Keeping short lines out of the woods

It's a great time to be in the railroad business, but if you're a short line that's going to make it, you've got to learn how to add big-time value

by Roy Blanchard

Writers such as Archie Robertson, Lucius Beebe, and William S. Young prepared us for short lines of an unhurried nature. Far from the hustle and bustle of big-city commerce, these railroads went about their business in a leisurely way. Robertson captured such lines in 1945's *Slow Train to Yesterday*; Beebe immortalized them in his 1947 classic *Mixed Train Daily*; and Young kept Trains readers informed about the little roads well into the 1950s with his monthly column, "Short Lines."

The 1980 Staggers Act [page 10], the subsequent deregulation of railroad rates, and Wall Street have combined to end all that. Competition from unit trains, intermodal double-stacks, and the China trade, plus cell phones and the Internet make everything move faster, and the slow train that Robertson once wrote about is gone. It's a smarter, faster world out there, and short lines have benefited. Yet, the challenges have never been greater. That's why shortline operators and fans are keenly interested to know what it takes to keep their railroads running in the black. The short answer is to pay attention to the "Rule of 100," a rule of thumb we'll explore, and for the railroads to become "valued-added" short lines. We'll also explain that concept in depth, but first, let's survey the shortline world to understand where it is and what's ahead.

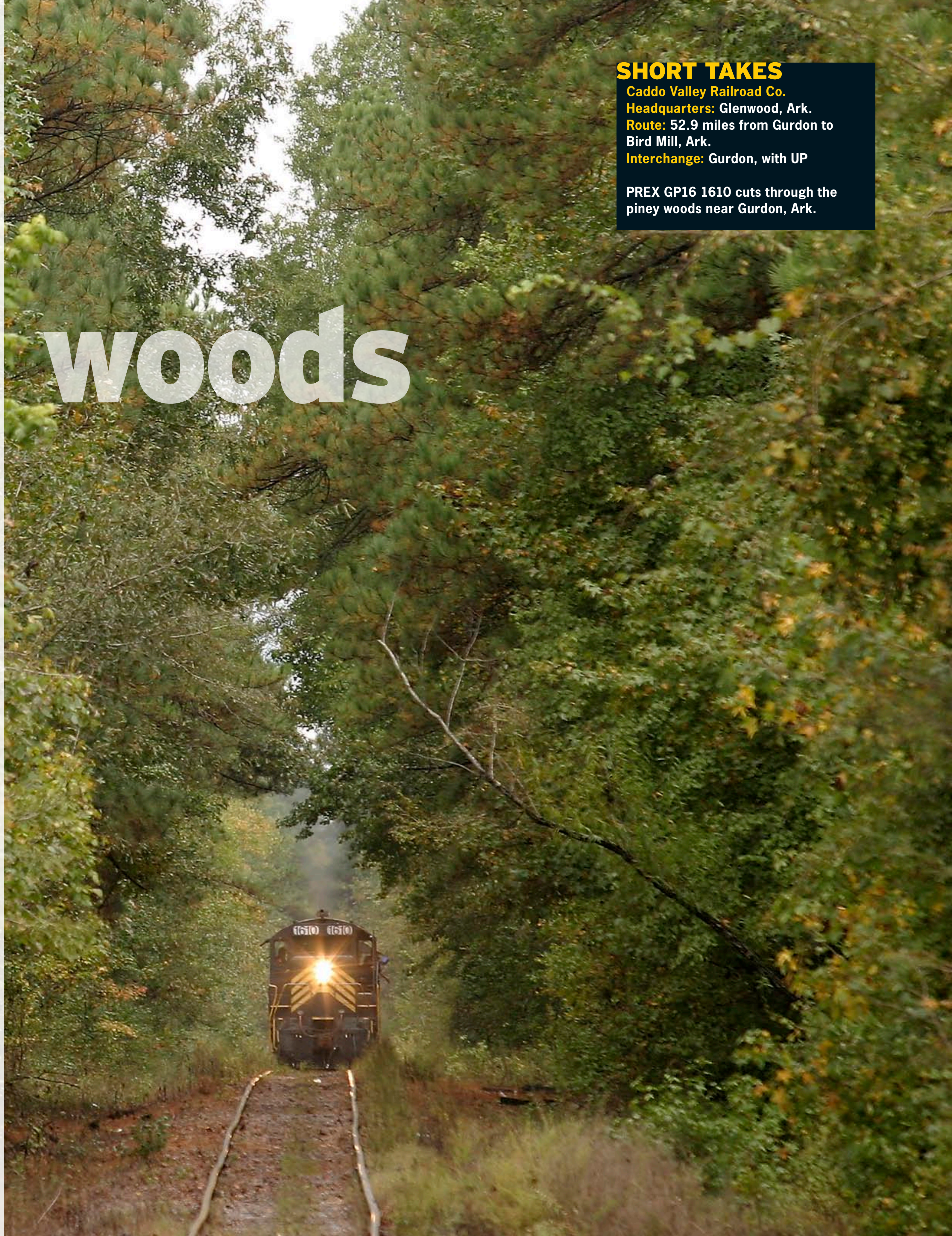
The United States has about 600 short lines. They range in size from Arkansas' 2-mile Delta Valley & Southern to the 500-mile Kyle Railroad in Kansas. Taken as a whole, short lines operate more than 52,000 route-miles of railroad, or about 30 percent of the U.S. rail system. They handle more than 12 million revenue units a year.*

Of the short lines operating today, 16 are owned by Class I railroads, and they fall into two categories: switching and terminal railroads, and actual short lines like the Winston-Salem Southbound (a joint property of Norfolk Southern and CSX, and a holdover from joint control of Norfolk & Western and Atlantic Coast Line) or the Texas Mexican (Kansas City Southern). The three best known are probably the Belt Railway of Chicago (owned by six Class Is), probably the biggest switching and terminal railroad; the Indiana Harbor Belt (Canadian Pacific, NS, CSX); and Houston's Port Terminal Railroad Association (BNSF, Union Pacific). Together they operate on some 1,900 route-miles of track and handle roughly 4.5 million revenue units annually.

More than two dozen industry-owned railroads exist to serve their corporate owners' core businesses. U.S. Steel's Transtar Inc. (Union; Elgin, Joliet & Eastern; Birmingham Southern; and others) and Weyerhaeuser (Columbia & Cowlitz; Texas, Oklahoma & Eastern; and others) are two of the biggest. These roads account for nearly 1 million annual revenue units and operate more than 1,000 route-miles of railroad.

The switching and terminal railroads, Class I-owned short lines, and the industry-owned roads together add up to 48 companies that own

*We count revenue units rather carloads because intermodal containers are revenue units that can load two to four per platform or car. Also, a five-platform articulated intermodal set is technically a "car" because it carries one number.



David Hoge

SHORT TAKES
Caddo Valley Railroad Co.
Headquarters: Glenwood, Ark.
Route: 52.9 miles from Gurdon to Bird Mill, Ark.
Interchange: Gurdon, with UP

PREX GP16 1610 cuts through the piney woods near Gurdon, Ark.

David Hoge

SHORT TAKES
Delta Valley & Southern Railway Co.
Headquarters: Wilson, Ark.
Route: 2 miles
Interchange: Delpro, Ark., with BNSF

Smallest of the small: GE 50-tonner No. 50 works the Delpro interchange.

and operate more than 3,000 route-miles of railroad, and handle nearly 6 million revenue units every year. Back them out, and non-Class I or industry-affiliated short lines handle the remaining 6 million revenue units on just under 50,000 route-miles of track among 550 different operating companies. Here is where it gets interesting.

There are two types of non-affiliated (no Class I or industry ownership) short lines: independents and lines that are part of holding companies. The trend is toward more of the latter and fewer of the former [see "Big players ...," page 35]. RailTex was one of the first holding companies, followed by RailAmerica, Genesee & Wyoming, and Railcar Management. Then came consolidation as RailAmerica acquired RailTex, and Genesee bought Railcar Management. Further, North American RailNet over the past year and a half sold its five lines to OmniTRAX (three), Savage Industries (one), and Watco (one).

There is also consolidation among shipper-owned short lines. Just last year, Alcoa and Georgia Pacific sold their industry railroads to RailAmerica and Genesee & Wyoming, respectively. With the consolidation in other industries — steel comes first to mind — more of the same is likely.

After two decades of rationalizing their networks, most of the Class Is seem to be content with the systems under their control. The only two Class Is with active programs to sell or lease branches to short lines are BNSF and CSX. Since the beginning of 2004, the trend has been more toward leases and always with known operators of multiple railroads. Thus far, BNSF has transferred about 600 miles variously to Watco, OmniTRAX, and Anacostia & Pacific. CSX has shed about twice that, again going with the known players: G&W [see "First Coast's First Days," pages 36-42], Watco, and OmniTRAX.

Between Class I line transfers to the known players and industry consolidation, it's gotten to the point where the top 20 shortline operating companies ranked by annual revenue units own and operate 170 separate railroad names with more than 26,000 route-miles of track moving 4 million loads a year. Pure short lines — that is, the total number of lines less the switching and terminal railroads, steel roads, and holding-company railroads — number just under 400 carriers with about 30,000 route-miles handling 3 million loads a year. That's an average of 100 revenue units per mile per year, a handy number to keep in mind because we're about to explore that Rule of 100.

The shortline world has many rules of thumb: 100 cars per mile per year, $5,000 per mile per year in track maintenance to keep FRA Class 2 track (25-mph) up to specs, 12 gallons of diesel fuel per car handled per year, and others. These can tell an observer a lot in a short order. The Rule of 100 is perhaps the most important of all. It's a useful tool to have when you're trying to figure out whether the "Fallen Flag & Eastern" will make money.

The Rule of 100 works like this: The typical short line gets an "allowance" that averages 20 percent or less of the Class I revenue per car — call it $2,000 based on calendar year 2004 Class I revenue per revenue unit other than coal or intermodal. Call it $250-$300 per carload to the short line.

A short line with 4,000 loads a year is looking at annual revenues of $1.2 million, tops. A well-run short line ought to be able to meet its expenses for 80 percent of revenues, implying an operating budget of roughly $1 million. Payroll and benefits will take about 30 percent of revenue. Locomotive ownership, upkeep, and fuel will consume another 20 percent of revenues, and car-hire, the amount one railroad pays another to use the latter's cars, will take another 20 percent. That's 70 percent of revenue, or $840,000, and there's been no money allocated yet to track.

John C. Benson

SHORT TAKES
Kyle Railroad Co.
Route: 750 miles in northwest Kansas
Headquarters: Phillipsburg, Kan.
Interchanges: Courtland and Concordia, Kan., with BNSF; Salina, Kan., and Limon, Colo., with Union Pacific

Kyle SD39s work west of Phillipsburg.

Track will consume about $5,000 per mile per year in ties and surfacing to meet FRA Class 2 specs, the minimum required for maximum freight-train speeds of 25 mph. Why, you may ask, does a short line need 25-mph track? The answer is because it's twice as fast as Class 1 (or worse, "excepted" track) and doesn't carry hazmat and other restrictions of the lower grades.

The $5,000 per mile per year rule is based on the fact that Class 2 track requires eight good ties per 39-foot rail length. That works out to 1,083 good ties per mile; with 30-year tie life, you have to replace 36 a year. Figure $50 a tie installed and 50 cents a foot for tamping and surfacing, and it works out to $4,445 per mile. Call it $5,000 per mile per year including odds and ends.

Do the math and you'll see that a 15-mile railroad needs $75,000 a year just to keep the track up to Class 2 specs. A 30-mile railroad needs $150,000, and a 60-mile railroad needs $300,000. Applying the Rule of 100, a 4,000-car railroad will support 40 route-miles, which, at $5,000 per mile per year, comes to $200,000, leaving our sample railroad $60,000 to keep the lights on and pay the insurance. That's why the 100 cars per mile per year average for the independent short lines may be a bit thin.

Sixty percent of short lines handle fewer than 4,000 cars a year, which is kind of a cut-off for profitability. You still need two train-service people, two track workers, a clerk, and a manager. It still takes upwards of $600,000 a year just to open the doors before the first car arrives at interchange or the first spike is hammered. Lines this small — the proverbial 10 miles of rust and a cloud of dust — won't make it.

But the short lines that focus on building their revenue base, regardless of how big they are, will have a bright future. Fact is, railroading is having a true renaissance. For 2004, the Association of American Railroads said that railroads had another record year in both intermodal traffic and total volume as measured in ton-miles. U.S. carloads increased 1 percent for the year — 152,000 carloads — and total volume for the year was estimated at 1.69 trillion ton-miles, up 2.4 percent from the prior year's record.

This is good for short lines. Railcar Management Inc., a provider of shortline railroad revenue and asset-management services, reports that full-year 2005 shortline traffic was up 6 percent year-over-year. There are two factors at work here: Short lines do a much better job of increasing carloads from smaller shippers than do their larger counterparts, and there were short lines on the books at the end of 2005 that did not exist a year before.

We're also seeing increased instances where the Class Is are using shortline tracks as routing alternatives where the larger railroad is capacity-constrained. The Western New York & Pennsylvania, and the Nittany & Bald Eagle, for example, both handle Norfolk Southern unit coal trains, taking mileage out of an all-NS route and providing better use of assets.

In fact, asset management has taken on new importance as the major railroads look to improve returns on invested capital. The trend is toward minimizing what Watco calls consumables per revenue unit: car-hire expense, fuel burn, and man hours. Tom Hund, chief financial officer at BNSF, will tell you that 75 percent of the money you don't spend if you don't run

David Hoge

SHORT TAKES
Southeast Kansas Railroad Co. (with Watco's South Kansas & Oklahoma)
Headquarters: Pittsburg, Kan.
Route: 140 miles in southeast Kansas
Interchanges: Pittsburg, Kan., with Kansas City Southern; Coffeyville, Kan., with Union Pacific

Southeast Kansas SW10 1274 "Bubba" works the KCS interchange.

a train goes to wages, fuel, and equipment.

One result is the unit train. It loads in one place, goes directly to another place, unloads and returns, and serves both intermodal and coal well. The shift to unit grain trains helped doom such "granger lines" such as the Colorado & Eastern, Iowa Northwestern, and more former Chicago, Burlington & Quincy branches than I can count. Here again, farmers, country elevator operators, and users from millers to exporters found that super trucks, super highways, and super shuttles could move more grain faster and more cheaply than single-car moves involving lots of cars and locomotives.

And now, the Class Is — Canadian National being the exception — are taking the unit train concept into former single-car domains such as aggregates, automotive, and metals. The whole idea is to take out intermediate yards and inherent delays in order to produce, yet again, greater revenue yield per train-crew hour, gallon of fuel, and dollar of car-hire.

CN and BNSF have taken slightly different tacks to unitize the single-car franchise. CN is moving away from unit trains, instead running scheduled trains point-to-point with each train taking as much as it can regardless of commodity. At Taschereau Yard in Montreal, for example, CN has intermodal, automotive, transload, and bulk transfer for commodities from plastics to cooking oil, and lumber reloads, all in one place.

In this way, CN can fill each train with everything scheduled to be on it and get it out of town. Thus, the 5 p.m. departure for Winnipeg with 10,000 feet of capacity can leave full every day. Locomotive-fleet management improves, too, as power is matched to scheduled trains rather than, say, grain trains that can't go until the loader or receiver releases them.

The BNSF initiative centers on its AIM Strategy (Assess the carload product, Improve the carload model, Maximize the carload network). The effort starts by examining the resources required by commodity lane (one commodity moving between specific points) for such things as volume, equipment needs, and track speed. With this information, planners then can see where to improve productivity and move on to service design, customer involvement, and, most important, measurement and feedback.

This, mind you, comes from the railroad that generates 19 percent more revenue from intermodal and coal than it does from all other commodities combined, by far the highest percentage differential in the industry. On the other hand, CN's merchandise franchise (everything *but* intermodal and coal) represents 73 Canadian cents out of every dollar in revenue. What could two railroads with franchises at opposite ends of the single-carload spectrum have in common?

The parallel thread is maximizing merchandise tonnage per *scheduled* train. That means, as NS has demonstrated with its Thoroughbred Operating Plan, scheduling the core network first and then building the feeder network around it. So, with all this unitizing and scheduling going on, what's the poor short line to do?

The only option is to take part. Take stone and gravel, for example. Say there are three stone users on your short line that bring in 75 cars a week among them. Your interchanging Class I railroad wants to run 75-car trains on a 24-hour turnaround at destination. If you're going to split this train among three customers, your best bet is to lease 75 cars yourself so that when the Class I shows up for its train, you have one to give it.

Single-car customers are best served with a page out of the AIM playbook. The first step is to help customers accelerate the load-unload process to get cars back into the pipeline more promptly. With understanding will come a list of short-term action items for both railroad and customer. Finally, measurement — are we going where we said we'd go? Results, so far, are encouraging because taking assets out of the move lowers cost, lowers rates, and improves profitability for all. What better incentive could one ask for?

So it is that short lines *do* have a niche in this world of unit trains and scheduled operations. If ever there was a time to be in the shortline business, this is it, and what I call the "value-added" short line is in the best position of all. Value is added to the customer's process where the short line can enhance the logistics chain, operations, and inventory management, enhancing the customer's advantage against his competitors.

No less an authority than management and leadership consultant Tom Peters reminds us that "sustainable market share comes through relative perceived product or service quality — relative with respect to the competition; perceived by the customer" (see Peters' book *Thriving on Chaos*, page 67). To be sure, railroads are not known for proactively working with customers in supply-chain management. But they ought to be.

The short line that can spot loads so as to fill inventory voids as they are created, eliminate demurrage, keep rates down by helping customers turn cars faster, and shorten the time lag between load release and the Class I core train, will be perceived as a quality supplier. Short lines such as Watco's Eastern Idaho even have gone so far as to have their customers' releases trigger Union Pacific trip plans through to the destination. And if being able to tell a customer when his shipment will arrive isn't adding value to the rail transportation product, I don't know what is.

As Yogi Berra is reported to have said, "You can observe a lot just by looking." How a short line is managed is reflected in the way it looks. Bill Strawn, president of the Ohio Central

Mike Zollitsch

SHORT TAKES
Lycoming Valley Railroad Co.
Headquarters: Northumberland, Pa.
Route: 38 miles, Avis to Muncy, Pa.
Interchanges: Linden and Muncy, Pa., with Norfolk Southern

SW9s 238 and 239 step along at a smart pace at Saegers, Pa.

What is a short line?

If you go looking for the definition of a short line, good luck. There is no hard and fast rule on them. The Association of American Railroads classifies railroads according to annual operating revenues:

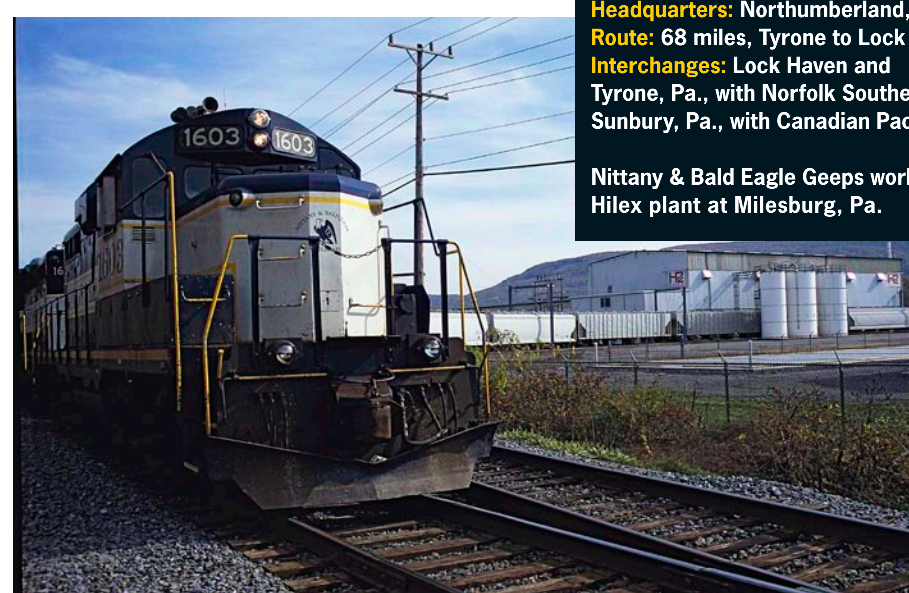
A Class I railroad earns more than $267 million.

A Class II earns less than $267 million but more than $21 million.

And a Class III earns $21 million or less.

The Class Is tend to lump every railroad that isn't another Class I under the shortline rubric. However, that route has its faults, because doing so includes the switching and terminal railroads, which the Class Is own in the first place.

And so it is generally agreed that a short line is a Class II or III railroad that serves a limited market and is locally managed or owned. Short lines are typically paid a percentage of the Class I revenue for every car moved and rarely participate in rate negations with other railroads or shippers. — *Roy Blanchard*



Mike Zollitsch

SHORT TAKES
Nittany & Bald Eagle Railroad Co.
Headquarters: Northumberland, Pa.
Route: 68 miles, Tyrone to Lock Haven
Interchanges: Lock Haven and Tyrone, Pa., with Norfolk Southern; Sunbury, Pa., with Canadian Pacific

Nittany & Bald Eagle Geeps work the Hilex plant at Milesburg, Pa.

John C. Benson

SHORT TAKES

Morristown & Erie
Headquarters: Morristown, N.J.
Route: 42 miles on three divisions: Whippany Main Line, Chester, and Dover & Rockaway Branch
Interchange: Lake Junction, N.J., with Norfolk Southern

M&E C430 No. 16, at Morristown, is a bright attraction to customers.

shortline network, correctly maintains that a clean locomotive is a short line's best calling card. In New Jersey, the 100-year-old Morristown & Erie got invited to switch a refinery simply because a refinery executive had seen the M&E's bright red Alcos on his way to work every morning.

It works the other way, too. A farmer in the Midwest saw me photographing a particular short line operating over a Class I fallen flag. Track had degraded to FRA Class 1 or worse, and the three units on the point of the train in my viewfinder had paint schemes that did not match, with the leasing company's initials carelessly stenciled under the cab window. Said the farmer, "Since that outfit came to town, that railroad's really gone down hill." In other words, customers will use a railroad that looks like it has its act together, and they can tell from appearances how much attention the railroad gets from its owner.

Five attributes separate the value-added short line from the others. The railroad is busy, running six or seven days a week, and may even have multiple train-starts per day. Everything is clean and wears a fresh coat of paint. Track is immaculate — good ballast and ties, no low joints, and free of vegetation. Most important of all, the value-added short line switches its customers at the same time every day. The line understands its customers' supply chain dynamics and knows "train time is any time" no longer works. To do this, the value-added short line measures everything (the fifth attribute) from gallons of diesel fuel and train-crew hours per revenue load to elapsed time at the customer's facility, and is prepared to drill down to root causes of failure in order to add more value to the commercial relationship.

It's important for customers to take the lead in fixing the rail relationship where they are in control — empty car ordering, load-unload sequence, even down to making sure the gate or door is open for train crews. But it's just as important for the shortline owner to spot trouble and step in before it escalates into something expensive.

For example, there are places where customers take multiple cars twice a week, unload them with no pattern, and release empties all at once. Then they wonder why they get demurrage bills. Better for them to unload cars from the gate back and release them as unloaded to stop the demurrage clock.

Then if the train crew shows up before the last car is unloaded, they can pull the empties and loads, shove in new loads, and put the remaining loads from an earlier switch on top of the new loads. The process eliminates demurrage and keeps cars cycling. But often the railroad has to step in and make these suggestions.

Sometimes a glitch in the customer's manufacturing process can cause a hiccup in rail service. A commercial carpet-maker uses powdered limestone in the adhesive backing that holds the finished product together. The limestone arrives by rail pretty much on a just-in-time basis.

One day the short line's train crew noticed the plant was not unloading cars as usual. Loads were plugging the industry plant, and the crew was afraid they'd have to be "constructively placed" (modern railroad jargon for parked someplace other than the intended receiver), clogging up the railroad and adding demurrage penalties for the customer.

As it turned out, the gluing machine had broken down and the logistics manager had not told the supplier to shut off the tap. So, the railroad owner got on the horn with the plant manager to get the supply turned off. Then they worked out a schedule to unload the back-logged cars so as to minimize demurrage exposure. They also fixed a timeline for repairs to be complete and gave a re-start date to the supplier and the originating railroad.

Finally, there's the paper receiver with an inventory problem. Every month the serving short line would send a five-figure demurrage bill. Naturally, the plant manager thought irregular transit times were causing cars to arrive faster than he could unload them. So he called the shortline owner seeking relief. The plant consumed 4 million pounds a week in its printing operation. It kept 7 million pounds of paper on the floor of the printing plant, plus several million pounds in outlying warehouses. Most of the paper arrives by truck during the day, and railcars are unloaded at night.

But because trucks filled up the available space by day, there was little room to store the paper to be unloaded from the boxcars at night. As a result, boxcars were not unloaded promptly, and as more arrived they were set aside. There was no problem with transit time, so the root cause of the high demurrage bill was the inventory problem: too much paper, too little room.

The big players in short lines

Owner	Lines	Miles	Annual Carloads	CPMPY*
RailAmerica	47	8,728	1,140,000	131
Genesee & Wyoming	43	3,027	1,021,000	337
Washington Group (MRL)	2	723	285,000	394
Cedar American (DME-ICE)	2	2,300	227,000	99
OmniTRAX	17	2,600	200,800	77
Watco Cos.	9	2,834	200,000	71
Paducah & Louisville	1	309	181,000	586
Anacostia & Pacific	4	594	137,000	231
Wheeling & Lake Erie	1	769	87,000	113
Quebec Railway	7	1,643	83,000	51
Ohio Central	7	516	71,000	138
Iowa Interstate	1	552	65,000	118
Indiana Rail Road	2	200	65,000	325
Rio Grande Pacific	3	484	57,000	118
Gulf & Ohio	9	276	46,000	167
Lehigh Valley Rail	6	81	45,000	556
Western Group	6	751	44,500	59
Pinsley	6	200	43,000	215
Sandersville	1	11	35,000	3182
Totals	174	26,598	4,033,300	Avg. 152

*Cars per mile per year. Source: Industry estimates, company reports from 2005.

The solution was to have some truck paper delivered to the outlying warehouses, keep no more than 4 million pounds in the printing plant, and unload railcars as they arrived, releasing empties back to the railroad as they were made empty rather than waiting for that evening's train.

The common thread among these examples is that the customers had it in their power to manage their rail asset more productively, but for whatever reason failed to do so. The good news is that in every instance there was a short line with the people and skills to identify a problem and recommend a process to rectify it. That's what being a value-added short line is all about.

SHORT TAKES

Louisiana & North West
Headquarters: Homer, La.
Route: 62 miles, from McNeil, Ark., to Gibsland, La.
Interchanges: McNeil, with Union Pacific; Gibsland, with Kansas City Southern

A worker dismantles an old L&NW Geep.

David Hoge

There are, as we noted at the opening of this article, many shapes, sizes, and approaches to the shortline business. However, the economics and commercial aspects are common to all: Being perceived as a quality supplier in the eyes of the customer will get you through times of no money better than money will get you through times of no customers.

After so many years of managing a shrinking asset base, today's industry leaders have to think in terms of growth. And isn't it interesting that the 2005 stock price performance of the best-run North American railroads eclipsed that of so many e-business darlings from e-Bay to Yahoo.

Yes, consolidation within the shortline industry will continue, and the big will get bigger. Yet there will always be room for the value-added short line regardless of length. The small road is just as wide as the big one and has just as good a shot at being another value-added short line. I

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