#999 AND COUNTING

SIEMENS TESTS AMTRAK'S FIRST AIRO CAR p. 9

Trains

www.Trains.com • January 2024

Exclusive interview with UP's CEO Jim Vena p. 6

24 Hours in Trout Creek

Follow along for 24 hours-worth of BNSF trains along Montana Rail Link in the dead of Winter

p. 32

Chicago advantage:

How the EJ&E solved CN's Windy City problems

p. 22

PLUS

Travel: Riding Amtrak's unique *Auto Train* p. 52

Trains best: Quebec, North Shore & Labrador p. 40

$7.99

0 74820 01213 0 01

Vol. 84 • Issue 1

In this issue

January 2024
Vol. 84, No. 1

Features

Brightline's milestone moment p. 12

Launch of passenger service to Orlando is a significant achievement — and opens the door to new challenges ***Bob Johnston***

Canadian National's Chicago advantage p. 22

The Elgin, Joliet & Eastern line around the Windy City is key to a new premium freight service ***Bill Stephens***

COVER STORY

24 hours at Trout Creek p. 32

Follow along for 24 hours of BNSF's overhead trains operating on the Montana Rail Link ***Tom Danneman***

Best of *Trains*: Quebec, North Shore & Labrador p. 40

Chopper in for a ride on this enigmatic, innovative, and isolated railroad ***Andy Cummings and John Godfrey***

Gallery p. 56

Winter railroading images captured by *Trains* readers

ON THE COVER:

An eastbound BNSF overhead train traversing Montana Rail Link's 4th Subdivision rolls over the Clark Fork River near Trout Creek, Mont. Tom Danneman

In every issue

Trains.com

facebook.com/TrainsMagazine

twitter.com/TrainsMagazine

@trains_magazine

From the Editor

Carl Swanson
cswanson@kalmbach.com
@TrainsMagazine
@trains_magazine

There was a gap in my education — I'd never visited the Cumbres & Toltec Scenic Railroad or the Durango & Silverton Narrow Gauge Railroad, two of the nation's premier heritage rail operations.

When I learned Kevin Gilliam, video producer for Trains.com, was heading to Colorado to film the C&TS *and* take part in a two-day photo charter on the D&SNG (see page 48), I promptly invited myself along.

It was an eye-opening trip. If you've been there, you know what the fuss is about. If you haven't, well, you really should plan a visit if you are able.

But be warned: As former *Trains* Editor David P. Morgan famously said, "The narrow gauge gets in the blood, and will not out."

Editor Carl Swanson
Design Director Thomas G. Danneman
Production Editor Nastassia Putz
Senior Editor David Lassen
Associate Editor Bob Lettenberger
Editorial Associate Monica Freitag
Assistant Design Director Scott M. Krall
Illustrators Roen Kelly, Kellie Jaeger
Production Specialist Sue Hollinger-Klahn
Librarian Thomas Hoffmann

Columnists
Brian Solomon, Bill Stephens

Correspondents
Dan Cupper, Keith Fender, Steve Glischinski, Chris Guss, Scott A. Hartley, Bob Johnston, Kevin P. Keefe, David Lustig, Robert W. Scott

Founder A.C. Kalmbach, 1910-1981

TRAINS.COM
Director of Trains.com A. David Popp
Executive Producer Kent Johnson
Producer Kevin Gilliam

CUSTOMER SERVICE
phone: (877) 246-4843
Outside the U.S. and Canada: (903) 636-1125
Customer Service: customerservice@TrainsMagazine.info

ADVERTISING SALES
Michael Wieloch
888-558-1544, Ext. 625
mwieloch@kalmbach.com

EDITORIAL
phone: (262) 796-8776
email: cswanson@kalmbach.com
fax: (262) 798-6468
P.O. Box 1612
Waukesha, WI 53187-1612

SELLING TRAINS MAGAZINE OR PRODUCTS IN YOUR STORE:
phone: 800-558-1544
Outside U.S. and Canada: 262-796-8776, ext. 818
email: tss@kalmbach.com
website: Retailers.Kalmbach.com

TRAINS HOME PAGE
Trains.com

KALMBACH MEDIA
Chief Executive Officer Dan Hickey
Chief Financial Officer Christine Metcalf
Chief Marketing Officer Nicole McGuire
Vice President, Content Stephen C. George
Vice President, Operations Brian J. Schmidt
Vice President, Human Resources Sarah A. Horner
Circulation Director Liz Runyon
Director of Digital Strategy Angela Cotey
Director of Design & Production Michael Soliday
Retention Manager Kathy Steele
Single-Copy Specialist Kim Redmond

Subscription rate: single copy: $7.99 (U.S.). Print + digital subscription rate: U.S.: 1 year $58.95. Canadian: Add $12.00 postage. Canadian price includes GST, payable in U.S. funds. All other international: Add $22.00 postage, payable in U.S. funds, drawn on a U.S. bank.

Trains Magazine (issn 0041-0934, usps 529-850) is published monthly by Kalmbach Media Co., 21027 Crossroads Circle, P.O. Box 1612, Waukesha, WI, 53187-1612. Periodicals postage paid at Waukesha, Wis., and at additional offices. POSTMASTER: Please send address changes to *Trains*, P.O. Box 8520, Big Sandy, TX 75755. Canada Publication Mail Agreement #40010760.

Caleb Kleman is a summer camper and assists the train conductors at the National Railroad Museum in Green Bay, Wis. Inset: At the NRM, summer railroad campers engage in train-related activities. Here, playing with robotics, they develop a new city. Courtesy of National Railroad Museum

Young rail enthusiasts explore summer railroad camp

TRAINS LIVE HOST and Associate Editor Bob Lettenberger visited railroad camp at the National Railroad Museum in Green Bay, Wis., this past summer. There he talked with three campers — Austin, Caleb, and Izzy — along with their moms. For the boys, camp is all about fun with trains and their friends. For the moms, camp has had a positive impact on their boys in a variety of ways.

Will they be returning to NRM in summer 2024? Certainly, in this case, as there is more fun with trains for all involved.

Railroad museums, tourist lines, railroad historical societies, even some universities host summer camp programs centered around trains. Camp participants, whether they realize it or not, are experiencing personal growth during these summer events. This is especially true for youth campers, who are exposed to life skills like teamwork, respect, cooperation, and interacting with other people.

Stay tuned to Trains LIVE for more summer camp updates and behind-the-scenes videos exploring the spectrum of train topics. — Trains *staff*

Plus

A Swiss mountain with two ways to the top

TRAINS SENIOR EDITOR DAVID LASSEN spent much of September 2023 in Switzerland, working on two upcoming features and taking part in the *Trains* and Special Interest Tours "Majestic Switzerland" 11-day tour.

During his trip, he made not one but two visits to the Rigi Railways, the spectacular cog lines to the top of 5,897-foot Mount Rigi in central Switzerland. (Below left is a view from the top.) Yes, that's railways, plural. While cog railways are hardly uncommon in Switzerland, Rigi is unique in having two routes to the top. In "Seeing double on Mount Rigi," David tells you about that; why Rigi should be a must for any visitor to Switzerland, railfan or not; and the restaurant near the top named for a steam locomotive (that's it to the left of the train in the below-right photo). — Trains *staff*

Ask us

Why QR codes?

WHAT'S THIS ICON doing in my magazine? The quick-response barcodes or "QR" codes found throughout this issue will help guide you to additional video content found exclusively on Trains.com. Simply use your smartphone camera to scan the code, tap on the selection, and you'll be directed to the action. — *Kent Johnson, executive producer*

THE TRAINS INTERVIEW

Jim Vena

Union Pacific CEO talks about service, growth, and competition

▲ **Eastbound Union Pacific intermodal train ZCIG4-13 exercises trackage rights on BNSF's Marceline Subdivision at Baring, Mo., on Jan. 15, 2022.** Craig Williams

TRAINS' BILL STEPHENS SPOKE *with Union Pacific CEO Jim Vena after the railroad's Oct. 19 third-quarter earnings call. Vena, 62, who served as UP's chief operating officer in 2019 and 2020, rejoined the railroad as its chief executive on Aug. 14. Vena has pledged to make Union Pacific the safest railroad in North America and to grow volume faster than the overall economy through a combination of what he calls service and operational excellence. This Q&A has been edited for clarity and brevity.*

Q Union Pacific is an enigma. Investor presentations point out that UP has the best rail network in North America. Yet for the past decade UP has lagged behind all other Class I railroads in volume growth. How do you turn this around? How can UP fully exploit its network, regain market share from BNSF Railway, and more importantly convert freight off the highway?

Jim Vena returned to Union Pacific as CEO in August after serving as the railroad's chief operating officer in 2019 and 2020. Union Pacific

A We do have a great network. No ifs, ands, or buts. BNSF has a great network, too. We need to make sure we take advantage of this network. We have access into Mexico like nobody else. And we have 26% ownership of the FXE railroad, which expands our reach. And the rest of them have good networks. CN, where I worked for 40 years, has a nice linear network, very good network, long haul — not quite as long as ours — but really good. And CPKC, I

give them a lot of credit. CEO Keith Creel has done a good job, and they've built a great railroad. And so we've got strong competitors from the railroad side. But we have to work together better to be able to grow our business. That's a piece we're going to work on.

We have to provide service. Service is what we sold the customer. Trip plan compliance numbers are really not what we sold them. That's an amalgamation of a lot of things because we sell different customers different services. A parcel company expects a different level of service than some of the other intermodal business. Some of them just want consistency. And the bulk customers are different. We'd have to put out 2,000 individual measures to tell you what we sold the customer. The only way we win is to provide the service and be consistent. Every customer knows we're going to have ups and downs because of the weather, and they understand that. But how fast we recover is really important.

We have to be a lot more nimble. We have to be able to react to grow the business. If we do that by having the right employees, good effective cost control, good asset utilization, and having a buffer of plant capacity, a buffer of people, and a buffer of assets so that we're ready for the ups and downs, we'll turn the story around for UP.

Union Pacific's "We Are One" locomotive, celebrating the railroad's diversity and inclusiveness programs, crosses the Comal River at New Braufels, Texas, on Aug. 23, 2023. Balaji Parthasarathy

Q It's amazing how much upheaval there was in the industry during the couple of years after you left UP. There were widespread crew shortages that led to service problems, customer complaints, and regulatory scrutiny. There was labor unrest. The Norfolk Southern derailment at East Palestine, Ohio, put a spotlight on safety. How do you see UP's relationships with key stakeholders currently, what needs to be done to improve those relationships, and how will you balance the needs of all stakeholders?

A Every round of negotiations has been contentious. I've been at the table when I was at CN: I was the final person that decided whether we had a strike, or whether we had a deal, and what was in the contracts. There's never been a contract negotiation that I've ever been involved with in my 40-plus years of railroading that's not been contentious and tough. That's part of it.

All the railroads missed the big bounceback in the business during the pandemic. And they thought that all the people they had furloughed were going to come back. UP had over 1,200 running trade people furloughed, they just didn't come back, and they had a hard time hiring. Was that a mistake? I don't blame anyone but the railroads. We all should have reacted differently, and we've learned a lesson. What we carry for a buffer is going to be different just because of that.

> "WE HAVE TO PROVIDE SERVICE. SERVICE IS WHAT WE SOLD THE CUSTOMER. TRIP PLAN COMPLIANCE NUMBERS ARE NOT REALLY WHAT WE SOLD THEM. ... THE ONLY WAY WE WIN IS TO PROVIDE THE SERVICE AND BE CONSISTENT."
> — JIM VENA

We have good relationships with a lot of customers but we need to provide them the service we sold them.

As far as the regulators, we have the same goals. We're aligned with the Federal Railroad Administration on safety. Anytime the FRA comes out to look at our railroad we're aligned at the hip. They should check us out. They should tell us how we're doing. They should measure us. They should give us feedback.

Relationships are important with the Surface Transportation Board and the FRA. I reached out to both the first day I was on the job. We have the same goal: Great service, our customers win.

Q NS, CSX, and CN say they won't furlough train crews during downturns so they're ready to capture the eventual rebound in traffic and so that they can provide consistent and reliable service over the long term. How will UP approach train crew employment levels during downturns?

A If you've hired people, had the expense of bringing people on and training them, the last thing you want to do is furlough them. If we have excess in places, and the excess is for a short period of time, then you carry them. We always have and always will. You always see if there's an opportunity for them to work in a different part of the company if there's true excess. I operate a railroad like a business should be operated. If you truly get to a point and you're excess and it's for a long time and

UP Big Boy No. 4014 climbs Archer Hill en route to Gering, Neb., on June 7, 2023, as part of its trip to the 2023 NCAA Men's College World Series. New CEO Jim Vena says his only plans for the 4-8-8-4 are to use it more. David L. Carballido-Jeans

you still have a buffer left and you have that expense, you have to furlough.

Q UP is facing increased competition from CPKC and its ability to provide single line service to and from Mexico. If the opportunity came up, would UP be interested in taking a majority stake in Ferromex or buying the railroad outright?

A Railroads always look for opportunities. At this point we have a great investment in Ferromex, a 26% stake. We have great access into Mexico, from the West Coast all the way across. So at this point we have the railroad and the access that gives us an advantage in the markets we serve. We are ready to compete.

Q One of the first things you did as CEO was take a day out of the schedule for the new Falcon Premium intermodal service run in conjunction with CN and Ferromex. Tell me about that and whether you see similar opportunities that would either make UP more competitive with other railroads or over the road trucks.

A We're a 70-mph railroad. Not very many are. BN is and we are. And that's an advantage. We maintain our railroad at 70 mph for freight, unless it's curvature or something else that stops us. No one's going to beat us. So taking 24 hours out of the schedule was simple. I said listen, how much business is available to us northbound out of Mexico, what can we do, what are the key lanes? The next day they came in, and I said if we go faster can we get more business? Absolutely. Guess what: 24 hours later we put on a train that uses our 70-mph railroad, and no one is as fast as us from the border to Chicago. And why not take advantage of it? That's what I mean about having a great network. Let's take advantage of all the investments we've made on the railroad to operate it efficiently and fast.

Q Where do you stand on redeploying conductors and operating with just an engineer in the locomotive cab?

A I started working on trains when there were five people on a crew. When we went from five to four it was the end of the world: Safety numbers were going to get worse, railroads were not going to be able to operate. Well, we went from five to four and our safety and operations numbers got better because the technology allowed it. When we went from four to three it also was a big step. When the caboose came off, it was like the end of the world. And then when we went to two people it was, 'Oh my God, what is going to happen?' But the railroads have become more efficient — all of us — we are faster, we provide better service than we ever did, and are safer than when we had five people on a crew. Will technology get to a place where it makes sense for us? Absolutely. And when it does I'll be the first one to say, 'To compete against the world we need to be able to become more productive.' There's no discussion at this point and nothing I'm doing about it, but I thought I'd give you my philosophy about how we get there.

"WE ARE FASTER, WE PROVIDE BETTER SERVICE THAN WE EVER DID, AND ARE SAFER THAN WHEN WE HAD FIVE PEOPLE ON A CREW. WILL TECHNOLOGY GET TO A PLACE WHERE [A ONE-PERSON CREW] MAKES SENSE FOR US? ABSOLUTELY."
— JIM VENA

Q Union Pacific has maintained a steam program since the railroad dieselized. What's your view of the role of the steam program and its future?

A You know what the coolest thing about railroads in general is? It's the history. Union Pacific has built on our history, and our history needs to be celebrated. And that Big Boy locomotive? I love it. It's a wonderful way to represent who we are, where we came from, and understand what technology does. And I'm going to bring it out next year and we're going to use it for people to understand and learn more about Union Pacific. It will be part of our employee days, where the employees get to bring their families and are able to go jump on that thing and see how big it is. So I'm excited about having it. And I've got no plans to do anything but use it more. 1

The first prototype of an Amtrak Airo car is unveiled at Siemens Mobility's Sacramento, Calif., plant on Oct. 11, 2023. Testing of this car will be followed by tests of six more prototypes representing various car types before production of the 83-trainset order begins. Amtrak

Avoiding Amtrak Airo surprises

Siemens North America president discusses first car's role in development

WHEN NEW railroad locomotives, cars, and other products are announced, a press release from the manufacturer or buyer will often mention the extensive testing planned before full production begins.

But what does that really mean? Michael Cahill, president of Siemens Mobility Rolling Stock, North America, talked with *Trains* about testing plans for the Amtrak Airo equipment the company is building. Amtrak has ordered 83 fixed trainsets, the first of which is scheduled to enter revenue service in 2026. They will be used in Northeast Corridor and state-supported passenger rail services on the East and West coasts. A prototype made its debut Oct. 11, 2023, at the Siemens plant in Sacramento, Calif.

Retrofits and design changes during the development process are inevitable, so how does Siemens Mobility go about working the bugs out of a new piece of equipment?

"When we get an order," Cahill says, "we initially start with an engineering process that focuses on quality, interactions with customers, and design reviews."

The process includes a primary overview, followed by an intermediate review that delves deeper into the design. Design reviews are a coordinated effort between the company's engineers and the customer that includes discussions at various stages and ultimately confirmation that Siemens is building the product that the customer requested. The final design review goes into the order details for each individual piece of equipment.

Siemens Mobility aims for transparency during the design process, which includes holding interactive workshops with suppliers and customers to ensure that what will be built is what the customer wants. The company also is in communication with regulators such as the Federal Transit Administration and Federal Railroad Administration, Cahill says, adding, "We do three-dimensional modeling at an early stage. It's not a static approach."

Cahill says engineers are tasked with making sure the software interacts properly with other components, including the movement of railcars on all types of track conditions — imperfect as well as perfect.

The Airo design will have to accommodate a variety of track classes, Cahill explains, including the high-speed Northeast Corridor and routes with heavy freight volumes owned and operated by Class I freight railroads. Climate conditions are another factor.

"There are many scenarios we have to consider," Cahill says, "not only normal temperatures. What about cold or hot? We have a library on all manner of conditions."

Electrically, the new cars are complex, with 4,000 to 5,000 connections. Engineers use a computerized testing system, and carefully monitor the wiring diagrams and lists uploaded into the computer.

The prototype car will be subjected to crush forces applied to the car ends by hydraulic rams. Current FRA crashworthiness regulations require the cars to withstand a force of 800,000 pounds at the car ends without permanent deformation. Company engineers note this is nearly double European standards.

Siemens Mobility signed the first Airo contract with Amtrak on June 30, 2021, for 73 trainsets, a $3.4 billion order, with options for up to 130 additional trains. Amtrak later added 10 more trainsets. Although the Airo design is based on the Venture car platform, which includes cars built for Brightline, VIA Rail Canada, and state-supported Amtrak operations in California and the Midwest, the new cars differ in terms of layout — which means more testing.

Siemens has dubbed the prototype its "Rabbit" car, with lessons learned from this car to be incorporated into a further half-dozen prototypes to be known as Delta Bunnies. Those will represent various car configurations that will continue testing, with the resulting knowledge incorporated into the production models.

Cahill says the new Airo design is also far more automated. Internal electronic components were relocated to previously unused spaces, allowing the engineers to open up the interior of the car to provide a more flexible design. Battery compartments are more accessible and small touches, like increasing the turning radius for wheelchair passengers when using the onboard bathrooms, have been enhanced.

Continued testing includes debugging engineering, static testing, monitoring passenger information systems, testing bathroom controls, and software performance, then carefully correcting each component while at the same time ensuring the various systems work well with each other.

The Rabbit has standard couplers on each end, so that it can be attached to locomotives or other railcars for ease of movement to test locations. Production trainsets will have semi-permanent couplers to allow enclosed gangways between each car.

What will happen to the Rabbit and the Delta Bunnies when their job is finished? Cahill says they will be brought up to production standards and join the fleet as regular pieces of equipment — *David Lustig*

A YEAR AFTER THE FIRST locomotive was delivered, Chicago's Metra has begun introducing its SD70MACH units into revenue service. The remanufactured units are now configured as B1-1B units to allow for an AC converter to provide head-end power (hence the H in the model designation). No. 509 is shown with F59PH No. 99 at Galewood, Ill., on a test run on Oct. 23, just days before the first revenue run. Mark Llanuza

TWO RAILROADS of short line company Regional Rail LLC debuted heritage-based paint schemes on newly acquired GP15-1 locomotives. Florida Central, which mostly operates former Seaboard Coast Line trackage, honored that history with an SCL-inspired scheme shown on No. 655. Above, Carolina Coastal, which includes track from the pre-1982 Norfolk Southern, introduced a paint scheme based on that of NS Baldwins in the 1950s and 1960s. Both units are shown at Metro East Industries of East St. Louis, Ill. Regional Rail LLC

NEWS BRIEFS

Northeast Corridor gets $16.4 billion in infrastructure funding

PRESIDENT JOE BIDEN announced the **FEDERAL RAILROAD ADMINSTRATION** would provide $16.4 billion for 23 infrastructure projects on the Northeast Corridor, as well as two studies for future improvements, in a Nov. 6 appearance at **AMTRAK**'s Bear, Del., maintenance facility. Among the projects receiving funding: Baltimore's Frederick Douglass Tunnel, the Hudson River Tunnel, and Maryland's Susquehanna River Bridge. A dozen of these projects will be overseen by Amtrak, with others led by the **GATEWAY DEVELOPMENT COMMISSION**, New York's **METROPOLITAN TRANSPORTATION AUTHORITY**, the **CONNECTICUT DEPARTMENT OF TRANSPORTATION**, **NJ TRANSIT**, and the **SOUTHEASTERN PENNSYLVANIA TRANSPORTATION AUTHORITY**.

The **MASSACHUSETTS BAY TRANSPORTATION AUTHORITY** said that more than half of the track on its 4.7-mile **GREEN LINE EXTENSION** rail transit line, which opened in December 2022, would have to be rebuilt because tracks were built out of gauge. The Boston *Globe* reported that inspections had discovered the issue as early as April 2021, but it was not addressed. Work on the extension came under scrutiny after September slow orders at 29 locations that slowed trains to as little as 3 mph.

UNION PACIFIC announced plans for a major tour by Big Boy No. 4014 in 2024, saying the 4-8-8-4 would visit the "four corners" of the 23-state UP system. Full dates and details will be announced later, but the railroad says it anticipates stops in Chicago; Dallas-Fort Worth; Houston; Nampa, Idaho; Portland, Ore.; Roseville, Calif.; and Salt Lake City.

Chicago's **METRA** received a $169.3 million federal grant for the purchase of battery-electric trainsets, a first for the commuter operator. The funds will go toward up to 16 of the trainsets, most likely to be used on the Rock Island District. Metra, which is currently reviewing proposals from manufacturers, says the new battery trainsets could be particularly well-suited to off-peak service and to the goal of providing more all-day service under its "regional rail" plan.

Regulatory overkill stunts proposed project

Bill Stephens
bybillstephens@gmail.com
Follow me on LinkedIn
Analysis: Trains.com

Railroads are competing on a playing field tilted in favor of the truckers

To see why it is so difficult to build anything these days, consider the sad case of the proposed Savage Tooele Railroad.

Savage wants to revive Union Pacific's abandoned 6-mile Warner Branch in Tooele County, Utah, restore a quarter mile of ripped-up track, and build 5 miles of new track within the Lakeview Business Park and its planned 800 acres of rail-served property. The business park is under construction in Grantsville, which sits southwest of Salt Lake City.

Once built, the 11-mile Savage Tooele Railroad would operate a single 12- to 20-car train in each direction every weekday between the business park and the interchange with UP's Shafter Subdivision at Burmester.

It's small potatoes for sure, but the story spotlights the ridiculously cumbersome regulatory review process.

In September 2021, Savage first sought to have acquisition of the moribund Warner Branch and related construction exempt from Surface Transportation Board review. But the board had questions. So Savage refiled in June 2022. And it was determined the transaction would require both STB approval and an environmental assessment.

In January 2023, Savage made a reasonable request: Could the board issue a decision on the transportation merits of the proposal while the environmental review was under way? A decision, Savage said, would help potential business park tenants determine whether they should include rail in their building plans.

The Savage Tooele Railroad wants to revive this former Union Pacific branch line in Utah and build 5 miles of new track, most of it within a new business park in Grantsville, Utah. Surface Transportation Board

The regulatory uncertainty had already caused the loss of one potential rail customer. Another was nearing a design deadline on whether its planned $125 million cold storage warehouse would include $7 million in rail-related infrastructure or would be built to be served only by trucks.

The STB was not swayed: It denied Savage's request in a 3-2 decision in March.

STB Chairman Martin J. Oberman has frequently criticized Class I railroads for their failure to show meaningful growth. The consequences of rail's loss of market share, he has noted, include increased truck traffic and higher greenhouse gas emissions. And now here's the STB delaying a decision that could put more freight on rails.

You only get one chance to build a new rail-served facility, and the STB made the wrong call. As board member Michelle Schultz noted in her dissent, the STB between 2020 and 2022 received 59 requests for permission to abandon rail lines but only nine seeking authority to build new ones. The board should be making it easier — not harder — for rail projects to be built.

The Savage Tooele draft environmental assessment was released in September. It runs 626 pages. If you're keeping score at home, that's roughly 57 pages per mile. It's an astounding sum for an 11-mile railroad that will operate just two short trains per day. But don't blame the STB's Office of Environmental Analysis for doing a thorough job. They were following the law that Congress created in 1970 and updated several times since.

Is there really a need to look under every rock while doing an environmental review for simply restoring and extending a branch line into a business park that's already being built? Of course not. Congress should create an escape hatch that exempts this sort of rail expansion from such a rigorous environmental review. Given rail's huge environmental advantages over trucks, the priority should be greasing the skids, not throwing sand in the gears.

The draft environmental assessment, by the way, told us what we already knew: The Savage Tooele Railroad won't create any significant environmental impacts. The STB likely will approve the project … eventually.

The railroad regulatory review process needs to be streamlined. It creates headaches and delays — something that the truckers never face. In fact, the extension of a parkway that will improve access to the Lakeview Business Park is scheduled to go from design and environmental review this year to construction in 2025. Railroads are competing on a playing field tilted in favor of trucks.

Savage Tooele is not the first rail project to face regulatory obstacles and it won't be the last. But this short, low-density rail line proposal shows just how hard it can be to build, even when a project seems like a no-brainer. T

A Brightline crew qualification test run nears Cocoa, Fla. on the single-track route from Orlando International Airport on June 20, 2023., during the build-up to Orlando service.

Brightline's milestone

Passenger operator's launch of Orlando service is a significant achivement — and the start of a new challenge

Story and photos by Bob Johnston

The pounding rain crashing against the window of the Premium class coach was coming down so fast and heavy that cars on parallel Dixie Highway through Vero Beach, Fla., were barely visible. Stuck by a ground stop at an airport or attempting to drive through that? No thanks.

As the 2:04 p.m. departure out of West Palm Beach hurtled north through the coastal town on Sept. 26, 2023, what reflected off that window was an Italian sandwich tray accompanied by veggies, hummus, and a fruit cup. Creature comforts like these, the ability to relax or devote full attention to work, and freedom to walk around without seat-belt constraints now provide a passenger rail alternative to flying and driving between south and central Florida's biggest population centers.

That option exists because five days earlier, Brightline inaugurated the first of what would become 15 daily round trips between its MiamiCentral station and Orlando International Airport.

Having overcome years of obstacles and skepticism to launch the first regular, privately operated passenger service in the

moment

Amtrak era, the company's challenge now is to show it can succeed. Can its combination of speed, onboard service, connectivity to final destinations, and price entice enough travelers away from the Florida Turnpike and TSA security lines to fill enough of the more than 6,000 seats available daily between Miami and Orlando, even when the weather isn't oppressive?

RAMPING UP TO ORLANDO

Brightline trains had been operating without passengers over new infrastructure for more than a year. Track work had been completed on 128 miles of Florida East Coast Railway's north-south main line from West Palm Beach to Cocoa, Fla., and more than 28 miles of east-west single track (21 miles at 125 mph) along the Beachline Expressway toll road (State Route 528). The high-speed route leads to two tracks of 30-mph operation snaking south past Orlando International Airport's Terminals A and B to Brightline's station, adjacent to newly opened Terminal C. West and south of the airport, the company's state-of-the-art "Basecamp" heavy maintenance facility, constructed on former swampland, opened in 2022 [see "Brightline's Big Build," September 2022]. The last of five four-car trainsets accompanied by 11 Siemens Charger locomotives arrived in February 2023. Another 20 coaches are set to debut between 2024 and 2025.

Signal and crossing protection systems had to be tested, and positive train control metrics for every foot were calibrated to reflect track-speed capabilities while crew qualification began. The process culminated in a Federal Railroad Administration-mandated "Simulated Service Demonstration," jointly proposed by Brightline and Florida East Coast, that would exactly replicate operations on the first day of revenue service.

On the first day of revenue service, a BrightGreen trainset is still dripping from its trip through the washer at the "Basecamp" servicing facility in Orlando. The "0" indicator tells the engineer to stop while the nose of the rear locomotive is washed by rolling brushes.

Brightline's Mike Lefevre

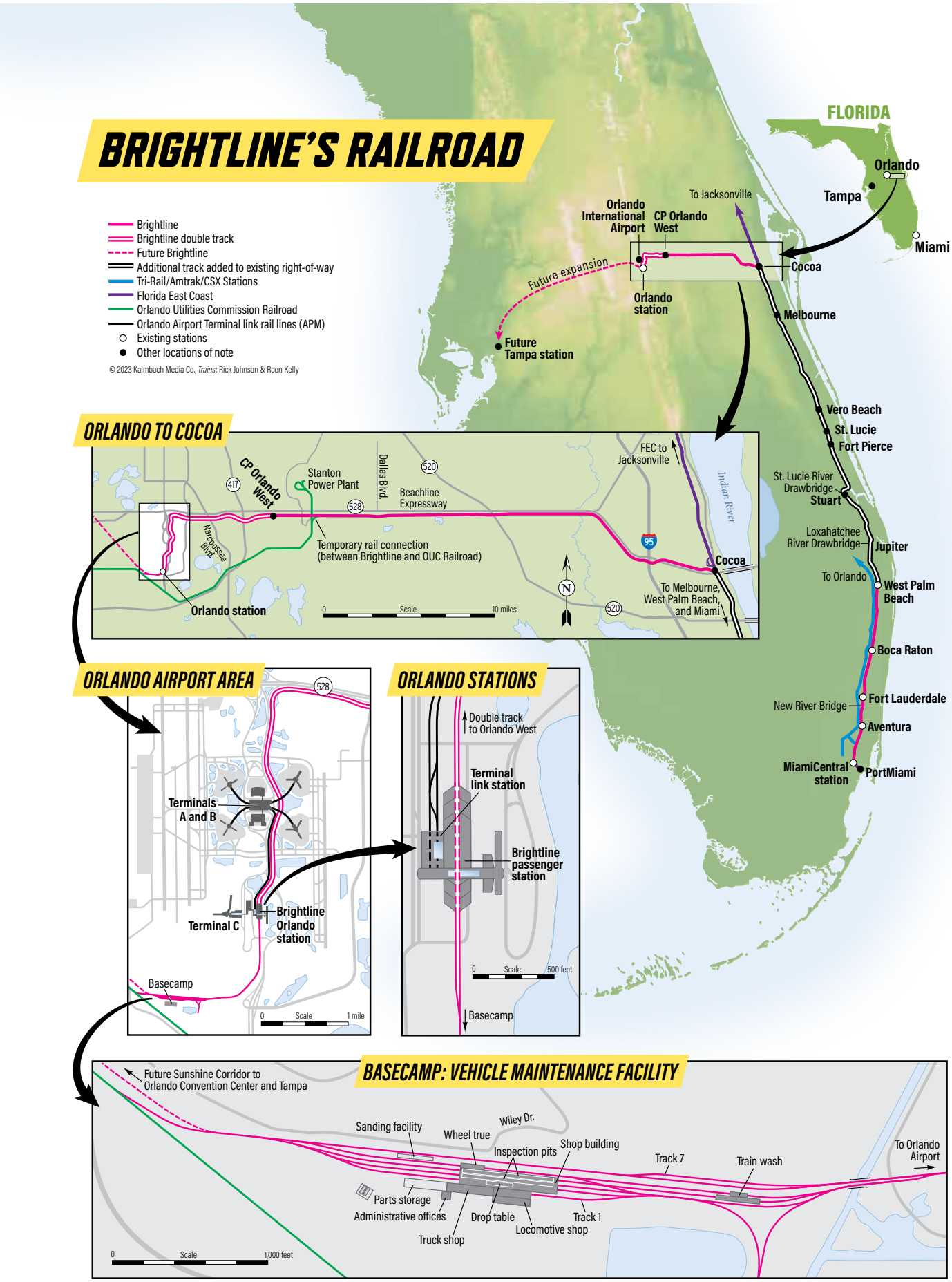
Crafting the plan was the responsibility of Mike Lefevre, Brightline's vice president of operations. "The SSD was defined in the U.S. Code a year ago, and the FRA has a pending notice of proposed rulemaking, but it is up to the railroad to design a process that makes sense," Lefevre tells *Trains* the day before Orlando service began Sept. 22, 2023. This stems from what the National Transportation Safety Board found to be insufficient training and attention to detail prior to the opening of a new *Amtrak Cascades* route, leading to a deadly derailment at DuPont, Wash., in December 2017.

"The FRA began looking into how railroads check themselves before they open," Lefevre says, "and that created the agency's 'Pre-revenue Service Safety Validation Plan,' of which the Simulated Service Demonstration is the final part. It requires that you define every detail, including the number of crews and schedules."

Brightline looked to construct a simulated demonstration, including onboard service personnel presiding over empty trains, "that reflected opening-day frequencies but contained the primary elements of the 15-round-trip schedule," he adds. "The turn and layover times at each end and the run times are the same. Is there enough time for a job briefing? Is there enough time for crews to use the restroom and feel rested before they start the next trip?" This is why what was simulated for a week must be exactly followed when revenue service begins.

Starting with six round trips reflects the way Brightline incrementally grew its South Florida service in 2018, when it initially ran between West Palm Beach and

A Brightline train crosses Florida highway 520 in single-track, 125-mph territory on June 20, 2023. The single-track section begins when trains leave the FEC main line in Cocoa, Fla., and extends to just east of Orlando International Airport.


BRIGHTLINE'S RAILROAD
Brightline
Brightline double track
Future Brightline
Additional track added to existing right-of-way
Tri-Rail/Amtrak/CSX Stations
Florida East Coast
Orlando Utilities Commission Railroad
Orlando Airport Terminal link rail lines (APM)
Existing stations
Other locations of note
© 2023 Kalmbach Media Co., Trains: Rick Johnson & Roen Kelly
FLORIDA
Orlando
Tampa
Miami
To Jacksonville
Orlando International Airport
CP Orlando West
Orlando station
Future expansion
Future Tampa station
Cocoa
Melbourne
Vero Beach
St. Lucie
Fort Pierce
St. Lucie River Drawbridge
Stuart
Loxahatchee River Drawbridge
Jupiter
To Orlando
West Palm Beach
Boca Raton
New River Bridge
Fort Lauderdale
Aventura
MiamiCentral station
PortMiami
ORLANDO TO COCOA
CP Orlando West
Stanton Power Plant
Dallas Blvd.
Beachline Expressway
FEC to Jacksonville
Indian River
Narcoossee Blvd
Temporary rail connection (between Brightline and OUC Railroad)
Orlando station
Cocoa
To Melbourne, West Palm Beach, and Miami
Scale
10 miles
ORLANDO AIRPORT AREA
Terminals A and B
Terminal C
Brightline Orlando station
Basecamp
Scale
1 mile
ORLANDO STATIONS
Double track to Orlando West
Terminal link station
Brightline passenger station
Scale
500 feet
Basecamp
BASECAMP: VEHICLE MAINTENANCE FACILITY
Future Sunshine Corridor to Orlando Convention Center and Tampa
Sanding facility
Wheel true
Wiley Dr.
Inspection pits
Shop building
Track 7
Train wash
To Orlando Airport
Parts storage
Administrative offices
Drop table
Truck shop
Locomotive shop
Track 1
Scale
1,000 feet

BUILDING FROM SCRATCH

Start of Orlando service is cause for celebration for Brightline's group of operating pioneers

MIKE LEFEVRE WAS THE FIRST employee hired in 2013 by commuter and passenger rail expert Gene Skoropowski to home-grow an operating staff rather than relinquish that function to a contract operator. Fortress Industries founder Wes Edens brought on Skoropowski, in part, because the Boston native had been the managing director of California's Capitol Corridor Joint Powers Authority. He helped forge deals with Union Pacific and Amtrak for enhanced track maintenance and infrastructure improvements on a Sacramento-San Jose route with gobs of passenger and freight trains.

Gene Skoropowski, left, and Olivier Picq, Brightline's vice president of transportation.

More importantly, Skoropowski had also been involved with navigating two stillborn Florida passenger projects: "FOX," the 1990s Florida Overland Express, a Miami-Orlando-Tampa French TGV-based proposal, and a 2010 Orlando-Tampa high speed rail project with state highway and the Orlando airport authorities. Despite both federal and private funding, the proposals were killed by Govs. Jeb Bush and Rick Scott, respectively. But agreements and right-of-way commitments forged in those failed endeavors paved the way for unfettered airport access and a dedicated easement down the median of Interstate 4 to Tampa that would become crucial building blocks for Brightline's birth and expansion.

After those travails, riding the inaugural train from Miami to Orlando was especially sweet for Skoropowski. "Once it was decided that we wanted to self-perform rather than contract out, my charge was to build the railroad's entire management team. This is precedent setting because it was done privately," he says. "I credit Wes Edens' vision and foresight for not only what could happen around transportation but for the development around stations, which isn't terribly different from what the railroads did 150 years ago."

Most of his "first hires" formed the nucleus that have driven every aspect of Brightline operation from the beginning. The group joining Skoropowski on board the inaugural included Chief Transportation Officer Olivier Picq, who previously piloted TGV projects for French National Railways, and Chief Mechanical Officer Tom Rutkowski, one of many NJ Transit alumni who pulled up stakes in the Northeast.

"There were 10 people working for the company when I got here in 2014 — no tracks, no trains," reflects Rutkowski. "Slowly but surely, we knocked down obstacles and continued to proceed. Now we're celebrating an opening that many people said would never happen — and here we are!"
— Bob Johnston

Brightline Chief Mechanical Officer Tom Rutkowski, in the cab of a Charger locomotive on Feb. 20, 2023, at Orlando.

Fort Lauderdale in January, then opened the MiamiCentral extension in May.

"You learn things at startup," Lefevre says. "We've told the FRA we are big advocates of the process because it is as much for testing the system for ourselves as satisfying their regulation." The agency had inspectors riding in locomotive cabs observing operating practices and stationed personnel at highway crossings to observe equipment and signage. "So tomorrow won't be our first day of service; it's our sixth day of service," he says. Two additional round trips were added the following week; the total was increased to 15 as of Oct. 9.

Operating crews consisting of an engineer and conductor — each riding the lead locomotive — make one same-day round-trip from either Orlando or Miami. The lone exception involves the first Orlando-bound train; its crew also handles an early West Palm-Miami train, after running to West Palm Beach the night before.

Operators at Brightline's Operations Center at MiamiCentral keep track of train movements orchestrated by DispatchCo dispatchers in Jacksonville, Fla., on Sept. 21, 2023.

COMPLICATED SCHEDULING

A host of constraints must mesh to reliably deliver 30 daily frequencies over about 230 miles between MiamiCentral and the Orlando airport. These include:

- The two-track New River drawbridge at Fort Lauderdale, with heavy marine traffic.
- A single platform at Boca Raton station; trains that stop there must be switched to the west main.
- The two-track drawbridge across the Loxahatchee River at Jupiter, with light marine traffic;
- A single-track drawbridge across the St. Lucie River at Stuart, Fla., with heavy marine traffic.
- The 28-mile single-track segment between Cocoa and the outskirts of the Orlando airport.

"The schedule was run through the Rail Traffic Controller model," says Lefevre. "Through that process and the use of old-fashioned string lines, we determined where trains need to be to pass at ideal locations." Departures were designed so that drawbridges at both New River and Stuart "are not required to be down between trains for an excessively long period of time. The worst thing you could do would be to have the trains just far enough apart so that the bridges would have to stay down with no trains coming. When you take everything into account, you have very few options."

Experience from those early runs led to tweaks in the Oct. 9 schedule. Miami-Orlando trips were generally lengthened by about 4 minutes to 3 hours, 33 minutes, with 5 more minutes added for trains that call at Boca Raton in addition to other intermediate stops at Aventura, Fort Lauderdale, and West Palm Beach. A 16th round trip, consisting of an early afternoon northbound run and early evening southbound journey, dropped from the original all-hourly schedule, was to resume in December once additional track and signal work is complete.

Above, electronic signage has been installed in high-pedestrian-traffic areas like Lake Worth Beach, Fla., as part of a $5.4 million, federally subsidized Brightline effort to reduce trespassing incidents. This train is northbound on Feb. 9, 2023.

Fortress Industries founder Wes Edens speaks at the Orlando inaugural ceremony on Sept. 22, 2023. One of Edens' key early decisions was to create an independent dispatching organization to balance the interests of Brightline and Florida East Coast Railway.

OPERATING COEXISTENCE

Preserving even-handed dispatching of passenger and freight trains falls to DispatchCo. The independent dispatching entity was part of Fortress Industries founder Wes Edens' original blueprint that spun off what was then called All Aboard Florida from Florida East Coast freight operations. Embedded at FEC's Bowden Yard south of Jacksonville, Edens' DispatchCo mantra was first designed by former CSX Amtrak liaison Jay Westbrook. Now retired, Westbrook recruited another CSX alum, Kenny Hall, who currently manages 25 employees handling three desks. Territories are split at Deerfield Beach (between West Palm and Boca Raton) and at Micco (north of Vero Beach). The north desk includes Brightline's 125-mph, east-west speedway; the south desk will handle Tri-Rail commuter trains scheduled to serve separate MiamiCentral platforms beginning in early 2024.

Hall projects his group will be dispatching 80 trains per day once the Tri-Rail influx occurs. Says Brightline's Lefevre, "Kenny and I have the same 'operations and guests first' ethos of delivering reliability for both passengers and freight without any b.s."

Tucked behind unmarked doors to one of MiamiCentral's boarding lounges is the Brightline Operations Center. "We are the primary point of contact for DispatchCo," explains Esther Mitrani, the center's director. "We advocate for our schedule adherence and performance on behalf of all of our operating departments and business interests. On a day-to-day basis, that means fluid communication about anything that comes up on the corridor."

The operational controllers' job is to maintain situational awareness, such as any deviations or emergencies that come up on board or at stations. Conversely, if a track or signal issue develops that might impact Brightline operations, the center serves as a conduit from the dispatcher to all of the passenger carrier's departments. "We gather all

THE CHOKE POINT

Stuart bridge dictates operating plans

ONE PLACE MIAMI AND ORLANDO DEPARTURES must avoid conflicts is at a single-track drawbridge crossing the St. Lucie River at Stuart, 38 miles north of West Palm Beach.

Remote controlled by DispatchCo from a desk in Jacksonville, Fla., the bridge historically remained open to river traffic until one of about a dozen daily Florida East Coast freight trains approached. Marine interests, fearing passage to and from the Atlantic Ocean would be "unreasonably obstructed" with more than 30 additional trains daily, filed a lawsuit to change those rules. They also engaged U.S. Rep. Brian Mast (R-Fla.) in lobbying the U.S. Coast Guard to impose a "temporary deviation" from the established practice. Without consulting Brightline, the host railroad, or the Federal Railroad Administration, the Coast Guard mandated 15-minute openings at the top and bottom of every hour to insure boaters would get at least 50% access through the passageway [see "Bridge ruling could disrupt Brightline service," "News," September 2023].

The opening between 30 and 45 minutes past every hour, however, would have made Brightline's schedule unworkable, since trains are generally set to pass each other near Stuart during that time. In subsequent discussions with the Coast Guard, Brightline was able to develop an alternate plan that preserves scheduled 10 to 15 minute top-of-hour openings for water traffic while promising the bridge would cumulatively be open to boaters at least 50% of the time from 6 a.m. to 10 p.m.

Trains observed several days of bridge operations shortly after revenue service began. The bridge remained open for boaters more than 50% of each hour, though the mobile phone app created by Brightline to increase lines of communications did not always accurately reflect the bridge status. In one instance, marine traffic was forced to wait 15 minutes after two trains had passed before the bridge was raised. At other times, the bridge went up for as little as 3 minutes to allow waiting boats to pass before it was lowered again for a second train. Marina operators Scott Watson and Dan Romence note a promised countdown clock was part of a hard-to-read electronic display offering little information about future closures and openings. But following a Sept. 30 incident that closed the bridge to marine traffic for two days after an errant barge struck its apron, Romence was impressed that he received a call from DispatchCo with a briefing on the situation. A contractor subsequently replaced 32 wooden pilings. Marine interests, DispatchCo, and Brightline officials have since had meetings to discuss how to improve the flow of accurate and timely communication.

The railroad has rehabilitated mechanical and electrical systems and a daytime bridge monitor is now stationed on site. Stuart Mayor Troy McDonald tells *Trains* his city is working with Brightline and FEC to be the lead federal grant applicant for a new double-track bridge. "We've got resolutions of support from all of our planning organizations, including Congressman Mast," says McDonald. The lawmaker once opposed public funding for the bridge, projected to cost $218 million. Until it is built, all eyes will be on this critical choke point. — *Bob Johnston*

A BrightOrange trainset heads south across the St. Lucie River drawbridge in Stuart, Fla., on Sept. 25, 2023. The single-track bridge is an operating bottleneck that is likely to remain a challenge until a new double-track bridge can be built.

Miami-bound passenger Lee Mueller (left) checks out the scenery with other passengers in a Brightline "Smart" coach on Sept. 23. Each Smart class car has two-by-two seating, with eight tables with facing seats.

of the operational parties together to develop a recovery plan, if needed," says Mitrani.

SAFETY WITH SPEED

Increasing speeds and frequencies on what was once a relatively sleepy freight rail corridor was a challenge Brightline began addressing well before testing began in 2017. Since then, the company has attempted to counteract all-too-frequent trespassing incidents with a number of high-profile initiatives. They include:

- Partnering with local communities to add "community greening" shrubs and fencing at known trespassing locations.
- Initiating a $5.4 million, federally subsidized program to upgrade 48 grade crossings south of West Palm Beach with enhanced markings, center line delineators, raised medians, and digital "train-approaching" signage.
- Contributing $10 million, along with an equal share from the Florida Department of Transportation, to secure a $25 million federal grant. The total of $45 million for the Florida East Coast Trespassing and Intrusion Mitigation Project includes supplemental safety measures at 328 highway crossings and 33 miles of pedestrian channelization features at crossings south of Cocoa.
- Involving local law enforcement in informational and ticketing campaigns prior to train speed and frequency increases.
- Receiving a $1.6 million FRA grant to co-develop with Wi-Tronix an artificial-intelligence-based trespassing identification and classification system. The data, obtained from front-facing cameras on Brightline locomotives, uses AI to understand and possibly mitigate trespassing behavior.

But the largest incremental investments are visible at each of the 156 highway grade crossings between Cocoa and West Palm Beach, where 110-mph speeds are attained through a combination of track straightening and signal-system upgrades. Each crossing where speeds can exceed 80 mph

One of Brightline's electric shuttles leaves the Boca Raton station in January 2023. The shuttles are just one of the ways the company has worked to address first-mile, last-mile connections with its rail operations in South Florida and Orlando. David Lassen

over the newly double-tracked route is equipped with either quad gates or a non-traversable median that separates opposing roadways. Crossings to private residences, previously only protected by crossbucks, received the full treatment (see page 20).

Passenger and freight trains utilize a combination of Florida East Coast's legacy Automatic Train Control and Wabtec's Interoperable Electronic Train Management System, or I-ETMS, positive train control overlay. The pioneering installation was necessary to attain 110-mph maximum authorized speed over the West Palm Beach-Cocoa corridor where highway crossings abound. The system required extensive testing and calibration to insure it operated as intended. During the initial revenue service while work was being completed, speeds were limited to 90 mph, temporarily adding 7 minutes to Miami-Orlando running times.

Details of exactly how ATC and I-ETMS train control interact with highway warning devices have not been released.

SOLVING THE CONNECTIVITY CONUNDRUM

Brightline's "proof of concept" is being decided by the traveling public every day. The introductory $79 Smart and $149 Premium fares were bid up considerably during the first week of Orlando revenue service, with near-sellouts on a limited number of trips.

Providing hourly service has a price, but that didn't deter Brightline from offering that level of operation, beginning with its 2018 South Florida startup. Early returns, based on price spikes observed on the website, indicate weekends continue to be more popular than weekdays.

A key ingredient of Brightline's South Florida success has been relentless marketing in the form of email blasts. These might suggest limited-duration fare deals for kids or a different reason to travel every day. Often those notifications contain a summary of events keyed to different activities at every stop. An integral part of the strategy is the ability to offer shuttles to entertainment and sports venues.

The company has addressed and largely solved the connectivity-to-final-destination problem, but mass acceptance can only occur if enough travelers sample Brightline's product and come away with a positive experience they share with others.

"We learned that mobility needs to be location specific," says Lefevre, "but it has to be recognizable to the guest as still the same product that they saw at their origin." In Aventura, it doesn't make sense to have electric golf carts running around, so Brightline offers electric vans over to the nearby mall until a bridge across the highway is built. In West Palm Beach, golf carts and Circuit shuttles are popular.

Orlando couldn't be more different from that environment. Lefevre observes that a mobility solution there is especially important. But because the connections were already there, he says, "it was about partnering with Mears, the largest operation of ground transportation in Orlando. So you can now book a train ticket and Mears shuttle connection in the same transaction and make the transfer downstairs curbside at the Orlando train station. Their large fleet and sophisticated dispatch system means our passengers are never on the shuttle for more than three additional stops."

Electronic signage promotes the "End Zone Express" shuttle Brightline offers to Miami Dolphins games from its Aventura station.

FROM WALTON ROAD TO SHIMONEK LANE

Installations at grade crossings illustrate safety work to accommodate 110-mph rail traffic

TWO RURAL HIGHWAY CROSSINGS represent significantly different installations designed to achieve the same result: protect highway users and pedestrians from 110-mph trains.

Walton Road is a heavily-traveled, two-lane highway north of Stuart. Although in a rural area, the crossing sports nine warning devices protecting the roadway and sidewalks yet to be built. By contrast, the Shimonek Lane installation protects a private driveway in St. Lucie, Fla., north of Fort Pierce.

Both are equipped with exit gates that don't lower until the entrance gate for that lane goes down. If the radar device mounted on a pole next to the crossing (to the left of the locomotive in the bottom photo) detects an obstruction when gates are activated, the exit gate will lower after the space is clear. The system calculates approaching speeds so gates drop at a constant warning time for both slow and fast trains. — *Bob Johnston*

Nine highway warning devices were installed at the rural Walton Road crossing north of Stuart, Fla. The forest of signals includes quad gates for vehicles, pedestrian gates, and radar detection devices.

Quad gates have been installed at Shimonek Lane and every crossing without a roadway median. When the approaching train — wrapped with advertising promoting the start of Orlando service — triggers the quad gates, the exit gates are the last to lower.

Brightline branding is everywhere, including on cookies offered in MiamiCentral's Premium lounge before the first departure for Orlando on Sept. 22, 2023.

WHAT'S NEXT?

Brightline officials are evaluating patronage based on the route's debut schedule and pricing before determining next steps. But the success in attracting ridership and customers at its two South Florida "infill" stations, Boca Raton and Aventura, clearly point to the possibility of at least two intermediate stations between West Palm Beach and Orlando. Auto traffic along U.S. Route 1 through the "Treasure Coast" north of West Palm Beach to Fort Pierce is almost as congested as what motorists contend with farther south.

Brightline management in October began the process to build the first of those stops, in Martin or St. Lucie counties, where Stuart and Fort Pierce are strong candidates. Another likely location is near the sweeping curve at Cocoa where trains must slow while transitioning to the Beachline 528 speedway from Florida East Coast's main line. The main draw there: Cocoa is 17 miles west of Port Canaveral Cruise Port and near the Cape Kennedy Space Center.

Immediate expansion past the Basecamp maintenance facility to downtown Orlando and on to Tampa hinges on co-development with local authorities to incorporate SunRail commuter trains into the mix. Doing so opens the door to federally funded transit construction grants.

"There is a lot of wood to chop," Brightline President Patrick Goddard admits, but tells *Trains*, "The stakeholders involved are pointed in the right direction; now everyone is just trying to find the right path and get it funded." A key element is getting voters to support a sales tax increase that could help provide a local match to a grant application.

To be sure, there were scattered premiere-week glitches. Prior to that rainy day run to Orlando on Sept. 26, two of the three taps in the West Palm Beach Premium lounge ran out of beer. Emerging from the storm, the Chargers smoothly accelerated to 125 mph on the high-speed seg-

Above, a Brightline engineer and conductor wave to a mother and daughter in Stuart, Fla., on Sept. 24, 2023. Stuart has expressed interest in becoming an intermediate stop on the Orlando extension.

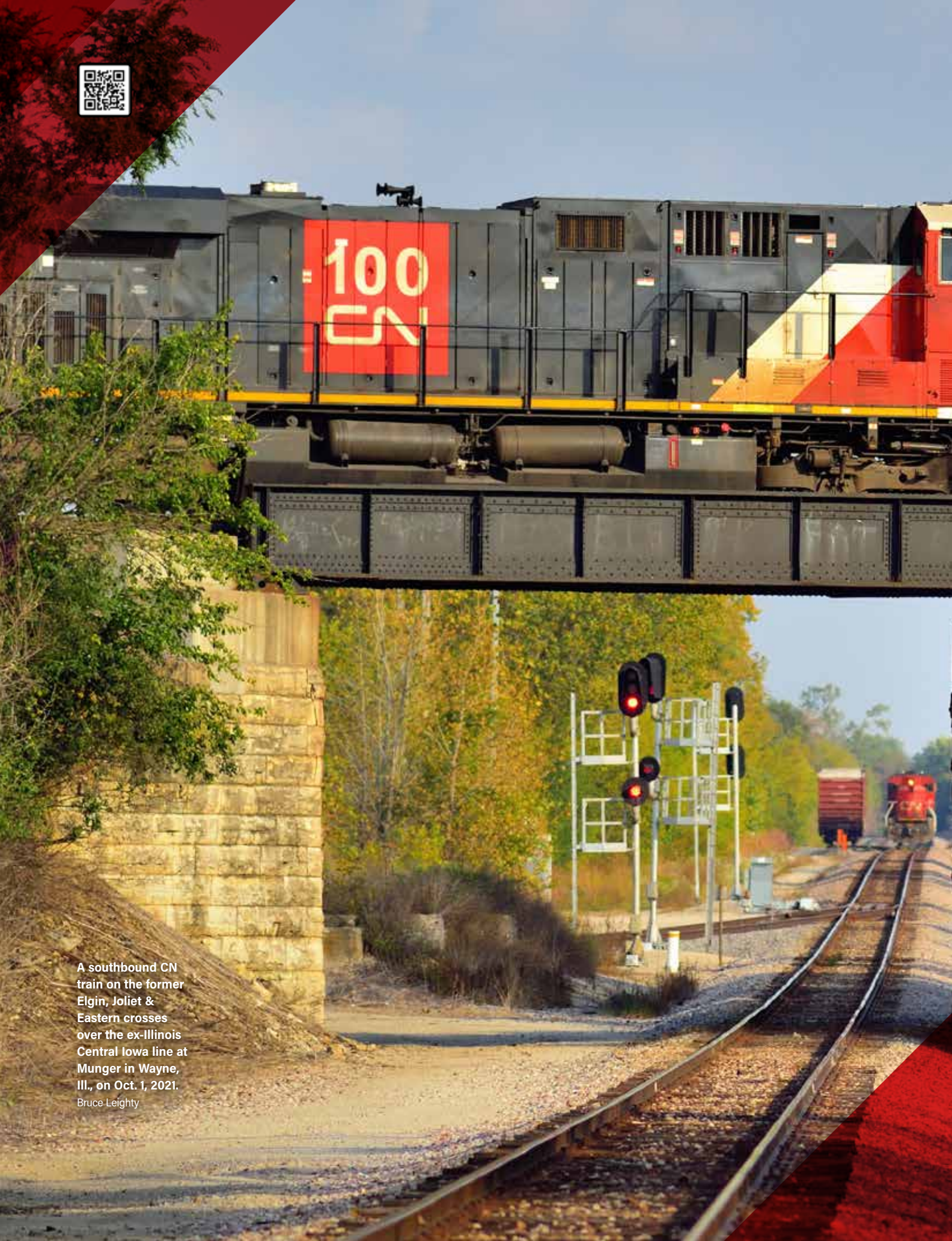
At right, a northbound train from Miami is visible from the Premium lounge over the tracks at West Palm Beach on Sept. 26, 2023. The gradual expansion from six Miami-Orlando round trips to a full schedule mirrors the playbook Brightline followed in launching Miami-West Palm Beach service.

ment west of Cocoa only to retreat to a penalty stop — twice. The engineer attributed the events to "an issue with the locomotive's computer." Passengers on the train were apprised of the delay, which amounted to no more than several minutes.

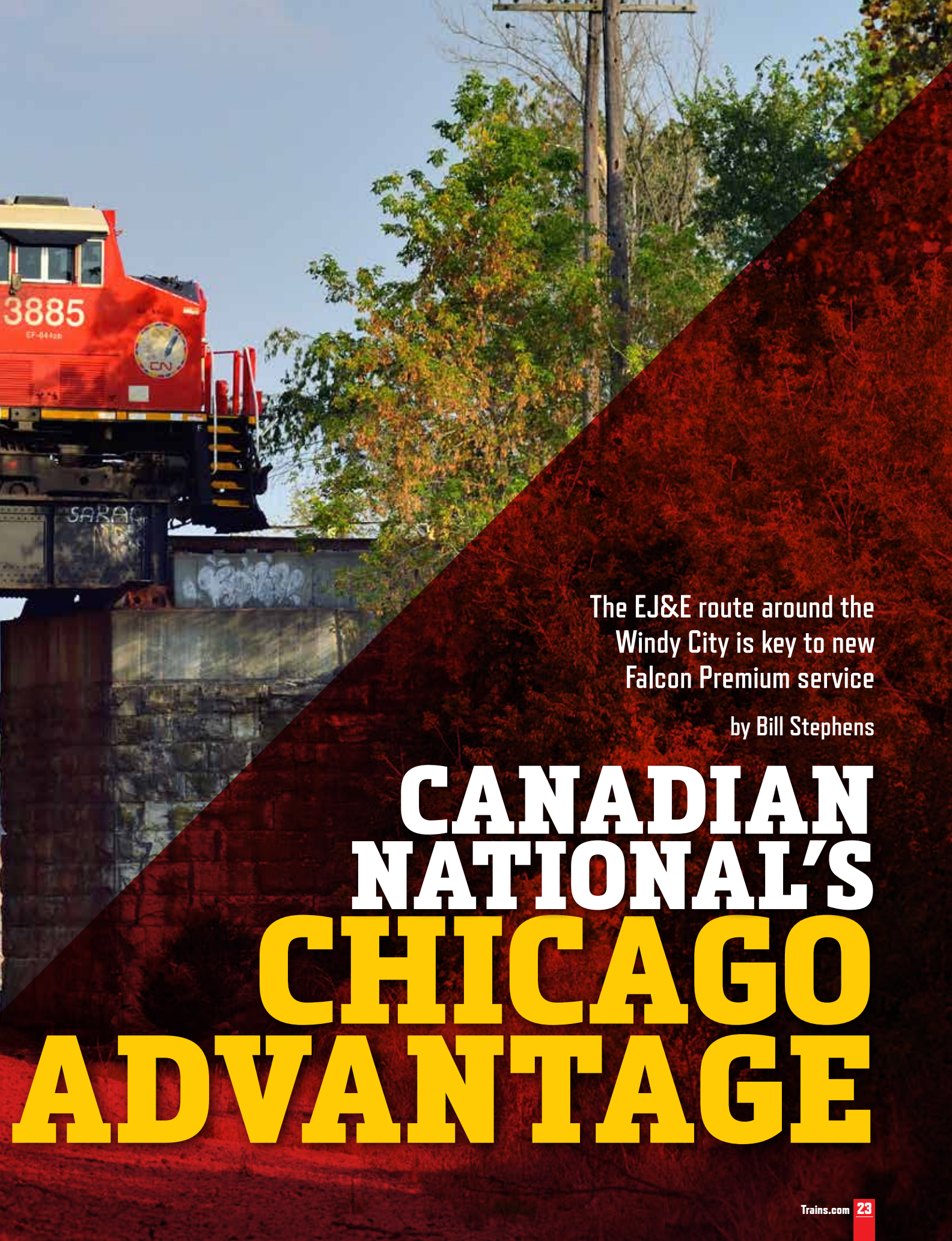
Whatever other large and small challenges await during the years ahead, the resourcefulness of Brightline's managers and staff will likely rise to the occasion.

As Lefevre concludes, "To show the public what we've been envisioning and building to change the way they live and travel is incredibly meaningful to the people who have been working on it for so long.

"We left jobs all over the country and came here with our families [after deciding] we will never see an opportunity like this again in our lifetime. We were here when we named the company — we went through a list of names and threw out every name but one." 1



A southbound CN train on the former Elgin, Joliet & Eastern crosses over the ex-Illinois Central Iowa line at Munger in Wayne, Ill., on Oct. 1, 2021.
Bruce Leighty



The EJ&E route around the Windy City is key to new Falcon Premium service

by Bill Stephens

CANADIAN NATIONAL'S CHICAGO ADVANTAGE

A southbound Canadian National merchandise train rolls past JB Tower in West Chicago, Ill., the Elgin, Joliet & Eastern's junction with Union Pacific's Geneva Subdivision, on May 24, 2023. Bill Stephens

If one location epitomizes Canadian National's desire to control its own destiny in Chicago by acquiring the Elgin, Joliet & Eastern in 2009, it's JB Tower in West Chicago, Ill.

The two-story brick tower — still manned and sporting its orange "The J" sign — guards the junction of CN's single-track Leithton Subdivision with Union Pacific's triple-track former Chicago & North Western main line.

CN runs about two dozen trains a day across the diamond, linking its network in Western Canada with Chicago via the EJ&E. Every weekday, UP and Chicago commuter railroad Metra send 90 or so trains over the Geneva Subdivision, the eastern leg of UP's route to the West Coast. Yet CN is in charge here, as it is at most of the J's at-grade junctions with other railroads on its 107.25-mile mainline arc around Chicago's outskirts.

You see this play out on a sunny May afternoon. At 3:34 p.m., a westbound UP merchandise train clanks across the diamond, followed a few minutes later by a Metra westbound. And then along comes CN: At 3:46 p.m., a southbound CN merchandise train rolls through, with the tower operators waving in an inspection tradition that's almost as old as railroading itself.

Six minutes later, a long eastbound UP stack train, which had been holding for CN's southbound, slowly accelerates past JB Tower with spotless C44ACM No. 6929 on the point. A Chicago-bound Metra train scoots through moments later.

And here comes CN again, this time with a northbound merchandise train that approaches JB at 4:29 p.m., greeted by another roll-by inspection as the tower operators hit the ground. Twelve minutes later, a northbound CN local bangs across the diamond with a string of tank cars.

You get the point: Outside of Metra rush-hour curfews, CN's trains are likely to see nothing but green signals on the EJ&E.

It's a far cry from the bottleneck CN faced in the pre-J days, when it struggled to connect its five arteries that converge on the railroad capital of North America. In Chicago's tangle of junctions, connecting tracks, wyes, crossovers, and diamonds, CN found itself at the mercy of other railroads. And that's a place no railroad wants to be.

When Chicago was operating well, CN's trains could thread through the maze via Indiana Harbor Belt, Baltimore & Ohio Chicago Terminal, or Belt Railway of Chicago trackage rights in 24 to 32 hours. But when Chicago was congested, or frozen by Old Man Winter, it might take three to five days — with delays rippling across CN's system.

Now it's smooth sailing. CN freights make the run from Leithton, in Chicago's northwest suburbs, to Kirk Yard in Gary, Ind., in as little as three or four hours via the EJ&E. Compare that to the industry average freight car transit time across Chicago, which regularly hovers around 35

One of the many new connections built to take advantage of Canadian National's purchase of the Elgin, Joliet & Eastern is at Leithton, where this train is heading off the EJ&E to reach the former Wisconsin Central on July 30, 2023. Two photos, David Lassen

At Trafton, the other end of the Leithton connection, ES44AC No. 3014 leads a northbound intermodal train that is about to roll onto former Wisconsin Central trackage on July 30, 2023.

hours, according to Chicago Transportation Coordinating Office data. No wonder CN dubs the J its "Chicago advantage."

Today CN aims to fully exploit that advantage with its new cross-border Falcon Premium interline intermodal service, run in conjunction with UP and Ferromex, as well as new interline service to and from Atlanta with Norfolk Southern. Making either service work reliably would be inconceivable without the J lacing together CN's former Grand Trunk Western, Illinois Central, and Wisconsin Central mains.

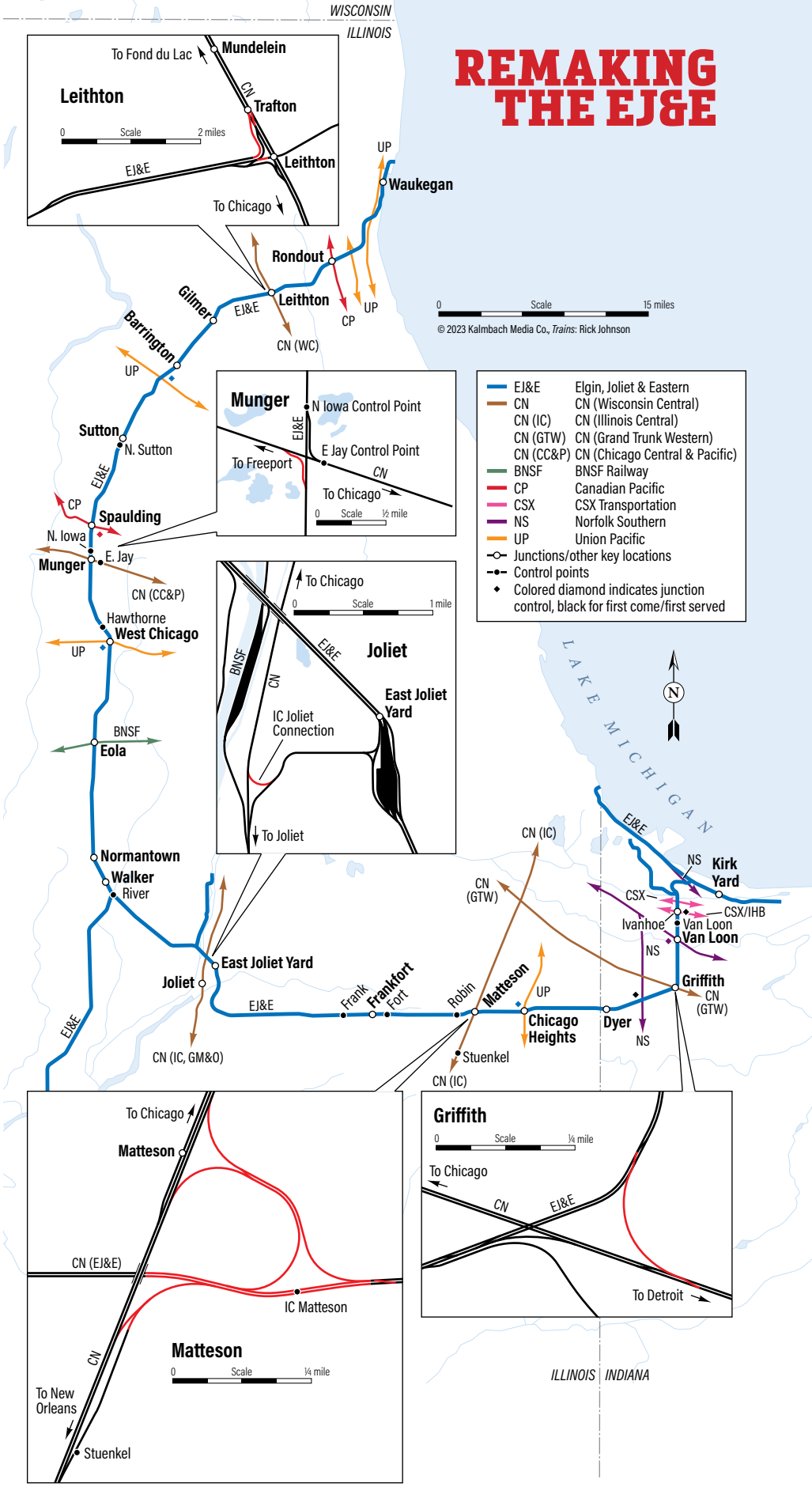
Says Derek Taylor, CN's Homewood, Ill.-based executive vice president and field chief operating officer: "The transaction with the former EJ&E was nothing short of transformative."

BUCKING CONVENTION

Historically, CN was like just about any railroad: Its tracks ended at Chicago, so there was no need to try to navigate through the city. Chicago was where you interchanged. The GTW reached Chicago in 1880, giving Canadian parent Grand Trunk Railway a route from Ontario across Michigan and a slice of northern Indiana.

The status quo held until CN acquired Illinois Central in 1999. Now CN reached Chicago from the south on IC's Chicago-New Orleans main, as well as from the west via the IC's Chicago Central & Pacific route from Iowa. Two years later, CN gained its own route to Chicago from the north when it snatched up regional Wisconsin Central. The 2004 purchase of Great Lakes Transportation — which included the Duluth, Missabe & Iron Range Railway — closed a 17-mile gap in Minnesota between the WC and CN subsidiary Duluth, Winnipeg & Pacific. CN now controlled its own route linking Chicago and Winnipeg, Manitoba.

All this created a Y-shaped CN system bounded by Vancouver and Prince Rupert, British Columbia, on the west; Toronto, Montreal, and Halifax, Nova Scotia, on the east; and Memphis, New Orleans, and Mo-



In March 1974, an EJ&E ore train headed for Kirk Yard crosses Erie Lackawanna, Chesapeake & Ohio and Grand Trunk Western tracks at Griffith, Ind. — now a junction of CN lines. R.E. Gabbey

bile, Ala., on the south. The missing link? A way to tie the network together in Chicago.

As a first step to reduce congestion-related delays in Chicago, then-CEO E. Hunter Harrison's mid-2000s edict was to get as much traffic out of the Windy City as possible. So CN struck out-of-the-way interchange deals with the other Class I systems. North-south traffic exchanged with UP, for example, was shifted to Salem, Ill., some 240 miles south of Chicago.

"What Hunter saw, very smartly, was that more traffic wanted to go to Chicago than needed to go. To him that was wrong," says Eric Jakubowski, who was CN's director of network strategy at the time. "It was the place that would kick the entire industry on its knees — and CN in particular. We needed to move through it. The more everyone else threw business at Chicago, when there was a problem it hiccupped across our network within hours."

Those hiccups meant CN would tie down as many as six southbounds on the 142 miles of the former WC between Fond du Lac, Wis., and Chicago. At the time, the former WC had nine sidings between Fond du Lac and the Illinois state line, so those trains tied the railroad in knots.

Southbounds were hardest hit because they had to compete with other railroads for limited space in the terminal. "When you came into Schiller Park, that was the funnel," says Taylor, who hired on with CN in 2000 and was a trainmaster in Chicago.

From there, CN had three options to get to the former IC Markham Yard: Two routes using the Indiana Harbor Belt or Belt Railway of Chicago to reach the former GTW Elsdon Subdivision, then to the former IC. Or traffic could head to downtown Chicago and the St. Charles Air Line, jointly owned with BNSF Railway and UP. "The optionality was there — but it didn't matter," Taylor says. "We didn't control our own destiny."

CN routinely used two or three crews to get trains to Markham. And it wasn't unknown for a CN freight to consume four, five, or even six crews to reach BRC's Clearing Yard. Amazingly, CN trains could take less time covering 850 miles between Winnipeg and Chicago than to get from the north side of Chicago to the south side.

By taking a lot of business out of Chicago overnight, the new interchange locations helped somewhat. "But that wasn't enough for him. Hunter immediately said, 'I've got to have a route through Chicago,'" Jakubowski says. With traffic growing and flowing to all points on the compass, CN

also needed a hump yard in Chicago.

CN's first target was the natural one: Indiana Harbor Belt. The problem was that its owners would never sell. CSX Transportation and Norfolk Southern jointly hold a controlling 51% interest in IHB through the split of Conrail, while CN rival Canadian Pacific owns the remaining 49%.

CN then set its sights on the EJ&E. The J was circuitous, wasn't modern, and operated like one long industrial lead via train orders. But it intersected all of CN's Chicago-area main lines and came with a hump yard.

The big question: Would owner U.S. Steel be willing to part with the J? CN executives were unsure. As a major railroad customer, U.S. Steel understood the Chicago terminal's congestion issues. And as the owner of the J, the steelmaker also fully grasped the benefits of exchanging cars with the Class I systems on the EJ&E's outer belt route. In the 1960s, the J boasted 32 interchange points with 19 Class I lines and seven switching or terminal roads, giving U.S. Steel every rail route imaginable for inbound moves of raw materials and outbound shipments of steel. Why give that up, especially with industry consolidation reducing the number of railroads?

CN devised a two-part solution. First, offer U.S. Steel an agreement that would guarantee its access to interchange partners at set rates, and with service performance standards that CN would have to live up to.

The trailing distributed power unit of a intermodal train crosses Lake Zurich Road, one of four CN grade crossings in Barrington, Ill., on July 29, 2023. Barrington led the fight against CN's purchase of the EJ&E, concerned about increased train traffic through the village with a 2020 population of 10,722 and a median household income of more than $112,000. Two photos, David Lassen

Second, split off the J's intraplant switching operations at U.S. Steel's sprawling Gary Works along the Lake Michigan shoreline. Ultimately, CN and U.S. Steel agreed on a $300 million deal announced on Sept. 26, 2007. CN would get what it called the "EJ&E Western," including Kirk Yard and the 198 miles of EJ&E main line and branches west of Gary. U.S. Steel's Transtar subsidiary would keep the plant trackage and rename it the Gary Works Co.

CN SEES BAYONETS

Thanks to the backing of the National Industrial Transportation League and a long list of individual shippers, CN thought the J acquisition was a slam dunk. It would take traffic out of densely populated areas of Chicago, reducing congestion and freeing up capacity in the terminal district. By doing so it also would solve the St. Charles Air Line problem near downtown. City officials had long wanted to divert traffic off the circuitous route through a proposed CREATE project that would build CN a new Central Corridor line from 75th Street to the WC near Schiller Park. But funding wasn't on the horizon, and CN couldn't afford to wait. The J acquisition would allow CN to stop using the Air Line, make the CREATE project unnecessary, and speed redevelopment.

What CN didn't see coming was a backlash from the suburban communities dotting the EJ&E map. "It's this not-in-my-backyard type of mentality that I very frankly misread," Harrison told Toronto's *Globe and Mail* newspaper in 2009. "I thought that they were going to have a band there and instead they had bayonets."

By Chicago standards, the J was a sleepy railroad. It saw just a handful of daily trains between Leithton and West Chicago, 18 or so between West Chicago and Joliet, and six to a dozen on the segments east of Joliet. CN's merger application projected optimistic train counts. West of Joliet, counts would jump to between 20 and 42 per day. East of Joliet, the J would see between 28 and 34.

Those figures — most of which CN still

A CN manifest freight crosses the EJ&E at Leithton in July 2023. Prior to the purchase of the J, CN trains sometimes needed more time to get across Chicago than they did to cross the continent.

hasn't reached, partly due to the disappearance of Indiana-bound UP coal trains once routed over the J at West Chicago — ignited a firestorm of opposition from lineside communities. Politicians joined the fray and stoked the flames. At local public hearings, emotions ran hot and CN officials were cursed and spat upon. Eventually the railroad reached voluntary mitigation agreements with 26 of 33 communities and funded things like sound barriers, quiet zones, road bypasses, and parks. The STB, in giving the deal a green light on Dec. 24, 2008, tacked on some additional requirements.

CN officials were so concerned about starting on the right foot that they walked every inch of the EJ&E the day before taking over operations to ensure there were no conditions that might cause a derailment.

A CIVIL ENGINEER'S DELIGHT

With STB approval in hand, CN embarked on a series of projects to boost the J's capacity. Within three years, CN built six connections at junctions, added 19 miles of track through longer sidings and reinstallation of sections of second main line, added centralized train control, powered up all control points, installed eight wayside detectors and 17 flange greasers, and reconfigured Kirk Yard. Mainline track speed was raised to 45 mph.

CN built a high-speed WC connection at Leithton, Ill.; a Chicago Central & Pacific connection at Munger, Ill.; an Illinois Central connection at Joliet; a connection with the IC main line at Matteson, Ill.; a GTW connection at Griffith, Ind., and a new connection to the NS Chicago Line at Gary.

The largest and most complex connection, at Matteson, is an engineering feat. Here the J, running east-west, passes beneath the IC's north-south main and the parallel Metra Electric line. CN was able to shoehorn connecting tracks around existing businesses, a residential development, a Metra parking lot, and both main lines. In all, the $30 million project required a 28-foot elevation change and included building 2.5 miles of new track, 19 switches, and a pair of bridges.

With wyes at each end, the tight 25-mph Matteson loop allows trains running east or west on the J to head south on the IC main or turn north to reach CN's Chicago intermodal terminal and auto ramp at Markham. As the nexus of CN's Winnipeg-Chicago, Toronto-Chicago, and Memphis-Chicago corridors, Matteson is the squealing linchpin of the entire 19,200-mile railway. "The key with the J is it let us control our own destiny," Taylor says. "The Matteson loop is what gives us connectivity. That is the key piece that connected our whole network."

Another J advantage: Of its eight mainline at-grade junctions with other railroads, CN controls three, while two give preference to the first approaching train. Only the crossings at Van Loon, Ind. (NS); Rock (Metra/CSX); and Spaulding (Metra/CPKC) are controlled by the other railroad. Maintaining good relationships with officials at other railroads is important for keeping those junctions fluid, Taylor says

As a staffed tower, JB remains a rarity in an era of remote-control interlockings. Automating the junction could give UP a foot in the door due to a wrinkle in the more than century-old junction agreement between the J and C&NW. "We're happy with it being a manned tower right now," Taylor says. "We get the service that's required. They do a great job for UP, CN, and Metra."

CN works around Metra rush-hour service, which limits weekday operations through Barrington, Spaulding, West Chicago, and Rock. "We know what those morning and evening windows look like," Taylor says. "We base our base plan out of Kirk Yard, for example, to go around those windows. The team in Chicago is very adept and very good at executing our operating plan. This is a great example of why a scheduled plan is so important."

But CN can operate through the junctions during lulls in Metra's rush hours. "We

An eastbound CN merchandise train diverges from the EJ&E Matteson Subdivision onto the connection to CN's former Grand Trunk Western South Bend Subdivision in Griffith, Ind., on May 24, 2023. Two photos, Bill Stephens

The connection between the EJ&E and former Illinois Central at Matteson was an engineering challenge, given space constraints, as well as a crucial link to integrate the EJ&E into the CN system. An oil train navigates the connection in April 2017. Marshall Beecher

call it shooting the gaps," Taylor says.

The J and the Matteson loop made CN what Taylor calls a one-crew railroad. A single crew can take trains out of Chicago to Battle Creek, Mich.; Champaign, Ill.; Dubuque, Iowa; or Fond du Lac, Wis. Inbound trains, meanwhile, typically change crews somewhere on the J.

The J and loop combo also have helped streamline interchange, whether used for short runs within Chicago or as a bypass for through trains. The run-through agreement CN and NS reached in 2017 for two pairs of daily Winnipeg-Elkhart, Ind., merchandise trains, for example, shaves 24 to 36 hours off their previous transit time. "That's powerful," Taylor says.

Kirk Yard is crucial, too. Kirk was built with short steel cars in mind — not today's longer cars and longer trains. So CN increased the hump yard's capacity to 2,500 cars per day from 1,500 by adding longer classification, receiving, and departure tracks and making improvements to the hump's retarder system.

A three-unit hump set has nearly completed shoving a Western Canadian merchandise train over the Kirk Yard hump in Gary, Ind., on May 24, 2023. The pair of EJ&E SD38-3s were among the 38 locomotives CN acquired along with the railroad in 2009.

Despite the iconic CN logo on the hump tower, operations at Kirk still retain some EJ&E flavor. You watch as a set of yard power — CN SD40-3Q No. 6001, EJ&E SD38-3 No. 671 still in J paint, and sister unit 675 also wearing orange — shove a typical western Canadian manifest consist over the hump, which sits just north of the busy NS and CSX Transportation main lines. The CN/EJ&E trio slowly pushes car after car of lumber, fertilizer, potash, and molten sulfur to the hump crest as NS and CSX trains roll by.

Today Kirk is the No. 2 hump on the CN system by volume, with 19 trains originating at or departing the yard daily, and 20 terminating or arriving at the yard per day.

The changes at Kirk freed up space at CN's other Chicago yards, as well as BRC's Clearing Yard. CN converted Markham, IC's main flat-switching facility, into its primary intermodal terminal and auto ramp. The smaller CN yards at Glenn, Hawthorne,

Ex-Illinois Central units like SD70 No. 1001 often still lead trains on the forrmer IC, as at Matteson on May 2, 2020. The busy nature of the Matteson connection is clear as that train meets an intermodal train from Markham and an outbound Metra Electric train. Two photos, David Lassen

and Schiller Park now handle local traffic, while the J's East Joliet Yard is a block-swapping facility and intermodal terminal that supports Markham by processing traffic from Vancouver and Prince Rupert.

What did not change: CN kept ownership of its pre-J routes into and out of Chicago and still relies on parts or all of them to interchange a handful of daily trains.

OPERATIONS TODAY

It's hard to overstate the J's importance to CN. About a quarter of CN's overall volume touches Chicago. And roughly a third of CN's 200 or so daily road trains originate, terminate, or run through the Windy City. You can't imagine CN handling them all — up to 20 from the GTW, two dozen from the WC, 20 from the IC main, and up to five from the Chicago Central & Pacific — without the J.

CN also would not have been able to grow the way it has since 2009 without having a clear shot through Chicago. Since the EJ&E acquisition, CN's U.S. traffic has surged 57% when measured by gross ton-miles, according to STB data, while train miles are up 30%. Most of the growth has come on the Winnipeg-Chicago corridor that funnels traffic between Western Canada and the U.S. And much of that growth is international intermodal from the ports of Vancouver and Prince Rupert, which have become gateways to the Midwest.

The J is an intermodal hub. Markham originates six trains per day and terminates eight daily trains, with most of them looping their way around Matteson. The Joliet terminal, meanwhile, allows CN's trains from Western Canada to set out blocks of Chicago-bound boxes before heading for Memphis or Detroit.

With more growth projected in the next few years, CN is adding capacity on the J. A 4.27-mile extension of Sutton siding will effectively give CN a double-track railroad between Spaulding, where Metra's Milwaukee District West line crosses at grade, and Barrington, where Metra's UP Northwest Line crosses at grade. The project will be completed by the end of 2024. "That's a key segment because it allows us obviously on double track to meet trains, but it's also sandwiched in between Spaulding and Barrington, which are some key, very busy Metra commuter routes," Taylor says. "So it allows us to shoot the gaps a bit better."

Next up: Creating another section of double track by extending the 10,200-foot Liberty siding southward by 12,000 feet, just south of the flyover that takes the J over BNSF's triple-track main line. The project is scheduled for completion in 2026.

CN CEO Tracy Robinson says the EJ&E is one of the factors that makes CN's network special. "CN has a very advantaged network. I know how advantaged it is because I competed against it for a lot of years," says Robinson, who joined CN in 2022 from TC Energy. She previously worked at CP for nearly 30 years.

Today CN rival Canadian Pacific Kansas City reaches Chicago from the north and west via its own rails. To connect with its main line in southern Ontario, CPKC faces the same Chicago terminal gauntlet that CN used to have to run. And east of Chicago, CPKC has to rely on NS trackage rights to Detroit for carload traffic bound to and from Southern Ontario, and on haulage rights on CSX to Buffalo, N.Y., for intermodal business that can't fit through the Detroit River Tunnel.

On March 11, 2009, the first day of CN operation as owner of the EJ&E, spotless SD70M-2 No. 8856 leads a southbound train past JB Tower and across the Union Pacific tracks at West Chicago as the tower operator, providing a visual inspection, waves to the crew. Mark Llanuza

FLYING THROUGH TOWN

Now CN is targeting cross-border intermodal by linking Detroit and its 11 terminals in Canada with Mexico via Chicago and a steel-wheel connection to existing UP and Ferromex interline stack trains.

An aerial view of the connection at Leithton shown on pages 24-25 finds southbound container train Q116 making the transition from the Wisconsin Central to the EJ&E in September 2016. Chris Guss

CN's Wisconsin Central heritage unit, ET44AC No. 3069, leads eastbound container train Q118 as it passes under a Metra Electric train at Matteson on Dec. 10, 2020. The EJ&E route is crucial to the recently launched CN-UP-Ferromex "Falcon Premium" intermodal service. Randy Olson

The Falcon Premium service, which runs via the Eagle Pass, Texas, gateway, is one of CN's responses to the Canadian Pacific-Kansas City Southern merger.

CN had relied on KCS as its intermodal partner for cross-border service to Mexico. But the CP-KCS merger changed the competitive landscape in more ways than one.

First, UP booted CP out of the EMP container pool in October 2022. CN then became a full EMP partner. Second, in May CPKC landed Schneider and Knight-Swift cross-border intermodal traffic. That poked a hole in UP's cross-border intermodal volume. Third, thanks to research CN did during its attempt to acquire KCS, executives in knew that 350,000 cross-border truckloads annually were ripe for conversion to intermodal.

Combine these events and you've got the catalyst for Falcon Premium, which launched as a steel-wheel interchange service on May 15, 2023.

Falcon Premium serves Monterrey and Silao and cuts a week from previous CN schedules to Mexico, partly because UP boasts the shortest route between Chicago and the border. The service has the potential to someday rise to two full daily train pairs.

Operationally, Falcon Premium wouldn't fly without the EJ&E. From across Canada and Detroit, CN's southbound boxes converge on Markham, where they're sorted into blocks for Monterrey and Silao. Northbound, the process is reversed, with CN sorting traffic bound for Detroit and Canada. UP transfer jobs connect its Yard Center terminal with Markham.

The process is similar for Atlanta interline service that began in October with NS. The boxes are exchanged at NS's Calumet Yard, reached via CN's former IC Chicago Subdivision.

The J has come a long way since its days as a railroad that hauled raw materials and steel. CN has transformed the J as much as the J has transformed CN.

Michael Blaszak, who wrote a definitive two-part story on the EJ&E in the August and September 1989 issues of *Trains*, says the J has come full circle. "The EJ&E was conceived as a belt line efficiently connecting all railroads serving the Chicago area, but after it was acquired by Illinois Steel (later United States Steel) in 1898, the J's focus changed to delivering raw materials to, and moving finished products from, the steelmaking facilities it exclusively served," he says. "Canadian National's 2009 purchase of the mainline portion of the J returned the railroad to its intended purpose as an expedited speedway around Chicago's endemic terminal congestion."

12:31 p.m.

E-RBCSCMO-08F

Our first train is an eastbound coal empty heading back to Spring Creek Mine north of Decker, Mont. The train is shown crossing Trout Creek's namesake watercourse, just west of town.

24 hours in Trout

Creek

Follow along for 24 hours' worth of BNSF overhead trains as they traverse Montana Rail Link in far Northwest Montana

Story and photos by Tom Danneman

2:28 p.m.
U-TACLMD7-28A
An empty BNSF unit ethanol train headed for Loomis, S.D., rolls across Trout Creek. The clouds have now taken over and will remain for the rest of the 24-hour period.

Trout Creek is a small town in the far reaches of Northwest Montana. With a population of under 300 hearty souls, the town's claim to fame is the proclamation that it's the "Huckleberry Capital of Montana." With the Cabinet Mountains Wilderness, and beautiful Clark Fork River nearby, an outdoor enthusiast would have plenty of opportunities to camp, hike, hunt, or fish in this neck of the woods. But I was there to take in the waning days of Montana Rail Link. With the pending lease buyout and acquisition of MRL by BNSF looming, this would be a good opportunity to spend some time along the railroad in this rustic little town and the surrounding area.

I spent part of my time in Trout Creek documenting 24 hours' worth of trains that rolled by on Montana Rail Link's 4th Subdivision. The 4th Subdivision runs from Missoula to Sandpoint Junction, Idaho. Montana Rail Link crews running through here take BNSF's overhead trains to and from Missoula to either Hauser, Idaho, or Spokane, Wash. On a typical day, MRL's 4th Subdivision hosts a good variety of trains, including coal, grain, manifest, and crude oil trains. The occasional "Boeing Train" with 737 fuselages will fly by from Spirit AeroSystems in Wichita, Kan., to Boeing's Renton, Wash., plant. A guarantee service intermodal Q train running between Alliance, Texas (near Fort Worth), and Portland. Ore., or Spokane can be seen rolling through here as well.

Unfortunately, if you come here to see Montana Rail Link motive power, you'll likely leave bummed out. For that, you would have to go 24 miles east to Thompson Falls (Pipeline), where twice a day, the railroad's "Gas Local" switches tank cars full of gasoline, diesel, and jet or aviation fuel, and swaps them for empties for the return trip to Missoula.

I was impressed with the traffic that day. I was expecting around 10-15 trains, but we were rewarded with 20. The motive power leading the trains and in DPU configurations was all BNSF General Electric Dash 9 and ES44-types. Loaded and empty coal and grain trains were the most common that day, but manifests, crude oil trains, and one Q train also made appearances. The weather was mostly cloudy with only brief bursts of sunlight at times. In early February, that kind of weather should be expected.

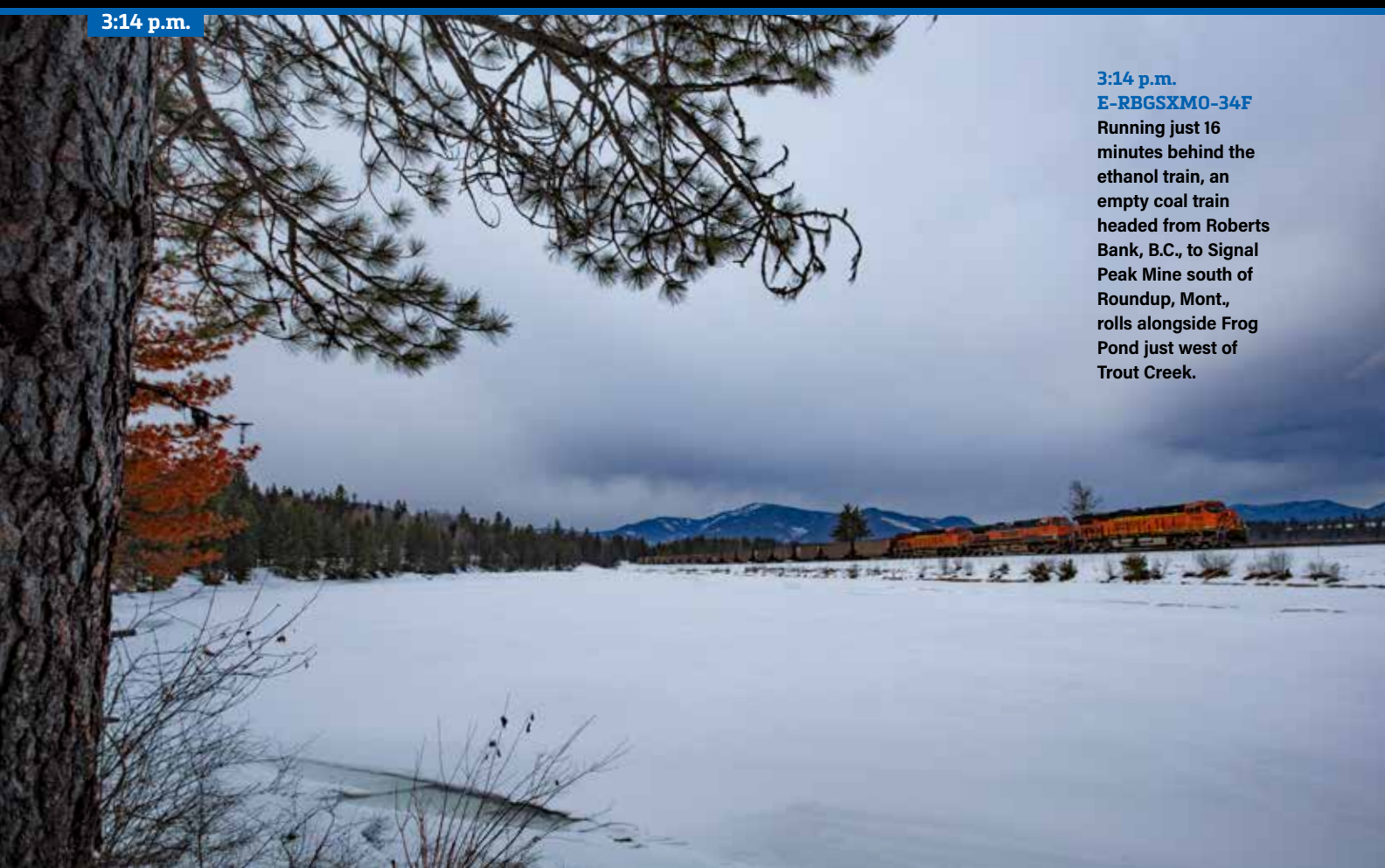
This out-of-the-way backwoods place has been a favorite respite for friends, family, and me for years. Even though MRL is not long for this world, Trout Creek and the surrounding wilderness will always be a place I want to spend time. But this was perhaps one of the last times I'll be along MRL's 4th Subdivision before BNSF takes over. Even though the trains will look mostly the same, I'm sure it won't have the same regional railroad feel.

24 hours in Trout Creek, Mont. • Feb. 3-4, 2023

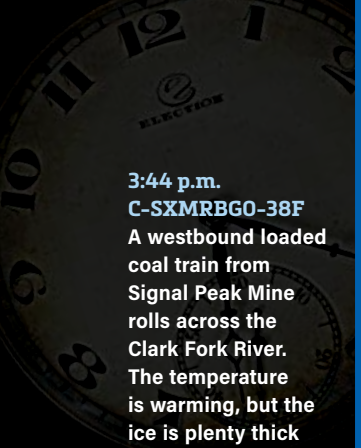
	Time	Train symbol	Direction	Train type	Origin-destination, details
1	12:31 p.m.	E-RBCSCM0-08F	East	Empty coal	Export Terminal-Roberts Bank, B.C.-Spring Creek Mine, Mont.
2	2:28 p.m.	U-TACLMD7-28A	East	Empty ethanol	Tacoma, Wash.-Loomis, S.D.
3	3:14 p.m.	E-RBGSXM0-34F	East	Empty coal	Export Terminal-Roberts Bank, B.C.-Signal Peak Mine, Mont.
4	3:44 p.m.	C-SXMRBG0-38F	West	Loaded coal	Signal Peak Mine, Mont.-Export Terminal-Roberts Bank, B.C.
5	4:08 p.m.	H-PASLAU1-01A	East	High priority manifest	Pasco, Wash.-Laurel, Mont.
6	4:32 p.m.	H-KCKPAS9-25A	West	High priority manifest	Kansas City, Kan.-Pasco, Wash.
7	5:49 p.m.	U-FYNFEP0-03T	West	Loaded crude oil	Fryburg, N.D.-Cherry Point, Bellingham, Wash.
8	8:57 p.m.	C-SXMRBG0-40F	West	Loaded coal	Signal Peak Mine, Mont.-Export Terminal-Roberts Bank, B.C.
9	10:45 p.m.	G-LEMKAH9-31A	West	Loaded shuttle grain	Lemmon, S.D.-Kalama, Wash.
10	11:11 p.m.	X-KAHHMM9-01M	East	Empty shuttle grain	Kalama, Wash.-Herman, Minn.
11	12:47 a.m.	H-KCKPAS9-30A	West	High priority manifest	Kansas City, Kan.-Pasco, Wash.
12	2:25 a.m.	E-RBGSXM0-36F	East	Empty coal	Export Terminal-Roberts Bank, B.C.-Signal Peak Mine, Mont.
13	2:52 a.m.	G-LINPSA3-27M	West	Loaded grain	Lincoln, Neb.-Aberdeen, Wash.
14	3:50 a.m.	H-SPOLAU1-03A	East	High priority manifest	Spokane, Wash.-Laurel, Mont.
15	6:22 a.m.	G-GLEKAH9-02M	West	Loaded shuttle grain	Glendive, Mont.-Kalama, Wash.
16	8:44 a.m.	Q-ALTPTL6-31A	West	Intermodal, guaranteed service	Alliance, Tex.-Portland, Ore.
17	9:28 a.m.	G-WBOINB9-30M	West	Loaded shuttle grain	Bowdle, S.D.-Interbay, Wash.
18	11:08 a.m.	H-LAUPAS1-01A	West	High priority manifest	Laurel, Mont.-Pasco, Wash.
19	11:55 a.m.	G-HASPSA3-29M	West	Loaded grain	Hastings, Neb.-Aberdeen, Wash.
20	12:15 p.m.	E-CECSCM0-08A	East	Empty coal	Centralia, Wash.-Spring Creek Mine, Mont.

Totals: 20 trains; **12** west, **8** east
5 high priority manifests;
5 loaded grain trains; **1** empty grain train;
2 unit trains (1 empty ethanol, 1 loaded crude oil);
1 Q guaranteed service intermodal;
4 empty coal; **2** loaded coal

H | NSI | NTW | 1 | 19
- 19 → Day of origination (or number of coal trains loaded at destination in 2023)
- 1 → Train priority or other designation
- NTW → Destination (3 alpha character abbreviation)
- NSI → Origin (3 alpha character abbreviation)
- H → Type of train/commodity



3:14 p.m.
E-RBGSXM0-34F
Running just 16 minutes behind the ethanol train, an empty coal train headed from Roberts Bank, B.C., to Signal Peak Mine south of Roundup, Mont., rolls alongside Frog Pond just west of Trout Creek.



3:44 p.m.
C-SXMRBG0-38F
A westbound loaded coal train from Signal Peak Mine rolls across the Clark Fork River. The temperature is warming, but the ice is plenty thick for the fishermen to try their luck.

4:32 p.m.
H-KCKPAS9-25A
The sun is trying to peek out as BNSF's manifest from Kansas City, Kan., to Pasco, Wash., heads west. As was usual this day, three GE locomotives lead the way.

3:44 p.m.

4:32 p.m.

5:49 p.m.

12:47 a.m.

8:44 a.m.

5:49 p.m.
U-FYNFEP0-03T
The only crude oil train of the day blasts west through Trout Creek in the blue hour. The train was loaded in Fryburg, N.D., and will travel to the Cherry Point Refinery in Washington.

12:47 a.m.
H-KCKPAS9-30A
It's wee hours of Feb. 4 as BNSF's High Priority Manifest from Kansas City, Kan., activates the grade crossing signals on Squire Lane in Trout Creek.

8:44 a.m.
Q-ALTPTL6-31A
The first train in daylight on Feb. 4 was the sole Q train during this period. The guaranteed service intermodal train left Alliance, Tex., on Jan. 31, and will travel to Portland, Ore.

9:28 a.m.
G-WBOINB9-30M
A loaded shuttle grain train streaks past the Burlington Northern-era sign in Trout Creek. New ties were laid on the ground here in preparation for track work in spring.

11:08 a.m.
H-LAUPAS1-01A
As seen between two trees, BNSF's manifest from Laurel, Mont., to Pasco, Wash., heads west over Trout Creek.

9:28 a.m.

11:08 a.m.

11:55 a.m.

12:15 p.m.

11:55 a.m.
G-HASPSA3-29M
A westbound loaded grain train (top) from Hastings, Neb., glides along Frog Pond just west of Trout Creek. The train is heading to Aberdeen, Wash., where it will unload.

12:15 p.m.
E-CECSCM0-08A
The last train of the 24-hour period was this empty coal train (above) heading from Centralia, Wash., to Spring Creek Mine north of Decker, Mont. The ice is melting, allowing the train to reflect in the frigid water of Frog Pond.

Countdown to 1,000 ISSUES

Quebec North Shore & Labrador runs North America's

Heaviest

A 240-car Quebec North Shore & Labrador ore train passes Nipisso, Que., on Sept. 21, 2011. Andy Cummings

train

... but the essence of this Canadian ore-hauler is about so much more. Chopper in for a ride on this enigmatic, innovative, and isolated railroad

by Andy Cummings and John Godfrey

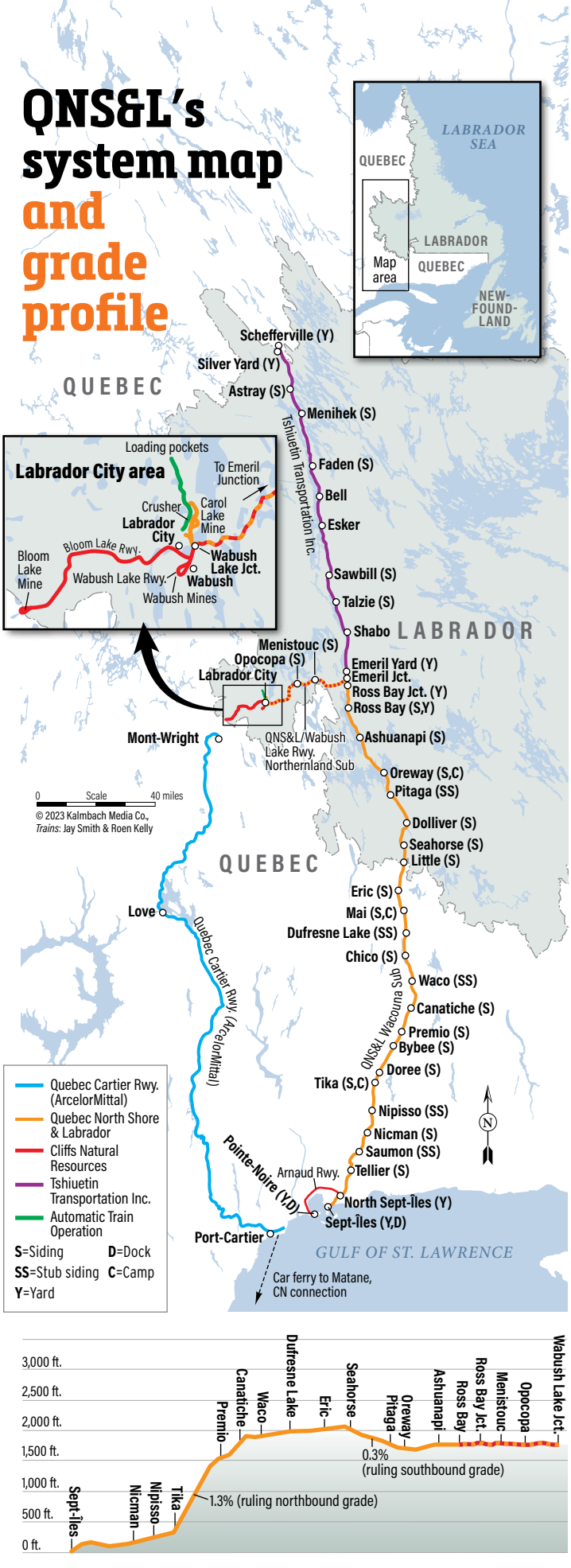
LONG BEFORE "MEGATRAINS" became common as part of North America's precision scheduled railroading practices, the Quebec North Shore & Labrador Railway was running 240-car trains with distributed power units — and just one employee in the locomotive cab. Then-Associate Editor Andy Cummings and Montreal-based railroader and writer John Godfrey ventured into far eastern Quebec and adjacent Newfoundland and Labrador to report on QNS&L's history and operations. Godfrey's bilingual skills were an asset in this largely French-speaking region. From the February 2012 issue (part of Nos. 900 to 999), this article took readers to this impressive isolated Canadian iron ore hauler, which provided a better understanding of this one facet of 21st century railroading. — *Scott Hartley, correspondent*

Engineer Richard Simoneau is frustrated. The shipping managers at the Carol Lake iron ore mine and processing plant gave him their best estimate of his train's weight, but a firm spanking from behind within minutes of departure tells another story. "This train doesn't weigh what they said it does," Simoneau comments in French, his native tongue.

Indeed, the weigh-in-motion scale that Quebec North Shore & Labrador train PL-480 crosses minutes later pegs the 244-car train's weight at 31,955 tons from lead drawbar to marker. That's nearly 1,000 tons less than the average "Carol Lake long" — evidence that the mine called on its front-end loaders to fill part of the train with reclaimed ore pellets from its stockpile. For engineers like Simoneau, who are accustomed to full trains of near-perfectly profiled loads from the Carol Lake loadout, even such minor variations call for changes in how they use their throttle and brakes.

To Simoneau's credit, it's the only slack action noticeable from the cab of lead AC4400CW No. 422 during his 8-hour, 132-mile run to Mai, Que. He smoothly guides a train weighing roughly the same as two loaded Powder River Basin coal trains.

Think of what Simoneau is doing as railroading concentrate: a version of railroading that reaps all the physical advantages of steel wheels on fixed guideways, but suffers few of the concept's drawbacks. His train moves as a unit, and will need no classification or block-swapping. There will be no cars to pick up or set out. The steepest



grade it encounters will be 0.4%, and it'll traverse just four public grade crossings on its 263-mile journey.

Trains last visited QNS&L for our 20th anniversary in November 1960, and we dubbed the line "tomorrow's railroad." Indeed, the railroad would go on to be an early adopter of caboose less operation, distributed power, and welded rail. Yet QNS&L stands nearly alone in many of its practices, the product of its solitary existence, connected only by carferry to the outside world.

A half-century since that visit, we returned to find a railroad conscious of its reputation as a risk-taker and innovator. We found technologies both advanced (a GPS system that warns the engineer when he's approaching another train) and primitive (snowshoes in locomotive cabs).

Some of what we found applies strictly to a railroad faced with a geography and mission unlike any other. But other practices inspired us, and made us wonder why railroads across the continent haven't seen fit to adopt the products of this laboratory of North American railroading.

After 51 years, it's time for another look at this rail conveyor belt owned by Iron Ore Co. of Canada.

THE EVOLUTION OF NORTH AMERICA'S HEAVIEST TRAIN

Engineers cut QNS&L's right-of-way into the Canadian Shield using technology unavailable to the previous generation of railroad builders. Aerial surveys preceded a route selection, with contracts let in September 1950. Before the railroad came a series of airstrips so track material could arrive by plane. The completed QNS&L would accept its first load of iron ore at Ruth Lake, N.L., just outside its Schefferville, Que., northern terminus, on June 29, 1954.

Workers had to blast a path for the railroad into the walls of the Moisie, Nipissis, and Wacouna river canyons. The route twisted around 8-degree curves and forced northbound trains to surmount a grade in excess of 2%. But for southbound (read: loaded) trains, grades remained moderate.

As a consequence, ore trains ran heavy from Day 1. The newly purchased GP7s that pulled QNS&L's first trains ran as quartets, pulling 135 empties from the St. Lawrence River dock at Sept-Îles, Que., (pronounced SET-ILL) to Schefferville, then returning with 125 loads.

In the railroad's early years, the limiting factor was the risk of train separations. Put too much weight behind the pulling locomotives, and you raise the strain on the drawbars and knuckles that hold the train together. If one of these links breaks, the train snaps apart and goes into emergency. Repairs can take hours and, in cold weather, recovering a train's air can take an hour or more. The resulting operational headaches can quickly get costly.

In 1965, North Electric of Galion, Ohio, introduced Locotrol, offering railroads the chance to distribute locomotives throughout a train [see "Freight Train, Unbounded," September 2010].

Jacques Clavette, QNS&L's rail operating rules administrator and instructor, hired on in 1970. That year, the ore road installed Locotrol on a GP9 for testing. Later, it modified ore cars to accept radio signals and pass them to an adjacent diesel via m.u. cables.

"You could put any engine in the middle," he recalls. "It didn't matter, because the electronics were all in the car. We tested for two to three years. In the old days, it was trial and error." The trials included operations at 265 cars, and the errors included a single trip with 300 cars of ore from Schefferville-area mines. Clavette ran the experiment from the train's caboose.

"I don't know how many times he broke apart on the trip down," recalls Nick Trépanier, the railroad's group manager for transportation and interim superintendent.

"That was a rough son of a bitch back there," Clavette recalls. "You had to sit down and put your seat belt on, because it would rip you right out. The

Quebec North Shore & Labrador engineer Richard Simoneau guides 244-car iron ore train PL-480 out of Labrador City, N.L., on Sept. 23, 2011. Andy Cummings

best configuration wound up at 240 cars, which we're running right now. We went up to 265 for a while, but they would break a lot."

QNS&L quietly ran the continent's heaviest freight trains for a decade, until Iron Ore of Canada's Schefferville-area mines closed on account of weak global demand for ore. It would be nearly three decades before mining resumed there.

"We decreased the tonnage by two-thirds," recalls Jean-Pierre Boucher, who recently left the company as its superintendent of operations. "We were only operating the Labrador City trains at the time, and the loop track was not configured for long trains." Anyway, Boucher adds, "The needs of the market were not there."

Operations continued well below capacity until the mid-1990s, when winds began to shift. A slug of QNS&L crews was nearing retirement. Fuel costs were rising. More importantly, steel prices were rising.

"The market moved up," Boucher says. "We could see manpower was going to be an issue. We needed to hire people, we needed to save fuel, and we needed to increase the capacity. So we put all of these things in the same bucket and mixed it."

QNS&L began engineer-only operations in 1996. The following year, it convinced Transport Canada to waive a rule limiting engineer-only trains to 150 cars. Quebec North Shore & Labrador subsequently began running trains twice as heavy as other railroads' unit trains with half the crew.

RAILROADING IN THE CANADIAN OUTBACK

In the predawn darkness, the loneliness of the Wacouna River Canyon is startling. Except for the rail line and a nearby high-tension wire carrying hydroelectric power from Labrador toward Montreal, man's heavy hand hasn't touched this land.

Operating a railroad through country like this has its challenges. Most track workers can't just show up for the day's shift in the morning and go home at night. The railroad can't dispatch a crew van to perform a dog-catch, as no public roads cross the tracks between North Sept-Îles and Emeril Junction.

But QNS&L does have a contract crew-hauler. Andrew LeBlanc, the Sept-Îles base manager for Canadian Helicopters Ltd., oversees a crew of experienced pilots who assist in keeping QNS&L's trains moving.

QNS&L has more than 150 designated landing sites for choppers beside the tracks. "We need to be able to land at every signal bungalow, at every switch, communications towers, the camps, and all the back-tracks, so there's a lot of places you can land," Boucher says. Pads consist of a small, flat, treeless area. A chopper can also land on the track once the pilot has surveyed the line for 5 miles in each direction to ensure no train is approaching. If an engineer is aboard a chopper, he can also call the rail traffic controller (dispatcher) for a track permit.

Three choppers and pilots are on call for QNS&L, with a fourth held in reserve.

"These guys know the company, and they know the guys," Boucher says. "They're practically one of our employees."

In addition to shuttling train crews, chopper pilots deliver engineering workers to camps at Tika, Mai, and Oreway on Thursdays, then return the previous week's crew to Sept-Îles. From the camps, the workers use various types of hi-rail and Brandt trucks to inspect and maintain QNS&L's main line.

The camps are 24/7/365 oases in this northern desert. Satellites provide Internet access and an impressive list of TV stations, including premium channels. During their off hours, employees can use the ATVs stationed at the camps to reach hunting and fishing sites. The Moisie River and its tributaries, which QNS&L's line shadows through Quebec, constitute one of the best Atlantic Salmon watersheds in the world.

In the Mai cafeteria, chef Daniel Collin prepares ginger chicken, one of today's menu items. If you don't like what's on the menu, Collin will prepare whatever you like, provid-

A 164-car empty train (left) and 244-car loaded Carol Lake ore train pass at Eric, Quebec, amid a gentle rain at dusk on Sept. 23, 2011. At the time, QNS&L was in the process of extending the Eric siding to enable meets between two 240-car trains. Two photos, Andy Cummings

ed he has the ingredients — and he usually does. Everyone at the camp eats whenever they want for free. The ginger chicken is worthy of a $30-per-plate, big-city restaurant. All the ingredients arrive at the camp in refrigerated boxcars.

Mai is QNS&L's most important camp, as engineers also stay here. All road engineers begin their tours of duty at North Sept-Îles, advance an empty train 120 miles to Mai, then take rest. Once rested, they'll take another train 137 miles to Labrador City, then take rest again. They'll mirror that trip with loads on the return, with a circuit generally running 60 hours, followed by 60 hours off at home. The railroad also bases train crews at Labrador City, but they handle only switching duties around the mines and dog-catches on the railroad's north end. None are qualified past Emeril Junction.

Labrador City crews are mostly descendents of Newfoundland natives, or "Newfies." Consequently, they speak predominantly English, while the Sept-Îles-based engineers are predominantly French speakers. So QNS&L prints all rulebooks and timetables in both languages, and bilingualism is a must for RTCs.

Alone in the locomotive cab, neither language gets much use, and only wildlife occupies the land beyond. The solitary nature of engineer-only operations requires dealing properly with the cold. For the trains, the implications are annoying: On the coldest winter nights, when temperatures drop to minus 55 degrees, trains may not be able to pump up enough air to release their brakes. The morning sun will set these trains back into motion.

For safety, there's no fooling around with the cold. It's a life-and-death business. "The company supplies arctic coats and pants for our people," Clavette says. "They could go to sleep in the ditch if they wanted to, and the next morning, be just like a flower."

In the case of an emergency, QNS&L guarantees support to its employees within 2 hours. In daylight, helicopters are called in. At night, when choppers can't fly, employees at the camps can use hi-rail trucks to reach remote locations. QNS&L also has an agreement to use Quebec Hydro's private airstrip near Mai in case of emergencies. An isolated gravel road connects the Hydro site to Mai and the siding at Eric.

FLYING SOLO

Quebec North Shore & Labrador isn't the only railroad running trains with just an engineer in the lead locomotive's cab. You can find variations on the practice at Indiana Rail Road; Montreal, Maine & Atlantic; on short Amtrak crew districts; and on commuter railroads across the continent.

But QNS&L has customized its rulebook and locomotive cabs, and even invented devices and tools, to ensure safe operations. Partnered with Transport Canada and the United Transportation Union, it creates its own practices that make single-person train crews work in this unique operating environment.

After inking a deal with UTU, QNS&L began engineer-only operations on July 12, 1996. Two days later, under sunny skies, a southbound freight train crashed into the rear of an ore train stopped in emergency at Mai. Fortunately, nobody was hurt.

The freight's engineer was operating under a *restricting* signal, which limited his speed to 15 mph or slower, depending on his ability to see the track ahead. Instead, the engineer was doing 30 mph upon spotting the ore train's marker and initiating an emergency stop.

Canadian operating rules state that when an engineer fails to heed a signal, the conductor must put his train into emergency. Of course, there's no guarantee a conductor would have acted to prevent this crash, but it cast a pall over what the railroad's managers hoped would be a happy transition to a more efficient practice. Canada's Transportation Safety Board made several observations about the wreck, the most telling of which was this: "[T]here was no passive warning system … that would alert a locomotive engineer of the train's proximity to points of restriction or other rolling stock."

That finding led to development of the proximity detection device, or "PDD." Any movement that enters QNS&L's main line, be it a train, track inspector, or piece of track machinery, must be equipped with one. The PDD interfaces with a global positioning satellite to keep track of its location. It then broadcasts the movement's identity, location, speed, and direction to all other PDDs within about 10 miles.

In a locomotive, the device sits on the engineer's control stand. When two movements reach 8 miles apart from one another, both PDDs will beep, and the operators must push a button to acknowledge the warning. The machines repeat this process at 5 miles and again at 3. If a beep isn't

acknowledged, the system makes a penalty brake application, bringing the movement to a controlled stop. No other railroad uses the PDD or anything like it. Engineers love it.

There's another step QNS&L has taken to keep engineers alert that you won't see on most railroads: napping. Engineers here are empowered to stop their trains, then nap for 15 to 20 minutes after alerting the rail traffic controller. QNS&L's locomotive seats are designed to recline flat, forming a bed.

Clavette says that, except for the 1996 collision, QNS&L has had no problems with engineer-only operations. "We had more accidents with two guys on the train than just one, because one guy trusts the other," he says. "With one man, you cannot."

Over dinner at the Mai cafeteria, a veteran QNS&L engineer echoes that, and says he'd rather not have a conductor in the locomotive cab with him. Conversations can cause distraction, he says, and in any event, it's no fun spending long hours with someone who might be having a bad day, or who's complaining about his personal life. The complications of engineer-only operations, he says, set in when something goes wrong: a hot axle, say, or a "kicker," a faulty railcar brake valve that puts a train into emergency when the engineer sets his air brakes.

When a hotbox detector catches a problem and an engineer must leave the locomotive cab, he installs a mechanical emergency device, or "MED." This simple tool consists of a stub-ended air hose connected to a woodworker's clamp by a chain. After dismounting the locomotive, the engineer attaches the air hose to the lead locomotive's front hose and opens the angle cock. Then, he attaches the clamp to the rail. That way, if the train were to move, the MED ensures it would immediately go into emergency, even if other securement techniques fail.

Engineer Richard Simoneau inspects a northbound Wabush train at Dolliver. To keep long trains moving, all but one of QNS&L's sidings are 10,000 feet or longer.

Once outside the cab, the engineer must immediately ensure he can talk to the RTC on his handheld radio. If the two can't communicate, he must return to the cab and await assistance.

While away from the engine, the RTC will call the engineer every 15 minutes to ensure everything is OK. If the RTC doesn't hear from the engineer for 15 minutes, the emergency procedure begins.

The need to walk a train is bad, but the need to set out a car is worse. While QNS&L uses remote control Beltpacks in the Sept-Îles yard, Clavette doesn't believe they're safe for mainline operations.

In daylight, choppers will fly in another engineer to help set out a misbehaving car. At night, the problem becomes more acute. Sometimes a disabled train will sit until daybreak, tying up the main line. That's operationally frustrating, but to QNS&L, the money saved on conductors makes such occasional hiccups tolerable.

THE TRAINS OF QNS&L

Your ride on the *Expresse* passenger train has been interrupted again by a trip into a siding. "Another ore train," you think to yourself. Probably so. But not all of QNS&L's trains move ore, and all its ore trains are not created equal.

QNS&L's biggest customer is its parent, Iron Ore Co. of Canada, which international mining giant Rio Tinto majority-owns and manages. Surprisingly, QNS&L's second-largest customer is one of Rio Tinto's primary competitors in ore production: Cliffs Natural Resources. Because the railroad crosses provincial boundaries, it is federally regulated. That means it's a common carrier and cannot deny service to anyone.

Cliffs, which operates the Bloom Lake and Wabush mines, depends on QNS&L to haul iron ore concentrate from Wabush Junction to North Sept-Îles. Cliffs-owned Arnaud Railway then brings the ore its final 21 miles to Pointe-Noire, across Sept-Îles Bay from IOC's dock. At Pointe-Noire, a pellet plant turns Wabush's concentrate into taconite pellets, while the Bloom Lake cars pass through a rotary dumper for direct transfer to ships.

From top to bottom: Bloom Lake, Wabush, and Carol Lake ore trains congregate at North Sept-Îles on Sept. 21, 2011. Power servicing is done here. Two photos, Andy Cummings

"They are competitors to IOC, but they are clients to QNS&L," Clavette explains, adding that shipping Cliffs ore helps defray IOC's cost of rail operations, so it's not without benefit. "We're not transporting their ore for nothing," he says. This has been the reality for the railroad since 1962, when the Wabush mine opened.

QNS&L's biggest trains operate for Carol Lake and Bloom Lake. These 240-car trains operate with two units up front and a third behind 164 cars. Computer simulations helped establish this as the ideal setup. QNS&L power runs through over the Genesee & Wyoming-run line to Bloom Lake.

Bloom Lake trains use rotary gondolas that look similar to IOC's. Wabush's cars, on the other hand, look wildly different. This is because Wabush dries its concentrate before loading it into trains. The result: ore so dust-like a stiff wind can carry it away.

Wabush's cylindrical covered hoppers, articulated in sets of three, look like no other railcar in North America. Overhead tracks at the loadout engage a vertical shaft that sticks above the car, opening its lid at one end and closing it at the other. A rubber tire on the car's flank opens its dump doors, enabling it to be unloaded while in motion at Pointe-Noire.

The slightly bizarre system does have an advantage: Wabush's dry ore won't freeze. During the cold days of winter, QNS&L must move its open-top loads across the railroad quickly. When loads freeze, they must either be thawed in the carshop or unloaded with backhoes. Frozen loads resemble giant ice cubes in an oversized tray. Dump them at the rotary shed and you can damage the unloading equipment.

A third non-IOC mine also relies on QNS&L service. Labrador Iron Mines loads high-grade natural ore from the formerly IOC-owned James Mine near Schefferville. QNS&L ships the company's ore to its yard in Sept-Îles, where backhoes unload the cars and trucks make final delivery to quayside. Tshiuetin crews operate the trains north of Emeril Junction with leased Genesee & Wyoming locomotives.

It takes a QNS&L ore train roughly 48 hours to make a round trip, including load and unload times. At any given time, QNS&L generally has 14 trainsets moving, loading, or unloading.

All ore trains operate with retainers on all cars set in the "slow direct" position. This is due to the trains' heavy weight and the steep 15-mile descent between Bybee and Tika. Slow direct-set retainers keep a car's brakes partially applied for a minute or longer after an engineer releases them, giving the locomotives' air compressors time to recharge for the next set.

General freight also plies the rails of the QNS&L. Merchandise trains running north out of Sept-Îles carry bentonite clay and limestone for making taconite pellets and chemicals for blasting in the mines. Bunker C fuel for home and industrial heating also rides these trains.

Liquid bulk freight arrives in Sept-Îles by truck for transfer to railcars, while solid bulk freight arrives in bulk ships. The car ferry from Pointe-Noire to Matane, Que., gets used almost exclusively for company shipments like cars, locomotives, and track material. QNS&L is working with the Port of Sept-Îles in the hopes of getting a ferry dock adjacent to its yard. If that happens, the railroad hopes to begin using it to ship in loaded railcars for its manifest freight customers.

The drive to Labrador City from more populated parts of Canada is a difficult one, particularly in winter, as Quebec Route 389 isn't paved for its entire length. Consequently, auto dealers in Labrador City ship finished autos up from Sept-Îles in circus-style-loaded auto racks. And individual motorists can book their personal vehicles on QNS&L flatcars.

Isolated Schefferville still gets freight by rail as well, with fuel, food, and other supplies for the city arriving in Tshiuetin freight trains from Emeril Junction.

The most bizarre freight loads on the line serve the camps, which each boast a small ramp for trailers. Where else are you likely to find a "honey wagon" (the tanker truck used to pump out septic systems) riding on a flatcar?

NEW MINES, NEW TRAINS

If you're looking for a recession, don't look to Labrador City. Real estate listings turn over the same day they appear. Used mobile homes fetch $150,000. And even in the depths of winter, you won't get a hotel room without reserving months in advance.

The reason is simple: worldwide demand for steel has kept ore prices high. China's staggering investment in infrastructure is the primary driver of those prices, and there's some worry in the steel industry that this construction boom is unsustainable. Yet India and China, with a combined population of 2.5 billion people, are seeing the emergence of a middle class. For the first time, many Indians and Chinese are able to afford cars, appliances, and other durable

Newly constructed bunkhouses (blue buildings) and the pellet plant overlook a departing freight at Carol Lake on Sept. 21, 2011.

goods that require steel.

So while ore prices may not remain at the stratospheric $180-per-ton levels they hit last year, the world will still need more ore than it did a decade ago. Worldwide demand for iron ore rose from 430 million tons in 2000 to 1 billion tons in 2010, and IOC projects it'll grow to 1.8 billion by 2020. As the Ungava Iron Range's sole common-carrier railroad, QNS&L will benefit.

The Bloom Lake Mine opened in 2010. The 8 million tons of concentrate it produces annually is going exclusively to China. IOC is expanding its Carol Lake mine to boost production from 17.6 million tons per year to 25.7 million. Most of that additional tonnage will be concentrate, China's preferred ore, rather than pellets, which U.S., Canadian, and European mills prefer. The mine and plant grounds are a beehive of activity, with new conveyors, silos, and bunkhouses rising from the earth day by day.

Carol Lake's two phases of expansion, currently occurring, will be complete by the end of this year. A third phase, which would expand production to 28.6 million tons, is under consideration.

Labrador Iron Mines' managers have told QNS&L they expect to ship 1.4 million tons this year, then triple volumes to 4.4 million tons annually thereafter. More promising for QNS&L's old northern terminus is a deal between New Millennium Iron and India's Tata Steel to explore two taconite deposits near Schefferville. The companies hope to build a large-scale processing plant, provided the economics are there.

"All these businesses want to come into operation in the next three years," Boucher notes. So what does that mean for the railroad? This much we know: It took delivery of six SD70ACes and 300 ore cars in 2011, and plans call for at least six more diesels this year. But if all currently proposed mines enter production, QNS&L's locomotive fleet would double. That would mean expanding the diesel shop at Sept-Îles from 10-hour-per-day operations to 24, like it was in the old days. Plans also call for hiring 30 new road-service engineers this year, a nearly 50% rise from the current roster.

Looking further into the future, accessible ore deposits are there for the taking. "They had ore surveyed for 20 years," Clavette says. "They changed the number recently. It's not 20 years. You'll never see the end of it, and the grade is very good."

Still, as QNS&L looks to its future, it remains tied to its past. The authors of our November 1960 article mentioned riding a train whose engineer was "a quiet French Canadian, 'Butch' Boucher." After reading the story, Clavette sent us an email.

"This gentleman is a personal friend of mine. When I worked on an operating crew in the '70s, he was a road foreman of engines. He is now 78 years old. His name is Jerome 'Butch' Boucher, and now lives in Quebec City. We keep in touch by email."

In fact, Clavette can rattle off the names of several employees present when QNS&L's main line opened. For them, the line's bright future must be satisfying indeed.

Milestone for Rio Grande's K-28s

'Sport Model' steam locomotives celebrate centennial with special trains

▲ **It is nearly midafternoon as D&RGW K-28s Nos. 473 and 476 work hard heading north with tonnage for Silverton, Colo., near a spot on the Durango & Silverton Narrow Gauge Railroad known as Goblin's Fire. The special run was made to mark the locomotives' centennial celebration.** Michael J. Wilson

AS CLASSIC AS A '67 Chevrolet Chevelle SS and as smooth as a Rolls Royce, the Rio Grande's 2-8-2 Mikado "Sport Model" K-28s turned 100 years old in 2023. Those 100 years have been spent hauling tonnage across one of the most difficult narrow-gauge lines in the U.S.

In October 2023, the Durango & Silverton Narrow Gauge Railroad hosted a two-day photo excursion with K-28s Nos. 473 and 476 to celebrate the centennial. No. 476 served as mid-train helper with No. 473 on the point, recreating an operating scenario not occurring on the railroad's High Line since the 1950s.

The photo charter from Durango to Silverton, Colo., included runbys on the first day with Nos. 473 and 476 at nine different locations deep in the Animas River Canyon. On the second day, Nos. 473 and 476 operated separate passenger and freight consists, respectively, again displaying operating scenarios once seen on the Silverton Branch.

The D&SNG has three K-28 locomotives: Nos. 473, 476 and 478. No. 478 has been out of service since 2016 but is slated for restoration over the next 24 to 36 months. The locomotive will be converted to burn oil as part of the project.

In all, 10 K-28s were built by the American Locomotive Co. in 1923 and delivered to Rio Grande at Salida, Colo., in September of that year. The first three locomotives delivered were not in numerical order: Nos. 470, 473 and 474. The 473 made the first run of a K-28 on the Rio Grande on Oct. 2, 1923, from Salida to Sargents over Marshall Pass.

Over the course of their Rio Grande service, the K-28s hauled both passenger and freight trains. The three K-28s currently owned by D&SNG were initially used in freight service from Salida to Gunnison, Colo., and on the Crested Butte Branch. Two other K-28s were sent to Alamosa, Colo., to power the *San Juan Express,* an Alamosa-to-Durango passenger train.

During World War II, especially after the 1942 Japanese attack on the Aleutian Islands, the Army feared an invasion of mainland America. As a result, the military requisitioned all 10 Rio Grande K-28s for use on the White Pass & Yukon Railway out of Skagway, Alaska. The Rio Grande appealed and was able to retain three K-28s for service on the *San Juan Express.* The three surviving K-28s, Nos. 473, 476 and 478, were chosen by the Rio Grande to stay in Colorado. The seven K-28s obtained by the Army were scrapped after the war.

For the rest of their service lives on the Rio Grande, the remaining K-28s powered the *San Juan Express* until it was discontinued in 1951. Since then the K-28s have maintained an active role as regular power on the Silverton Branch, particularly since the formation of the D&SNG in 1981. While the K-28s are not as strong as the K-36 and K-37, the Sport Model is an integral part of railroading history. — *Michael J. Wilson*

For the trip to Utah, the Golden Spike Monument rode on a specially decorated trailer. It made nine event stops en route, like this one at Kansas City Union Station. The sculpture measures 43.3 feet tall and is finished with gold leaf and a protective wax coating. Roy Inman

New gold spike memorial recalls Transcontinental Railroad workers

Sculpture to be placed in new Brigham City, Utah, park along Interstate 15

AT THE KENTUCKY STUDIO of sculptor Douwe Blumberg, a crane gently lifted a gold spike measuring 43.3 feet long and weighing just under 7,000 pounds, onto a decorated semitrailer. The spike, commissioned by Utah's Golden Spike Foundation, is a new memorial commemorating the workers who built the Transcontinental Railroad. Starting Oct. 5, the spike traveled to Utah, making nine event stops en route. Ultimately, this new piece of public art will be installed in Golden Spike Park at Reeder Ranch, in Box Elder County, Utah, outside of Brigham City along Interstate 15.

Until the Transcontinental Railroad's 150th anniversary in 2019, the complete story of the railroad's construction had gone largely untold. The contribution of the thousands of workers had been ignored. The Golden Spike Foundation, which organized the Spike 150 celebration in Utah, wanted to ensure the entire story was told. After the celebration, the foundation commissioned Blumberg to design the Golden Spike Monument as a way to continue telling this remarkable and relatable story through public art.

Artist Douwe Blumberg works in clay to fashion one of the 74 faces that appear on the new Golden Spike Monument. The sculpture will be placed in a park along Interstate 15 near Brigham City, Utah. Gold Spike Foundation

The new monument, which took 28 months to craft, portrays images of railroad workers in bas-reliefs along the four sides of the giant golden spike. According to Blumberg, the artwork is intended to "give faces to the faceless" and celebrate the building of the railroad from the perspective of those who contributed so much to the triumphant feat. The workers, many of whom were immigrants attracted by steady employment, did backbreaking work, made horrific sacrifices, and used ingenuity to make the railroad a reality.

The faces of 74 people appear on the monument. Blumberg drew them from diverse backgrounds after consulting with Transcontinental Railroad historians, groups representing railroad workers, and from conducting his own research. The faces include Chinese laborers from the Central Pacific Railroad, Civil War veterans, newly freed African-Americans, Irish and other immigrants, and members of The Church of Jesus Christ of Latter-day Saints.

An aluminum interior structure supports the new golden spike. The exterior is clad with gold leaf and coated with a thick, protective wax. Why was 43.3 feet chosen as the height of the monument? That happens to be the square root of 1869, the year the Transcontinental Railroad was completed. This is just another uncoverable fact that lies within the new artwork's story.

As an artist, Blumberg has completed more than 200 private and public commissions. His work has garnered numerous awards. Past commissions include: the Las Vegas Veterans Memorial, and the "America's Response" Special Operations Monument placed near Ground Zero in New York. Blumberg was born in Los Angeles and studied at California's Idyllwild Arts Academy. He was among 229 artists who submitted monument proposals. Artists in 39 U.S. states, Canada, France, Japan, and Spain expressed interest in completing the commission. — *Bob Lettenberger*

STATEMENT OF OWNERSHIP, MANAGEMENT, AND CIRCULATION
(Required by 39 USC 3685)
1. Publication title: *Trains*
2. Publication No.: 529-850
3. Filing date: October 1, 2023
4. Issue frequency: monthly
5. Number of issues published annually: 12
6. Annual subscription price: $58.95
7. Complete mailing address of known office of publication: 21027 Crossroads Circle, Waukesha, WI 53186. Telephone: 262-798-6607.
8. Complete mailing address of general business office of publisher: same.
9. Publisher: Nicole McGuire, 21027 Crossroads Circle, Waukesha, WI 53186. Editor: Carl Swanson, same.
10. Owner: Kalmbach Media Co., 21027 Crossroads Circle, Waukesha, WI 53186; stockholders owning or holding 1% or more of total amount of stock are: Deborah H.D. Bercot, 22012 Indian Springs Trail, Amberson, PA 17210; Gerald & Patricia Boettcher Trust, 8041 Warren Ave., Wauwatosa, WI 53213; Sally Darragh, 145 Prospect Ave., Waterloo, IA 50703; Melanie J. Duval Trusts, 2948 Fontana Dr., Lincoln, CA 95648; Harold Edmonson, 6021 N. Marmora Ave., Chicago, IL 60646; Laura & Gregory Felzer, 3328 S. Honey Creek Dr., Milwaukee, WI 53219; Susan E. Fisher Trust, 3430 E. Sunrise Dr., Ste. 200, Tucson, AZ 85718; Bruce H. Grunden, 2803 Kings Crossing Dr., #214, Kingwood, TX 77345; Linda H. Hanson Trust, P.O. Box 19, Arcadia, MI 49613; George F. Hirschmann Trusts, P.O. Box 19, Arcadia, MI 49613; Susan E. Ingles Trust, 2604 Oakcrest Dr., Waukesha, WI 53188; Charles & Lois Kalmbach Living Trust, 7435 N. Braeburn Ln., Glendale, WI 53209; Elizabeth King Trusts, U.S. Bank, 777 E. Wisconsin Ave., Milwaukee, WI 53202; William J. King Estate, 4816 Washburn Ave. S., Minneapolis, MN 55410; Mahnke Family Trusts, 4756 Marlborough Way, Carmichael, CA 95608; Milwaukee Art Museum, Inc., 700 N. Art Museum Dr., Milwaukee, WI 53202; Cynthia Darragh Oatman, 1708 Roxborough Rd., Unit E, Charlotte, NC 28211; Mary K. Szalanski, 3355 S. Ann Louise Dr., New Berlin, WI 53146; Lois E. Stuart Trust, 1320 Pantops Cottage Ct., #1, Charlottesville, VA 22911; David M. Thornburgh Trust, 8855 Collins Ave., Apt. 3A, Surfside, FL 33154.
11. Known bondholders, mortgagees, and other security holders owning or holding 1% or more of total amount of bonds, mortgages, or other securities: N/A
12. Tax status (for completion by nonprofit organizations authorized to mail at special rates): Has not changed during the preceding 12 months.
13. Publication title: *Trains*
14. Issue date for circulation data below: September 2023
15. Extent and nature of circulation:

	Average No. copies each issue during preceding 12 months	No. copies of single issue published nearest to filing date
a. Total number of copies (net press run)	84,582	82,048
b. Paid circulation (by mail and outside the mail)		
1. Mailed outside-county paid subscriptions	56,908	54,633
3. Sales through dealers and carriers, street vendors, and counter sales	5,858	5,708
c. Total paid distribution (sum of 15b1, 15b2, 15b3, and 15b4)	62,766	60,341
d. Free or nominal rate distribution		
3. By mail	327	335
4. Outside the mail	0	0
e. Total free or nominal rate distribution	327	335
f. Total distribution (sum of 15c and 15e)	63,094	60,676
g. Copies not distributed	21,488	21,372
h. Total (sum of 15f and 15g)	84,582	82,048
i. Percent paid (15c divided by 15f times 100):	99.48%	99.45%
16. Electronic copy circulation		
a. Paid electronic copies	1,708	1,469
b. Total paid print copies and paid electronic copies (sum of 15c and 16a)	64,475	61,810
c. Total print distribution and paid electronic copies (sum of 15f and 16a)	64,802	62,145
d. Percent paid (both print and electronic copies) (16b divided by 16c times 100)	99.49%	99.46%

17. Publication of statement of ownership: Publication required. Printed in the January 2024 issue of this publication.
18. I certify that the statements made by me above are correct and complete.
Nicole McGuire
Chief Marketing Officer
Date: October 1, 2023

Historic light towers preserved

Structures were part of 1939 New York World's Fair railroad exhibits

FOR THE 1939-40 NEW YORK WORLD'S FAIR, at least four 100-foot-tall, art-deco-styled floodlight towers were constructed to illuminate the 17-acre railroad exhibit. After the fair, the towers were dismantled and reinstalled to light the Pennsylvania Railroad's Altoona, Pa., freight yard. Through 80-plus years and several ownership changes — Penn Central, Conrail, and Norfolk Southern — the light towers stood in Altoona.

A few years ago, a windstorm blew one down. Norfolk Southern then decided to remove the towers. Realizing the towers' historic nature, local NS employees contacted Altoona's Railroaders Memorial Museum, asking if it would like to have them. The museum accepted the towers and has stored them pending evaluation and fundraising. Joe DeFrancesco, museum executive director, says the plan is to rebuild one tower to illuminate the museum's grounds, with an eye to installing all three.

For more information on the Railroaders Memorial Museum, please visit www.railroadcity.org. — *Dan Cupper*

To remove the light towers, NS retained contractor Chris Dell. Dismantling the structures was complicated by proximity to live tracks, overhead power lines, and access within the Altoona, Pa., yard. L.R. Myers

For more than 80 years, three of possibly four art-deco-styled light towers from the 1939 New York World's Fair stood over the Altoona freight yard. It is unknown who designed and fabricated the towers for the fair. Dan Cupper

Amtrak's most unusual train

Riding the one-of-a-kind *Auto Train*

▲ **Amtrak train No. 53, the southbound *Auto Train,* passes through Petersburg, Va. Nos. 52 and 53 are North America's longest and heaviest regularly scheduled passenger trains and for more than 30 years have been routinely assigned Amtrak's P40 diesels. These older GEs offer superior train control for long trains compared to the newer P42s.** Two photos, Brian Solomon

DIRK NADON IS A NEW HAMPSHIRE radio magnate who owns Lakes Media. He and I have worked together developing radio promotions for Conway Scenic Railroad. At one point he said to me, "You'll like this! A few years ago, I took this great train ride called the *Auto Train* — do you know it?"

He was brimming with enthusiasm over the experience. This radio connection reminded me to call my old friend Doug Riddell, also a *Trains* contributor, who was once a radio announcer for WREA in Richmond (among other stations) and is a retired locomotive engineer. Doug is part of the *Auto Train* story, having run both the original, privately owned *Auto-Train* and its Amtrak successor, and is the author of two books on the subject. This allowed me to blend the stories of two radio guys with completely different perspectives on America's most unusual passenger train.

The original *Auto-Train* was the brainchild of Eugene Garfield. The privately run passenger train and automobile ferry began operations between Lorton, Va., and Sanford, Fla., in 1972 and was envisioned as a profitable service at a time when most other U.S. passenger operations were in financial free fall.

▶ **GE Genesis Series I diesels made their debut on the *Auto Train* and have continued this assignment. Amtrak Nos. 831 and 816 lead train No. 52 on its northward run over CSX's former Richmond, Fredericksburg & Potomac main line at Ashland, Va., on June 8, 2015. The *Auto Train* is an end-to-end express with no intermediate stops and routinely runs ahead of the published schedule.**

My recollections of this operation stem from a brief exploration of the facilities at Sanford with my dad in December 1980. It was one of the few times I saw a Baldwin diesel in action. Sadly, by that stage the original company was in deep financial trouble and much of the equipment in the yard was showing signs of neglect, some having been damaged in wrecks in the mid-1970s. The company ended operations just a few months later in the spring of 1981.

Amtrak's *Auto Train* was the vision of W. Graham Claytor Jr., a retired Southern Railway executive who assumed the Amtrak presidency in July 1982. This was when Amtrak's subsidies were under threat by the Reagan Administration. Claytor identified Garfield's moribund *Auto-Train* as a potential profit center and moved to acquire some of the company's assets, like the name and customer list.

Amtrak's *Auto Train* began operations on the Lorton-Sanford route in October 1983, initially running tri-weekly, but soon becoming a daily train.

For locomotive enthusiasts, one of the distinctive attributes

of the train is its history with General Electric diesels that dates to the original train. Amtrak's *Auto Train* era started with GE P30CH locomotives, which Doug Riddell says were well-suited to the service.

In June 1993, *Auto Train* debuted Amtrak's new GE Genesis Series I diesels (designated as P40s by Amtrak) with engines 802 and 804. Based on Dash 8 technology, the P40s have remained standard power on the *Auto Train* despite their relative obsolescence. Because of their older air-brake schedule, Riddell notes, the P40 gives the engineer superior control of unusually long and heavy consists by allowing for power braking ("stretch braking") in all throttle positions. This reduces the amount of slack action in the train and results in a better ride for passengers.

DIRK'S EXPERIENCE

Good ride quality is important, because the *Auto Train* has evolved into Amtrak's premium service featuring distinctive qualities that Dirk was eager to tell me about.

"I'm not a rail enthusiast, at least I don't think I am, but right before COVID my wife and I were traveling with her daughter and her daughter's friend, whom were both about to begin nursing school in Sarasota, Fla," he says. "We were faced with complicated travel since we needed to get the four of us and two vehicles from New Hampshire to Florida. As anyone who has done the drive knows, it's a long slog down I-95. The stretch through Virginia, the Carolinas, and Georgia can be especially tough. I'll be honest, I've done this drive a few times, and I can't stand it. A friend suggested that I try the *Auto Train*, and so we did. I bought our tickets online and we drove overnight from New Hampshire arriving at Lorton, as suggested, by 2 p.m." (Amtrak currently advises *Auto Train* passengers to check in no later than 3 p.m., warning travelers there are "no exceptions for late arrivals.")

Overall, Dirk was impressed by the check-in process. "They took our cars and brought us to our pair of roomettes. I loved this. The *Auto Train* is like a classy hotel on wheels. Amtrak treated us like royalty! The Amtrak staff and crew were nicely dressed and very polite. This was so cool. It allowed us all to travel together instead of fighting traffic in separate automobiles. Instead of 12-14 hours of stress, we got to look out the window and watch the world go by. We had dinner in the diner and slept in our roomettes ..."

Dirk really enjoyed sleeping on the train and waking up in Sanford. He and his wife spent about two weeks in Florida. They helped the young women get settled into school, and then took the time needed to explore Disney. "I'd do it all again in a minute!" said Dirk. — *Brian Solomon*

Cumbres & Toltec welcomes new general manager to the rails

Steven Butler brings 30 years of experience on board

Above, former Rio Grande 2-8-2 Mikado No. 488 rolls out of Chama, N.M., on Oct. 24, 2023, on its run to Antonito, Colo. At right, Steven Butler is shown entering his new role as general manager for Cumbres & Toltec Scenic Railroad. Two photos, Carl Swanson

IN OCTOBER 2023, the Cumbres & Toltec Scenic Railroad introduced Steven Butler as its new general manager.

Butler takes over for Scott Gibbs, one of the railroad's Colorado Commissioners, who had temporarily stepped in to run day-to-day operations.

Jointly owned by the states of New Mexico and Colorado, and overseen by an interstate commission, the 64-mile C&TSRR bills itself as the longest, highest, and most authentic steam railroad in America. It runs between Antonito, Colo., and Chama, N.M.

As a lifelong rail enthusiast with a passion for preserving 19th and 20th century steam trains, Butler has experience in many areas of running a steam-powered tourist railroad. He has been involved for 30 years, and has served as a general manager, a machinist, a fireman, an engineer, and a chief mechanical officer at various railroads across the U.S., including his own tourist line in Wisconsin.

Butler has served on the Tourist Railway Association/HeritageRail Alliance board of directors; the National Board of Boiler's Inspection Code Locomotive Boiler subgroup; American Society of Mechanical Engineers' Locomotive subgroup; and the Engineering Standards committee.

"We are thrilled that Steven will serve as the Cumbres & Toltec's general manager," said Billy Elbrock, chairman of the four-member Cumbres & Toltec Scenic Railroad Commission. "He brings the varied expertise necessary to run both a locomotive and a railroad, from machine work to marketing. He knows this area and even worked briefly for the C&TSRR and was at our neighboring San Luis & Rio Grande Railroad in Alamosa for many years."

For more information about the Cumbres & Toltec, visit cumbrestoltec.com.

RAILROAD ATTRACTION DIRECTORY

STEP BACK IN TIME to experience the golden age of railroading. North America's railroad museums and tourist lines provide affordable fun for the whole family! Plan your complete vacation with visits to these leading attractions.
For information on advertising in this section, call Michael Wieloch at 262-798-6625.

COLORADO — **Leadville**

LEADVILLE RAILROAD
326 East 7th

Open year around. Check our website for train schedules and upcoming specials. **NEW** this year holiday specials for friends and family. Raft and rail and zip and rail packages. Check out the website for updates on schedules, restrictions, and fun in the Rockies!

www.leadvillerailroad.com **1-866-386-3936**

INDIANA — **Connersville**

WHITEWATER VALLEY RAILROAD
5th and Grand

Travel through time on Indiana's most scenic railroad. 33-mile round trip to Metamora, May through Oct. Special events Feb through Dec. Vintage diesels: 1951 Lima-Ham. (2) 750 HP & 1000 HP, 1954 EMD/Milw. Rd. SD10, 1948 Alco S1, 1942 GE 65 Ton. Gift Shop.

www.whitewatervalleyrr.org **765-825-2054**

PENNSYLVANIA — **Marysville**

BRIDGEVIEW BED & BREAKFAST
810 S. Main St.

At The Bridgeview B&B The action comes to you! Freight Trains are rolling in and out of Enola Yard right past our front porch. From the spacious decks and sitting room, you can watch the Susquehanna River, Blue Mountains and trains crossing World Famous Rockville Bridge, all in one spectacular panoramic view! Relax, in a comfortable, "home away from home" atmosphere at The Bridgeview, where we feature 10 clean, cozy rooms, all with private baths, A/C, WiFi, plus a freshly prepared breakfast to start your day! Visit Harrisburg, Hershey, Gettysburg, Adamstown and PA Dutch Country. See our website for more information, and give us a call. Come experience The Bridgeview Bed & Breakfast, where you never know, **what**, you might see next!!

www.bridgeviewbnb.com **717-957-2438**

YOUR STATE — **Your City**

Advertise your tourist railroad here!

Contact Michael Wieloch at 888-558-1544 Ext. 625

TEXAS — **Rosenberg**

ROSENBERG RAILROAD MUSEUM
1921 Avenue F, Rosenberg, TX 77471

The Rosenberg Railroad Museum is dedicated to preservtion and education of railroading history and its impact on Fort Bend County. Exhibits Include 1970's Caboose, 1903 Tower 17, 1879 passenger car, Garden Railroad, model train layouts, and more! Open Wed-Fri. 10-3pm, Sat. 10-4pm, & Sunday 1-4 pm.

www.RosenbergRRMuseum.org **(281)633-2846**

WISCONSIN — **Green Bay**

NATIONAL RAILROAD MUSEUM
2285 South Broadway

Explore dozens of historic trains and engaging exhibits at the National Railroad Museum, which is open year-round. Among our popular attractions are: the General Motors Aerotrain, Union Pacific "Big Boy" #4017, Pennsylvania Railroad GG-1 electric locomotive #4890, the Dwight D. Eisenhower A4 locomotive, and the world's largest collection of drumheads. Train rides are offered daily May-September (weekends in October).

www.nationalrrmuseum.org **920-437-7623**

CLASSIFIEDS

Word Rate: per issue: 1 insertion — $1.57 per word, 6 insertions — $1.47 per word, 12 insertions — $1.37 per word. $35.00 MINIMUM per ad. Payment must accompany ad. To receive the discount you must order and prepay for all ads at one time. Count all initials, single numbers, groups of numbers, names, address number, street number or name, city, state, zip, phone numbers each as one word. Example: Paul P. Potter, 2102 Pacific St., Waukesha, WI 53202 would count as 9 words.
All Copy: Set in standard 6 point type. First several words only set in bold face. If possible, ads should be sent typewritten and categorized to ensure accuracy.
CLOSING DATES: March 2024 closes Dec. 14, April closes Jan. 24, May closes Feb. 21, June closes Mar. 25, July closes April 23, August closes May 20.
For TRAINS' private records, please furnish: a telephone number and when using a P.O. Box in your ad, a street address.
Send your ads to: *Trains* magazine – Classified Advertising 21027 Crossroads Circle, P.O. Box 1612 Waukesha, WI 53187-1612 Toll-free (888) 558-1544 Ext. 551
Fax: (262) 796-0126 E-mail: classads@kalmbach.com

RAIL SHOWS AND EVENTS

JANUARY 20-21, 2024: Dallas Area Winter Train Show. Plano Center, 2000 E. Spring Creek Parkway, Plano, TX. Saturday 10am-5pm; Sunday 10am-4pm. Adults $10.00, 12 and under free w/adult. 80,000 sq.ft. of model railroading with numerous operating layouts, layout tours, vendors, and door prizes. Information: Chris Atkins, chris@railroadmodelers.com 469-438-0741. www.dfwtrainshows.com

JANUARY 27, 2024: The 32nd Annual Great Tri-State Rail Sale. La Crosse Center, 2nd & Pearl Streets, La Crosse, WI. 9:00am-3:00pm. $5.00, under 12 free. Model, Toy & Antique Trains & Memorabilia, Sale & Swap Meet. 608-781-9383, www.4000foundation.com

FEBRUARY 3-4, 2024: Monticello 2024 Train Show. Saturday 10am-4pm and Sunday 9am-2pm. Berndes Center, 766 N. Maple St., Monticello, IA 52310. Tables $30. Admission: $5, children under 12 free w/paid adult. Monticello RR Club, PO Box 169, Monticello IA 52310 or email Ron Ackermann: rack611@gmail.com

All listed events were confirmed as active at the time of press. Please contact event sponsor for current status of the event.

LODGING

INN ON THE RIVER: Book your stay for a relaxing getaway overlooking the beautiful Mississippi! Guests are minutes from quaint restaurants, stores and many outdoor opportunities. Each room has a private balcony for stunning views of the Mississippi River and the Burlington Northern-Santa fe Rail Line. Reservations: 608-534-7784 www.innontheriverwi.com or email: innontheriverwi@gmail.com

COLLECTIBLES

TOP DOLLAR PAID for steam/diesel or electric builder plates. mr_slides@hotmail.com Telephone: 216-321-8446

TOP PRICES PAID for original steam, diesel and electric builder's and number plates. Have some quality plates for trade as well. rjmuldowney@comcast.net – 609-397-0293.

PHOTOS, PRINTS AND SLIDES

TOP DOLLAR PAID: for 35mm slide collections especially pre-1980. Mr. Slides, mr_slides@hotmail.com Telephone: 216-321-8446

RAILROAD ART

THE ESTATE OF WELL-KNOWN RAILROAD ARTIST, ANDREW HARMANTAS, is selling all remaining paintings from his collection. Paintings are of various railroads, steam, diesel, and various sizes. Majority are framed. Inquiries, visit www.andrewharmantasart.com

WANTED

ARE YOU GETTING THE BEST PRICE FOR YOUR TRAIN COLLECTION? Our list of discriminating buyers grows each day. They want bigger and better train collections to choose from! We specialize in O Gauge trains- Lionel, MTH, K-Line, Williams, Weaver, 3rd Rail, etc. as well as better trains in all scales. We also purchase store inventories. Plus, we can auction your trains with rates starting as low as 15%. We travel extensively all over the US. Give us a call today! Send us your list or contact us for more information at www.trainz.com/sell Trainz, 2740 Faith Industrial Dr., Buford, GA 30518, 866-285-5840, Scott@trainz.com Fax: 866-935-9504

ORIGINAL SLIDE COLLECTIONS, B&W Negative Collections, any railroads, any subjects. sales@morningsunbooks.com

PRR LW PULLMAN CAR Cast-iron door nameplates, 1938-1950. J.H. STEVENSON, Rocky River, OH 440-333-1092 jhstevenson8445@gmail.com

AUCTIONS

AMERICA'S PREMIER RAILROAD AUCTIONS: Consign your quality items. One piece to an entire collection. Large 8-1/2 X 11" auction catalogs contain full descriptions and hundreds of photographs. Auctions are jointly sponsored by the Depot Attic and Golden Spike Enterprises. The combined knowledge and experience of America's largest railroadiana firms will earn you "top dollar". Mail and fax bids are accepted. Information: Railroad Auction, PO Box 985, Land O Lakes, FL 34639. Phone: 813-949-7197.

ADVERTISERS

The Advertiser Index is provided as a service to TRAINS magazine readers. The magazine is not responsible for omissions or for typographical errors in names or page numbers.

In the February issue

1,000th issue!

Visit a bridge over the Rhine River in Germany that sees **1,000 TRAINS** cross each day. Profiling the most-popular **1,000-HORSEPOWER** diesel locomotives. The inside story behind Union Pacific's $2 billion single order for **1,000 SD70M** locomotives from General Motors' EMD in 1999. Plus a **PHOTO ESSAY** from Ben Bachman and the **EADS BRIDGE** in St. Louis, designed by a novice builder, celebrates 150 years of service.

On sale January 9, 2024


5667

Drift? What drift?

Bam! That had been a 3-foot-tall drift across the Moose Range Road grade crossing near Sycamore, Ill. Then Canadian National SD75I No. 5667 arrived on Jan. 19, 2014, and sent snow flying in all directions as it blasted through at 50 mph.
Duane Rapp

Cold, colorful 'Chilli'

A cold day in December 1986 finds Santa Fe local freight No. 101 speeding west atter working Chillicothe, Ill. Next is climbing Edelstein Hill, then Princeville. GP30s Nos. 2755 and 2735 — both wearing the "Shouldn't Paint So Fast" scheme introduced in advance of the cancelled Southern Pacific/Santa Fe merger — lead a blue and yellow Santa Fe GP35. Steve Smedley

From a frosty fog

Starting a run from Hartford to Slinger, Wis., the cold temperature on Nov. 2, 2019, accentuates every bit of steam and smoke from Soo Line No. 1003. Getting underway, the 1913 Alco 2-8-2 Mikado emerges from a cloud of its own making. Randy Olson

Getting ready

In the late 1920s, Denver & Rio Grande Western rotary plow OY would be preparing for snow duty. Nearly a century later, OY poses for a photo session at Chama, N.M., on Feb. 29, 2020. The Cumbres & Toltec Scenic Railroad ran OY between Feb. 28 and March 1 of that year, clearing snow from Chama and over Cumbres Pass. Thomas M. Binger

PUT A REAL LOCOMOTIVE

Under the Tree This Year!

NEVADA NORTHERN RAILWAY

HANDS ON HISTORY

SEE IT • FEEL IT • RUN IT!

SAVE 24%*

*Membership required for discount. Offer expires December 31, 2023

INSTANT GIFT CERTIFICATES AVAILABLE

Hands On History Experiences

BE THE ENGINEER • PHOTO SHOOTS & WORKSHOPS • RAILROAD REALITY WEEK

NEVADA NORTHERN RAILWAY MUSEUM

ELY, NEVADA • (775) 289-2085 • WWW.NNRY.COM

*The 24% discount is only available with membership in the Nevada Northern Railway Museum. This offer expires December 31, 2023