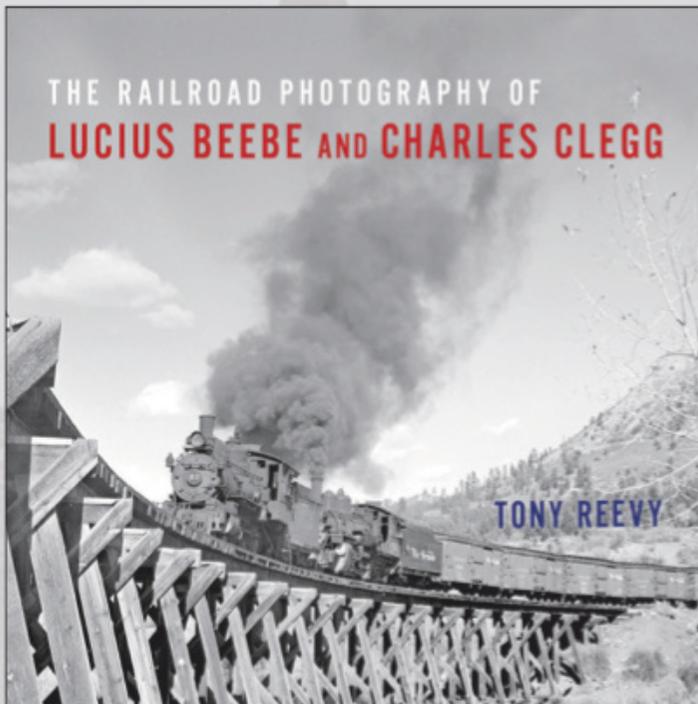
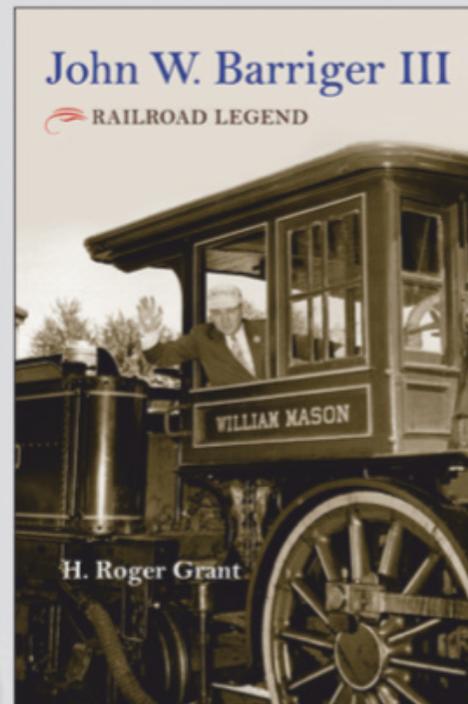


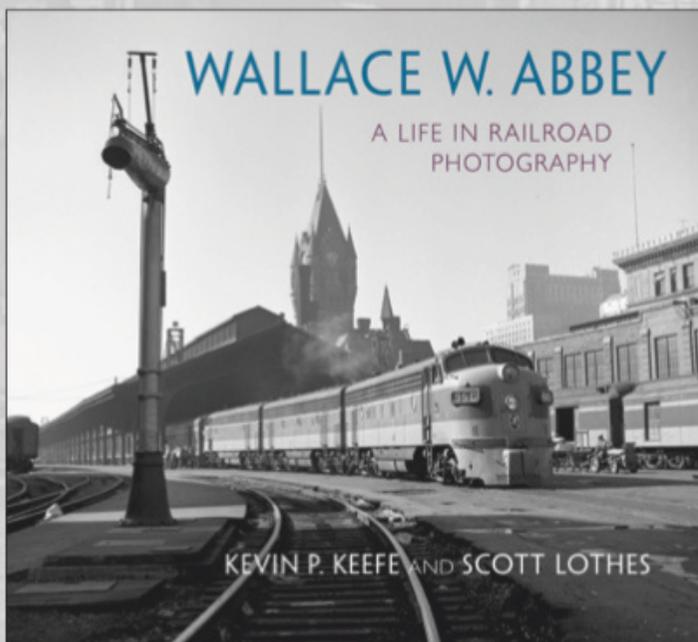
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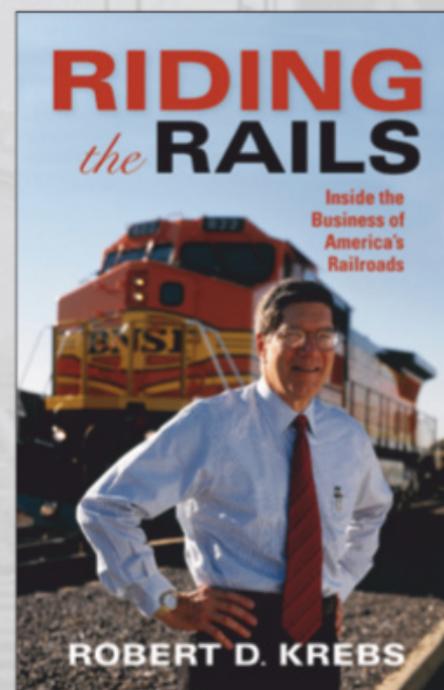
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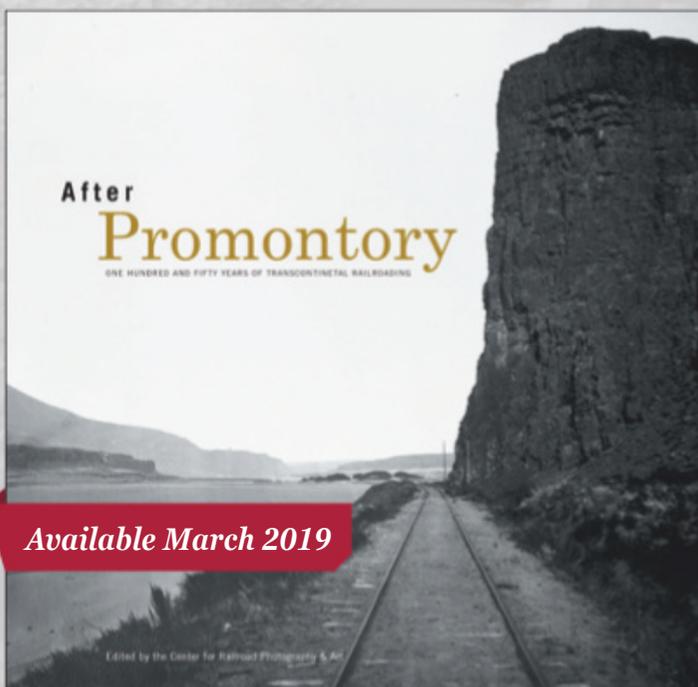
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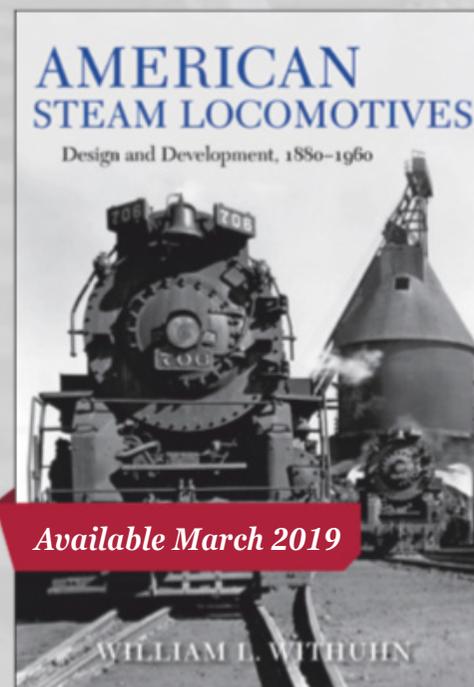
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Tom Danneman



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Two eastbound Aiken Railway GP30 locomotives cross the former Southern Railway bridge west of Aiken, S.C., on May 28, 2014. Steve Smedley

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Short lines and the second wave

The 1980s shortline revolution was bold, but compared to what is coming it may look mild



Jim Wrinn

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Short lines old and new, like the Alexander Railroad near Taylorsville, N.C., have an entrepreneurial spirit that is contagious. TRAINS: Jim Wrinn

I don't spend enough time with short lines. Yes, they're distinctive with operating practices, power, and paint schemes. But there's something much more here that is powerful. Every time I am trackside or on a shortline property, I get a sense of how invested the crews and managers are in their railroad. They have a pride of ownership. Their entrepreneurial spirit is contagious. There's an excitement in knowing they're making

a difference for themselves, their customers, and their communities.

Thirty years ago, American railroading was in the midst of a shortline boom. Deregulation of the industry meant that Class I railroads could shed unprofitable lines without wrestling federal regulators for years. New operators came on board by the scores. Old branch lines became new railroads once again. Most have flourished in the years that have gone by, and nearly all now have a second generation of management or have been sold to a shortline holding company.

Now, with Precision Scheduled Railroading the buzz words in the industry, we're seeing a flurry of new short lines, and as Class I railroads cast off mileage, it's a new bonanza time to be the big boss of a little railroad. This time, the situation is different: The Class I railroads are receptive to those with experience in the business and are less willing to work with newbies. There's also, in the case of through routes, a desire to run Class I freights on the trackage that is now the short line's (think Montana Rail Link or Buckingham Branch). We're embarking on a new era of shortline spinoffs. It's a big second wave of startups, and by the time it's all over, there may be more little railroads than ever.

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THE TRAINS INTERVIEW

31 years on MRL

CEO reflects on decades atop a leading short line: Montana Rail Link

ON OCT. 31, 2018, Montana Rail Link celebrated 31 years of operation and CEO Tom Walsh had just 61 days left as the regional railroad's leader.

But Walsh, who has been with MRL since the beginning, was not counting down the days. It is something even he acknowledges is rare for a railroader so close to retirement.

"This has been a fantastic job and there has never been a day where I did not want to be here," Walsh told *TRAINS* in an exclusive sit-down interview from the railroad's headquarters in Missoula, Mont. "I'm not counting down the days."

Walsh stepped down Dec. 31 as the longest-serving MRL president and CEO, handing the reins over to Vice President Stacy Posey.

Today's MRL is barely recognizable compared to the railroad that began operations in October 1987, Walsh says. In 1987, Montana-based industrialist Dennis Washington went into the railroad business and agreed to purchase a number of former Northern Pacific branch lines from Burlington Northern and lease the main line for 60 years. Washington tapped Milwaukee Road veteran Bill Brodsky to lead the new railroad.

About the same time, Walsh, a Helena, Mont., native, was working as an accountant in Billings, Mont., and looking for a way to get a job at the Washington Cos. in Missoula. When Walsh heard Washington was starting a railroad, he applied to be the chief financial officer. Walsh didn't get that job, but Brodsky liked him

and hired him for another position. Walsh says he started at MRL in October 1987, two weeks before trains were even rolling.

Walsh recalls that the early days were hectic and some feared the new company wouldn't be able to meet payroll. As chaotic as those early days were on MRL, Walsh says they were beneficial.

"The camaraderie that was built in those early days would be impossible to replicate," he says. "That's something I feel fortunate to have been a part of."

In the late 1990s, Walsh was promoted to executive vice president and was involved with the acquisition of two other railroads, the Southern Railway of British Columbia and I&M Rail Link. Walsh became MRL president and CEO in 2003.

Traffic was down on MRL and many were questioning the railroad's future, Walsh recalls. But during a meeting with the railroad's managers, Walsh assured his team that he believed the railroad's best days were ahead.

Under Walsh's watch, business grew and MRL took on more traffic from BNSF Railway, which runs trains across MRL between Billings and Sandpoint, Idaho. In 2012, MRL signed a 25-year contract to move even more BNSF traffic across the system. The railroad also invested heavily in its motive power and infrastructure.

Walsh says he is most proud of how far MRL has come in the last 30 years and of the team he helped build. He says the regional line is in good hands. — *Justin Franz*

▲ On May 14, 2016, Montana Rail Link's eastbound *Gas Local* rolls along the Flathead River west of Perma, Mont., on MRL's 10th Subdivision. *TRAINS*: Tom Danneman



Tom Walsh





Building a modern regional railroad

Montana Rail Link and other regional railroads invest in the future and growth

▲ On May 12, 2016, Montana Rail Link's *Gas Local* heads west just west of Dixon, Mont., on MRL's 10th Subdivision. The Mission Mountains loom in the distance.

Two photos, TRAINS: Tom Danneman

ASK TOM WALSH what he's most proud of after 15 years in Montana Rail Link's top job, and the railroad CEO will give you a list of major investments that have been made on the railroad — everything from rail replacement projects to the purchase of 16 new SD70ACe locomotives in 2005.

Since 1987, when MRL was created from some 900 miles of Burlington Northern track across Montana and Idaho, the company has spent more than \$1 billion on capital projects. Walsh attributes the railroad's continued focus on capital improvements to its independence and its sole owner, billionaire industrialist Dennis Washington. Walsh says that unlike other companies that must please hundreds of shareholders, MRL only has to answer to its customers and Washington.

"So many companies are thinking about how they can do better the next month or the next quarter, but Washington has never thought that way," Walsh says. "Our owner is committed to having this railroad in his portfolio and he has a desire to keep this going long after he's gone."

MRL is not alone. Regional railroads, once known for frugality and their taste for the secondhand, are making big investments in their networks in order to compete for business and prepare for the future.

Stacy Posey, who came to MRL as vice president of operations in 2016 and became president and CEO on Jan. 1, says for railroads such as his, maintaining a modern network and embracing modern technology are the keys to success in the 21st century. Posey says they might even help address issues that some railroaders are not even thinking about.

"I think innovation will help

I THINK INNOVATION WILL HELP US COMPETE WITH THE TRUCKING INDUSTRY BECAUSE THEY'RE INNOVATING PRETTY RAPIDLY, AND WE GOTTA GET RIGHT THERE WITH THEM."

**— STACY POSEY,
MRL PRESIDENT**

us compete with the trucking industry because they're innovating pretty rapidly, and we gotta get right there with them," he says. "There are challenges ahead, but I think we can address them."

Another regional railroad putting thought into the future is Pennsylvania's Reading & Northern, owned by Andy Muller Jr.

As anthracite coal traffic continues to boom on the regional road, Muller has been working to increase track speeds across the railroad and install additional signal systems (see page 38). The R&N is looking at installing positive train control in the coming years — voluntarily. Muller says the big reason he is investing in his railroad is that he intends to keep it.

"I wouldn't sell this railroad for a billion dollars," Muller says of the regional.

It's a similar story further north on the Vermont Rail System, which is undertaking a major effort to upgrade its bridges so that it can handle heavier cars, President David Wulfson says.

Like his counterparts on the Reading & Northern and Montana Rail Link, Wulfson

says Vermont Rail is making investments so that it can remain an independent company. He'd like to one day hand over control to the next generation of railroaders.

"In Vermont, family farms are handed down from one generation to the next," Wulfson says. "Well, we have a family railroad."

Almost immediately upon arriving at MRL in 2016, Posey noticed the regional railroad's familial feel. It was different than at CSX Transportation, where he'd worked previously.

Posey says he is taking over a railroad that is in tiptop shape, and he has no plans to stop making major investments anytime soon.

In 2019, MRL plans to put a record-breaking \$83.2 million into the railroad. The highlights include building a new siding; expanding the yard at Logan, Mont.; and installing a new crossover west of Missoula, Mont.

The railroad has also

budgeted \$12 million for the preliminary engineering to install positive train control by 2022. MRL is seeking federal funding to help cover the costs of installing PTC. It will be installed on five subdivisions across MRL between Billings, Mont., and Sandpoint, Idaho.

Amy Krouse with the American Short Line and Regional Railroad Association says some of the investments by companies in recent years can be attributed to the Section 45G Short Line Tax Credit that was passed by Congress in 2005. The tax break provides a credit of 50 cents for each dollar railroads invest in track and bridge improvements. Krouse says it has been responsible for billions of dollars in infrastructure investments in the last decade.

Walsh says whether or not a railroad remains independent really depends on the mindset of its owners. However, Walsh is confident that Montana Rail Link will be



On July 6, 2018, three Montana Rail Link SD40-2XRs lead a BNSF manifest freight train through Winston, Mont., headed to Laurel, Mont.

around for years to come.

"We feel like MRL will stay independent, and it will stay that way for a long time," MRL's Walsh says.

Henry Posner III, chairman of the Iowa Interstate, says there is a philosophical argument for railroads to remain independent: different companies bring different perspectives to the table and that

makes the industry as a whole better. Posner, who has been involved with railroads around the world, says uniform ownership across industry rarely leads to innovation.

"Independent railroads play an important role in the industry," he says. "Diverse thinking and diverse ownerships make the railroad world a much better place." — Justin Franz



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NEWS BRIEFS

UP hires new operations chief

UNION PACIFIC hired former Canadian National executive and Precision Scheduled Railroading expert **JIM VENA** as its chief operating officer in January. A protege of the late E. Hunter Harrison, Vena was CN's operations chief from 2013 to 2016 and will lead UP's ongoing shift to an operating plan based on Precision Scheduled Railroading. Two weeks later, UP announced that Chief Strategy Officer **LYNDEN TENNISON** would retire March 31, less than a year after being promoted to executive vice president. Tennison, who reported to Vena, is a 27-year veteran of UP. He joined the company in 1992 and was responsible for developing and implementing the railroad's strategic agenda, as well as network operations. Tennison previously served as senior vice president and chief information officer for more than a decade. News of Vena's hiring sent UP's stock higher, adding \$9 billion to the company's value in one day.



WISCASSET, WATERVILLE & FARMINGTON RAILWAY MUSEUM volunteers plan to use a \$10,000 donation to build as much as 2,000 feet more of track. The Massachusetts Bay Railroad Enthusiasts awarded the money as part of the H. Albert Webb Memorial Preservation Award to the museum to fund the Mountain Extension Project — an effort to re-lay track on three-quarters of a mile of the original WW&F Railway's grade. In Autumn 2018, museum volunteers laid more than 1,900 feet of track during three days, and in October 2019, volunteers intend to lay another 2,000 feet of track. WW&F: Mike Fox

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Amtrak Empire Service train 281 from New York Penn Station to Niagara Falls, N.Y., crosses the Livingston Avenue Bridge in Albany, N.Y., as a boat lodged against it in January. Dan Kittay

Boat freed by swelling waters strikes CSX bridge in NY

ONE OF EIGHT BOATS that broke free from their moorings in New York's Capital Region in January lodged itself under the Livingston Avenue Bridge in Albany. Amtrak and CSX Transportation use the bridge for east-west traffic in New York and beyond.

"There has been no damage to the structure, and no cancellation of any of our trains," Amtrak spokesman Jason Abrams said. There were minor train delays because of speed restrictions on the bridge of 10 mph, Abrams said. The normal speed on the bridge is 25 mph.

While CSX owns the bridge, a CSX representative said the tracks are leased to and maintained by Amtrak.

State, local, and federal officials responded to the incident. The U.S. Coast Guard sent two ice breakers to the scene to dislodge the boat. The smaller of the two breakers went under the bridge to break up ice that surrounds the boat. Commercial tug boats then pulled the stuck boat free from where it was wedged against the bridge, a Coast Guard representative said.

The wedged boat was the Captain JP III, a 300-foot passenger cruise ship based in Troy, N.Y. It and the other boats likely came loose due to a large amount of ice that had been freed up because of warmer weather and rain earlier in January, says New York Department of Environmental Conservation Commissioner Basil Seggos. The ice slammed into the boats, causing them to break free from their moorings and head downstream. They hit several vehicle-carrying bridges on their journey. — Dan Kittay

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Freight railroads need to be competitive, anticipate problems, and deliver on promises



Fred W. Frailey
ffrailey@gmail.com
Blog: TrainsMag.com

Mining giant Rio Tinto, after almost \$1 billion and 10 years, has automated its 1,050-mile railroad across Western Australia. Trains of 28,000 tons run from a dozen mines to four seaports with nobody aboard. Think: Robot Railroad. I mention this because we like to say America has the best freight railroads. What we have is a railroad network that is probably more prone to breaking down than any in the industrialized world. The problem is that we have way too many failures that fracture reliability — pull-aparts, broken this and that, crews not completing their runs. Russian railways are better run. That poses a question: Are the railroads we have the ones we want?

We need railroads that respond to the needs of shippers, first of all by delivering freight when they say they will and also staying price-competitive to trucks and other modes. You build reliability by preventing the failures that both screw up schedules and drive up costs. That requires even more lineside technology to detect equipment defects, better inspections of freight cars, and maintenance before something cracks or fails instead of after. All this costs money, which is why not much of it gets done. But equipment failures and reworks cost money, too, and rob railroads of reliability. And speaking of equipment, a freight car not in unit train service still makes but one turn a month, spending most of its life standing still and waiting. Locomotive use has been largely unchanged as well.

Now imagine a railroad that can handle today's traffic with 30 percent fewer freight cars and 25 percent fewer locomotives. We pay railroad executives a lot of money, and some day one of them is going to figure out how to get 25 or 30 percent more miles out of everything. What you'd have then is a whole lot less maintenance to perform on the equipment you no longer need, freeing money to more proactively maintain cars and locomotives you do need and prevent the failures that are the bane of American railroading — a sort of virtuous circle.

Precision Scheduled Railroading as practiced by the late Hunter Harrison did some of this. Everywhere Harrison went he put hundreds of locomotives in storage. He didn't do so well with freight cars, however. The thinking seems to be that since customers own so many of them, they're essentially free to sit and gather cobwebs. But when a knuckle breaks on a shipper's tank car because a crack was never detected and blocks the line for hours, that's not free.

The Santa Fe Railway almost got it right 45 years ago. Every 2 hours a freight would leave Kansas City, Kan., for Barstow, Calif., and every 2 hours a freight left Barstow headed east. Along the way, they swept terminals every 120 minutes. You can imagine what this did to per diem payments for freight cars and to their utilization. A year into this, nobody thought to alter things during



Rio Tinto spent a billion dollars to automate its 1,050-mile network so it can move trains like this loaded iron ore train from the mines in Pilbara, Western Australia, to the port at Cape Lambert for export. David Arnold

the slow Labor Day weekend. President John Reed in his business car saw a train go by with three diesels and seven cars. What was that, he asked? Thus ended that experiment. Today, almost never will a railroad run blocks of cars between any of its origin-destination pairs more than once a day.

Yet there are a lot of smart people in this business, some of whom aren't afraid to think, and ideas keep bubbling up. For instance, is it necessary that every car be standardized in order to be interchanged and shared among railroads? BNSF Railway and Union Pacific run unit grain trains that don't interchange, and the same of their coal trains. So permanently couple them in 25-car sets to minimize slack, electrify the brakes to maximize control, and shop each set on a mileage schedule to ensure better reliability. I'm told the technology exists to platoon trains. An engineer is on the lead train and following it at set distances could be any number of other trains (or modules) with their own locomotive but controlled by that engineer. Let's take the example of CSX intermodal train Q031, which operates between New Jersey and Jacksonville, Fla. CSX also hauls garbage from the New York side of the Hudson River to near Petersburg, Va. Those garbage cars could be cycled a lot faster if they platooned behind Q031 from New Jersey to Collier Yard, where control could be transferred to the yardmaster as Q031 glides by.

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New England Central 645 diesels resonate in the winter air on their ascent of the former Central Vermont Railway's State Line Hill in Monson, Mass. Brian Solomon

There's comfort in reliving your youth. Consider the preponderance of classic rock, classic movies (remaking of popular classics), classic cars and retro automotive styling, and throwback sodas (made with real cane sugar). Each of us has a period that represents our golden time. At the end of steam, many photographers shied away from contemporary operations where diesels had relegated steam to scrap, and focused on remaining steam. Favorites included functional antiques such as Rio Grande's narrow gauge, Boston & Maine's Moguls hauling wooden-bodied passenger cars on secondary lines, and southern steam-hauled short lines. The attraction was more than just finding steam, but also embracing the perpetuation of earlier operational practices.

Fast forward to today. As attractive as steam's final days seem to me, those times are beyond my memory. I find personal nostalgia in classic mainline railroading: specifically the moderate-size railroads of the 1970s and 1980s.

The past 35 years, influenced by deregulation and the need to obtain greater efficiency through technological advancement and economies of scale, have largely swept away elements of mainline railroading. As I described in "Transformative Years: 1983-2001" ["Commentary," October 2018], the increased emphasis on point-to-point freights, consolidation of traditional Class I railroads into modern super systems, and motive power improvements that altered the way they look and sound, were necessary efficiencies that improved industry health. Yet these changes leave me longing for the way things were, before the novelty of safety cabs moving double-stacks predominated on Class I main lines, and seven companies dominating American freight operations.

While BNSF Railway, Canadian National, Canadian Pacific, CSX Transportation, Kansas City Southern, Norfolk Southern, and Union Pacific represent the bulk of North American railroading in terms of traffic, locomotives, and employment — not to mention Wall Street interest — I yearn for when mixed-consist carload freights were the rule, powered by locomo-

tives with EMD 567/645 or classic General Electric FDL prime movers. These older diesels, unrestrained by mandates to reduce sound output, made the electro-mechanical thunder that inspired my railroad interest.

Moderate-sized railroads that I grew up with, such as Boston & Maine and Delaware & Hudson, were digestible in terms of where they went, what they carried, and the size and composition of their locomotive fleets. By contrast, compare those railroads with today's consolidated systems and their sprawling networks represented by corporate handles in place of traditional names. Have you noticed that the ampersand has all but disappeared from mainline railroading?

Today, some regionals offer a style of "retro railroading." They are not a perfect match, but they embrace those old-school mainline qualities where mixed carload traffic predominates, unit trains remain a novelty, 11,000-foot-long stack trains won't fit into sidings, and where 1960s-1970s-era locomotives still dominate.

Reading & Northern and Watco's Wisconsin & Southern offer examples of regional retro railroading. These for-profit carriers operate classic Class I railroad lines that were cast off by the super systems, and yet carry ample traffic to warrant heavy operation with long trains. What makes them compelling is their focus on traditional carload traffic hauled by classic diesel-electrics.

Reading & Northern goes the extra mile (see page 38), paying tribute to its heritage with Reading Co.-inspired paint schemes, plus continued maintenance of historic-style railroad structures, equipment, and its older approach toward lineside signaling. And if R&N's carload freights don't take you back, consider its variety of heritage passenger excursions, including Lehigh Gorge Scenic Railway trips from Jim Thorpe, Pa., and periodic trips operated from R&N's Reading Outer Station operated with 1950s-era Budd RDCs or classic steel passenger cars hauled by R&N's 1920s-era 4-6-2 Pacific steam locomotive, or vintage diesels.

Genesee & Wyoming's New England Central is my local favorite. It operates the former Central Vermont Railway and is free from modern high-output A.C.-traction locomotives with heavily muffled prime movers, and instead employs good old EMD 16-645-powered diesels. Traffic is light compared with the Class I main lines, but the sights and sounds of its road freights bring me back. As I write this, I can hear a pair of GP38s battling State Line Hill on their way south from Palmer, Mass.

Railroading has an ability to perpetuate functional, yet obsolescent, technologies for decades. But how much longer will the sights and sounds of 1970s-style railroading continue? Enjoy retro railroading while you can. **I**

Announcing Shore Line's Dispatch Number 9 with Special Limited Time Offer

Linking Chicago's Neighborhoods II

Richard F. Begley, Editor,
with George E. Canary
and Walter R. Keevil



CTA Flexible Flyer 1936 is serving the Near North Side on Chicago Avenue at Michigan Avenue in 1948. —Fielding Kunecke photo, W.R. Keevil Archive

Chicago is a city where the everyday events of life occurred in its 77 semi-official neighborhoods. Education, entertainment, shopping happened in "the neighborhood"—be it South Chicago, North Park, Garfield Park or elsewhere. The common denominator: the streetcars of the Chicago Surface Lines and later the Chicago Transit Authority. The streetcars provided transportation within the neighborhood and linked the neighborhood with other neighborhoods, both like and unlike, both near and far.

Building upon the success of Dispatch 8, Chicago Surface Lines: Linking Chicago's Neighborhoods, Shore Line announces the availability of Dispatch 9, Chicago Surface

Lines: Linking Chicago's Neighborhoods II. Dispatch 9 covers 26 streetcar lines in the 1945-1958 period. The Dispatch includes a section on Eight Distinctive Lines of Southeast Chicago (including "the Hegewisch line" and South Deering); coverage of Diagonal Lines in a Grid City (including Elston, Archer and Lincoln); as well as information on such routes as Kedzie, Cicero, 18th Street and Chicago Avenue. The routes used about 630 streetcars daily and carried 162 million originating revenue passengers in 1945.

Dispatch 9 includes detailed narratives on each route and a wonderful article by George Canary on his recollections of life on Division Street in Wicker Park.

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CSL 6212 is westbound on 92nd Street at Commercial Avenue in South Chicago. —Fielding Kunecke photo, W.R. Keevil Archive

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Dual-fuel downturn

Railroads shelve natural gas programs due to cost

▲ LNG-powered trains and fuel tenders are a daily occurrence on FEC. Here, train No. 226 passes northbound through St. Augustine, Fla. Eric Hendrickson

Dual-fuel units

Progress Rail SD70ACe No. 2012
General Electric ES44AC No. 2012
FEC ES44C4 Nos. 800-823
BNSF SD70ACe Nos. 9130 and 9131, ES44AC No. 5815
UP SD70ACe Nos. 8777 and 8778
CN SD40-2s Nos. 5258 and 5261
CP SD40-2 No. 6061
NS GP38-2 No. 5053
IHB RP15BDF Nos. 1506 and 1508
Note: Some had dual-fuel equipment removed prior to being released for service.

NATURAL GAS is still looking for large-scale adoption in the rail industry. It had several periods where traction was gained, then lost due to a shrinking price advantage compared with traditional diesel fuel. The industry's latest push toward natural gas adoption began about 2010 and continued until just a few years ago, when the price spread began to narrow in early 2015. By the end of 2015 and into early 2016, diesel was at times cheaper than natural gas.

While that inversion has since been reversed, the price of diesel has not risen high enough for railroads to restart their natural gas programs. As commonly applied in the industry, natural gas is used to supplement diesel fuel in so-called dual-fuel locomotives. Substitution rates can include as much as 70-to-80-percent natural gas on modern locomotives, with diesel used as an ignition source for the natural gas in the cylinder.

At its peak, five of the seven Class I railroads, with the exception of Kansas City Southern and CSX Transportation, had actively tested some form of liquefied natural gas or compressed natural gas system on locomotives. Smaller players such as Florida East Coast and Indiana Harbor Belt also ramped up programs during this time. Major locomotive builders Progress Rail and General Electric were involved both in developing natural gas technology and building new locomotives with certain provisions to accept natural gas equipment in the future to those customers requesting it. BNSF Railway, Canadian National, Canadian Pacific, and Union Pacific were all testing six-axle road locomotives and LNG, except CP, which was exploring a CNG system. Norfolk Southern was also working with CNG but applied dual-fuel equipment to a four-axle Geep. Indiana Harbor

Belt, located in the Chicago area, is pursuing ambitious plans to convert most of its entire fleet of power, including 21 SW1500s and 10 GP40-2s. Florida East Coast converted its entire fleet of 24 General Electric ES44C4s to dual fuel with 12 LNG tenders.

As the price of diesel began to fall, railroads quietly shelved their programs, with the exception of FEC and IHB. IHB's program has experienced some technical delays following delivery of the first two converted SW1500s, now RP15BDFs.

During this downturn, both builders continue to refine their products. GE repurposed its first dual-fuel locomotive, ES44AC No. 3000, which was equipped with pre-production equipment, and replaced it with ES44AC No. 2012. That unit is equipped with a production NextFuel retrofit kit and mated to its LNG tender built to the same specification as Florida East Coast's fleet. Progress Rail uses SD70ACe No. 2012 as its natural gas test bed, with an LNG tender purchased from Chart Industries.

With the amount of development in the past decade, there is a strong likelihood that the next time the Class I railroads restart natural gas testing, one or more may adopt the fuel permanently. — *Chris Guss*



▼ Indiana Harbor Belt dual-fuel RP15BDF No. 1508 rests on the turntable at the railroad's Gibson Yard near Chicago. Prior to rebuilding, No. 1508 looked just like SW1500 No. 1524 coupled to it. Mark Mautner



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'Hoosier State' threatened – again

Indiana governor won't include \$3 million annually for train in \$33.8-billion budget

▲ Amtrak's only remaining dome trails the Indianapolis-bound *Hoosier State* out of Chicago on March 15, 2017. Iowa Pacific had relinquished operation of the service two weeks earlier.

Bob Johnston

WHAT HAPPENS when infrastructure improvements aren't made to a meandering passenger-rail route between two major population centers? The train faces extinction. Such is the case for the Chicago-Indianapolis *Hoosier State*.

Indiana's then-Director of Multimodal Planning and Programs, Katie England, told TRAINS in 2017 that her department was looking into investments to improve travel times, and increase patronage and cost recovery, with another round trip even possible. This would have been a major turnaround from the state's previously tepid support, but it was just talk.

Indiana Gov. Eric Holcomb did not include \$3 million annually for operating support for the train in a proposed \$33.8-billion budget for the two fiscal years beginning July 1, 2019. In releasing the budget in January, Holcomb said the train "hasn't performed as originally billed." Never consulted were the mayors and county executives of on-line communities who have made a commitment of more than \$350,000 annually in local funds to make sure they had a

train on days Amtrak's triweekly Chicago-Washington, D.C.-New York *Cardinal* doesn't operate.

"My understanding is that if the governor doesn't put it in [his budget], the legislature can't add it," Crawfordsville, Ind., Mayor Todd Barton tells TRAINS. "The biggest thing for us is that his staff never reached out to their loyal partners who have helped fund it."

In March 2017, an Indiana transportation department spokesman told TRAINS that the state had "a track consultant under contract to perform infrastructure analyses and represent Indiana in discussions with CSX Transportation and Amtrak and explore grant opportunities" to make the *Hoosier State* route more time-competitive with always-congested and accident-plagued Interstate 65. Amtrak had just agreed to reclaim the equipment and onboard service components from Iowa Pacific Holdings, which since August 2015 had operated the four-day-per-week train with heritage coaches, a full-length dome, and sit-down meal service. Though passenger revenue and patronage rose as a result of enhancements and targeted marketing during its tenure, Iowa Pacific couldn't survive on a contract to first pay Amtrak operating charges — including on-time performance payments to host railroad CSX — before the vendor got what was left.

As far back as 2010, when Indiana first balked at funding under the Passenger Rail Investment and Improvement Act, Amtrak Government Affairs

Senior Director Ray Lang told Indiana DOT officials "the status quo is not a long-term solution."

Amtrak did up its game from its previous coach-only service by adding a cafe car and business class after Iowa Pacific exited, but Barton says Amtrak "never goes above and beyond or does themselves any favors." A recent case in point: the company could have operated the *Cardinal* as far as Indianapolis on Jan. 19, but chose to cancel it, even though the snowstorms that prompted cancellation were in West Virginia.

While the numbers reflect eight weekly trips (on days the *Cardinal* doesn't run), the *Hoosier State* only carried 27,876 passengers generating \$914,344 of ticket revenue in fiscal 2018. Yet the train's daily link to Chicago is crucial to Tippecanoe County and its principal cities, Lafayette and West Lafayette, which host Purdue University students and faculty (see table).

Barton contends that the lack of support is rooted in the state's efforts to snub Chicago and develop Indianapolis as a regional business hub, including subsidizing international flights to its airport. Ironically, improved rail infrastructure might allow for a second daily round trip, permitting passengers to make day trips to Indianapolis, which they can't do now. Barton says officials from towns along the route will be pressing the governor's office on that point in the months ahead, but admits, "You feel like the deck has been stacked against you every step of the way." — Bob Johnston

HOW MUCH IS A DAILY PASSENGER TRAIN WORTH?

Community contributions toward *Hoosier State* operation, fiscal 2019
(In thousands; contribution amount based on ridership)

	Revenue
Tippecanoe County	\$123.4
Lafayette	\$84.9
West Lafayette	\$84.9
Crawfordsville	\$53.3
Rensselaer	\$4.2
Indianapolis	\$0
Total	\$350.7

Source: City of Crawfordsville



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Transcon. perspectives





Scenic photos help show time, place, and purpose of the Transcontinental Railroad



Story and photos
by Richard Koenig

WELL-KNOWN AMERICAN Civil War photographers traveled west in its aftermath. One of these, A.J. Russell, was hired to document the construction of the Union Pacific. Alfred A. Hart, while not a veteran of the war, made photos for the Central Pacific. Their works are often shown alongside those of the governmental surveys, all in conjunction with a post-war cultural shift westward.

Delving into the rich history of the railroad is an introduction to specific locales along the route, sites where the topography is remarkable, something of historical import occurred, or the scenery is simply beautiful or sublime beyond description.

Sharing the photographs of those historic locations today offers viewers an opportunity to see the whole with more context: dirty, backbreaking, manual labor in an often punishing landscape; a nation recovering from war; and amazement at completing a long-sought after goal.

A view from Donner Summit

WITH THE SIERRA NEVADA RANGE lying just east of Sacramento, Calif., the Central Pacific did not have a gradual beginning for its trip across the continent. When the line reached a point 105 miles from the Sacramento River, it hit an early crescendo on the road's route to Promontory, Utah, though it had taken years to get there.

Standing atop Donner Summit today gives you a commanding view to discern plenty of history. From here, you can see where the CP made its way over the cusp of the Great Basin and began its descent toward Nevada — the line has emerged from Tunnel Six at the bottom right of the frame, runs through the diminutive Tunnel Seven, crosses China Wall, not visible, and enters Tunnel Eight.

You can see the original, narrow Lincoln Highway crawling up from the center bottom of the image. A newer iteration is present in the left side of the frame. Donner Lake glistens below. This is where the Donner-Reed Party suffered during winter 1846-47. Truckee, Calif., is visible just beyond the lake, and the second ridge of the Sierras beyond that.



UNDERNEATH DONNER SUMMIT is solid granite. It is what gave the UP such a jump on the CP in their historic competition to an undetermined meeting place. Today's trains pass unseen through a 2-mile-long tunnel built by the Southern Pacific in the 1920s, but it is difficult to imagine a place with more momentous history, railroad and otherwise, visible from one spot.

If you are fortunate to see the view on pages 20 and 21, you're likely standing above Tunnel Six, often called Summit Tunnel. You can still see hand-drilled bore marks inside this unlined tunnel, which is the CP's longest. The marks movingly tell the story of Chinese workers who were instrumental in building the railroad. From this highest point along the Central Pacific, Asian workers still had nine tunnels to drill and blast their way through.





Upon the Nebraska plain

WHILE THE UNION PACIFIC laid its first rail nearly two years after that of the Central Pacific, it enjoyed more favorable topography for its first several hundred miles, which allowed it to take a commanding lead in the competition for land grants and subsidies. At a spot 232 miles from Omaha, Neb., along the original route, however, a memorial at a roadside pull-off bears witness to a horrific event.

This monument marks the site of the Plum Creek Railroad Attack, which occurred near present-day Lexington, Neb., on Aug. 7, 1867. A band of southern Cheyenne attacked UP workers, killing three and wounding two.



Atop Sherman Hill

THE UNION PACIFIC FOLLOWED the Platte River, the South Platte River, and then Lodgepole Creek nearly all the way to Cheyenne, Wyo., in what would soon become Wyoming Territory. The railroad ran into its first major topographical challenge just west of that city: the Laramie Mountains. At the spot where the original route crosses that visibly stunning ridge is one of the most charismatic locales along the entire Pacific Railroad.

This view shows the famous Ames Monument along with Reed's Rock, the stone formation from which the massive pyramid was hewn. The setting sun is still shining on the monument, which was built in honor of the Ames Brothers, Oakes and Oliver, who helped build the UP. Workers finished the 60-foot-tall pyramid in 1882, in what was then a bustling Sherman, Wyo. — named after Civil War Gen. William Tecumseh Sherman. The Overland Route, however, would be relocated south for an improved line in 1901. Dale Creek runs in the valley in the foreground, just out of the frame.



Ten Mile Canyon drama

UPON CONQUERING THE SIERRA NEVADA, the Central Pacific was able to compete better with the Union Pacific by building across a relatively flat Nevada. After following the Truckee River to Wadsworth, Nev., and crossing the Forty Mile Desert, the railroad followed the Humboldt River nearly all the way across the state. But prior to reaching Carlin, Nev., the line would have to contend with additional dramatic topography in the form of Ten Mile Canyon. Rugged enough to force pioneers up and over the surrounding hills, the canyon provides stunning scenery. This westbound train is on the original line of the Central Pacific just east of the former site of Palisade, Nev. A narrow gauge railroad originated from Palisade and ran 85 miles southward to silver mines near Eureka, Nev., while the Western Pacific would build through the canyon in the early 20th century.



Echo Canyon reverberations

ONCE THE UNION PACIFIC conquered the Laramie Mountains, the line runs through Laramie, Wyo., over the Continental Divide at Creston, Wyo., and on to Green River. The line crests the Great Divide Basin's rim just east of Evanston, Wyo., and soon reaches Echo Canyon.

The surrounding topography changes dramatically as one enters Utah. While driving along Echo Canyon Road, you can see signs marking events and locales along this corridor. It includes the crisscrossing paths of Native Americans, early European explorers, Mormons, pioneers, and the Pony Express — all of which passed through here prior to the railroad's incursion.

Echo Creek leads to the Weber River. Weber Canyon provided the UP a rugged path through the Wasatch Range. Within that canyon, the company would have to slow its pace to drill out its third and fourth tunnels and build Devil's Gate Bridge.





Approaching Promontory Summit

COMPETING ROADBEDS of the Union Pacific and Central Pacific can be seen for some distance on either side of Promontory Summit. In their zeal for land grants and government subsidies, the roads graded past each other, arguing over the entire ridge called Promontory.

Within the Golden Spike National Historic Site itself, you can drive on former CP roadbed in the form of its West



Lone Rock at Monument Point

AFTER REACHING ELKO, NEV., at the end of 1868, the Central Pacific would quickly cross the remainder of Nevada and race into western Utah. The Overland Route was changed immensely with the opening of the Lucin Cutoff in 1904, which eliminated route-miles, grades, and curves. Due to that, however, we were left with an outdoor museum, or Back Country Byway maintained by the U.S. Bureau of Land Management. Beginning in Lucin, Utah, this two-track road allows you to drive 94 miles of former CP roadbed, all the way to Promontory.

From Lucin, the former roadbed first takes a northeastern tack in its goal of arching up and over the Great Salt Lake. The line crests a ridge and then cuts through the edge of Peplin Mountain, and then heads down to where the great lake once washed the shore. After running through the abandoned site of Kelton, Utah, with its moving cemetery and Wheeler Survey marker, the line reaches Monument Point where Lone Rock stands silent sentinel along the edge of the Great Salt Lake.

Near the culminating event, the driving of the Golden Spike, UP's train of dignitaries was held up in eastern Utah due to the partial washout of Devil's Gate Bridge in Weber Canyon. To pass the time, the CP contingent backed up their ceremonial train, with 4-4-0 *Jupiter* at the point, to Lone Rock to await the festivities.



Grade Auto Tour. Along the way, you can closely inspect two adjacent cuts, with that of the UP being incomplete, revealing the distinctive stair-step method of grading used at the time. This view is also instructive in that you can see just how close the two competing crews may have worked as they battled one another for their respective railroads about 5.5 miles away from the "Golden Spike" site.

And we know the very day the CP laid track through their cut, above left: April 28, 1869.

The sign above marks the spot, about 3 miles from the Golden Spike, where a track-laying gang, made up of eight Irishmen, along with an army of Chinese workers in support, set a record of laying 10 miles of track and finished for the day. **I**

A vision realized



From an unlikely beginning, Santa Fe rose to become a western powerhouse

by Michael W. Blaszak

As the United States celebrates the 150th anniversary of the first transcontinental railroad, TRAINS is also taking a look at the other American transcons. This is the latest article in that series.

CRAZY MAN, THEY SAID. Just a fool. Detached from reality. Delusional.

What was he saying? This dirt-track railroad, meandering 7 miles southward from Topeka (population about 5,000), would be built across the vacant prairies of Kansas

and Colorado to Santa Fe, N.M., endpoint of the famed Santa Fe Trail? And beyond that, to the Gulf of Mexico and California? After it took nearly a decade to lay that first 7 miles of track? Never going to happen.

Except that it did. And the result was one of America's great railroads.

The man was Cyrus K. Holliday, a Pennsylvanian turned Kansan. Having enriched himself through a small rail line sale in his native state, the fledgling lawyer moved west in 1854 and thought big. Big as in

An eastbound Santa Fe stack train with four units in the revived Warbonnet paint scheme, led by C40-8W No. 800, crosses the Colorado River at Topock, Ariz., on the Seligman Subdivision in 1995. Steve Schmollinger



founding Topeka and promoting the tiny townsite as the capital of Kansas. Bigger as in incorporating the Atchison & Topeka Railroad in 1860 to link Topeka with the Missouri River, then renaming it the Atchison, Topeka & Santa Fe in 1863 to emphasize his continental ambitions.

That year, Colonel Holliday — he was also a commissioned officer in the Kansas militia — used his political connections to secure a federal land grant across Kansas to the Colorado border. The challenge was

that he had 10 years, until 1873, to build the railroad, or the grant would be lost. And the land was worth little to prospective settlers without the railroad.

Efforts to raise funds sputtered until two events late in the decade. The federal government made 338,766 acres of fertile, saleable land just west of Topeka available, and the railroad — known as the Santa Fe even at that early date — snapped it up. And the construction of the Kansas Pacific past Topeka on the north side of the Kaw River

gave the project a customer. The KP needed coal for its locomotives, and the Santa Fe's projected route ran past veins of the fuel near the aptly named station of Carbondale.

On April 26, 1869, Santa Fe operated its ceremonial first train, a two-car excursion to the end of track near Wakarusa, and hosted a picnic for the townsfolk. Holliday took the opportunity to make his famous prediction about the company's destiny, eliciting smirks and

doubting whispers from the celebrants. And then the hard work began.

The railroad reached Carbondale on June 23. Ahead stretched close to 400 miles of grasslands inhabited by bison herds. Millions of dollars had to be raised to lay rails to the Colorado border and secure the land grant. Fortuitously, financiers based in Boston took control of the company and generated the capital required, both on the East Coast and in Europe.

Reaching Emporia in July 1870 and Newton the following year, Santa Fe's traffic boomed with Texas cattle driven north on the Chisholm Trail. As hunters exterminated the great bison herds, Dodge City became a trading post for their hides, which were in demand back East. A more durable source of traffic was hard red winter wheat, which settlers along the line, including Russian Mennonites, grew in abundance.

Even so, the company nearly exhausted its resources extending westward to the Colorado border, and eastward to the Missouri River at Atchison, by the end of 1872. The 3-million-acre land grant now was in Santa Fe's pocket, but it needed ever more

traffic to pay its operating expenses and service its debt. Though the Panic of 1873 stalled progress, by 1875 the railroad was ready to expand again, reaching Pueblo in 1876 and looking south toward New Mexico and west into Colorado.

Into the mountains

The easy construction across the prairie had been left behind. Passes through the mountains were the only practical routes onward, and the Denver & Rio Grande, building south from Denver, coveted them as well. Santa Fe secured rights to Raton Pass on the Colorado-New Mexico border in February 1878 by starting construction just a few hours before the Rio Grande showed up, effectively blocking the Grande's ambition of building 3-foot-gauge track into Mexico.

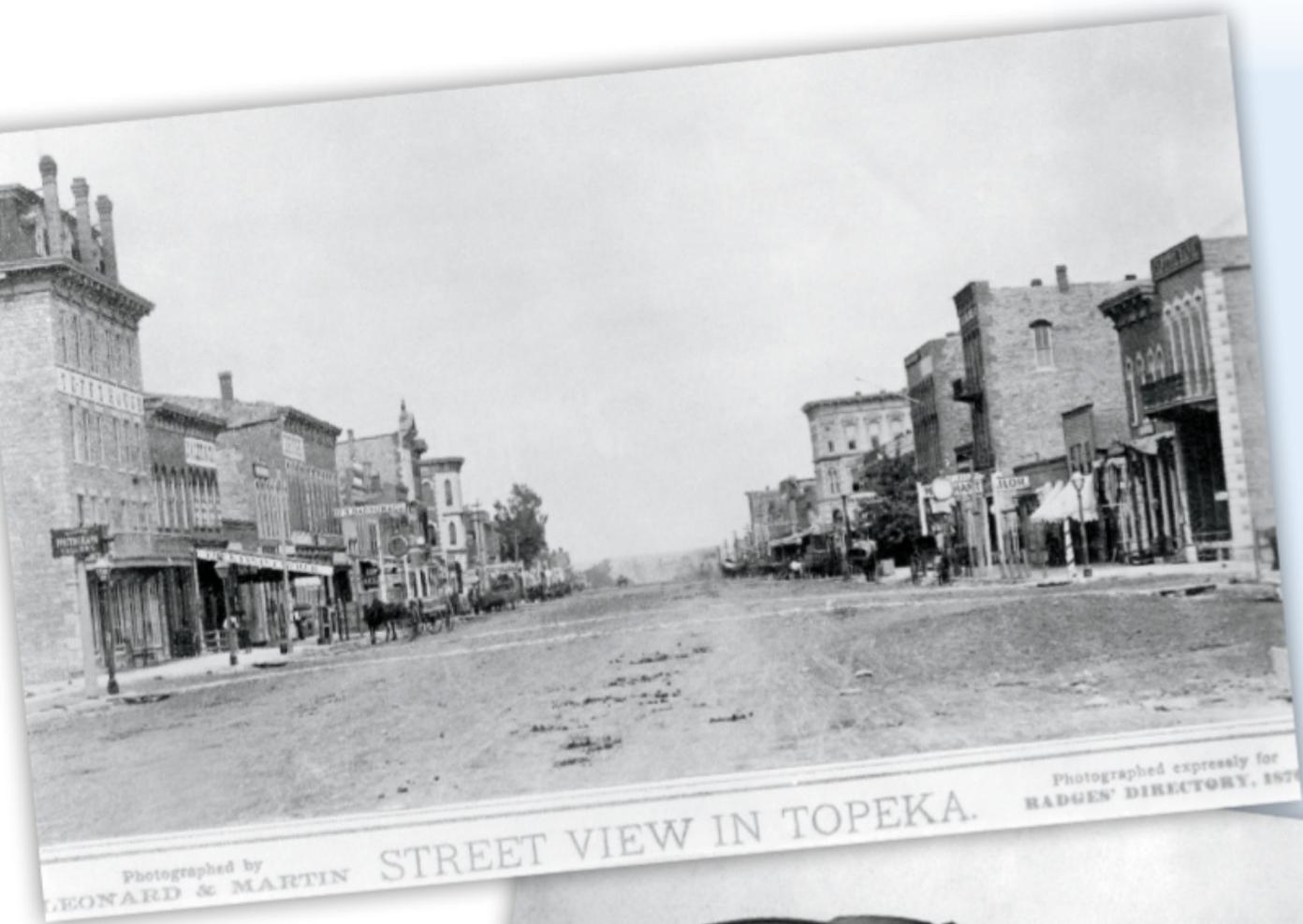
Two months later, Santa Fe and Rio Grande faced off again, with competing claims to construct a railroad through Colorado's Royal Gorge to the mining boomtown of Leadville. This time Rio Grande prevailed, turning Santa Fe's focus southward and fixing the company on a collision course with what became its long-term

nemesis, the Southern Pacific lines.

SP and its affiliate Central Pacific effectively monopolized long-distance rail service in California and had no intention of allowing Santa Fe to break into the market. When Santa Fe rails met SP at Deming, N.M., in 1881, the combination was hailed as the nation's second transcontinental rail line. Little traffic moved over the route, though, as SP refused to make through rates over the connection.

Deming, though, wasn't the railroad's primary destination. Santa Fe had secured a land grant from the Mexican government and organized the Sonora Railway to build north from the port of Guaymas, Mexico, on the Gulf of California, toward Arizona. This new route, completed in 1882, allowed Santa Fe to claim the longest single-line railroad in the world at 1,700 miles. Traffic, though, was scant.

The Atlantic & Pacific Railroad offered another opportunity for western expansion. This company, organized to lay track from Springfield, Mo., west to California, received a substantial land grant from Congress in 1866, but failed in 1875 without laying a rail in New Mexico. Santa Fe bought a half



The Santa Fe began in Topeka, Kan., shown above in 1876. At right, the photographer's shadow is prominent in this shot of a Santa Fe pay car in 1872. The railroad faced early financial difficulties.

Top, Santa Fe; right, TRAINS collection



interest from the St. Louis & San Francisco Railroad in 1880 and pushed the railhead across the arid expanses of New Mexico and Arizona to the Colorado River in 1883.

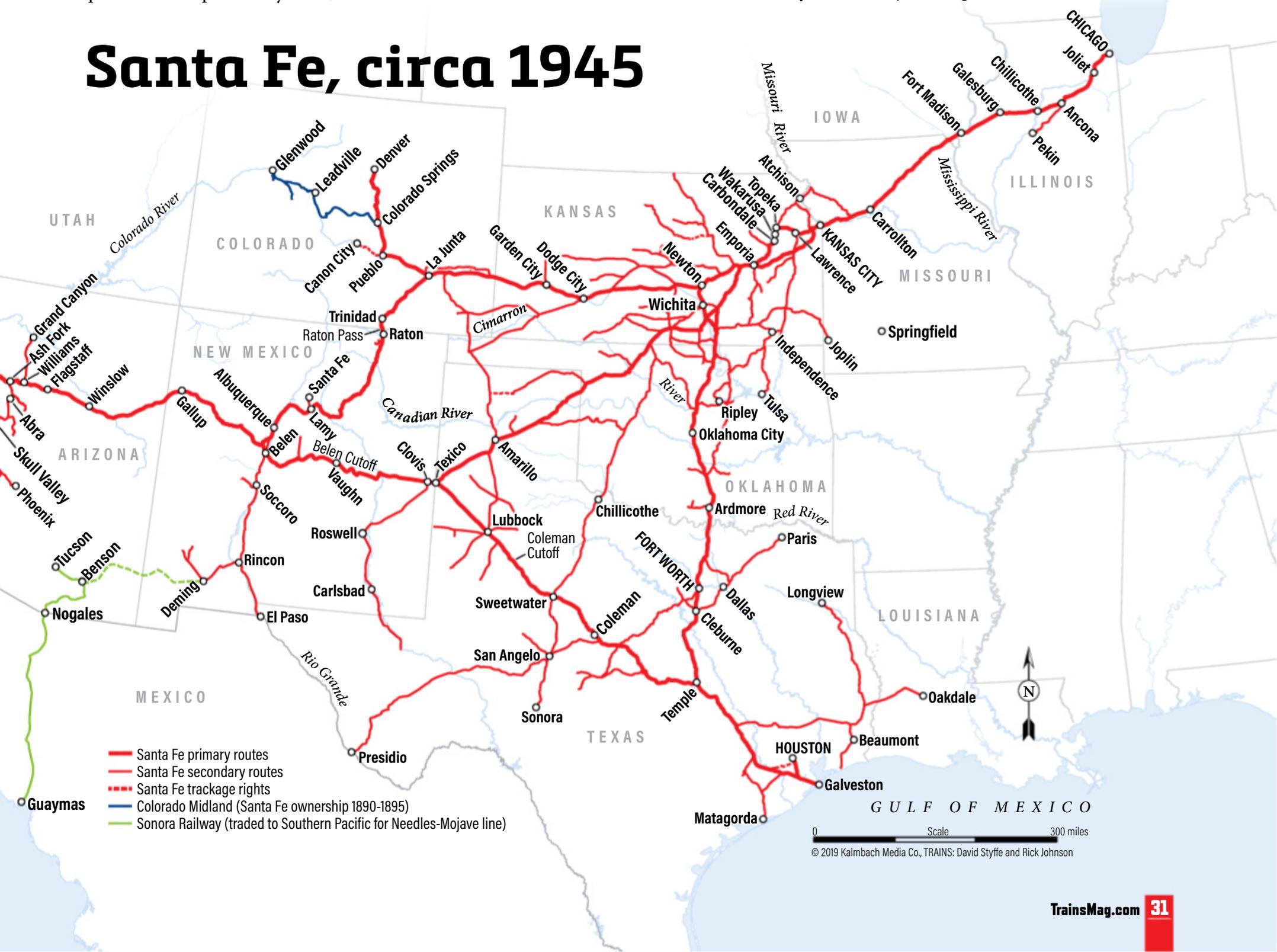
Once again, the new construction was met by the SP at Needles, Calif., and little moved over it. Threatening to build its own line into California, Santa Fe induced SP to the bargaining table. In 1884, Santa Fe took control of the line SP had built from Mojave to Needles and obtained haulage rights to San Francisco. Eventually it traded the Sonora Railway for ownership of the Mojave-Needles line. In November 1885, the California Southern, closely affiliated with Santa Fe, extended its track from San Diego over Cajon Pass to Barstow, giving Santa Fe a through route to the Pacific Ocean.

Successful completion of the railroad to Southern California was the seminal event securing Santa Fe's future. In 1880, when Los Angeles County was served solely by SP, its population was 33,381. Competition between Santa Fe and SP, particularly after the former completed its own line to Los Angeles in 1887, drove freight and passenger rates down and spurred development. By 1910, the



Securing the rights to Raton Pass was a key to Santa Fe's westward expansion, although the route's steep grades were a challenge. This 34-car westbound train requires 2-10-2s on the front and rear as it nears Raton's summit in April 1953. Philip R. Hastings

Santa Fe, circa 1945





The Santa Fe swapped its unprofitable route in Mexico for the line between Mojave and Needles, Calif., built by the Southern Pacific. In 1993, an eastbound container train passes through Lavic, Calif., 43 miles east of Barstow. Needles is some 124 miles ahead. Ron Flanary



Santa Fe's spiderweb of routes in Texas originated with lines built by the Gulf, Colorado & Santa Fe in the 1870s and acquired through an exchange of stock. Here, the *Texas Chief* crosses the Cotton Belt as it stops at McGregor, Texas, near Waco, on June 5, 1962. Steve Patterson

County's population had grown to 504,131, or 21 percent of all residents of California, producing beef and oranges and consuming manufactured goods from the rest of the nation. In other words, transcontinental railroad traffic, and lots of it.

Reaching new markets

Expansion to California was just one facet of Santa Fe's ambitious growth strategy. Starting in 1873, the Gulf, Colorado & Santa Fe constructed 695 route-miles radiating from Galveston into the interior of

Texas, aided by a state land grant. The railroad was unprofitable, though, and eventually was surrounded by lines controlled by the Missouri Pacific. The Santa Fe acquired the GC&SF through an 1886 exchange of stock, and completed a link across Indian Territory, today's Oklahoma, the following year. Now the Santa Fe could offer through service to both the Pacific Ocean and the Gulf of Mexico.

Irked by the incursion of Rock Island and Missouri Pacific branch lines into its Kansas homeland, Santa Fe retaliated by

extending its system eastward. Back in 1859, the Chicago & Plainfield Railroad had been incorporated to connect the towns of its corporate title. After several reorganizations, the Hinckley Road, as it was known after its primary promoter, had extended from Pekin on the Illinois River to Chicago's outskirts by 1884. Searching for an entry into Chicago, Santa Fe bought the Hinckley Road — by then known as the Chicago & St. Louis — in 1886 and constructed a 350-mile extension from Ancona, Ill., to Kansas City, Mo., in 1888.



Santa Fe gained its important entry to Chicago by purchasing the Chicago & Plainfield in 1885. It turned out to be a great buy. Some 25 miles from downtown Chicago, this westbound stack train is crossing the Chicago Sanitary and Ship Canal at Lemont, Ill., on Sept. 12, 1995. Ron Flanary

Santa Fe built an independent line to Denver in 1887, giving up trackage rights over the Rio Grande, which had required addition of a third standard gauge rail to the Grande's narrow gauge track. In 1890, Santa Fe bought the Colorado Midland, which wound through spectacular scenery from Colorado Springs to Glenwood Springs, Colo. Also that year, Santa Fe purchased control of the St. Louis & San Francisco, extending the system to St. Louis.

Times had been prosperous in the 1880s, and the once impecunious Santa Fe was able to find the capital to grow the business into a Western colossus. But a sharp 1893 recession constricted traffic and exposed the company's financial overextension. Santa Fe and Frisco both entered receivership two days before Christmas.

The franchise remained promising, though, and the 1895 reorganization of the company as the Atchison, Topeka & Santa Fe Railway cut the system's interest expense in half. Santa Fe jettisoned its interests in the unprofitable Frisco and Colorado Midland, but sagely acquired full control of the Atlantic & Pacific and began upgrading it

into a fast through route.

The following 20 years saw the Santa Fe nearly double in size as agriculture and ranching expanded on the plains and Southern California continued to grow. Santa Fe acquired the San Francisco & San Joaquin Valley Railroad, built by local interests from Stockton to Bakersfield, Calif., to challenge the SP monopoly, in December 1898 and secured trackage rights over Tehachapi Pass in January 1899. The SF&SVJ was extended to Richmond on San Francisco Bay in 1900, allowing Santa Fe to reach San Francisco by carferry service. Other lines extended from the Bay into the redwood country of Northern California. These were combined with SP-controlled routes in the area into the

Completion of the Southern California route was the seminal event securing Santa Fe's future.

Northwestern Pacific in 1907. Santa Fe sold its half interest in NWP to SP in 1928.

Dragging transcontinental shipments up the steep grade of Raton Pass became an intolerable burden as traffic rose. After acquiring the 370-mile Pecos Valley & Northeastern in 1901, Santa Fe built a new line with lower grades from Texico to Belen, N.M. The Belen Cutoff, completed in 1908, quickly captured most long-distance freight, relegating the original Raton Pass line primarily to passenger traffic. Another new line, the Coleman Cutoff from Coleman, Texas, to Farwell, near Texico, shortened Santa Fe's route from Texas to California by nearly 500 miles when it opened in 1914.

A third cutoff through the Flint Hills of southern Kansas, completed in 1924, bypassed Wichita and further shortened the transcontinental freight route. Other line extensions pushed Santa Fe branch lines across the new state of Oklahoma, through the high plains of west Texas and the piney woods of east Texas and Louisiana, and down to Phoenix. The railroad even served (briefly) the mining town of Searchlight, Nev. In 1931, after acquiring the moribund



Switchers work the Bakersfield, Calif., yard in the San Joaquin Valley's infamous tule fog in 1954. Santa Fe gained its Valley foothold by obtaining trackage rights over Tehachapi Pass and buying the San Francisco & San Joaquin Valley Railroad. Richard Steinheimer

Kansas City, Mexico & Orient and expanding it to the Mexican border, Santa Fe reached its peak route mileage of 13,568 — the longest railroad in the U.S. by a considerable margin.

Harvey Houses and Chiefs

Not satisfied with merely being the longest, Santa Fe carefully cultivated its claim to be the best railroad, as well. The Santa Fe tradition of excellent service to the traveling public began with Fred Harvey, an English immigrant who, like many early AT&SF officials, learned his railroading on the Chicago, Burlington & Quincy. Appalled by the state of cuisine in the West, Harvey thought he could provide quality food at affordable prices in railroad station restaurants. He persuaded the Santa Fe to let him operate the lunch room in the Topeka station in 1876, and the success of that facility led to Harvey-run restaurants and hotels following the railhead westward, mostly on the basis of handshake deals. The Harvey Girls, dressed in black dresses and white aprons, served hungry travelers and became legendary across the continent.

Because of the Harvey Houses, Santa Fe didn't operate a dining car west of Kansas City until after the 1892 inauguration of the *California Limited* between Chicago and points in California. Harvey was unhappy about the diversion of patrons from his restaurants, but the Santa Fe placated him by contracting out the dining car service to him, and "Meals by Fred Harvey" became part of the appeal of traveling on the Santa Fe. And appeal it did, with the *California Limited* often departing in

multiple sections.

In 1911, the Santa Fe introduced premium service with the weekly Chicago-Los Angeles *Santa Fe de-Luxe*, an all-sleeping-car train limited to 60 passengers willing to pay a \$25 extra fare. World War I caused the withdrawal of that service, but Santa Fe created a worthy successor with the *Chief* in 1926. As the entertainment industry migrated from New York to Southern California, the *Chief* became the preferred conveyance for movie stars, producers and directors between the coasts, further burnishing the railroad's image.

The Depression caused passenger revenues to nosedive, and the improvement of roads through the Southwest, capped by the paving of U.S. Route 66 in 1938, made the automobile a more potent competitor for long-distance travel. Santa Fe fought back by upgrading its trackage for higher speeds and buying diesel locomotives which didn't require time-consuming engine changes at major terminals.

The result was a new weekly train, the *Super Chief*, which hurtled between Chicago and Los Angeles in just 39¾ hours, considerably faster than the *Chief*. An instant success with the celebrity crowd when it was inaugurated in 1936, the extra-fare *Super Chief* was re-equipped with new

World War II, notably the conflict in the Pacific Ocean, swelled Santa Fe's traffic to unprecedented levels.



Harvey House restaurants were a staple of Santa Fe stations in the west, celebrated for quality food no matter the location, as well as for their "Harvey Girls." Mabel Wells collection

streamlined equipment in 1937, including the first diesels to wear the legendary red, yellow, black, and silver "Warbonnet" paint scheme. Massive investment in passenger equipment soon produced a second *Super Chief* consist, streamlined equipment for the daily *Chief*, a new premium Chicago-Los Angeles coach train called *El Capitan*, and *San Diegan* and *Golden Gate* services within California.

World War II, notably the conflict in the Pacific Ocean, swelled Santa Fe's traffic to unprecedented levels. Management used the earnings to pay off debt and invest in better track and new equipment, like the 320 FT units that essentially dieselized the transcontinental main line through the southwestern deserts. Centralized Traffic Control was installed on the single-track segments of the network, and radio telephones supplanted hand signals for train and engine crews. New hump yards were built at Kansas City (Argentine) and Chicago (Corwith). In Texas, a new line gave Santa Fe access to Dallas from the north, while in Arizona new bypasses between Williams Junction and Crookton and between Abra and Skull Valley made the railroad straighter and more efficient.

The postwar Santa Fe aggressively expanded its renowned passenger service. A flood of new streamlined equipment allowed conversion of the *Super Chief* and *El Capitan* to daily service in 1948. Also that



The *Super Chief*, which originated the Warbonnet paint scheme, quickly became Santa Fe's signature passenger offering after its introduction in 1936. Here, it meets the *Pekin Express* at Chicago's 15th Street Tower in an undated photo. Wallace W. Abbey

year, Santa Fe introduced the *Texas Chief* between Chicago, Dallas, and Houston. The *San Francisco Chief* debuted in 1954, featuring full-length Big Domes. In 1956, the *El Capitan* was re-equipped with radically different hi-level equipment. As late as 1964, Santa Fe was buying more hi-level coaches and rebuilding all-roomette sleepers into all-bedroom cars as family travelers demanded.

No railroad defended its passenger franchise more tenaciously than Santa Fe as concrete ribbons of Interstate highways cut across the landscape during the 1960s. But all the Pleasure Domes, Turquoise Rooms, and television commercials featuring Santa Fe's cartoon mascot, Chico, could not stem the diversion of vacationers to highway travel in that era of big cars and cheap gas. The decision of the post office to shift first-class mail from trains to airplanes forced management to change course. In 1967, Santa Fe announced it would discontinue all passenger service except the *Super Chief-El Cap* (then combined as a single train), *San Francisco Chief*, *Texas Chief*, and *San Diegans*. The railroad off-loaded these trains to Amtrak (save for the *San Francisco Chief*, which was discontinued) upon its creation in 1971.

Entering the intermodal era

The high-quality physical plant built for fast streamliners, though, was equally adaptable to providing speedy intermodal service competitive with over the road trucking. Santa Fe was not an intermodal



Santa Fe FT No. 100 was not only the railroad's first mainline freight diesel, but part of the first order for mainline freight diesel power by any U.S. railroad. Eventually, the railroad would use 320 of the Electro-Motive products to dieselize its transcontinental main line. Santa Fe

pioneer, having forged close relationships with freight forwarders that consolidated smaller shipments into boxcar-filling loads. Nonetheless, trailer on flatcar experimentation began in 1952 between Kansas City and Wichita, and intermodal tariffs covering the system were filed in the following years.

Invention of the retractable hitch and the straddle crane for loading and unloading flatcars, first introduced at Corwith Yard in 1963, greatly improved the efficiency of handling trailers and jump-started Santa Fe's intermodal business. Piggyback volume rose from 4,000 trailers in 1957 to

44,000 trailers in 1963 and kept on growing at double-digit annual rates thereafter.

To combat the improving productivity of trucking as the Interstate system expanded, Santa Fe planned a 40-hour intermodal schedule between Chicago and Los Angeles, by far the fastest long-distance freight timecard ever offered. But management had to compromise with the freight forwarders, whose boxcar-based business was threatened by the new service, by charging stratospheric rates. *Super C*, as the new train was called, set a speed record on its first run in 1968, reaching Los Angeles 34 hours and 35 minutes after leaving



The *Super C*, railroading's fastest freight train, debuted with much fanfare in 1968 (top), but high rates — charged to placate other Santa Fe customers — meant it had extremely limited traffic, as illustrated by a one-car train in 1969. Top, Santa Fe; bottom, Wayne Bridges

Corwith. However, shippers balked at paying the high tariff, and the service garnered few customers until the Post Office began using it. When the mail was diverted to Union Pacific in 1976, *Super C* vanished.

By then, management emphasis had shifted to seeking higher traffic volumes at standard rates. Beginning in 1975, Santa Fe commenced dedicated intermodal trains between Chicago and Los Angeles and between Chicago and the Bay Area. The fastest of these, the legendary train No. 199, was initially dedicated to the customer that would become Santa Fe's largest, United Parcel Service. The 199 was scheduled to run from Corwith to Richmond, Calif., in a blistering 51 hours, 45 minutes. Other new trains carried containers of imported goods from

Los Angeles to Houston. The broad-based strategy was successful, as the railroad's intermodal traffic rose from 175,000 units in 1969 to 460,000 units in 1978.

The final years

Partial deregulation of the railroad industry through the Staggers Act of 1980 dramatically changed the business. The railroads now had to compete on price as well as service. Freight and intermodal rates steadily declined for years afterward. Cutting costs and expanding single-line networks through mergers became essential to survival.

Santa Fe had not been sitting idle, but most of its previous forays into the merger arena had not been successful. Its proposal to acquire Western Pacific, in response to

archival SP's bid, was turned down by the Interstate Commerce Commission in 1965. Santa Fe teamed up with Chicago & North Western with a plan to purchase and split up the Rock Island. After a protracted regulatory proceeding, the ICC approved the opposing bid of UP and SP instead, though with conditions so onerous that UP abandoned the deal. Santa Fe's only significant win was its acquisition and subsequent merger with Toledo, Peoria & Western, which briefly extended Santa Fe into Indiana.

Meanwhile, Santa Fe management fought off unwanted interest from the expansion-minded Missouri Pacific, which for a time in the 1960s became the company's largest shareholder. MoPac persisted, but when it became clear Santa Fe's final answer was no, it found an enthusiastic partner in Omaha. Announcement of the "MoP-UP" merger in 1980 was closely followed by SP affiliate Cotton Belt's purchase of the now-bankrupt Rock Island route from New Mexico to Kansas City and St. Louis, and Burlington Northern's acquisition of the Frisco.

Santa Fe was getting surrounded, and just one large potential merger partner was left in the southwest — Southern Pacific. Santa Fe and SP began talks in May 1980, only to walk away four months later. The company considered alternate expansion plans, but a bid to purchase the Rock Island line from Amarillo to Memphis foundered when Arkansas declined to support the deal, and interest in acquiring the former Erie Lackawanna main line, and later the entire Conrail system, to reach the East Coast went nowhere. In 1983, new Santa Fe management concluded a deal to merge with SP. The railroad holding companies combined at the end of that year, and preparation of the application to the ICC for approval of the railroad merger began.

Management was confident the Southern Pacific & Santa Fe merger would go through, even aggressively painting locomotives in the red-and-yellow colors the company selected. However, four of the five commissioners of the ICC saw the evidence differently, concluding that combining the two railroads would result in an "almost absolute monopoly" over rail freight traffic eastward from California. After the merger was rejected in 1986, the chastened holding company was forced to sell SP to the Rio Grande two years later.

With management unable to deliver merger-driven savings to the bottom line, corporate raider Henley Group swept in, promising stockholders better results. To repel Henley's advances, Santa Fe announced a massive plan to restructure the company, selling non-rail assets (including extensive real estate holdings), trimming



With the hills green from spring rains, an eastbound piggyback train with C30-7 No. 8161 on the point snakes through Cable, Calif., on Tehachapi Pass in April 1992. Beginning in 1975, Santa Fe began pursuing more intermodal traffic. Steve Schmollinger

the route map through line sales, and attracting new investors aligned with the management plan. Ultimately Henley was defeated, but the company was emotionally debilitated and financially exhausted by the ordeal.

To bring back the pride, Santa Fe reached into its past and resurrected the red-and-silver Warbonnet paint scheme for its new Super Fleet locomotives in 1989, comparing the smooth ride provided by modern articulated intermodal equipment with the streamliners of six decades before. Creation of the new Intermodal Business Unit improved the profitability of the trailer and container trade, which increasingly dominated the traffic base. The company negotiated offline expansion of the intermodal network through trackage and haulage rights, returning to St. Louis via Gateway Western in 1990 and reaching Memphis and Birmingham, Ala., over BN in 1993. To handle growing transcontinental traffic fed by Asian imports, Santa Fe began double-tracking the Belen Cutoff.

Despite these efforts, the rejuvenated Santa Fe was too small to survive in an era of railroading giants. BN was the obvious merger partner, and a deal to combine the companies was signed in 1994 and



Santa Fe revived the Warbonnet scheme in 1989 for its new "Super Fleet" locomotives. In May 1990, GP60M No. 100, on its maiden voyage, awaits the passage of a company passenger special led by FP45 No. 91 at Nebo, Calif., on the Needles Subdivision. Steve Schmollinger

approved by the ICC a year later. Burlington Northern Santa Fe proved a big enough success that it was acquired by Warren Buffett's Berkshire Hathaway Inc. in 2010.

Cyrus K. Holliday lived to 1900, shortly before the fledgling railroad he had launched four decades before attained the last of his grand geographic goals by extending its service to San Francisco Bay. But he had seen almost all of his singular,

improbable vision realized. Another business legend now holds the dream in his hands, and all indications point toward a busy and prosperous future for what once was the Santa Fe. **I**

MICHAEL W. BLASZAK, a Chicago attorney, was employed by Santa Fe in its Law and Operating departments from 1976 through 1991. He is a TRAINS correspondent.

Reading & Northern engineer John Hartman waves from the cab as the North Reading Fast Freight approaches the CTC home signal at Tamaqua, Pa., on Oct. 24, 2018.



SHORT LINES SPECIAL

FAST FREIGHTS, CTC, AND



Reading & Northern is not your
typical regional railroad

Story and photos by Scott A. Hartley

COAL

A Reading & Northern coal train is loaded at Ebervale, Pa., early on a September 2015 morning. The railroad moves more than 8,000 carloads of anthracite annually.



E

ngineers Steve Gilbert and Eric Slekovac report for duty at 10:15 a.m. on an October day at the Reading & Northern's North Reading, Pa., yard. During the next 9 hours, they will be responsible for the operation of the North Reading Fast Freight (symbol NRFF), one of four tightly scheduled freight runs on the 330-mile eastern Pennsylvania regional. They will run north to the town of Jim Thorpe and back, a total of 121 miles, forwarding cars to and from customers in the Scranton/Wilkes-Barre area. Throughout the day, and every day, the on-time status of the Fast Freights are closely monitored by the train dispatcher, railroad officials, and even owner and CEO Andrew M. Muller Jr.

Gilbert is starting and inspecting the North Reading Fast Freight's two SD40-2s, while Slekovac, who will serve as the conductor this day, is reviewing the paperwork for their train. When both men are ready, they move the two locomotives into R&N's North Reading Yard, where a switching crew is breaking up the long train of cars that they had brought up from Norfolk Southern's yard in Reading. That crew already had conducted inspections and brake tests of the Fast Freight's cars, making it easier to leave on schedule.

Today, the train has just three cars — a

bulkhead flat of lumber and two insulated boxcars. But customers on the north end of the railroad are waiting for them.

The train is on the move at 11:10 a.m. Gilbert and Slekovac both look at their watches. Each man has a copy of the schedule for this train and will consult it throughout the day. The train passes what seems like an endless string of Reading & Northern hoppers, all filled with anthracite, ready for interchange to Norfolk Southern for forwarding to domestic and international customers.



Andrew M. Muller Jr.

The train loses a few minutes waiting to pass through work zones where employees are installing signals for an expanding centralized traffic control system.

READING & NORTHERN TODAY

"I guess we were doing precision scheduled railroading years ago," Muller says when asked about his railroad's fast freights and new centralized traffic control on the main line. "Didn't trains always run on schedules? We are following tradition." He is quick to give credit to the railroaders who make it a success: "When you give

them a job that has things to accomplish, they love it."

But it's really about customer service. In 2015, Reading & Northern President Wayne A. Michel asked the marketing and sales team to meet with all of the railroad's customers, establishing a scheduled time that each customer could expect to receive its cars. The railroad promised delivery or pickup within 2 hours of the scheduled time window. Muller says that R&N has met those expectations 98 percent of the time. In order to get the cars to the local freights that deliver them to customers, scheduled mainline freight trains were established in 2016. In 2019, these trains are the North Reading Fast Freight; the Pittston Fast Freight (Pittston Yard near Wilkes-Barre to Jim Thorpe and return); the Tamaqua Fast Freight (Tamaqua to the Norfolk Southern interchange in Reading and return); and the West Hazleton Fast Freight (Humboldt Industrial Park, near Hazleton, to North Reading and return). Add numerous local freights and yard jobs, and the railroad typically runs 18 trains each day.

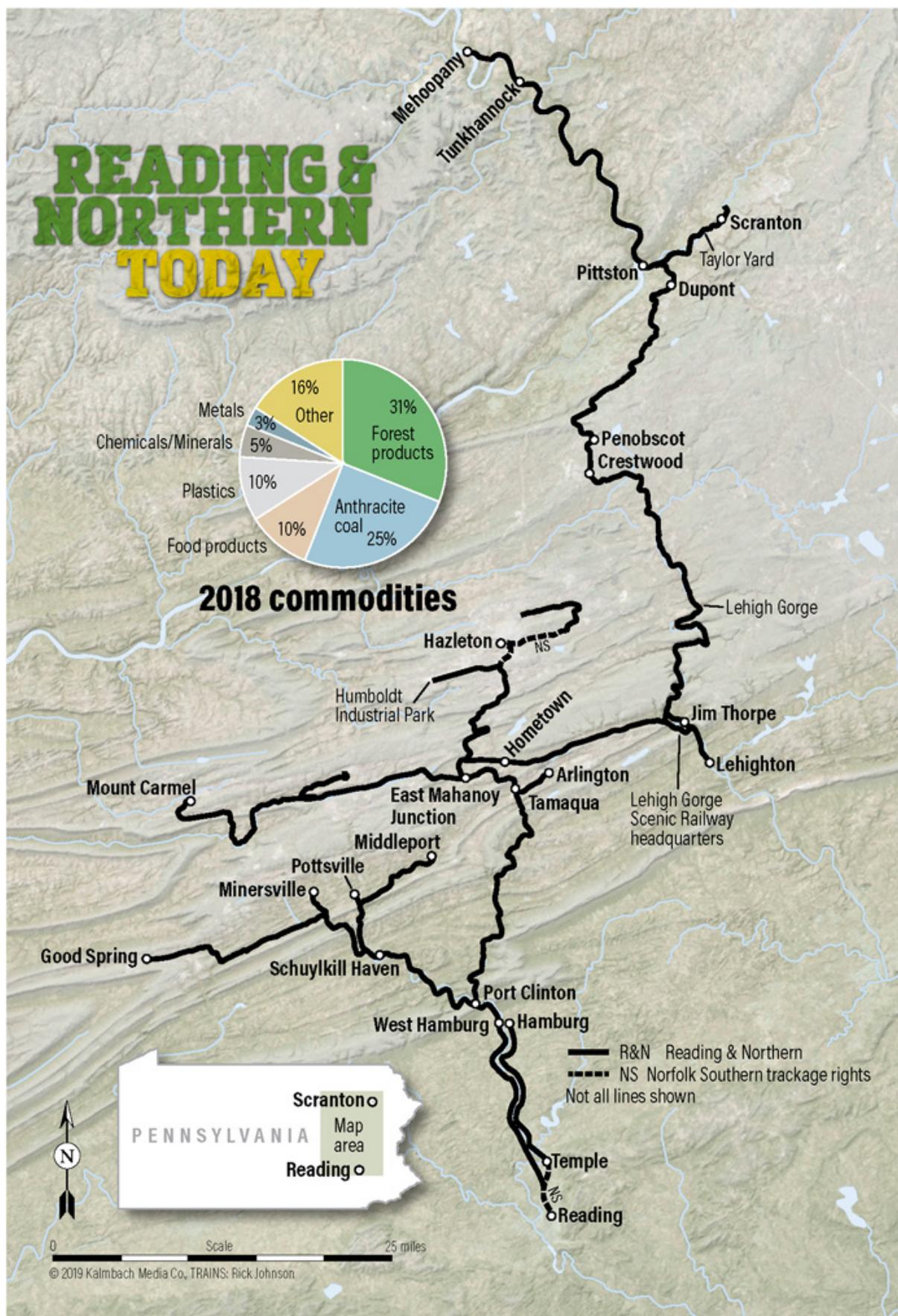
Andy Muller's path to owning and running a regional railroad has been anything but conventional. An eastern Pennsylvania native, Muller worked as a public school teacher and later as a dealer in precious metals. His success in the latter pursuit provided him with the resources to enter the railroad business in 1983, when his

Blue Mountain & Reading Railroad was selected as the designated operator of a state-owned, 13-mile former Pennsylvania Railroad route north of Reading. He later operated three other publicly owned branches. By that time, deregulation of the U.S. railroad industry permitted the recently privatized and profitable Conrail to begin selling off unneeded secondary lines. Muller saw opportunities in places where Conrail did not. In two major transactions, Muller's new Reading Blue Mountain & Northern Railroad (no comma; reporting marks RBMN, and commonly marketed as Reading & Northern) purchased 120 miles of mostly ex-Reading tracks in 1990, adding 98 miles of mostly ex-Lehigh Valley lines in 1996. The properties included one-time main lines, but those routes never were included in Conrail's long-term plans. More trackage was acquired over the years, permitting a direct connection between what R&N calls the Reading Division and the Lehigh Division. Acquisitions also included tracks once owned by Lehigh & New England, Central of New Jersey, Delaware, Lackawanna & Western; and Erie. All of these railroads suffered when anthracite's importance for heating and industrial use declined. At the time of Muller's purchases, some of his lines served just anthracite customers, and for many years hard coal provided the majority of Reading & Northern's business.

Wayne Michel is a former Conrail official and Interstate Commerce Commission attorney who joined the railroad in 1999 and became president in 2005. He and Muller have supplemented R&N's managers with people from other railroads who "know how to grow the business," Michel says. R&N has departments responsible for coal, forest products, and transload and warehouse services. With continuing marketing efforts, the railroad's freight business has grown: Anthracite is still important, but it now makes up one quarter of R&N's carloads. The railroad moved 32,140 cars in 2018.

Asked about the three-car train, Muller is philosophical. "We run every day," he says. "We're going to run a scheduled railroad." But with words not heard often from a present-day railroad executive, he adds, "Okay, so we won't make money today. But we will make plenty of money over the long term. You've got to remember ... I don't answer to stockholders. So I have a totally long-term perspective on this." He views the Reading-to-Scranton route to be a good opportunity. "We're trying to build the business."

CTC is a source of pride for Muller. "How many short lines have CTC?" he asks. He hopes to have most of the railroad's 115-mile Main Line, an official timetable designation that extends from



North Reading to Dupont interlocking (south of Scranton), dispatched with CTC late this year. Interestingly, the former Lehigh Valley portion of the route had CTC when R&N acquired it from Conrail in 1996, and Muller chose to keep it operational. R&N signal department staff designed the CTC system that is now being installed on 44 miles that once had been an important Reading route. The railroad is using signal masts and heads that Norfolk Southern had replaced on some of its former Reading lines. Muller

"I DON'T ANSWER TO STOCKHOLDERS. SO I HAVE A TOTALLY LONG-TERM PERSPECTIVE ON THIS."

— OWNER AND CEO
ANDREW M. MULLER JR.

purchased necessary electronics via eBay.

"We're running so many trains," Muller says. Installation of continuous welded rail has allowed trains to run at higher speeds. When track segments saw only a couple of train movements a day, the dispatcher's job was comparatively simple. The addition of the Fast Freights has made some

parts of the Main Line especially busy. "We follow one train after another. CTC makes the dispatcher's job much easier," according to Muller. "There is a peace of mind. When you see those signals, you



Humboldt Industrial Park at West Hazleton, Pa., with 7 miles of track, provides 4,500 carloads to the R&N annually. Train WHHB-1 passes the crew office on Oct. 26, 2018.

know there is no train ahead and you have no broken rail.” He says that the new system will be compatible with possible future installation of positive train control.

FAST FREIGHT ROLLS ON

As the North Reading Fast Freight rolls past the railroad’s shops and general offices at Port Clinton, Pa., train dispatcher Kyle Sanders carefully watches the train from his second-floor bay window. Like most of R&N’s dispatchers, Sanders also is a certified locomotive engineer. He has run the Fast Freights and is well aware of the territory and the challenges that the crew faces.

North of Port Clinton, the Fast Freight approaches its first CTC signal. The three-light signal heads read green over red. “Clear,” both enginemen say in unison. Slekovac confirms the signal status over the radio. With the train now in CTC territory, Sanders is able to track the train and its timekeeping on the video screen at his desk.

At Carbon, the Fast Freight enters the C&S Railroad, a former Jersey Central line that serves as the R&N’s link between Haucks and Jim Thorpe. In a few minutes the short train tiptoes across 1,000-foot-long Hometown Viaduct, 168 feet over the Little Schuylkill River. We still are in coal country, and remnants of long-abandoned anthracite hauler Lehigh & New England are visible on the hillsides.

READING & NORTHERN MOTIVE POWER

Numbers	Quantity	Model
250-251	2	EMD F7
425	1	Baldwin 4-6-2 (steam)
800-801	2	EMD SW8
802-803	2	EMD SW8m
1540-1543	4	EMD MP15DC
1546, 1548	2	EMD SW1500
2000	1	EMD SD38
2003-2004	2	EMD SD38AC
2010-2012	3	GP38-2
2102	1	Reading 4-8-4 (steam)
2530-2535	6	EMD GP30u
3050-3058	9	EMD SD40-2
5014, 5017-5022, 5033, 5049	9	EMD SD50
9166	1	Budd RDC-3
9167-9168	2	Budd RDC-1

The train has stayed on schedule and arrives at Nesquehoning Junction, just outside Jim Thorpe, 2 minutes ahead of schedule. But a radio call advises the crew that the Lehigh Gorge Scenic Railway passenger train will run ahead to bring riders back to Jim Thorpe. Below on the river, contractors are installing pilings for a new \$14-million rail bridge that will enable Reading & Northern trains to move between the Reading and Lehigh divisions without reversing directions. The railroad is contributing \$4 million to match a state grant to complete this long-awaited project. Muller hopes the bridge will open in September 2019.

The Fast Freight follows the passenger train as far as Jim Thorpe yard, makes quick

work setting out its three cars, and then shuffles the 18 cars waiting to return south. The nighttime Pittston Fast Freight will pick up the three cars to bring them north. With the completion of the new bridge and opening of a new passing siding, North Reading and Pittston trains will be scheduled to allow a meet and train-swap before each crew returns to its home terminal.

THE NEW ROAD OF ANTHRACITE

As Class I railroads watch the downward spiral of coal traffic, Pennsylvania anthracite remains a bright spot in Reading & Northern’s ledgers. A century ago, the Delaware, Lackawanna & Western called itself the Road of Anthracite, but R&N could claim that title today.

The lower-sulfur hard coal makes up just a tiny percentage of the coal mined around the globe. Today, the anthracite industry promotes the fuel as clean-burning. In recent years, anthracite has received renewed interest for secondary heating in homes, and is used in the processing of beet sugar. Michel says that anthracite is seeing its real growth in the steel industry.

Most North American anthracite is found in eastern Pennsylvania, along Reading & Northern lines. In 2018, R&N moved 800,000 tons of anthracite — enough to fill 8,103 hopper cars. Coal companies are mining some untapped seams and also are using modern techniques to gather coal at older mines. The railroad serves 12 loading sites. New facilities now dry and process coal before shipment. The anthracite leaves the



Orange markings are carried on hoppers assigned to carry coal en route to Rio Tinto Iron & Titanium in Sorel, Quebec.

property aboard R&N's fleet of 1,000 open-top cars and 300 covered hoppers, en route to customers across North America. A lot of it makes the short rail moves via Norfolk Southern to ports at Fairless Hills, Pa., and Baltimore for export. A longtime recipient of Pennsylvania anthracite is Rio Tinto Iron & Titanium. That coal moves to the port in hoppers carrying orange "Rio Tinto Coal Service" emblems, and continues to Sorel, Quebec, on ships. More Pennsylvania anthracite sails to European customers.

PASSENGER SERVICE

Passenger trains always have been a big part of Muller's railroad world. Steam-powered excursions charging down his original 13-mile line in the mid-1980s quickly drew attention to his new freight railroad. Even as Reading & Northern expanded and its freight business grew, it continued to run regular excursions. Passenger trains served the dual purposes of being a community goodwill gesture while promoting the freight operation, Muller explains. In recent years, he says it actually has become profitable.

Location has everything to do with it. In 2005, Muller established the Lehigh Gorge Scenic Railway to operate passenger trains on R&N routes out of Jim Thorpe, a major tourist destination. Through most of the year, visitors are able to ride Lehigh Gorge Scenic trains out of the old Jersey Central station. Jim Thorpe's popularity makes reaching there by automobile a frustrating experience, as local roads clog up on weekends. Seeing opportunity, Muller began running passenger trains from outlying areas directly into downtown Jim Thorpe. The railroad opened its new Reading Outer Station, north of the city of Reading, in 2017, offering free parking and weekend train rides to Jim Thorpe between May and November. A pair of Budd RDCs usually covers these assignments, carrying 132 people on each trip. During fall foliage, longer locomotive-hauled consists work



The North Reading Fast Freight eases past a crew installing CTC signals at Leesport, Pa., on Oct. 25, 2018. The railroad plans to have CTC operating over the length of its Main Line this year.

the Reading trains, and the RDCs are shifted to run out of Pottsville or Schuylkill Haven to Jim Thorpe. R&N and Lehigh Gorge trains carried 120,000 passengers in 2018. Muller also is a certified locomotive engineer. If you ride one of the fall foliage trains, don't be surprised to see the railroad's owner at the throttle.

What about those steam locomotives that Muller showcased three decades ago? Baldwin-built 4-6-2 No. 425 sees regular service on some of the fall foliage schedules, and on other specials during the year. The pride of the steam fleet, homebuilt Reading Co. 4-8-4 No. 2102, awaits its return to service after 28 years of inactivity. The small crew at the railroad's steam shop at Port Clinton works on the big Northern-

type most days. Muller says he would like to have it on the road this year.

LOCOMOTIVES AND PEOPLE

Muller's railroads have always looked to the used locomotive market. The law of supply and demand results in widely varying prices for secondhand power, depending on the overall needs of the industry at any given time. Muller tries to buy low — even when he doesn't need additional power. One of his first buys came in 1984, when he purchased 24 former Santa Fe CF7 road-switchers. The new BM&R had no need for that many locomotives, but Muller anticipated that the growing number of new Class I railroad spin-off short lines would. Before long, Muller's CF7s — built by Santa Fe from

retired EMD F units — had become common on numerous Northeastern short lines.

BM&R power was a mix of secondhand EMD switchers and some of the CF7s. The new Reading Blue Mountain & Northern briefly relied on a collection of older General Electric road-switchers before transitioning to an all-EMD fleet. Some early oddities, including an ex-Southern Pacific SD45 and a pair of former Conrail SD45-2s, came and went. More conventional locomotives make up the heart of today's roster. Fleet veterans include nine SD40-2s and five SD50s, all from Union Pacific, as well as a trio of SD38s. Other four-motor units include six ex-Santa Fe GP30u units, which the railroad calls GP39RNs. In 2016 and 2017, four MP15DCs and three GP38-2s joined the roster, all from Norfolk Southern. The high noses on the Geeps are being chopped by Reading & Northern's shop forces. Four CSX SD50-2s were acquired in 2018. With the exception of two GP30u locomotives painted Lehigh Valley Cornell Red, all of R&N's diesels wear the green-and-yellow colors of the former Reading.

Reading & Northern has 250 employees, including part-time workers on



No. 2012, one of three once-high-nose GP38-2s purchased from Norfolk Southern, shows off its cut-down nose for better visibility.

the passenger trains. Operations employees include 50 engineers and conductors, 40 in maintenance of way, six in the signal department, and 20 in mechanical. Most employees are local residents. "We hire for attitude," Muller says. Dedication to customer service is a priority. Many of R&N's employees have seniority dating back to the earliest days of the railroad. But with growing business, the company always is hiring, according to Muller.

GROWING THE BUSINESS

There is much more to the Reading & Northern than its Main Line. Branches diverge in multiple directions. Many were

built during the peak of the anthracite era, and they still produce coal for the railroad to haul. But many other businesses now can be found along the way. Some of the railroad's bigger customers are at outer ends of lines. International Paper operates a corrugated-box plant at Mount Carmel; a large Procter & Gamble facility at Mehoopany receives raw materials for its Bounty, Charmin, Pampers, and Luvs products; Yuengling's brewery receives materials at St. Clair; and Kopyy's runs a new propane distribution facility at Good Spring. An interesting service occurs at Cressona, Pa.: R&N uses its own boxcars to move material from a storage yard to make just-in-time deliveries to a facility less than a mile away. "We can beat truck rates with that," Muller says.

The Reading & Northern is Eastern mountain railroading at its best, with several steep grades. The line to Good Spring has a maximum grade of 2.9 percent.

The railroad's car counts jumped in 2016 when it took over service at the Humboldt Industrial Park near Hazleton, Pa. The park, owned by regional development authority Greater Hazleton CAN DO, is built on 3,000 acres, some of which once were used for coal mining. It has more than 7 miles of rail lines, serving a growing number of customers. Reading & Northern purchased the park's rail assets in 2012 and replaced Norfolk Southern in serving customers at the beginning of



2016. "Reading Blue Mountain & Northern Railroad has become a great partner in promoting economic development in Greater Hazleton since the first day they took over service," says CAN DO president and CEO Kevin O'Donnell.

A switch crew works the park six days a week, joined by a second job on certain days. At 4:20 p.m. each day, the West Hazleton Fast Freight (symbol WHFF) departs the park with all outbound cars and heads south through Tamaqua and Port Clinton to North Reading. Another Fast Freight will forward those cars to Norfolk Southern's yard in Reading, and also bring Humboldt-bound cars back to North Reading.

NS is R&N's primary interchange partner, making connections at Reading, Taylor, Penobscot (Mountain Top), Leighton, and Temple. NS also operates one through train in each direction on trackage rights over R&N's Lehigh Division. Canadian Pacific's interchange (with cars moving in Norfolk Southern trains) is at Taylor Yard near Scranton. An increasing amount of NS interchange is made at Reading. Muller calls it "directional routing." He said that some cars were taking longer routes within Pennsylvania, often via Allentown, to reach R&N trackage. "Every move I make is for the benefit of the railroad and the customer. Directional routing will give better rates to the customer."

As Andy Muller's railroads celebrate



Reading & Northern 4-6-2 No. 425 rests between excursions in the railroad's steam shop at Port Clinton, Pa. To the right is R&N's former Reading 4-8-4 No. 2102 undergoing restoration.

their 36th birthday, we can expect the company's freight trains to continue carrying a wide and growing assortment of traffic.

HEADING HOME

The North Reading Fast Freight is on the move out of Jim Thorpe just 4 minutes behind schedule, but that time will be made up. Second-shift dispatcher Nathan Bissey is overseeing trains now, and he instructs the crew to set off all 18 cars at Tamaqua

Lower Yard. The Tamaqua Fast Freight will take those cars to Reading that evening. After squeezing the cars into the compact yard, the train is now light engines for the remainder of the trip home. After meeting two other trains, Gilbert and Slekovac are back in North Reading, signing off duty as darkness falls. Tomorrow's crew assignment list already has been posted, so both men already know where and when they work the following day. **I**

GP39RN — a railroad-specific designation — No. 2531 and two SD40-2s lead the south-bound North Reading Fast Freight past a farm at Molino, Pa., in October 2018.



SHORT LINES SPECIAL

A TALE OF TWO SOUTH CAROLINA SHORT LINES

A pair of Palmetto State railroads — Aiken Railway and Greenville & Western — reflect their owners' dedication to running a railroad the right way

by Kevin P. Keefe



Snazzy two-tone GP30 No. 4201, a Santa Fe alum, switches industries in North Aiken, S.C.
Allen C. Gibbs

NA





or Aiken Railway engineer Allen Gibbs, the moment of truth has arrived. His conductor, Wayne Shaw, has just climbed back into the cab after connecting the air hose. Behind them are strung 10 covered hoppers, each groaning under the weight of 129 tons of bulk kaolin, a clay mineral used in the production of glossy paper. Ahead of them is a tricky piece of railroad, about a mile of track curving through the woods toward the terminal.

They have a tough task ahead. The rail is wet and the curve is sharp. But the crew has a good engine — GP30 No. 4201, a 55-year-old workhorse whose spic-and-span appearance belies its age — and Gibbs knows what he's doing. He guides the train into motion, ramping through the throttle notches until he's in Run 6, the roar of No. 4201's redoubtable 645 prime mover echoing through the trees.

The train creeps forward, but not to Gibbs' satisfaction, so he adds sand and pulls the throttle all the way out. For a moment the train shudders, then it finds its footing, and the little train begins to climb confidently up the hill. Within about 10 minutes, the crew is home free. Gibbs eases

off the throttle and everyone breathes again as the train gently rocks back into Aiken.

Running a 10-car train through the South Carolina woods may not sound like much, but everything is relative on a short line. This afternoon's challenge — providing first-class service to a valued customer under tough operating conditions — is enough to test the mettle of any train crew, on any railroad. That Gibbs, Shaw, and a handful of other employees do this week in and week out, across two properties located 88 miles apart, says something about the dedication it takes to succeed in the shortline business.

TWO RAILROADS, TWO TOWNS

The Aiken Railway and its sister railroad the Greenville & Western, are a rarity in this era of shortline holding companies: a pair of locally owned, homegrown railroads that don't paint their diesels yellow, black, and orange; or don't send their revenues to companies headquartered in Pittsburg, Kans., or on Michigan Avenue in Chicago. Here, the money stays at home. The emphasis is on keeping it simple, safe, and, with a little luck, comfortably solvent.

Both railroads are divisions of the Western Carolina Railway Service Corp., owned by Steven Hawkins, president, and his wife, Cheryl, who serves as the company's chief financial officer. Hawkins is a native of the



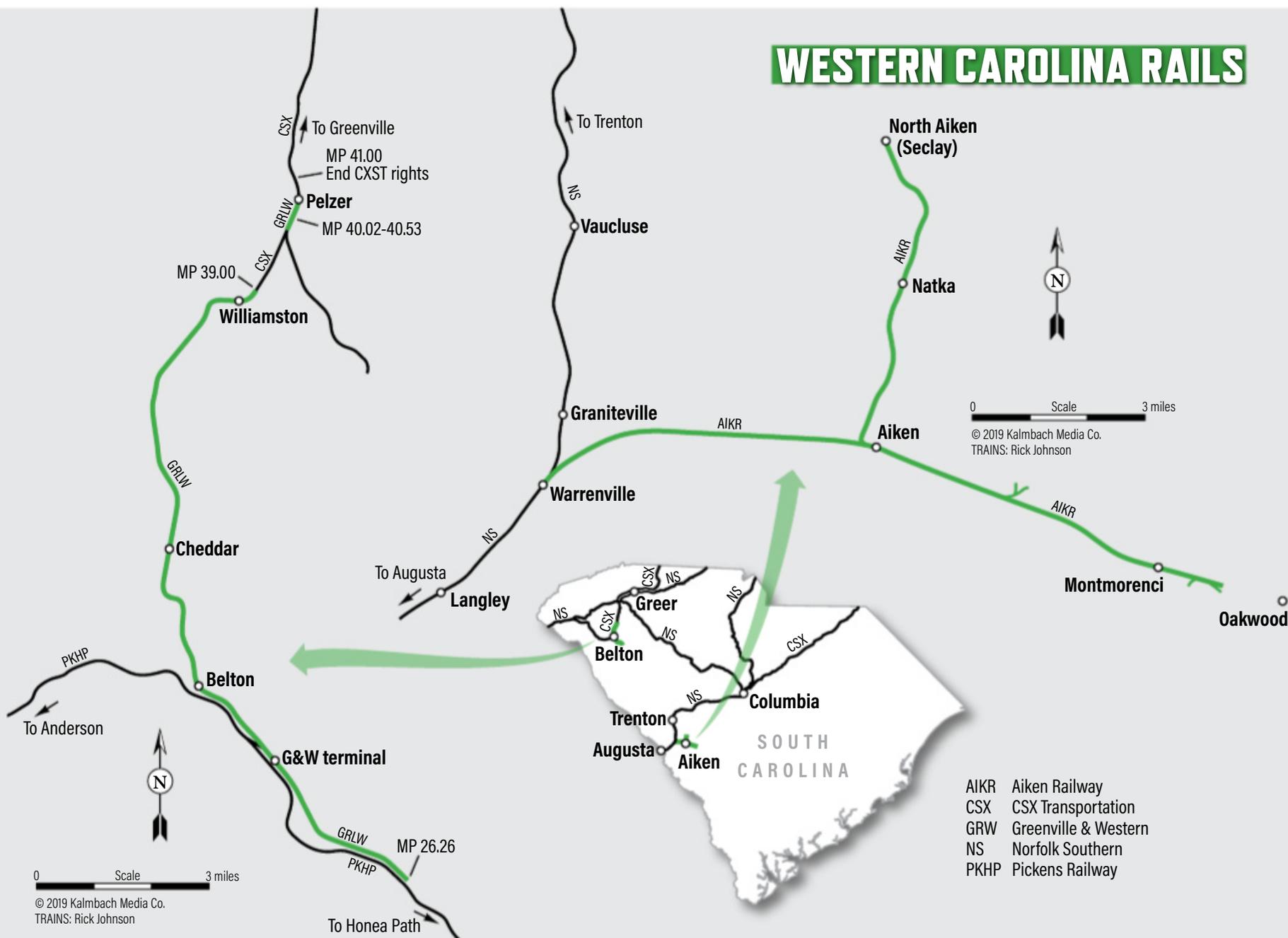
Engineer Allen Gibbs applies his touch to a Greenville & Western GP9. Gibbs and other crew members work for both Aiken Railway and Greenville & Western. Kevin P. Keefe

area with a resume full of both shortline and Class I experience. He bought the Greenville & Western from CSX in 2006 in order to serve a handful of customers strung out along the 12.8 miles from Pelzer south through the communities of Williamston, Cheddar, and Belton.

Hawkins followed up in 2012 by leasing the 18.9 miles of the Aiken Railway from Norfolk Southern. Configured like a sideways "Y," Aiken runs from the NS connection at Warrenville eastward 6 miles into Aiken, then splits in two, one line running east 7 miles to a point near Oakwood, the other north 6.4 miles to North Aiken.

The two railroads are an interesting

WESTERN CAROLINA RAILS





Greenville & Western GP9s Nos. 3752 and 3751 lead a northbound through Williamston, S.C., with cars that will make up an outbound empty ethanol train for CSX. Grady McKinley

contrast. The Greenville & Western is the busiest, generally operating three days per week and hauling 2,400 carloads annually between Pelzer and the railroad's small terminal south of Belton, where it connects with another short line, the Pickens Railway. Its main connection is with CSX at Pelzer, although it also provides overhead service to NS via the Pickens. The Aiken hauls 1,100 annual carloads and operates twice a week from its terminal on the east side of downtown Aiken, a genteel community Southern Living magazine called the "South's Best Small Town" in 2018.

Hawkins has been a boomer, both as a trainman and a manager. He began his career on the Carolina Piedmont short line in Laurens, S.C., in the northern part of the state, when the now defunct RailTex Corp. owned the railroad. It is now a Genesee & Wyoming property. Hawkins started out in train service but soon became part of a RailTex "go" team to aid in startups around the country. His work there led in 1992 to a job on the Missouri & Northern Arkansas, which is where he met Cheryl.

After a brief stint as an engineer and road foreman of engines on Norfolk Southern's Tennessee and Piedmont divisions, Hawkins went back to the Missouri & North Arkansas for a time, then returned to NS as a road foreman of engines in Buffalo, N.Y., and later transferred to a trainmaster position on NS in Lancaster, Pa. He finally left the Class I life in 2003 to



Cheryl and Steven Hawkins own the Western Carolina Railway Service Corp., the parent company to the Aiken and Greenville & Western railroads. Steve Smedley

move back to South Carolina and plan his shortline career.

Hawkins says those first years of his career were excellent preparation for what he's doing now. "I had the benefit of participating in the startup of five Class III railroads with RailTex and on three divisions of NS, in both labor and management," he explains. "I moved 15 times in 12 years and got to see how railroads function in different regions and climates. While there were no traditional craft lines at non-union RailTex, I interacted with every craft when I moved into management at NS. I chose the hands-on path to railroading."

Hawkins is unabashed about the way his

Christian faith informs the way he runs his railroad, something he professes openly in the company's marketing messages. "While our model may not be entirely unique, it certainly stands out against most of my Class III peers," he says. "It's God first, family second, business third. Take care of the first two and God takes care of the rest." Hawkins delegates considerable authority to his general manager, Brandon L. Julian, who came to the railroad in 2009 after working at CSX. Julian juggles a number of managerial duties, including frequent hi-rail inspections of both railroads, and also works in train service.

Other employees carry the title of rail transportation specialist and all work cross-discipline. Gibbs is another of Greenville & Western's Class I veterans, having worked for a year and a half on NS out of Greenville. That was enough for him. "My experience at NS was good," says Gibbs, "but I love the cross training you get here. One day I'm running trains, the next maybe I'm driving the company truck, or working in maintenance, or maybe even cutting the grass. I really enjoy the variety."

Shaw came to work for Hawkins after an 18-year stint at the Hampton & Branchville, a legacy Palmetto Railways property that shut down in 2012. Another member of the Belton crew, Dennis J. Martin, worked in the automotive body business for 25 years before coming to the railroad. He's now the company's chief mechanic and transload supervisor.

Hawkins and his wife run the company out of Western Carolina's headquarters in Greer, 33 miles northeast of Pelzer, in the



A pair of Aiken Railway GP30s lead a train through the 40-foot-deep cut built in 1852 at Aiken, S.C., that replaced the original incline railway of 1833 to reach this point. Steve Smedley

former Piedmont & Northern depot. It's a spacious, splendid old brick and tile-roof structure, built in 1913 and featuring a two-story main station building and a long freight house. The building houses five tenants and is listed on the National Register of Historic Places.

ROOTS DEEP IN THE SOIL

As the owner of the railroad, Hawkins doesn't have to run from that fact that his interest in railroading goes beyond the job. He might even call himself a railfan. He began reading *TRAINS* magazine at age 13 and

is a longtime member of the Greenville Chapter of the National Railway Historical Society. He also volunteered on Norfolk Southern steam specials, including an experience riding the tender of N&W J-class 4-8-4 No. 611 and a cab ride aboard A-class 2-6-6-4 No. 1218 when he was 18 years old.

History isn't why Hawkins bought the two railroads he owns, but he's mindful of their rich legacy. The Aiken's ex-Southern line from Warrenton through Aiken to Oakwood, for instance, has ties to South Carolina's very first railroad, the South Carolina Canal & Railroad Co., chartered by the

state in 1827 and operator of the first entirely U.S.-built steam locomotive, the *Best Friend of Charleston*. The tiny 0-4-0 chuffed out of Charleston for the first time on Christmas Day 1830.

The South Carolina Canal & Railroad Co. slowly built west until it reached Aiken in 1833. A peculiar aspect of its construction was the use of a short inclined-plane railway through part of the village of Aiken, with which railroad cars were hoisted up and down a steep hill by a stationary steam locomotive. The practice was obviated in 1852 with the construction of a narrow, 40-foot-deep cut through the southwest part of town, still a feature of today's Aiken Railway.

During Reconstruction, another railroad, the Edgefield, Trenton & Aiken, in 1879 built northward from Aiken. The Aiken's line to North Aiken is a remnant. All of Aiken Railway's predecessors experienced various 19th-century corporate changes until they eventually became part of Southern. In 2010, the city of Aiken built a replica of the genteel old SR depot, razed in 1954. Today's station houses a museum that includes excellent exhibits tracing the city's railroad history. Right outside, Aiken's GP30s run past on their way to North Aiken.

If anything, Greenville & Western's history might be even more compelling because of its traction heritage. Today's entire G&W operates on what once was the Piedmont & Northern, an electric railroad developed by utility magnate James B. Duke of Duke Power fame. The P&N actually operated two separate railroads, a 24-mile segment in North Carolina, and the more substantial South Carolina division with its 89-mile Spartanburg-Greenville-Greenwood main line, plus a short branch to Anderson.

In its heyday, the P&N was a rarity in the Southeast, a heavy-duty electric railroad reminiscent of Chicago's Insull lines. It carried passengers and hauled coal and coke as well as other commodities, including cotton, with a fleet of big Baldwin-Westinghouse and GE box motors. The P&N was dieselized in 1954 and CSX predecessor Seaboard Coast Line bought the property in 1969. Today's Greenville & Western pays tribute to that heritage by incorporating lightning bolts from the old P&N herald in its current logo.

VINTAGE ROSTER

The Western Carolina roads have a roster of classic diesels. The holding company owns six: two GP9s originally delivered in 1957 to Baltimore & Ohio, and four GP30s built in 1962-63 for Santa Fe. Hawkins keeps four of the diesels, including the two GP9s, at a modest engine facility nearly 3 miles south of Belton, at the connection with the Pickens Railway. The two Aiken

ONCE UPON A TIME SEABOARD AND SOUTHERN

THE LINES THAT MAKE UP Western Carolina Railway Service's two railroads had lively and colorful existences before the Aiken Railway and the Greenville & Western came into existence. The former Greenville & Western was the electrified Piedmont & Northern, which became part of Seaboard Coast Line in 1969. Never a through route, it



Seaboard Coast Line GP30s hustle 16 cars through Greer, S.C., on July 10, 1974, on the former Piedmont & Northern trackage. This portion is north of Greenville & Western rails but gives a feel of the SCL era. Curt Tillotson

nevertheless was a good source of local traffic for SCL thanks to P&N's "mill to the mile" efforts at industrial development. Southern is the lineage for the Aiken, and it was known for a 1960s passenger train oddball, an intrastate portion of the *Augusta Special* from Fort Mill on the North Carolina border to Warrentonville, S.C. — *Jim Wrinn*



A Southern RS3, coach, post office car, and FTB steam heater car comprise a Dec. 16, 1966, remnant of the *Augusta Special* in Warrentonville, S.C. This service ended soon after this image was made. George Weiss

GP30s are kept at the company's small yard just east of downtown Aiken. Regular running maintenance is performed on site; for heavier work, the company relies on the services of Republic Locomotive, a rebuild-er and manufacturer in Greenville.

Over on the Greenville & Western, most of the work goes to the two GP9s, numbered 3751 and 3752. Hawkins purchased the units from the East Cooper & Berkeley Railroad, a small industrial switching line serving the Charleston naval complex. Although now wearing the smart green-and-white paint scheme of the Greenville & Western, inside they're about as close to B&O in 1957 as you can get, right down to their 1,750-hp 567 prime movers and 24RL brake stands. Other than replacement power assemblies, the Geeps are nearly original.

Sharing space at the Belton terminal are two of the company's four GP30s, including No. 4203, repainted in the company's two-tone green Aiken livery, and No. 4204, wearing what might politely be called a mashup of Santa Fe and Greenville & Western identities. Someday it will get repainted, says Hawkins, but for now it works just fine as it is. Also at Belton: a snazzy extended-vision caboose off the Richmond, Fredericksburg & Potomac and lounge car *River Falls*, formerly Rock Island six-double-bedroom, eight-roomette sleeper *Golden Tower*, both used in special moves such as the company's annual Santa train.



Southbound Aiken No. 4201 passes the replicated Aiken, S.C., depot and a caboose on display on March 15, 2016. No. 4201 began its career as a Santa Fe GP30 in 1963. Grady McKinley

You'll always find the other two GP30s — Nos. 4201 and 4202 — over at Aiken. Here, the profile of the railroad and the nature of the traffic make the extra heft of the 2,250-hp Geeps necessary. No. 4201 is the former BNSF 2464, delivered to Santa Fe in April 1963, and No. 4202 is ex-BNSF 2473, delivered in May 1963. Although they wear the Aiken reporting marks, both units are owned by Greenville & Western and leased to Aiken.

All four GP30s have cab air conditioning, a welcome advantage in the South Carolina climate. Not so the GP9s. "On the older units you have to live with '2 and 10'

air conditioning," says Hawkins. "Two doors and 10 mph."

Hawkins and his crew are fastidious about not only the way these engines run, but also the way they look. They are always clean, an extension of Hawkins' business strategy. "When it comes to anything that can be observed by the public, it is very important to always put forward your very best image," he says. "That goes beyond the units to include everything: locomotives, company vehicles, buildings, property, website, Facebook, employee attire, even down to simply having a 'can-do' attitude when a customer asks for something."



Greenville & Western job Z590-17 is southbound near Williamston, S.C., on June 17, 2015. Grady McKinley

IT TAKES CUSTOMERS

Of all those customers Hawkins works to serve, none is more important than Lincoln Energy, a Greenville-based distributor and retailer of petroleum products. Lincoln distributes ethanol from a tank farm owned by Texas-based Kinder-Morgan and located along a six-track yard at a point on the Greenville & Western called Cheddar, just north of Belton. Hawkins originally purchased the property in 2006, envisioning it as a base for unit-train operations.

He soon got his wish. Two years later, Lincoln bought the land, the profits from which Hawkins was able to invest \$1.3 million in track work and other improvements. He credits the transaction with allowing Greenville & Western to upgrade to Class 2 track. The first unit train out of Cheddar Yard operated in March 2009, and by 2014 the railroad peaked with nine unit trains per month and more than 9,000 annual carloads, coming from a variety of ethanol producers. In 2012, Lincoln sold the transload facility to Kinder Morgan, which owns a pipeline that terminates here. However, in 2016, ethanol supplier ADM withdrew from Kinder Morgan's Belton terminal and moved operations to a new terminal on NS

at Augusta. The Greenville & Western lost 3,200 annual carloads in the process.

Despite that downturn, Lincoln Energy continues to be Greenville & Western's largest customer. The business at Cheddar Yard is a particular point of pride for Hawkins. "I'll never stop setting the bar higher, but sometimes I have to remind myself what we've done here," he says. "I need to remind myself that not long ago

**"CASH IS KING, AND YOU
NEED TRAFFIC TO HAVE
CASH AND YOU NEED
DIVERSIFICATION WITH
THAT TRAFFIC TO PROTECT
YOU FROM THE
ECONOMIC STORMS."
— STEVEN HAWKINS**

this was just a cow pasture."

There's more to Greenville & Western than ethanol, though. Other customers on the line include Belton Industries, which receives polypropylene for the manufacture of plastic fabrics, such as parachutes; Belton Metals, a scrap dealer; Mass Polymers,

a transload operation; and heavy equipment manufacturer Komatsu, which ships wheel loaders from the Big Creek Machinery Distribution Hub at Williamston.

Like the development of the ethanol yard at Cheddar, the Komatsu loadout demonstrates Hawkins' interest in combining running the railroad with industrial development. He might say, "If I don't do it, who will?" So in November 2014 he bought the 3-acre property in Williamston, installed 1,600 feet of track, and worked out an arrangement with Komatsu. By 2018 the business had grown to 40 high-value carloads headed for various U.S. destinations. The wheel loaders are manufactured at Komatsu's plant in Newberry, 68 miles southeast of Williamston.

Finally, Greenville & Western handles overhead traffic for Pickens, including shipments for a Michelin tire plant in Greenville and CMC Recycling in Anderson, and a couple of paper companies in Anderson and Honea Path. The overhead constitutes approximately 13 percent of Greenville & Western's business.

Operations are comparatively low key over in Aiken, where current customer needs warrant only twice-weekly service.



Of course there's the Grace kaolin plant in North Aiken, and just north of it another kaolin facility operated by Active Minerals International LLC. Just east of the railroad's Aiken terminal is Carolina Eastern, a feed and seed operation, as well as the headquarters plant of AGY Holding Co., a glass fiber products manufacturer. The railroad also offers car storage.

LOOKING AHEAD

Hawkins is candid about the challenges facing running short lines like his. Asked what keeps him awake at night, he is quick to answer. "In a nutshell, I'd say its growth of traffic and diversification of traffic. Cash is king, and you need traffic to have cash and you need diversification with that traffic to protect you from the economic storms."

Active as a real-estate investor, Hawkins has worked to secure on-line properties with potential for future traffic. In the end, though, his business proposition for customers is only as good as what he can deliver via CSX and Norfolk Southern, whose priorities are centered far from two small South Carolina towns. "It can be frustrating," he says, "trying to grow either road by marketing new opportunities in a world



Greenville & Western GP9 No. 3751 leads a short freight along a portion of the former Piedmont & Northern electrified right-of-way at Belton, S.C., in 2009. Jim Owens

where the reality is we have very little or no input about the total through rate with our Class I interchange partners."

For the moment, whatever Norfolk or Jacksonville is thinking is of secondary concern to Allen Gibbs and Wayne Shaw, who now have the last duty of the day — deliver those 1,290 tons of kaolin loads down the hill from Aiken to NS at

Warrenville. It's only a few miles, but the 4201 is at the east end of the train, so Gibbs is obligated to back through the Aiken cut with Shaw riding the rear as a flagman — in the pouring rain. All in a day's work on a Carolina short line. **I**

KEVIN P. KEEFE *retired as vice president-editorial for Kalmbach Publishing in 2017.*

FUSEE MAIL



A shortcut leads to a lost paycheck

by Ken Jamin

MY FIRST JOB ON THE RAILROAD taught me that there were no easy shortcuts, especially when it came to getting paid.

In 1970, I was working second trick at Milwaukee Road's Tower A20 in Northbrook, Ill., in north suburban Chicago. Tower A20 was on the main line between Chicago and Milwaukee and it controlled both ends of a mile-long connection between the Milwaukee Road and the Chicago & North Western that enabled Milwaukee freights to access Bensenville

Yard without going downtown. The Tower A20 operator controlled both interlockings at both ends of the connection.

The Milwaukee Road paid its employees twice a month, on the 13th and 26th. Like many modern conveniences that we now take for granted, direct deposit was still decades away and paychecks were mailed to the railroad office where the employee worked. Unfortunately, Tower A20, like many railroad interlocking towers, did not have U.S. Mail service. The closest station

with mail service was the Northbrook station, 1 mile to the north. However, Northbrook was a commuter station that closed at 2:30 p.m. Since I did not go on duty until 4 p.m., I devised a clever scheme to get my check without coming to work early.

I soon made friends with Mike, the afternoon operator at the station in Glenview, 4 miles south of A20. Because Glenview also handled intercity passenger trains, it was open until 7:30 p.m., so I arranged to have my paychecks sent there. On payday, Mike would wrap my pay envelope around an unlit fusee, secure it with tape or train-order string, and hand it to the conductor of a commuter train with a request to throw it off at Tower A20. As the train sped by, the conductor would toss it off in front of the



Milwaukee train No. 6, the *Morning Hiawatha*, passes Tower A20 near Northbrook, Ill., on July 29, 1969. The author worked second shift at the tower in summer 1970. Jim Scribbins

tower, and I would quickly retrieve it after the train's passing.

This system worked well for several months, until one rainy evening in late September. Mike put my check on Train No. 2133, a commuter train destined for Deerfield, two stations to the north. Upon arrival at Deerfield, train 2133 would quickly unload its passengers, then back through hand-throw crossovers to return to Chicago. No. 2133 had to keep a tight schedule, as a passenger train to Minneapolis was scheduled just minutes behind it, and no one who valued his job wanted to delay it.



A commuter train, with equipment like that which delivered the author's paychecks, approaches Tower A20 in July 1973. Art Peterson

As usual, I lined the signal for No. 2133. When I saw the train approaching, I picked up my lantern and walked down the wet wooden stairs to wait for my checks. In addition to my regular paycheck, there was a second check for overtime that I was due from the previous pay period, so my anticipation was even greater than usual. As No. 2133 sped by, I saw the conductor's hand holding the fusee out the open vestibule door. With a flick of his wrist he tossed it in my direction, but the package suddenly bounced back under the speeding train!

The wheels tore the two envelopes from the fusee and they went fluttering like leaves in the strong wind created by the train. The first envelope was not too hard to spot, and I quickly recovered it, but there was no trace of the second envelope. I ran up the steps to line the signal, then returned downstairs to resume my search for the missing envelope.

Even from where I stood at track side, I heard the second train "hit the bell," or ring the annunciator in the tower that alerted the operator of an approaching train. Searching even faster now by the light of my lantern, I looked back, only to see the headlight approaching in the distance. I knew that if the train passed before I found the check, it could be blown so far down the track I might never find it.

Now I was running down the track, peering frantically through the rain and the darkness for the missing check, as the train drew closer. Suddenly I saw it, lying between the rails, a few hundred feet from the tower. I quickly grabbed the envelope,



stepped back, and waved a "highball" to the engineer with my lantern. I watched the train rush by, then returned to the dry comfort of the tower to report the train to the operator at Rondout and the dispatcher.

Needless to say, that was the end of the fusee delivery system. From then on, I made sure to leave early on payday, so that I could pick up my check in person.

KEN JAMIN worked for the Milwaukee Road from 1970 to 1988 and later as an operating practices inspector for the Federal Railroad Administration.





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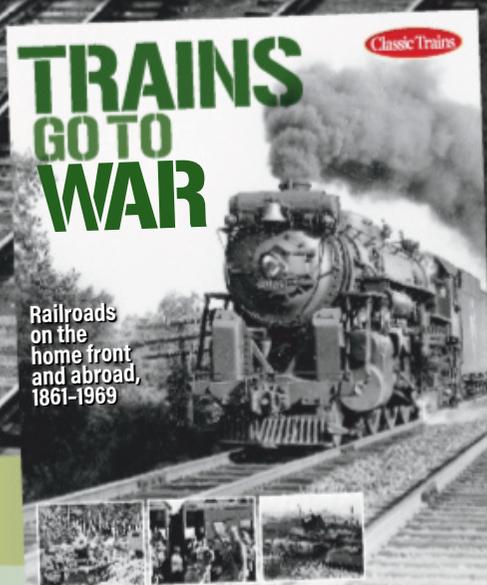
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P34620

The missing track at Milan

Quick thinking saved a European vacation

TRAVEL OFTEN REQUIRES a certain level of personal fortitude when plans go awry, which I was reminded of on a hot, sunny afternoon in Milan, Italy, in July 1985.

I ascended the escalator from the Metro into the vaulted booking hall of the Milano Centrale station. I had spent an enjoyable day exploring the city's streetcar system and planned to take a 5 p.m. Zurich express back to Lugano, Switzerland.

In the 1980s, most European railroads displayed their departure information on yellow posters distributed around stations. I consulted one of these and, having determined that my train would leave from track 12, continued up a farther escalator to the main concourse. Here the main departure board indicated that track 12 was the place to go. I proceeded onto the platform to join a substantial number of fellow travelers who appeared to be confidently anticipating the appearance of some rolling stock.

But there was something wrong with this scenario. Not only was there no train in front of the platform, there wasn't any track — just a series of rectangular depressions in the ballast where the ties ought to have been. Out in the yard, I could see that the rails ended just beyond the platform end, protected by nothing more than a red lamp on a pole — although even that seemed to be pointing the wrong way to warn a misdirected train.

I tried to draw the situation to the attention of those around me, but my knowledge of Italian was as limited as their apparent grasp of railroad terminology, and I made no impression on them. Nor at any time did a representative of the Ferrovie dello Stato Italiane appear on the scene to provide any direction. It seemed to me that the track gang was going to have to pull off a pretty remarkable stunt if anything was going to happen on track 12 by 5 p.m., so I set off in search of information elsewhere.

I found my train farther down on track 8 and boarded with 2 minutes to spare.

As it rolled out, I could see a scattering of individuals still patiently waiting for something to happen on track 12. **I**

RICHARD CRIPPS is a British-born retired mechanical engineer living in Alexandria, Va.

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Smooth moves

Transporting a big steam locomotive goes high tech

▲ Mammoet operator Paul guides Nashville, Chattanooga & St. Louis 4-8-4 riding on a 96-wheel, self-propelled transporter down Nashville city streets on Jan. 13, 2019. The 175-ton locomotive made the 2-mile trip in about 2 hours. Tender, inset photo, followed closely behind. Two photos, TRAINS: Jim Wrinn

WHEN THE BIG 4-8-4 in Nashville's Centennial Park left on the start of its road to restoration early on the rainy morning of Jan. 13, it was a sight to behold going down city streets and a vivid display of how far the art and science of dead and far-from-active-track steam locomotive relocation has come.

In days past, such a job was given to cranes (and occasionally Caterpillar front-end loaders) and multi-axle low-boy trailers. As cables cinched around boiler barrels and fireboxes, even the most hardened observers winced for fear that a line might slip and shear off sheet metal, piping or, worse, important appliances like air pumps or injectors.

When the locomotive in question arrived at the railhead, it was often the job of a big hook or derrick to do the heavy lifting (and sometimes two if the engine were big enough — one for the smokebox and one for the backhead ends). Sometimes, boilers and running gear had to be separated for height and weight issues. The task of moving a big engine that had

come in on panel track but had to exit by other means was often daunting, and expensive.

Today, heavy lifting companies can jack up a locomotive like 175-ton Nashville, Chattanooga & St. Louis 4-8-4 No. 576, which had spent 66 years on display in the park. Then a company like Mammoet, a Netherlands-based heavy mover, can slide a 96-wheel self-propelled transporter under the engine. The transporter uses hydraulics to level itself, (No. 576 had an overall height of 19 feet, 8 inches perched on its carriage) and away it goes.

An operator tags along on foot behind. The motor is muffled enough so that you can have a conversation while standing nearby. And you would never know when the gismo is climbing a hill — it never strained in the least.

Mammoet's operator, Paul, said he would go as fast as utility crews working in relay ahead of the locomotive on transporter-raised power and phone lines, but no faster than his knees could stand. For a 2-mile move projected to take

as much as 4 hours, from start to finish, it was over in a little more than two. On the No. 576 move, the 65-ton tender, sans trucks, rode a depressed-center truck with multiple axles just behind the locomotive to take advantage of the raised phone and power lines.

"We've moved bigger loads," Paul relates at the completion of the journey to the Nashville & Western short line. There, an army of volunteers reunited the 4-8-4 with its tender, brake rigging was replaced, and drawbars were reinstalled.

Late in February or early in March, the engine was set to briefly return to home rails. A CSX diesel was to tow the engine past Union Station (now a posh boutique hotel) and to the Tennessee Central Railway Museum shop, where a multi-year \$2 million restoration was to commence.

One day, when the full history of NC&StL No. 576's restoration is told, it can be said that it started with one of the smoothest moves of any park engine that needed a ride.

— Jim Wrinn





TWO CHICAGO & NORTH WESTERN

R-1 4-6-0s are under restoration at Midwestern preservation sites. At Steam Railroading Institute in Owosso, Mich., recently acquired No. 175 is coming along, above. At right, Mid-Century Railway Museum's No. 1385 anticipates a new boiler at a restoration site near Madison, Wis.

Above, Ron Burkhard; right, Brian Solomon



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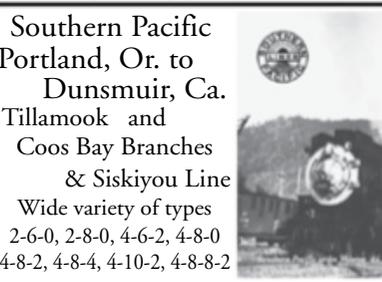
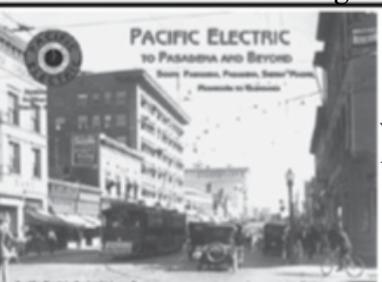
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Short line: Housatonic Railroad

New Haven lines live on with tourist railroad turned freight hauler

▲ A Housatonic Railroad freight between Pittsfield, Mass., and Canaan, Conn., switches at Lenox, Mass., on Aug. 9, 2017. Two former Conrail GP35s provide power. Scott A. Hartley

THE HOUSATONIC RAILROAD CO. (reporting marks HRRC) operates 120 miles of former New Haven Railroad trackage from Pittsfield, Mass., south to Danbury and Derby Junction, Conn. Much of this was NH's Berkshire Line, linking the New York City area with resort areas of western Massachusetts. The east-west line through Danbury is a remnant of New Haven's freight route between New Haven, Conn., and Maybrook, N.Y. HRRC parent Housatonic Transportation Co. is privately held with John Hanlon Jr. as its principal. He began assembling the system in 1983 with tourist trains on a section of the Berkshire Line. He redirected efforts to freight service, acquiring more lines from Conrail and Guilford Transportation. Tracks in Massachusetts are owned by the Commonwealth; some lines in Connecticut belong to that state. Housatonic has 100 miles of freight rights on Metro-North tracks in New York state, but there are no active customers.

the CSX interchange at Pittsfield and south to New Milford, Conn., alternate between day and night schedules. A train usually departs Canaan between 6 and 8 a.m. A weekday local switches Specialty Minerals' dolomite plant at Canaan. Another daytime local is based in New Milford and serves a Kimberly-Clark plant there as well as customers in the Danbury area and east along the Maybrook Line.

Museum is in Lenox, Mass.; the Danbury Railway Museum uses the former station in that Connecticut city.

NEARBY: More action (including the Boston section of Amtrak's *Lake Shore Limited*) is on CSX's former Boston & Albany line in Pittsfield. Metro-North's Danbury Branch offers diesel-powered commuter trains south of the city. — Scott A. Hartley

Roster

No. 22

Model: GP7u
Build date: 1952
Lineage: Santa Fe GP7
No. 2722.

Nos. 3600-3604

Model: GP35
Build dates: 1964-65
Lineage: Acquired from Conrail; ex-Pennsylvania Nos. 2309, 2312, 2254, 2336, 2314. Three are no longer turbocharged.

No. 9935

Model: RS3M
Build date: 1951
Lineage: Delaware, Lackawanna & Western No. 910, rebuilt by Conrail with 1,200-hp EMD engine. Out of service.

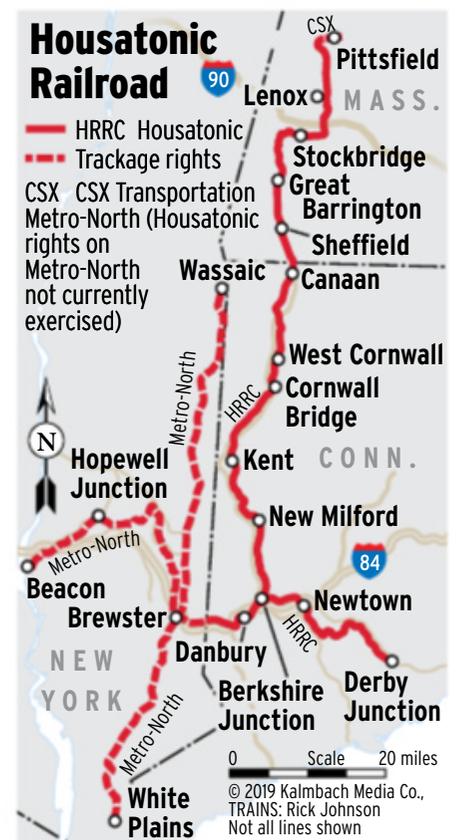
LOCATION: Headquarters, Canaan, Conn.

TYPICAL DAY: Road trains out of Canaan, north to

BEST VIEWING: U.S. Route 7 follows much of the railroad's north-south segment. State highways provide access to the Maybrook Line.

WHY VISIT? GP35s carry a yellow-and-green scheme reminiscent of the Chicago & North Western. A GP7u wears the red and gray of former owner Bangor & Aroostook.

DON'T MISS: More than a dozen former New Haven stations have been repurposed for various residential and business uses, and several provide good photo props. Canaan Union Station is a replica of the 1872 structure destroyed by fire. The Berkshire Scenic Railway



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Q Does the badge on the rear of passenger trains have a name?

— Harvey Hawkin, Maple Valley, Wash.

▲ **Silver Solarium, the Budd Manufacturing Co. observation-dome car built for the Chicago, Burlington & Quincy Railroad features a California Zephyr drumhead, in this case, a rectangular sign with neon-lighted letters. It's seen above on Amtrak's California Zephyr, eastbound near Bond, Colo., on Union Pacific's Glenwood Springs Subdivision. Inset: another drumhead, this time for the 20th Century Limited, on the tail of former New York Central observation car Hickory Creek.** Above, Chip Sherman; inset, Scott A. Hartley

▲ The device you mention is often called a “drumhead” or “tailsign.” In the heyday of railroading, it was usually reserved for passenger trains with fancy marketed names such as the *20th Century Limited*, *Broadway Limited*, and the *Super Chief*, from the New York Central, Pennsylvania, and Santa Fe railroads, respectively. The simplest versions are round signs with a logo that resembles the head of a drum while fancier versions include lights and custom metal work. — Steve Sweeney

Q **The track on the new Genesee Arch Bridge featured in TRAINS [see “Modern and Spectacular,” February 2019] has no guard rails, unlike the old bridge. Why?** — Roger Thomas, West Windsor, N.J.

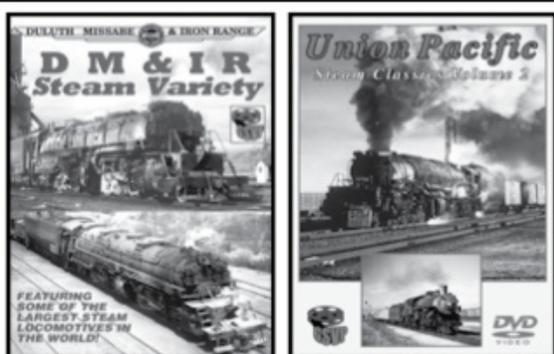
▲ Federal Railroad Administration regulations do not address the need for inner metal guard rails on bridges. The decision of where and when to install these is determined by the chief engineer assigned to the project when building a new bridge, or upgrading or replacing an

existing structure.

In the case of the new Genesee Arch Bridge in western New York, the load-carrying parts of the spans are below the track and there were no adjacent bridge structures to be damaged in a derailment, which prompted the chief engineer to forego guard rail installation. Norfolk Southern's standard procedure calls for guard rails on deck plate girder and through truss spans where the goal is to keep a derailed car or locomotive near the center of the track to prevent it from damaging the girder or truss that is beside it.

Norfolk Southern's standard procedures do not require inner guard rails particularly on ballasted deck bridges, such as the Genesee Arch, due to the difficulty they create in production tamping of the ballast and proper maintenance. Had the chief engineer on the bridge project determined they were necessary, he or she could have installed guard rails and overridden NS's standard procedures. — Howard Swanson, Norfolk Southern engineer (Ret.), assigned to the Genesee Arch Bridge

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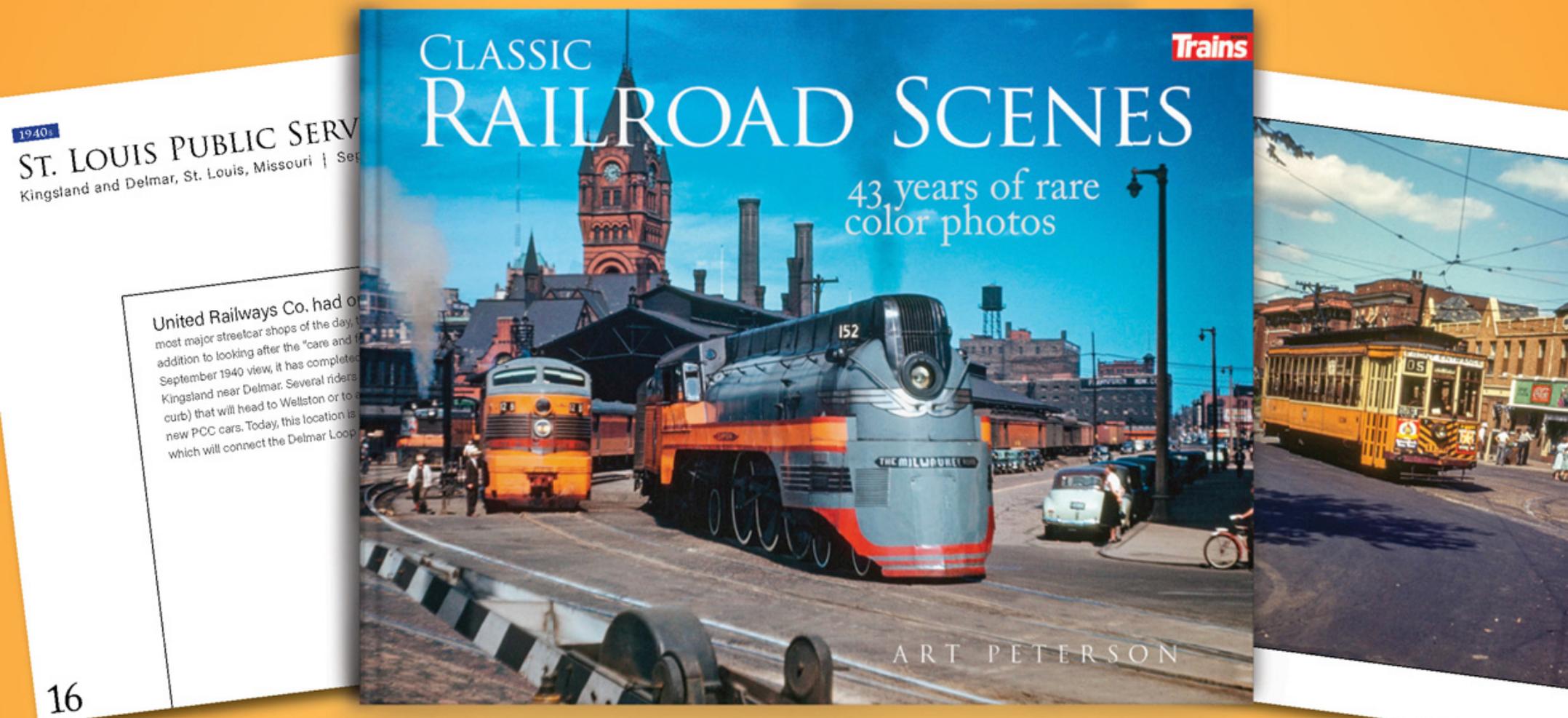
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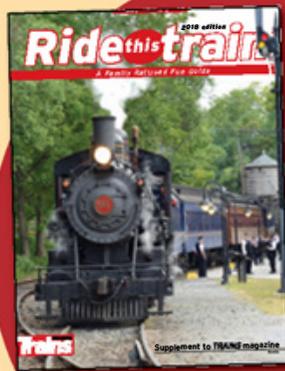
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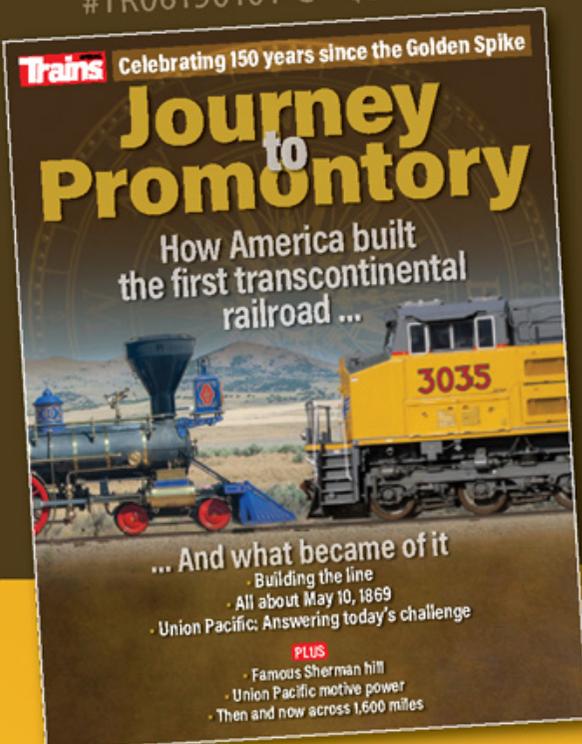
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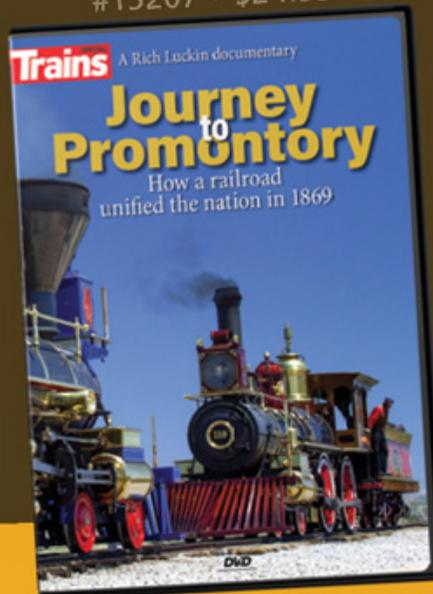
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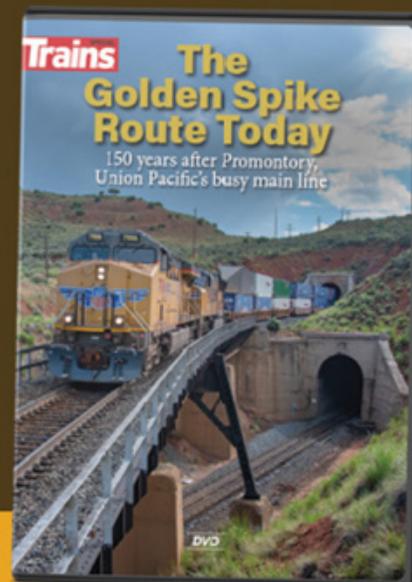
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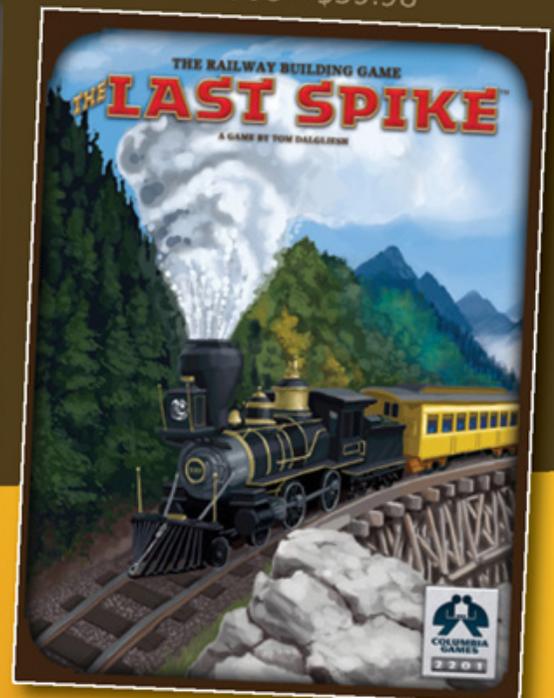
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Esto perpetua

Reminiscent of Idaho's state motto in Latin, meaning "let it be perpetual," this St. Maries River Railroad train makes its way over the former Milwaukee Road's Pacific Northwest main line. The westbound Plummer Job crosses the Benewah Lake trestle west of St. Maries, Idaho, Oct. 19, 2018. Justin Franz



Let's face it

Goderich & Exeter train No. 432 is tied down at Kitchener, Ont., with a former Cotton Belt tunnel motor up front on Nov. 12, 2018. SD45T-2 No. 3054 wears its aftermarket nose decal, Nov. 12, 2018.

Ryan Gaynor



'You belong among the wildflowers'

Stockton Terminal & Eastern MP15DC No. 777 heads west over the Stockton Diverting Canal with coil cars and a fertilizer tank car ready for the Union Pacific interchange in Stockton, Calif., April 13, 2018. Ryan Clark





Matching golden outfits

East Penn Railroad GP18 No. 1800 leads an east-bound train on the former Pennsylvania Railroad Octoraro Branch, between Kennett Square and Mendenhall, Pa., on the 100th anniversary of the end of World War I, Nov. 11, 2018. Michael S. Murray



Part of a complete breakfast

A southbound Grenada Railroad train passes behind the North Mississippi Grain Co. elevators at Coldwater, Miss., July 12, 2018. U.S.-based International Rail Partners acquired Grenada from Iowa Pacific in 2018 and operates the short line through a lease-purchase agreement with the North Central Mississippi Regional Railroad Authority. Jaxon Talbert



The last best place

Dodging shadows cast by pine trees, Montana Rail Link's Night Gas Local, led by SD70ACe No. 4408, chases the setting sun west of Cyr, Mont., as the northern fringe of the Grave Creek Range provides the backdrop, Sept. 16, 2018. Matt Krause



Shades of blue

Central Maine & Québec Railway train, led by SD40-2F No. 9010, heads west at the east outlet of Moosehead Lake near Greenville, Maine, just before sunset, Sept. 15, 2018. Thomas Coulombe

Fifty shades of gray

On Nov. 30, 2018, Keokuk Junction Railway FP9A No. 1750 arrives with its long train in a crowded Tazewell & Peoria Railroad yard in East Peoria, Ill. The Norfolk Southern power in the upper left will be taking much of the train east. Steve Smedley



Just happened to be in the neighborhood

Treading through residential
backyards, an Ontario
Southland train, with M420
No. 647 leading a pair of
RS23s, heads south on the
Guelph Junction Railway in
the line's namesake city,
Oct. 30, 2018. Ron Bouwhuis

