent ahead of the pace through July. At this pace, RTA members would produce 19 million ties by the end of the year.

But will this occur? And what about 2005? By combining exclusive RTA survey data and the information generated by the RTA forecasting model (see article on page 13), readers may be able to find an appropriate answer to these questions.

However, before we look at forecasts and estimates, the first thing to do is review the historical numbers for U.S. Class 1 railroads for 2003 as provided by the Association of American Railroads. In 2003, U.S. Class 1 roads installed 12,575,778 new wood ties (see Figures 1 and 2). This is the combined total for maintenance and new construction wood ties. It is also almost identical to the tie installations for 2002.

Last year at this time, RTA projected that the installs for U.S. Class 1's would

“hover between 12.4 and 12.8 million ties” (September/October 2003 *Crossties*, page 9). This would seem to be right on the mark for 2003. But, based on year-to-date purchases, it seems that the 2004 estimate may have been underestimated. This year, we may see new wood installs as high as 13.1 million ties.

Part of this conservatism was generated by an expectation that the exit of Kerr-McGee from the tie production ranks could create a constraint in the supply side that could impact the number of ties railroads would receive for installation. However, to everyone's surprise, this did not materialize. In fact, looking back on it now, these fears seem totally unfounded. Although there were a few logistical blips to accommodate, railroads and suppliers worked hard to make the transition almost seamless.

Without this phantom constraint, tie production has surged, and railroads have kept eating up the inventory. The sales to inventory ratio (see Table 1) is actually down a fraction from July 2003.

The question on all suppliers' minds is, will it continue at this pace, or are there bumps ahead in the road?

July 2004 numbers suggest a gentle

tie production has surged
and railroads have kept
eating up the inventory

Figure 1—Crossties Laid In Replacement Statistics For Class 1 Railroads In The U.S. In 2003

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.		
	New Ties	Second-Hand Ties		Miles occupied by crossties (a)	Total crossties (b)		% renewal to all ties	# laid per mile	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Eastern District									
CSX	2,700,940	22,012	(c) 84,829	33,319	99,557,172	2,988	2.80%	84	6,192,046
Grand Trunk Corp. (CN)	373,669	0	0	9,520	30,149,840	3,167	1.24%	39	1,831,785
Norfolk Southern	2,674,165	158,558	0	30,943	95,180,668	3,076	2.81%	86	8,446,131
Total Eastern District	5,748,774	180,570	84,829	73,782	224,887,680	3,048	2.59%	79	16,469,962
Western District									
Burlington Northern Santa Fe	1,918,513	0	(c) 196,538	41,186	127,470,670	3,095	1.66%	51	3,265,280
Kansas City Southern	275,369	0	0	4,114	13,160,686	3,199	2.09%	67	582,198
Soo Line (CPR)	172,934	0	82	2,733	8,250,927	3,019	2.10%	63	543,170
Union Pacific	4,247,857	49	(d) 394,138	46,760	139,344,800	2,980	3.33%	99	(e) 7,690,418
Total Western District	6,614,673	49	590,758	94,793	288,227,083	3,041	2.50%	76	12,081,066
Total United States	12,363,447	180,619	675,587	168,575	513,114,763	3,044	2.54%	77	28,551,028

Note: 22,609 second-hand other-than-wood ties, not shown here, were laid in replacement in 2003.

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) All concrete ties except 45,734 other non-wooden ties. (e) Includes 386 steel switch ties and 1,008 concrete switch ties, all assigned 65 board feet per tie.

slowing of purchases and production from June 2004. It is dangerous to deduce long-term trends from the differences in month-to-month numbers, but there is other evidence to suggest that we are at a short-term peak in purchases by Class 1's.

The first evidence comes from the surveys. In 2004, the combined totals reported in this exclusive poll of U.S. and Canadian Class 1 railroads (see Table 2) suggest that purchases will be roughly 14.6 million wood ties. Adjusting out the ties destined for Canada, the number purchased by U.S. Class 1's should be around 13.5 to 13.6 million.

Since this number is roughly 6 to 7 percent ahead of 2003 numbers, it would suggest that an equilibrium point is near. In other words, railroads are not exhibiting demand requirements exceeding a 7 percent increase for 2004.

Another piece of evidence that suggests a short-term peak can be found in the marketplace. Phone calls to the major roads are suggesting that procurement is "right where we want it" and that "some

**Figure 2—For Calendar Year 2003
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	25,334	207	(c) 799	57,484
Grand Trunk Western (CN)	0	0	0	0
Norfolk Southern	76,350	0	0	206,693
Total Eastern District	101,684	207	799	264,177
Western District				
Burlington Northern Santa Fe	40,017	0	(c) 198,294	37,230
Kansas City Southern	0	0	0	0
Soo Line (CPR)	0	0	0	0
Union Pacific	70,630	18,286	(f) 105,141	(g) 287,812
Total Western District	110,647	18,286	303,435	325,042
Total United States	212,331	18,493	304,234	589,219

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

(c) Concrete ties. (f) All concrete ties except 886 plastic ties. (g) Includes 2,524 concrete ties that were assigned 65 board feet per tie.

quotas” are now in place. Without exception, the major players seem to be satisfied with where their procurement efforts are.

Additionally, market reports include anecdotal evidence of traffic constraints and lack of track time for maintenance. Also, some recent developments suggest that “meeting year-end budget numbers” may also be in play.

And then, finally, when a comparison of these observations and survey data is made with RTA econometric forecasting models (see separate article, page 13), we see that the model predicts a slight slowing of the market by the end of the year. The model suggests 14.3 million ties (including Canadian National and Canadian Pacific) will be purchased, but the survey reports

14.6 million. If the adjusted model is correct, then year-end purchases will be nearer to 17.4 million ties than the 17.9 million pace as of July.

On the other hand, the model suggests that 2005 will see further strengthening of the market demand for ties. If that were to be true, then purchasers would now be adding to purchases for 2005 rather than staying status quo. Since they are not, a search for possible clues as to why is in order.

One thing that is certain at this point in time is that there is a lot of uncertainty in the outlook for both the U.S. economy and the presidential race. Couple this uncertainty with market-reported rail traffic constraints, higher fuel prices, higher steel prices, and the worries over international terrorism, and it is no wonder businesses are exhibiting restraint in implementing expansionary plans.

Plus, Union Pacific has announced it will install an additional 500,000 concrete ties in 2005 as part of its maintenance and construction program. While the survey data suggest that this is not likely to reduce the railroad’s wood tie installations significantly in 2005, it certainly does mean that that money will not flow toward “increased” wood tie purchases in the short term.

So, even though the survey data suggest that we will see an increase in wood tie purchases of around 200,000 ties in 2005, it is likely that this nominal increase will not materialize even though railroad traffic is expected to increase. Steady as she grows.

If one agrees with this assessment, it almost certainly suggests that tie production will need to moderate from its 20-percent-ahead-of-last-year clip soon in order to avoid seeing inventories rise to uncomfortable levels by the end of the year. Producers need to be vigilant and heed any early warning signs that would lead them to believe that these thoughts are developing into reality.

But what about the short line railroads and other markets? Without an influx of federal money, the story is pretty much the same. The short line surveys—with much thanks to the American Short Line and Regional Railroad Association, our partners in the process—predict that 2005 will mirror 2004 very closely (see

Table 1—Sales To Inventory Ratio

	Mo/Yr	Tie Production	Tie Inventory	Change In Inventory	Tie Purchases	Annual Purchases Rolling Total	Inventory To Sales Ratio
2000	Jan	1,151	14,263	363	788	15,186	0.94
	Feb	1,103	14,153	(110)	1,213	14,772	0.96
	Mar	1,059	13,750	(403)	1,462	14,494	0.95
	Apr	1,038	13,129	(621)	1,659	14,711	0.89
	May	1,191	13,002	(127)	1,318	15,001	0.87
	Jun	1,218	12,636	(366)	1,584	15,277	0.83
	Jul	1,036	12,143	(493)	1,529	15,608	0.78
	Aug	1,385	12,177	34	1,352	15,634	0.78
	Sep	1,280	12,740	564	716	15,268	0.83
	Oct	1,394	13,174	434	960	14,952	0.88
	Nov	1,239	13,473	299	940	14,714	0.92
	Dec	889	13,648	175	714	14,235	0.96
2001	Jan	1,128	13,811	163	965	14,412	0.96
	Feb	1,117	13,839	28	1,089	14,288	0.97
	Mar	1,274	13,719	(120)	1,394	14,220	0.96
	Apr	1,109	13,398	(321)	1,430	13,991	0.96
	May	1,363	13,009	(389)	1,752	14,425	0.90
	Jun	1,213	12,427	(582)	1,795	14,636	0.85
	Jul	1,267	12,315	(112)	1,379	14,486	0.85
	Aug	1,414	12,108	(207)	1,621	14,756	0.82
	Sep	1,147	12,114	6	1,141	15,180	0.80
	Oct	1,415	12,382	268	1,147	15,367	0.81
	Nov	1,226	12,764	382	844	15,271	0.84
	Dec	1,284	12,624	(140)	1,424	15,981	0.79
2002	Jan	1,446	13,057	433	1,013	16,029	0.81
	Feb	1,399	13,118	61	1,338	16,278	0.81
	Mar	1,312	12,760	(358)	1,670	16,554	0.77
	Apr	1,370	12,482	(278)	1,648	16,772	0.74
	May	1,359	11,996	(486)	1,845	16,865	0.71
	Jun	1,401	11,735	(261)	1,662	16,732	0.70
	Jul	1,533	11,751	16	1,517	16,870	0.70
	Aug	1,647	11,602	(149)	1,795	17,044	0.68
	Sep	1,611	12,006	404	1,208	17,111	0.70
	Oct	1,893	12,927	922	972	16,935	0.76
	Nov	1,370	13,174	246	1,123	17,215	0.77
	Dec	1,127	13,406	232	895	16,686	0.80
2003	Jan	1,288	13,782	376	912	16,585	0.83
	Feb	1,143	13,748	(34)	1,177	16,424	0.84
	Mar	1,255	13,544	(204)	1,459	16,213	0.84
	Apr	1,525	13,354	(190)	1,714	16,280	0.82
	May	1,439	13,148	(206)	1,645	16,080	0.82
	Jun	1,365	13,037	(111)	1,476	15,894	0.82
	Jul	1,577	13,136	98	1,479	15,856	0.83
	Aug	1,587	12,997	(139)	1,725	15,786	0.82
	Sep	1,651	13,020	23	1,628	16,207	0.80
	Oct	1,725	13,403	383	1,342	16,577	0.81
	Nov	1,378	13,658	255	1,124	16,577	0.82
	Dec	1,280	13,426	(232)	1,512	17,194	0.78
2004	Jan	1,615	14,022	596	1,019	17,301	0.81
	Feb	1,470	14,129	107	1,363	17,487	0.81
	Mar	1,927	14,140	12	1,916	17,943	0.79
	Apr	1,583	14,254	113	1,470	17,699	0.81
	May	1,497	14,284	30	1,467	17,521	0.82
	Jun	1,876	14,384	100	1,776	17,820	0.81
	Jul	1,532	14,343	(41)	1,573	17,914	0.80

NOTE: The information in this chart is calculated from reported production and inventory numbers by RTA members. This represents more than 95% of the U.S. and Canadian market for wood crossties.

Table 2—Railway Tie Association Annual Survey*

Estimated Crosstie Requirements Class 1 Railroads (000's omitted)
2004-2007 Inclusive

AUTHORIZED CROSSTIES FOR 2004

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.	55,294	5,217,500	0	125,000	58,000	10,500	0	179,000	0	68,000
Western U.S.	76,778	6,539,000	795,000	20,000	643,000	5,000	140,000	235,700	0	42,400
Canada & Canadian Owned U.S. Track	33,400	1,830,000	219,000	30,000	15,000	2,636	0	67,000	700	5,000
TOTAL	165,472	13,586,500	1,014,000	175,000	716,000	18,136	140,000	481,700	700	115,400

AUTHORIZED CROSSTIES FOR 2005

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.	55,294	5,313,000	0	125,000	57,000	10,000	0	179,000	0	68,000
Western U.S.	76,778	6,720,000	540,000	20,000	1,105,000	5,000	210,000	236,000	0	41,950
Canada & Canadian Owned U.S. Track	33,400	2,011,000	282,000	30,000	20,000	2,000	700	70,500	1,000	5,000
TOTAL	165,472	14,044,000	822,000	175,000	1,182,000	17,000	210,700	485,500	1,000	114,950

AUTHORIZED CROSSTIES FOR 2006

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.	55,294	5,313,000	0	125,000	57,000	10,000	0	179,000	0	68,000
Western U.S.	76,778	6,805,000	410,000	20,000	1,107,000	5,000	230,000	236,300	0	42,600
Canada & Canadian Owned U.S. Track	33,400	1,961,000	262,000	30,000	20,000	2,000	700	70,500	1,000	5,000
TOTAL	165,472	14,079,000	672,000	175,000	1,184,000	17,000	230,700	485,800	1,000	115,600

AUTHORIZED CROSSTIES FOR 2007

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.	55,294	5,313,000	0	125,500	57,000	10,000	0	179,000	0	68,000
Western U.S.	76,778	6,910,000	255,000	20,000	1,107,000	5,000	230,000	236,500	0	42,700
Canada & Canadian Owned U.S. Track	33,400	2,091,000	262,000	30,000	20,000	2,000	700	72,500	1,000	5,000
TOTAL	165,472	14,314,000	517,000	175,000	1,184,000	17,000	230,700	488,000	1,000	115,700

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

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

	Thousand Board Feet		
	2004	2005	2006
	Crossties - U.S. & Canada	584,020	594,640
Switch Ties - U.S. & Canada	31,311	31,558	31,577
Bridge Timbers - U.S. & Canada	4,039	4,023	4,046
TOTAL BOARD FEET	619,370	630,221	625,663

Table 3). At an annual rate of about 2.6 million ties, this is significant. The possibility in this market also exists for a nominal increase of 100,000 to 150,000 ties, but it is very difficult to bank on that for the aforementioned reasons.

Change to this outlook might occur only if Congress enacts long-awaited legislation that would provide federal tax credits to short lines, allowing them to

increase their investment in infrastructure improvements. But the earliest that any demand increase would likely be felt from this important action would be mid to late 2005.

Adding up all the data from Class 1's, short lines and other tie purchasers, the best estimate that can be formulated, as of the printing of this article, is that the wood tie industry can brace itself for

another very good year. The prediction for 2005 is for another year just like 2004 in which producers will sell between 17.3 and 17.4 million ties to the overall market. By year end 2004, we expect the inventories to rise from year-end totals in 2003 of 13.4 million to 14.5 million and total production to slow from a 19 million tie annual pace to an 18.5 million pace. This may still be higher than the rate of

Table 3—The Railway Tie Association* 2004 Regional & Short Line Crosstie Survey

<u>Tie Categories</u>	<u>2003 Usage</u>	<u>2004 Projected</u>	<u>2005 Projected</u>	<u>2006 Projected</u>
New 7" Ties	769,407	899,415	996,417	937,190
New 6" Ties	576,733	708,837	671,412	681,040
Sub-Total New	1,346,140	1,608,252	1,667,828	1,618,230
Relay 7" Ties	201,695	306,427	318,067	295,067
Relay 6" Ties	24,715	26,783	25,017	26,917
Sub-Total Relay	226,410	333,210	343,083	321,983
Industrial 7" Ties	505,803	345,167	419,500	421,667
Industrial 6" Ties	464,947	340,167	333,833	321,500
Sub-Total Industrial	622,040	685,333	753,333	743,167
Grand Total All Wood Ties	2,194,590	2,626,795	2,764,245	2,683,380
Switch Ties	51,283	54,383	56,767	54,180
Bridge Ties	30,693	30,072	28,762	29,383
Concrete Ties	0	567	1,733	1,733

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

Note: Calculation based on survey responses from 111 roads, representing approximately 60% of operating trackage.

purchases and suggest that further weakening might occur in the first quarter of 2005. But don't expect it to remain at these reduced levels long.


Beyond 2005, we expect that the efforts railroads are making to assimilate growing freight traffic and other factors will send tie markets higher. This thought is sup-

ported by the results from the computer models. Just look at 2005 as a year to catch your breath and fine-tune the operations before the pressure is on again. §

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