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THE magazine of railroading



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WRI 2019

Produced by Wheel Rail Seminars

'Skookum' and other steam dreams

2019: Year of the Articulated steam locomotive with Big Boy, 1309, and a special 2-4-4-2. But there's more!



Jim Wrinn

jwrinn@kalmbach.com

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Those of us who thrill to the excitement of restored steam power were ready to take a big hit in 2019. Positive train control, Hunter Harrison's legacy of cost cutting, and general trends were supposed to make this year a dud. Instead, as I write these words, we have a lot to look forward to.

TRAINS magazine helped kick things off in



Skookum puts on a show in Oregon for TRAINS photo charter customers. TRAINS: Jim Wrinn

March with our *Skookum* photo charter at the Oregon Coast Scenic Railroad. Learn more about that adventure on page 30. Union Pacific's Big Boy 4-8-8-4 No. 4014 is the biggest thing for steam preservation ... well, since the end of regular service steam 60 years ago. Back East, Western Maryland Scenic Railroad is restoring its Chesapeake & Ohio Railway 2-6-6-2 No. 1309. These locomotives are why I like to call this the "Year of the Articulateds." These three newly restored, magnificent, mesmerizing locomotives with two sets of cylinders, pistons, and drivers are in the spotlight.

But there is more good news for steam fans. Norfolk & Western No. 611 is visiting a new venue this year (see page 52). Locomotive restoration projects are moving forward from West Virginia to Alaska on unique engines both great and small. The year just keeps getting better.

At TRAINS, we'll bring you news first about these exciting preservation developments with "News Wire" updates at TrainsMag.com. You'll learn about them in our pages. And we'll take you with us on special photo charters (see note to the right) and tours that you won't want to miss.

TRAINS is not just a great magazine and website. It's also an experience. Join us!



ARIZONA'S GRAND CANYON IS THE PLACE TO BE THIS FALL

Our next TRAINS photo charter is at Arizona's Grand Canyon Railway, running between Williams and South Rim. Power will be 2-8-0 No. 29, which will go out of service after our Oct. 26-27 event. Tickets are limited to 70 customers. We'll post ordering info on "News Wire" at TrainsMag.com by the time you read this. Eric Hadder

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Production Editor Angela Pusztai-Pasternak
Associate Editor David Lassen
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Editorial Assistant Diane Laska-Swanke
Senior Graphic Designer Scott Krall
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Columnists
 Fred W. Frailey, Brian Solomon

Correspondents
 Roy Blanchard, Michael W. Blaszak, Al DiCenso, Hayley Enoch, Justin Franz, Steve Glischinski, Chase Gunnoe, Chris Guss, Scott A. Hartley, Bob Johnston, Kevin P. Keefe, David Lustig, Bill Stephens

Contributing Illustrator Bill Metzger

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EDITORIAL
 phone: (262) 796-8776
 email: editor@trainsmag.com
 fax: (262) 798-6468
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>> Two restored Southern Pacific "Black Widow" diesels, SD9 No. 5472 and GP9 No. 5623, lead a Niles Canyon Railway train east near Sunol, Calif., on Aug. 30, 2015. Elrond Lawrence



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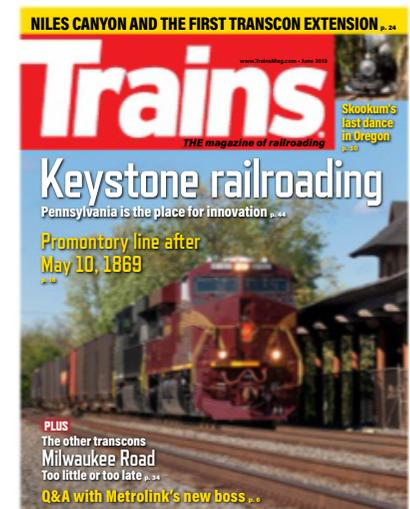
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Norfolk Southern's Pennsy heritage unit, ES44AC No. 8102, leads a NS ballast train west past the Cumberland Valley Railroad's Greencastle, Pa., station on April 27, 2012. Doug Koontz

On the web TrainsMag.com



LOCOMOTIVE ROSTERS

Subscribers can download PDFs of the latest locomotive roster data for North America's Class I railroads and Amtrak.

Photo by Matt Krause



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THE TRAINS INTERVIEW

Metrolink CEO Stephanie Wiggins

New leader of LA-area commuter system seeks 'outstanding experience' for riders

▲ A train on Metrolink's Perris Valley line, its newest service, climbs out of Riverside, Calif., on Feb. 15, 2019. TRAINS: David Lassen

STEPHANIE WIGGINS' CAREER in public transportation is, by her own description, an accident. In 1994, while awaiting admission to a college MBA program, she took a summer job with San Bernardino Associated Governments, and "got excited about the connection public service has to mobility, and opportunity," she says. So she stayed, one job led to another, and on Jan. 1, 2019, Wiggins became the CEO of Metrolink, the commuter rail agency for Los Angeles and adjacent counties. She sat down with TRAINS for an hour-long interview in February. These highlights have been edited for length and clarity.

Q How do you assess your ridership? What's the No. 1 way you can grow ridership?

A We're underperforming. Our ridership is growing a little bit, but given our service area [of] 18 to 20 million people, and how mind-numbing our freeway gridlock is ... we can accommodate way more riders.

We need to ensure that each and every time someone makes the choice to use our system, it's an outstanding experience.

That's the way we're going to increase riders and retain riders. On-time performance is critical. We've got to minimize unplanned service disruptions. Those can be very trying. When someone knows they have access to a car [Metrolink statistics show 85 percent of riders own a car], they're less forgiving.

Q How would you assess how the Perris Valley line [Metrolink's first expansion since 1994] is doing? Is other expansion on the table or is the focus just on greater frequencies?

A I think you really want to give around three years of service to try to determine how



Stephanie Wiggins

well it's functioning. It started off really well; it's kind of plateaued. We are talking to [Riverside County] about the prospects of increasing service frequency starting in October. We know from our riders, the more service there is out there, the more comfortable they get about choosing the train versus driving alone.

Part of our challenge with expansion [is] negotiating the train slots with our two freight railroad partners.

Q It's clearly been a slow process with the F125. [Metrolink's first EMD F125 locomotive was delivered in June 2016; as of this conversation, nine were in service.] Where do you stand with those locomotives, and the process of getting them into service?

A Operating the cleanest diesel locomotives in the country is a goal of ours, and one we think is achievable. The Tier 4 locomotives are new technology, and there are lessons



FOR MORE WITH METROLINK CEO STEPHANIE WIGGINS, VISIT TRAINSMAG.COM

learned as we deploy them. We are working in partnership with Progress Rail, the contractor. We're committed to getting all 40 of our locomotives converted [from older units] to Tier 4. Yes, it's gone slower than we would have liked. We want to make sure that it's operating safely and reliably. We have 15 on property today. We anticipate all 40 will be on property before the end of the calendar year.

Q Funding is almost always a challenge, and capital funding is a particular challenge. How well are you meeting your basic capital needs?

A It is a challenge when we do not receive

direct funding to deal with our state-of-good-repair [needs]. We work with our member agencies, but [they] have their own state-of-good-repair backlogs. We have completed an assessment of our backlog. We think it's about \$400 to \$500 million.

We are hopeful, with Congress and the talk from the administration about an infrastructure package. The opportunity for an agency like Metrolink is if those talks are about growing the pie so that we can look at ... getting dedicated resources for state of good repair [along with other rail agencies]. I think for too long the pie hasn't grown, yet the operators have. That's not a sustainable way of providing safe and reliable mobility throughout the country. — *David Lassen*

After the flood

How railroads handle high water, detours

MARCH FLOODING in the Midwest produced major disruptions to rail service, as well as eye-catching images of trains wading through standing water, and traffic reroutes for both freight and Amtrak trains. What goes into the decisions to operate through floodwaters, or to reroute trains?

Railroad decisions on operating through water are on a case-by-case basis; the General Code of Operating Rules, used by western railroads, specifies a 5-mph speed limit when water is above the top of the rail, and requires authorization by a mechanical department supervisor. Track-maintenance and building-and-bridges supervisors can be involved to determine the stability of the right-of-way and any bridges or culverts.

If traffic is detoured onto another railroad, a master agreement covers costs and liabilities, says Bruce Barrett, who retired from BNSF Railway as manager, joint facilities. It also determines whether trains are crewed by the host railroad or the detouring railroad, with a pilot from the host road.

Specifics of a given detour are negotiated between the host and tenant roads, Barrett says. "We'll get back to the requesting railroad and say, 'I can take four trains ... Our crews have to have them fueled, and they have to be the right horsepower per ton, etc.'" Detouring trains have "the lowest priority on the food chain." But handling



A Canadian Pacific train with BNSF power sloshes through Mississippi River floodwaters in Davenport, Iowa. Steve Smedley

detours is a balancing act, with the host needing to take care of its own business, yet knowing it might be needing a similar favor in the future.

For Amtrak, the decision to detour or truncate a train generally comes down to time, says Paul O'Mara, assistant vice president transportation, Central-Northwest. During the Midwest flooding, it did both with the *California Zephyr*, rerouting via Union Pacific, then running the train only between the West Coast and Denver. "The *Zephyr* is three days on the road, and the detour is a couple of hours? It's an easy decision. If the detour is going to take 12-18 hours, you probably truncate. ... UP told us in advance that they could not accommodate the CZ detour indefinitely, but they did give us a window." — *David Lassen*. Correspondents Bob Johnston and Chris Guss contributed to this report.

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NEWS



Virgin Group's Sir Richard Branson greets
Select-class passengers on a train leaving
Miami. Four photos, Bob Johnston

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In May 2019 one of the world's largest and most powerful steam locomotives will run for the first time in 60 years. **Big Boy – Back in Steam**, a new special issue from *Trains*, tells the inside story of Big Boy No. 4014's historic journey.

The collector's edition features:

- A look at No. 4014's epic journey from the Los Angeles County Fairgrounds to its restoration shop in Cheyenne, Wyo.
- A historical overview of Union Pacific's 25 iconic Big Boys, including the 4000s preserved around the U.S.
- Full coverage of No. 4014's inaugural run to Ogden, Utah, from Cheyenne, Wyo., to commemorate the 150th anniversary of the first transcontinental railroad.
- And much more!



MiamiCentral's Virgin debut

Three paint schemes considered for trainsets

RED REPLACED Brightline yellow as the dominant color at MiamiCentral on April 4 when Virgin Group founder Sir Richard Branson swept into town to rebrand the line's flagship terminal.

"Brightline did a very good job of building their brand from scratch," Branson tells *TRAINS* on the ride to West Palm Beach after unveiling the new logo in front of the station, "but adopting the Virgin brand and the fun, panache, and 98-percent name recognition in America that goes with it will put Virgin Trains USA on the global map."



The new Virgin branding at MiamiCentral.

During the visit, Virgin Trains USA president Patrick Goddard revealed the company's expansion from West Palm Beach to Orlando would open simultaneously with a station at Walt Disney World and a connection with Orlando's SunRail commuter system. Earlier in the week, the company sold \$1.75 billion in private activity bonds to help get construction started in 2019.

Miami's station transformation merely involved reprogramming video displays on the walls. Changing the trainsets is another matter. An employee tells *TRAINS* three designs are being considered; it's a good bet some yellow will be involved. "It's important to us that we have some connection to the brand we all built," he says.

Beyond the impending Orlando and Tampa expansion, Branson predicts, "Las Vegas-Los Angeles is very exciting, and we expect to pull it off!" — *Bob Johnston*

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Boardman's Legacy

Former CEO remembered for Amtrak contributions

HOW APPROPRIATE, and haunting, was the blast from Amtrak locomotive horns that sounded at 11:01 a.m. nationwide on March 15. The coordinated salute marked a final farewell to Amtrak's second-longest-serving president, Joe Boardman, who died March 7 at age 70, following a stroke.



Joe Boardman

Boardman left Amtrak in 2016 after eight years, but not before pushing through orders for 130 single-level passenger cars to replace aging heritage relics, buying 70 ACS-64 electric locomotives, and inking the deal with Alstom for 28 Avelia Liberty trainsets. Previously, Boardman spent three years as Federal Railroad Administration Administrator and eight before that as New York State Transportation Commissioner. Though retired, he never shied away from voicing opinions about how Amtrak must continue to link the nation together [see "Boardman Talks to TRAINS," "News," March 2019].

The many long-serving Amtrak workers from every company level, friends, and politicians who traveled to his Rome, N.Y., funeral, traced Boardman's genuine concern for employees' well-being and passion for connecting the country to his rural roots. As U.S. Rep. Paul Tonko (D-N.Y.) told TRAINS after the gathering, "Joe Boardman showed us that passengers come first, and Amtrak is about connecting the country." — *Bob Johnston*



Horns across the Amtrak system saluted former CEO Joe Boardman, as did these on the car of Amtrak's Matt Donnelly outside the site of Boardman's funeral in Rome, N.Y.

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Fred twitches, Durham sizzles

North Carolina college towns wanted a transit line costing \$169 million a mile, paid for by moral outrage



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

I sometimes twitch. Maybe you do, too, so let me explain my twitch. I open The New York Times to this headline: “Durham Dreamed of a Transit Line. Duke University All but Killed It.” Okay, transit line means train, and a daughter of mine went to Duke. Sounds good, let’s read it. The piece begins: “Political leaders in one of the most progressive parts of the South [twitch] have dreamed for two decades about an ambitious plan for a transit line connecting Durham, the home of Duke University, with nearby Chapel Hill. Funds were pledged and renderings were drawn. But in recent days, Duke, which has labored to turn around its reputation as a privileged cloister [twitch], has brought the plan to a shrieking halt. It unilaterally rejected the proposed light-rail route, which would have cut across its property. And the resulting moral outrage [twitch, twitch] has felt strong enough to power a train.”

Moral outrage? Oh my goodness! I read on. One congressman is “appalled,” and a former mayor of Durham compares it to the time Duke “called in police ‘to gas and beat students’ amid civil rights protests in 1969.” A former manager of Duke’s basketball team says this will harm the school’s reputation among African-Americans like him, who still call Duke “the plantation.” Yes, there is obviously moral outrage. But why?

You know, the story never really explains the moral outrage, other than that the folks in Durham feel that Duke owes them something, because the piece sets up Duke University quite nicely as a cruel, bigoted villain unwilling to offer (I’m quoting the story) “cheap, reliable transportation to the working people who scrape

by, cooking and cleaning for the legions of college students in the Research Triangle [twitch, twitch, twitch].”

In the 15th paragraph, Times reporter Richard Fausset puts aside his moral outrage long enough to tell us that Duke thinks “construction vibration and electromagnetic interference from the trains might affect sensitive research equipment at Duke’s sprawling medical campus.” Well, okay, now we know, so let’s talk about vibrations and electromagnetic interference and examine the school’s reasoning. But I’m sorry, that never happens — not one syllable — because this is a story about moral outrage, remember?

By now you’ve probably figured out that the twitch is my bullshit detector. I’m asking myself whether this is really a news story or instead a lecture that escaped from the newspaper’s editorial page. But, to my point, I reach the 21st paragraph and am 1,182 words into whatever this is when I read that the cost of the 17.7-mile project is \$3 billion, or \$169,491,525 a mile. Now I’m twitching uncontrollably. But don’t worry, Mr. Fausset adds, local, state, and federal taxpayers will bear the cost. Now we’re into the real moral outrage, and it is my own.

Stuff like this gives public transit a bad name. How can you spend \$169,491,525 per mile building a light rail line through the suburban sprawl of the Research Triangle? I’m guessing there would be a lot of tunneling in Durham and Chapel Hill and a lot of elevated rail line in-between — that, or they plan to lay crossties of gold and rails of silver. This is what you get when someone has a wouldn’t-it-be-nice thought, and over the span of 30 years, the idea spins totally out of control as every interest group in the region exacts its price of support — you get a wreck. Surely there are better ways to address the transportation problems of the working people of Durham and Chapel Hill and the suburbanites in-between.

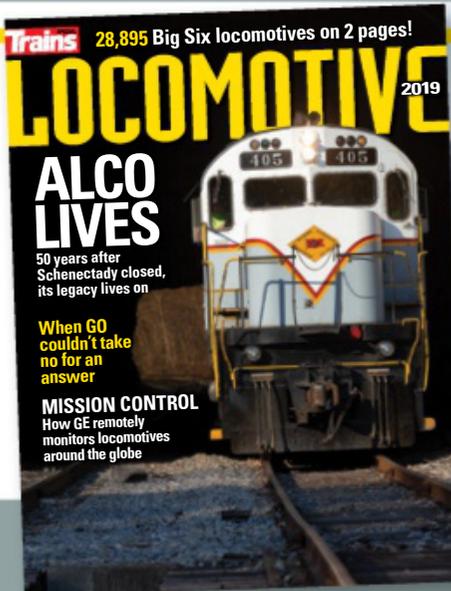
Meanwhile, back in Durham, a City Council member said that if Duke wouldn’t surrender land for the project it should be taken by eminent domain, which he calls “the unsexy part of the work of racial equality.” [twitch] So we’re back to moral outrage.

At any rate, a week after the Times story appeared, the sponsoring transit agency voted to abandon the project. Oddly enough, GoTriangle’s president didn’t lay the blame solely at Duke University’s feet, as the Times had done. He said costs kept escalating, North Carolina reduced its promise of capital support from 25 to 7.7 percent of the \$3 billion, and no way to fund the shortfall could be found. If you accept that explanation (and I do), moral outrage might be more constructively aimed at the forces that make projects like this suffocatingly complex and expensive. You and I know we can do better than this. **I**

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A North Carolina GoTriangle light rail train, once proposed between Durham and Chapel Hill, might have looked like this one in an artist's rendering for North Carolina Central University station. GoTriangle



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The real meaning of the latest operating fad



Brian Solomon

briansolomon.author@gmail.com

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Podcast: TrainsMag.com

What Precision Scheduled Railroading means to railroads and railroaders

Controversial changes are sweeping Class I railroads. Curious to learn more, I met with four career railroaders, each in different positions at major railroads, one recently retired. I asked, “PSR, what does it mean?”

Railroader No. 1 stared with beleaguered gloom; Railroader No. 2 sighed in resigned weariness; Railroader No. 3 looked cautious to articulate his perspectives; the retired guy sat back and sipped his beer with ambivalence.

They erupted in a cacophony of buzzwords and catch phrases, interjecting, “PSR is about efficiency ...” “Hunter Harrison wrote a book.” “It’s the CN all over again.”

“Hold on,” I said. “But what does PSR really mean?”

Railroader No. 1: PSR is focused on operations rather than customers and aims to redefine operations to improve efficiency. Changes on at least one railroad include stricter criteria for unit trains, which should only handle traffic in a defined loading-delivery cycle, loading a minimum of 80-100 cars at least four times a week. PSR discourages lower-volume and/or specialized traffic handled by unit-train movements, so when there are fewer cars or less frequency, the customer’s cars should instead be moved in a scheduled manifest train. This aims to better balance freight cars’ flow, while reducing the number of locomotives, crews, and management allocated to unit trains. On the downside, from a capacity standpoint, PSR may result in more switching on the main line instead of in the yard. It punishes smaller customers by resulting in higher tariffs on small shipments going to different destinations. Also, since PSR is designed to reduce employment, it’s hard on individual employees.

Railroader No. 2: PSR is driven by Wall Street and, in one form or another, will affect most Class I railroads. Not everyone is happy. One big railroad says it’s not adopting PSR, but it is implementing similar efficiencies under different names. PSR aims to reduce management, crews, and trains required to move traffic — at least for now. Jobs have been consolidated, so management positions at intermodal terminals are being combined with the role of trainmaster. Train crews have had different assignments with more work for local crews. Some railroads seek efficiency by eliminating directional crew pools and cross-qualifying road crews. Key to PSR is operational consistency: aiming to keep train consists the same size, making meets at the same places, and moving freight cars in established cycles. In some cases, PSR has lowered volumes by discouraging marginal traffic.

Railroader No. 3: Coinciding with PSR are moves to make more efficient use of assets, while increasing capacity and improving reliability. This includes supporting efforts, such as culling excess cars, especially targeting older cars, while moving toward modern designs, such as high-cube boxcars, that offer shippers higher



A Union Pacific GE locomotive works as a tail-end distributed power unit on an empty unit coal train from Portage, Wis., traversing Canadian Pacific at the Duplainville crossing of Canadian National. PSR aims to scale back some unit-train operations. Brian Solomon

capacity. Better car utilization should reduce yard dwell times.

The retired railroader listened, noting, “I’ve seen all this before. You guys do the work, and I’ll collect my retirement and see how well you do with this!”

It’s admirable to strive for greater efficiency and lower costs through tightly scheduled operations with better crew and asset utilization. It’s too bad it punishes smaller customers, but it isn’t the first time that smaller shippers are sacrificed to improve industry health. That’s what resulted in the 1970s during Conrail planning.

Their descriptions concern me, seemingly formulaic oversimplifications to please investors, while glossing over shippers’ needs. Real railroading is a complex business. Previous efforts to apply blanket formulas to streamline operations have met with mixed results. Too often applying philosophical policies without consideration of how changing one element impacts others creates new problems. If simplifying yard operations results in mainline switching that ties up track capacity, the result may be unsatisfactory, especially if done at the customer’s expense. Shouldn’t railroads aim to best serve shippers and not just move cars more efficiently? In this

regard, the Surface Transportation Board has voiced its concerns. Another concern, if PSR actions frustrate shippers, railroads may again face re-regulation.

Hopefully, PSR will result in improvements. But I’m reminded of a visit to a local diner; when I asked if they served breakfast, I got this terse reply, “Not anymore! Breakfast got out of control. People just kept coming and coming, they were lined up outside the door. It was interfering with our ability to prepare lunch so we stopped serving breakfast.” Indeed! **I**

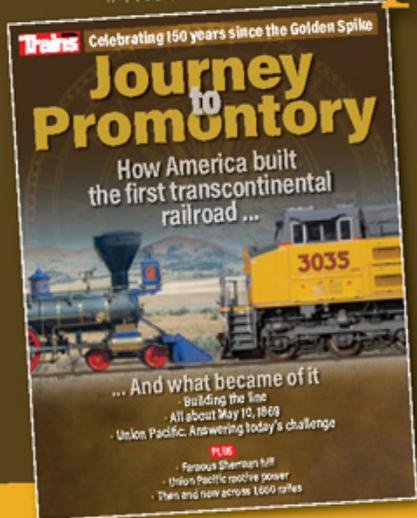
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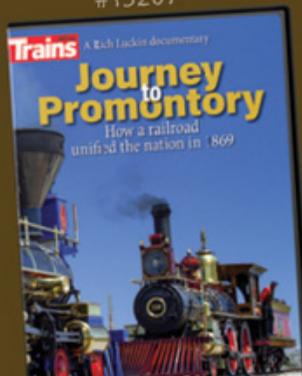
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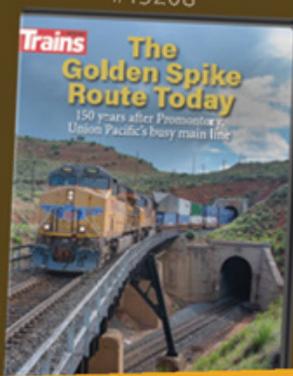
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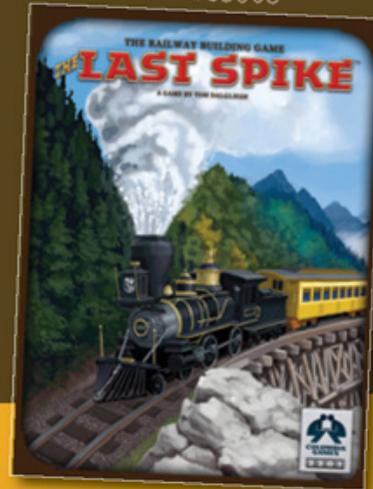
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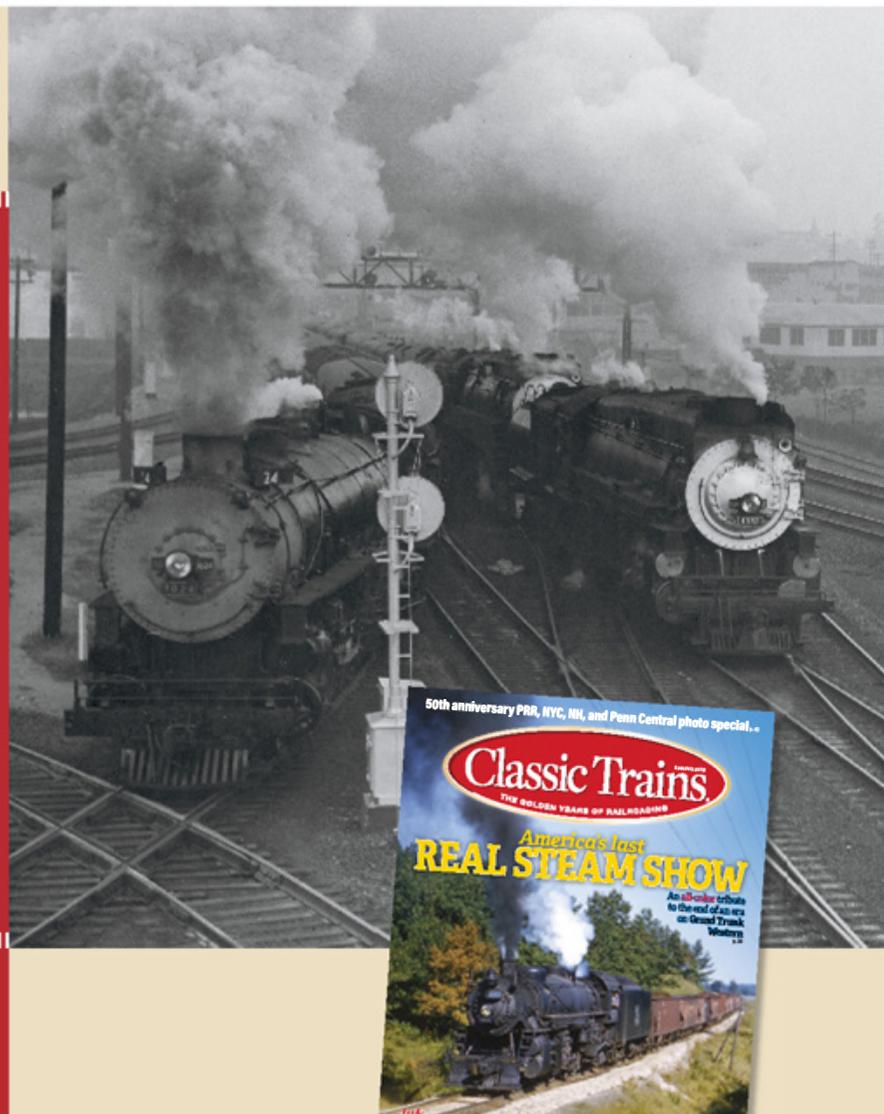
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AC rules, DC drools

Railroads prefer AC locomotives for operating versatility, low maintenance costs

▲ EMD's four SD60MAC demonstrators were the prelude to the SD70MAC. Built in 1992, they worked across the country for several years, showing off their new A.C. technology to railroads willing to try it. In summer 1994, three of the demos pull Kansas City Southern coal train No. 97 south by KCS F7A No. 73D on display in Decatur, Ark., with test car No. 056 in the consist.

Chris Guss

IN LATE 2018, the North American railroad industry eclipsed the quarter-century mark since it began purchasing A.C. traction locomotives in earnest. Burlington Northern's landmark order for 350 SD70MACs started delivery in late 1993 and kicked off a revolution across the continent that continues today.

Since the BN order, railroads have slowly increased the amount of new A.C. locomotives purchased, with every North American Class I railroad now purchasing them. It would take 19 years after the BN order began before the last Class I would purchase A.C., with Canadian National the last to convert in 2012. North America's railroads were behind their European counterparts in adopting modern, three-phase, A.C. technology as applied today, with the first prototypes testing in Europe in the 1970s while North America began testing in the late 1980s.

What's the difference between A.C. and D.C. traction? Simply put, A.C. traction motors are lighter than their D.C. counterpart, can handle more power, have less maintenance needs, and are more

resistant to high temperatures and moisture, all while achieving a higher tractive effort at lower speeds. While D.C. traction motors can only operate at low speeds for a certain period of time before damage occurs, A.C. traction motors have no such restriction and can operate at virtually any speed using any amount of power for an indefinite amount of time with no damage to the traction motor. This makes A.C. traction much better suited to the harsh operating environment underneath a locomotive.

One significant change that has occurred in the A.C. equipment since its North American introduction is the transition from gate turn-off thyristor to insulated gate bipolar transistor inverters. These two designs are what takes the D.C. current and inverts it to the three-phase, A.C. current needed for locomotive propulsion. While gate turn-off thyristors can be liquid- or air-cooled, modern insulated gate bipolar transistors on locomotives are all air-cooled, physically smaller, and require less current to operate the switching sequence when creating the A.C. current. Transition began in new locomotives in the late

1990s and was standard across the board by the mid-2000s.

Recent market conditions, coupled with the high cost and complexity of new locomotives, have in part led to an explosion of rebuilding older locomotives from D.C. to A.C. traction in lieu of buying only new locomotives. While some conversion programs such as Norfolk Southern's massive rebuild efforts are done in-house, many railroads have turned to Progress Rail and Wabtec to handle the work. Coincidentally, many of the D.C. locomotives purchased during the early days of A.C. production are the ones being converted to A.C. today. For the railroads that went all-A.C. beginning in the 1990s or a mix of A.C. and D.C., many are sending in their older gate turn-off-equipped A.C. locomotives for upgrading to insulated gate bipolar transistor inverters to increase the equipment's lifespan.

A.C. has certainly transformed how railroads look at their locomotive fleets, and the march toward more A.C. road locomotives will no doubt continue until the next revolution in locomotive technology takes hold. — *Chris Guss*

A.C. vs. D.C.

Comparing the most recent EMD and GE A.C.- and D.C.-traction locomotives.
TE = tractive effort.

A.C. locomotives

SD70ACe-T4
Starting TE 200,000 lbs.
Continuous TE 175,000 lbs.
ET44AC
Starting TE 200,000 lbs.
Continuous TE 166,000 lbs.

D.C. locomotives

SD70/SD70M/SD70M-2
Starting TE 163,400 lbs.
Continuous TE 111,800 lbs.
ES44DC
Starting TE 142,000 lbs.
Continuous TE 109,000 lbs.

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Fleet plan includes contradictions

Amtrak 2020-24 blueprint sets acquisition, service strategy

▲ Viewliner II roomettes, as seen at the CAF USA plant in 2013, do not have toilets. Amtrak may modify original Viewliner sleepers to match. Below, damaged Superliners at Beech Grove, Ind., are deemed too expensive to repair. Three photos, Bob Johnston

TRANSPARENCY has not been one of Amtrak management's strong suits under current President and CEO Richard Anderson. But a 122-page, five-year "Equipment Asset Line Plan" issued in March provides remarkably specific details about equipment availability and possible modification. It

also divulges the company's future locomotive and passenger car acquisition intentions. Days later, Amtrak released a companion 158-page "Service Line Plan" that charts a course for Northeast Corridor, state-supported, and long-distance trains over the next five years. [Both plans are available in the "Reports and documents: Strategic and Financial Plans" section under the "About Amtrak" tab at www.amtrak.com]

Some significant takeaways: VIEWLINER II SLEEPING CARS.

The asset report confirms that Amtrak plans to operate — not sell — 25 long-delayed sleepers and 10 dormitory-baggage cars from CAF USA by the end of 2020. Aside from the no-brainer return of Viewliners to overnight *Northeast Regional* Boston-Washington trains Nos. 66 and 65/67, it offers no detailed deployment plan similar to the one TRAINS proposed [see "Viewliner Vision," July 2018].

Unlike Superliner roomettes, all single-level Viewliners have fold-out, in-room wash basins. Roomettes in the 50 original Amerail-built Viewliner I cars also have toilets, while CAF's Viewliner II instead provide two restrooms "down the

hall" to save on construction costs. Without testing customer acceptance and actual usage of the new arrangement, the fleet plan calls for a "standardized configuration" that would remove the toilets and replace them by converting a roomette to a public bathroom. The move would certainly simplify reservations and car assignments, but not necessarily please passengers.

DINING CARS. Although the report says new sleepers are slated to "expand single-level, long-distance route capacity," that sensible strategy is at odds with a proposal to convert newly arrived Viewliner diners to diner-lounges. Doing so would greatly reduce dining capacity when more is needed. It would also preclude realizing the cars' full potential in delivering what the Service Line Plan dubs "an experiential service model," which "leverages the important communal experience that the traditional rider expects with service options more attractive to Millennials."

Amtrak continues to tinker with the no-frills "contemporary" format implemented on the *Lake Shore Limited*, but has made no effort to experiment



SUPERLINER SNAPSHOT: OCTOBER 2018

Car type	In service/ available**	Bad order	Total
Coach	96*	11	107
Baggage-coach	36	8	44
Snack coach	8	2	10
Sleeper	96	17	113
Transition sleeper	37	5	42
Lounge	41	8	49
Diner-lounge	15	0	15
Dining	34	9	43

*—Does not include five coaches permanently leased to California. Only active cars listed (wrecked, etc., not included).

**—Includes cars listed as "standing by, deadhead, OK-mechanical, OK-back shop"

Source: Amtrak Five-Year Equipment Asset Line Plan

elsewhere. Other than a price increase, entree choices on other long-distance trains haven't changed since September 2017. Employees aboard a recent TRAINS trip on the *Lake Shore* confirm management has been evaluating kitchen equipment and planning to modify the cars' capability to cook chef-prepared meals on board. "Modifications may be necessary ... to support new food service formats," says the asset plan.

MULTILEVEL. Acknowledging that Superliners and California bilevels will soon be reaching the end of their useful lives, Amtrak is targeting "the 2026-2031 window as an ideal period for replacement fleet deliveries." By then, the cars will be 30 to 50 years old; the Superliner fleet has already been thinned from 479 cars to 423, according to Amtrak's accounting [see table].

The plan calls for a discussion with California's three joint powers authorities to develop a single bilevel equipment platform that would accommodate coach, business class, cafe, sleeping, and lounge car configurations. The theory: creating a big enough order — quantities have yet to be determined — to tempt carbuilders to bid.

Yet the fact remains that a delayed "one-off" fleet replacement, no matter how large, is fraught with the same engineering challenges that resulted in Nippon Sharyo's fail-

ure to deliver its bilevels after five years of trying. Today only one manufacturer, Siemens, has leveraged its manufacturing and engineering expertise with a steady stream of single-level cars that began when Florida's Brightline primed the pump. Sources tell TRAINS that Siemens did offer to build bilevels for California and the Midwest states, but that would have required a longer production lead time and more expense. Amtrak and the states would have better luck, observers agree, if they could guarantee a decades-long funding stream that could keep assembly lines humming. And that will be up to lawmakers.

BIGGEST CHALLENGE. Alstom is currently building 28 Avelia Liberty trainsets in Hornell, N.Y., based on a proven European design. A single-level coach replacement for Amfleet I, now in the request for proposal stage, is widely expected to result in an order for Siemens. Amtrak plans to adapt those cars to replace long-distance Amfleet IIs now operating in restricted Northeast clearances.

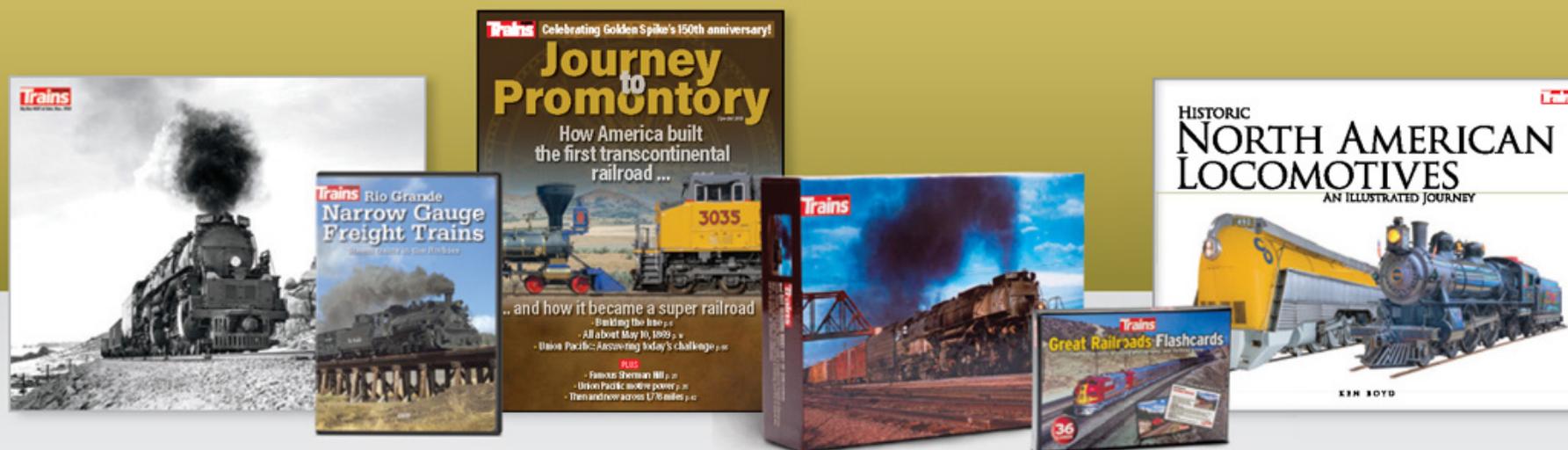
But the Asset Plan admits, "multilevel equipment designed for long-distance service ... may not correspond with existing off-the-shelf designs in the global marketplace." Amtrak solved a similar dilemma in the past by commissioning



The fleet plan raises the possibility of converting new Viewliner II diners into diner-lounges, but this is at odds with plans to increase sleeping-car capacity.

Pullman Standard's Superliner order in the 1970s and building prototype Viewliner sleeping and dining cars at its Beech Grove shops in 1987. Management's fleet renewal challenge now demands the same diligence and creativity its counterparts had back then: to acquire equipment that embraces the uniqueness of its national network. — *Bob Johnston*

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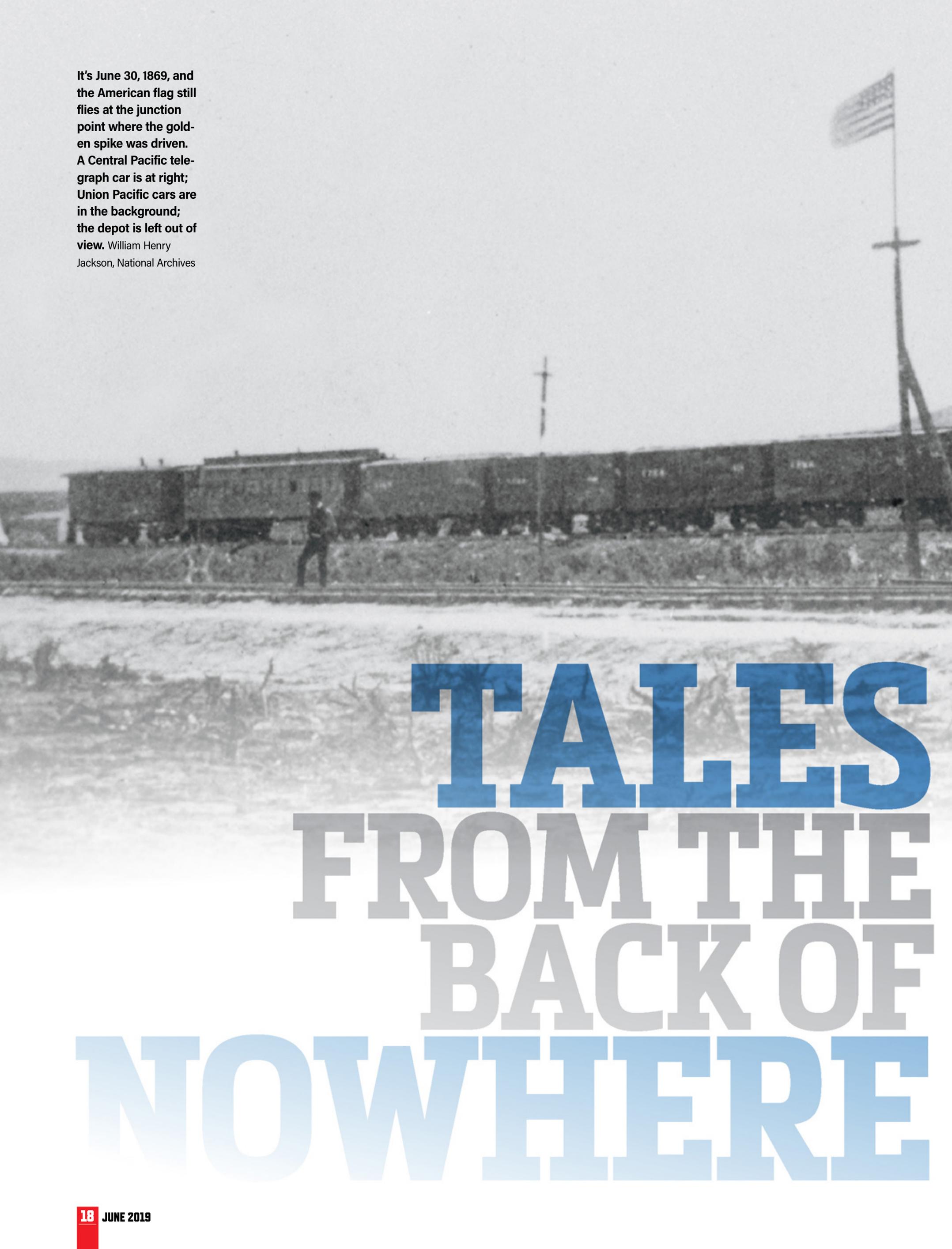


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It's June 30, 1869, and the American flag still flies at the junction point where the golden spike was driven. A Central Pacific telegraph car is at right; Union Pacific cars are in the background; the depot is left out of view. William Henry Jackson, National Archives



TALES FROM THE BACK OF NOWHERE



The Promontory line's history didn't end on May 10

by Peter A. Hansen

The rails met at Promontory, Utah, in 1869 — not at nearby Ogden or Corinne, or some other place that might barely pass as urban. No city would ever grow up around it. Most of the West was pretty desolate in those days, but Promontory was particularly forlorn, sitting on a high desert, a few miles from a brackish lake, with little vegetation beyond sagebrush.

And that's a good thing, because the site hasn't been overrun with tourists. There isn't a multilane highway within 25 miles. To go there, you have to really want it, so visitation is reduced mostly to the ranks of the worthy.

Even 150 years after its moment of glory, Promontory remains one of those rare historic spots that's little changed from the day that made it famous. Few sites are like that: Civil War battlefields fall victim to encroaching development, historic buildings succumb to the wrecker's ball, and the na-

tion's mightiest rivers have been tamed since the days of Lewis & Clark and Mark Twain.

But Promontory is different. The wind still whistles in one's ears here, carrying with it the spirits of the past.

To understand how Promontory got this way — or rather, stayed this way — it helps to know how it was selected as the meeting place of the rails. It had nothing to do with practicality, and everything to do with politics between the two railroads involved.

The Pacific Railroad Acts, the enabling legislation that provided federal aid, didn't specify where the Union Pacific and Central Pacific were to meet. As the two roads' advance grading crews drew closer in 1868, it became a matter of some urgency to fix a spot. Both companies coveted Utah's Wasatch Front, the only significant population center on the entire transcontinental railroad, and home to coal deposits of a then-unknown extent. And so the compet-

ing crews blasted right past each other — sometimes literally as well as figuratively. CP continued building east, even after meeting UP grading crews west of the Wasatch, while UP kept building west.

WRAPPING UP A MASSIVE PROJECT

Central Pacific Vice President Collis P. Huntington and Union Pacific President Oliver Ames called a Washington, D.C., peace conference in January 1869 to work things out. Track crews for both companies were working in Utah, still more than 200 miles apart, though their grading crews had already pushed past each other. Ames proposed splitting the difference in the remaining miles of track construction, which would have given UP sole possession of the Wasatch Front. Huntington replied, "I'll see you damned first," which provides a pretty good idea of how the rest of the conversation went. He suggested the foot of Weber



UP photographer A.J. Russell returned to Promontory in fall 1869. Quite the tent city had grown up, some with wooden false fronts. But everyone knew that Promontory was a temporary junction, so canvas stretched over wooden frames remained the norm. Oakland Museum of California

Canyon, a few miles east of Ogden. Ames wouldn't agree to that, and the meeting ended in failure.

Reasonable negotiators would have decided that the rails should meet near Ogden, an established Mormon village 52 miles east of Promontory, but not as far east as Weber Canyon. In effect, that's what happened, but there was still a significant issue to be worked out: What to do about the duplicate grading? UP's grade was now a few miles west of Promontory and CP's was in Echo Canyon in far eastern Utah. The sunk cost was not insignificant, but how could both companies be paid under the terms of the Pacific Railroad Acts?

They couldn't. With both companies lobbying furiously, and with each worried that Congress might impose a settlement favoring the other, Huntington and UP's Grenville Dodge met at Washington in early

April to settle their differences. Under terms of their deal, the rails would meet at Promontory, but the junction would be shifted to a point near Ogden by Jan. 1, 1870, upon payment by CP for UP's construction. Each company would have to absorb the cost of its unused grading (though Central Pacific later shifted much of the line between Promontory and Ogden to its own grade).

An Ogden junction gave CP a share of the local business, so why did Dodge agree to it? In an April 19 letter to UP President Oliver Ames, Dodge noted that federal inspectors had already certified CP's route to Ogden, and bonds had been issued against it. Reversing all that, according to UP's attorneys, would likely require an appeal to the U.S. Supreme Court. Beyond the points made in his letter, Dodge knew that UP's finances were precarious and that labor unrest threatened to shut down the work. This

was no time to be overly aggressive. Further, as an engineer, Dodge appreciated the difficulties of operating in the Promontory Mountains. At 2.2 percent, the westbound assault was the steepest grade on the entire transcontinental railroad, and the eastbound descent was just as challenging. Operational difficulties would be a recurring theme in the story of the line, ultimately leading to its demise. Maybe it was just as well to leave all that to UP's rival.

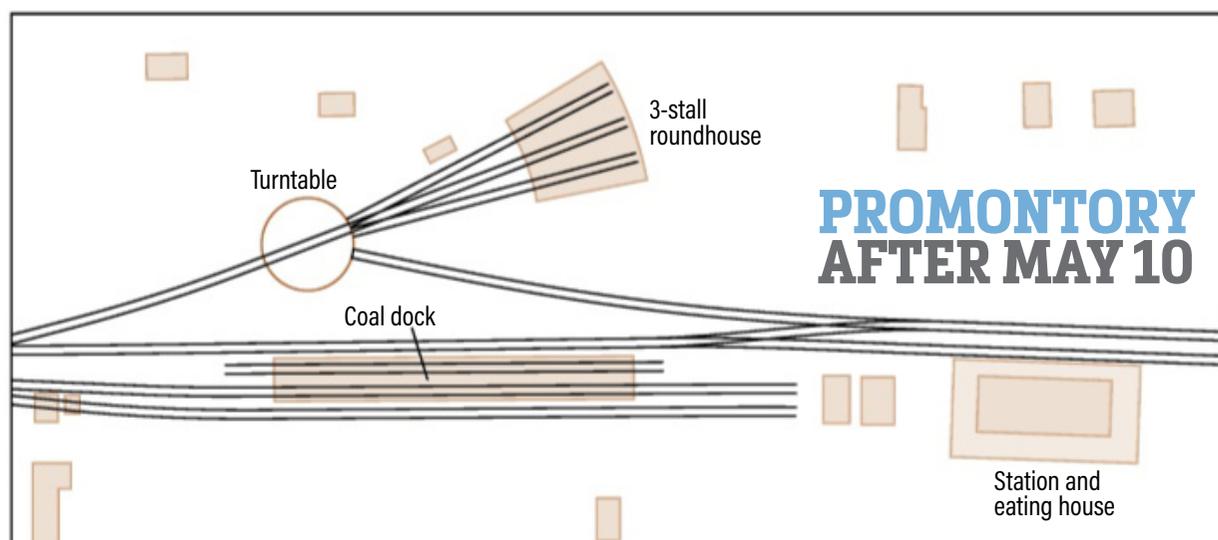
Promontory Summit would never have the extensive terminal facilities of two railroads. The best it ever could muster was a ramshackle cluster of buildings and a small engine house for turning and servicing helper engines. The tent city of May 10 was hustled off the site almost as quickly as the precious golden spike itself, though the helper terminal remained until 1904.

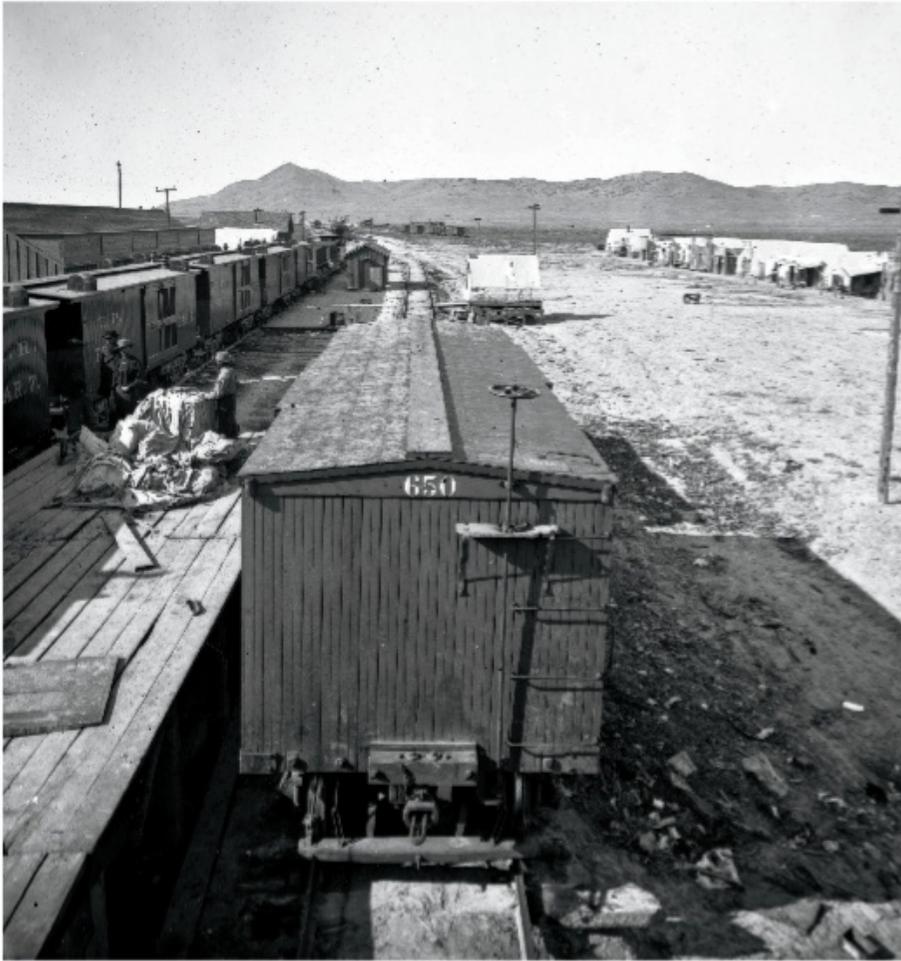
THE BACK OF NOWHERE

That was the year when CP successor Southern Pacific opened Lucin Cutoff, a brazen piece of engineering that took the railroad directly west from Ogden, over the Great Salt Lake. The cutoff relegated the Promontory route to branchline status, and except for very occasional overflow or emergency-reroute traffic, it would never see through trains again.

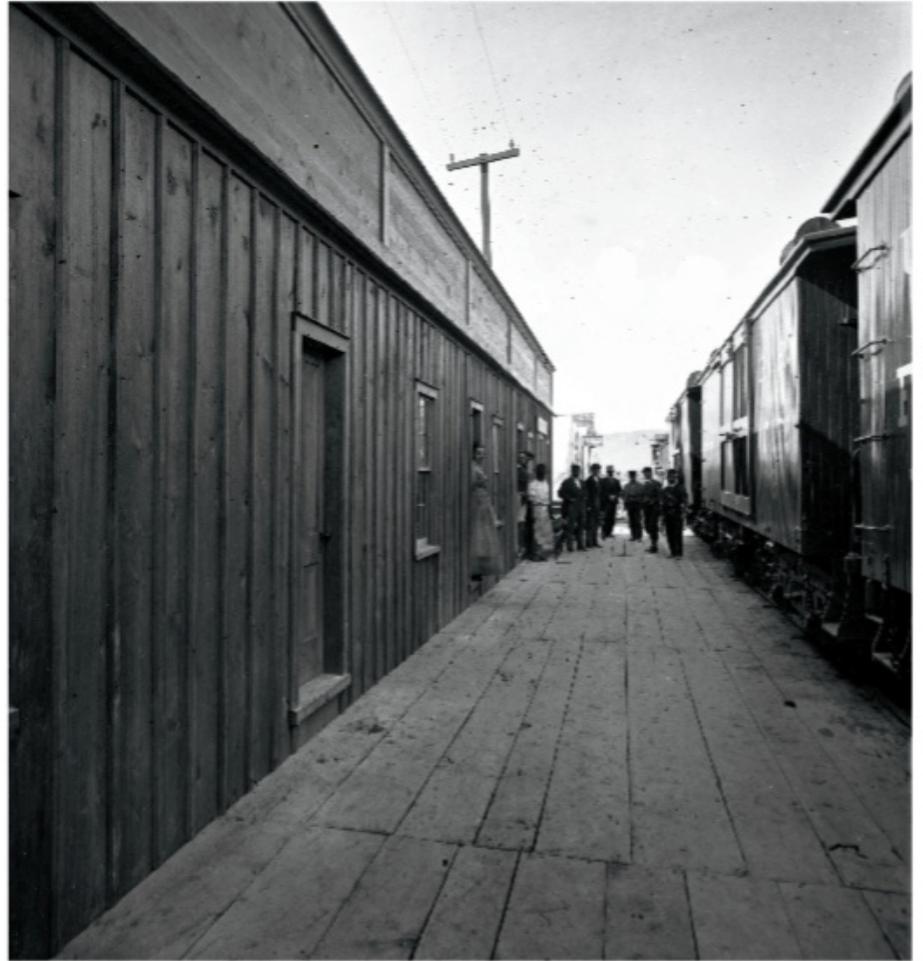
Promontory wasn't just nowhere after 1904; it was in the back of nowhere.

News clips trace the changing fortunes of the Promontory line. In May 1869, and until CP assumed control of the property





The Promontory depot and eating house in fall 1869 are at left, behind a row of UP fruit cars; tent city is on the right. Visible in the center background, the American flag flies at the junction point, with the temporary Central Pacific turntable behind it. A.J. Russell, Oakland Museum of California



Crew and servers huddle on the platform of the Promontory depot and eating house in fall 1869. A row of UP fruit cars is at the right. The depot building remained for many years after the junction point moved to Ogden in December 1869. A.J. Russell, Oakland Museum of California

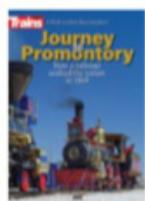
east to Ogden, it was the stuff of national news. The spotlight would return on a few occasions afterward, often in conjunction with noteworthy trains.

One of them was the Jarrett-Palmer Express of 1876. Two theatrical impresarios, Henry Jarrett and Harry Palmer, promised to get their best performers from New York to San Francisco in less than four days, an unlikely feat, for a performance of Shakespeare's *Henry V*. The core of the play is Henry's St. Crispin's Day speech, in which he rouses his English army to face a vastly superior French force: "Gentlemen in England now a-bed shall think themselves accursed they were not here," wrote the Bard in the mother of all locker-room pep talks. Like Henry, maybe Jarrett and Palmer were stirred by the bravado of bucking long odds, but their train also had the advantage of being a great publicity stunt. The Salt Lake Daily Tribune reported its progress breathlessly every day, both before and after it traversed the Promontory line, and so did almost every other paper in the country. Less than 84 hours after leaving New York, the passengers stepped off the ferry in San Francisco, a remarkable performance that cut the usual transit time nearly in half. (As an interesting footnote, Jarrett leased a theatre in New York from Oakes Ames, Oliver's brother, another principal figure at UP.)

Frank Leslie organized a coast-to-coast train in 1877, and its progress was reported in his eponymous magazine, *Frank Leslie's Illustrated Newspaper*. Leaving Ogden for

California, he wrote: "... as the last light of sunset is dying away, we are fairly embarked upon the Great Desert, that dreary waste so lately a terra incognita ... For a few miles the gray sage desert has frequent oases — Mormon farms, orchards, and an occasional tiny village or town over which the beautiful Wasatches still keep guard. Then comes a dreary level of wet marsh, white with alkali, from whose shallow pools the yellow sunset strikes fire; a distant glimmer of the Great Salt Lake and the ghostly range of the Promontory Mountains beyond. ... Fifty-two miles west of Ogden we come to Promontory. ... An insignificant little dot of a place is Promontory, [but] we all take off our hats to it as we pass, and the long train roars its faint echo of the cheers that went up here nine years ago."

There wasn't much to see at the summit. Apart from railroad personnel and the people who supported them, there was little reason for anyone to live there. CP maintained a small roundhouse to service the helper engines, and it grew to as many as five stalls by the 1880s. (Water had to be brought uphill from the Bear River in Corinne, 29 miles to the east, near the foot of that 2.2-percent grade.) Promontory also had a couple of passing sidings, a railroad eating house, and a school, but little else adorned the landscape



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besides sagebrush.

For the most part, the Promontory line settled into an unremarkable routine after 1869. But the local press remarked on it nonetheless, as small-town newspapers are wont to do. Editors speak of "feeding the beast," the unending task of filling their pages, and thus did the Promontory line provide a steady stream of trivial, but perhaps locally significant stories. The Box Elder News of Brigham City reported in 1906 that "Mr. and Mrs. J. Mayne and little daughter Eva went to Kelton [a stop on the Promontory line 92 miles west of Ogden] to meet their daughter Mrs. W.R. Stevens, who arrived on the Alkali Limited that day."

ROUTE OF THE 'ALKALI LIMITED'

The papers are full of such homespun stories. The Box Elder News reported on Jan. 13, 1910, that "Miss Rosey Kempton, the charming daughter of C.L. Kempton, who is taking a course of studies at the Sacred Heart Academy of Ogden, returned to the Windy City on the alkali limited on the 4th inst., after spending the holidays with her parents. We wish her un bon voyage."

The Kempton family seems to have been of interest to the Box Elder News: "R. Kempton returned from Brigham City on the alkali limited last Saturday, where he has been courting for a week," the paper reported on Nov. 21, 1912. There's no word on Kempton's reaction to seeing his personal business in the paper.

The Alkali Limited, it should be noted, wasn't the actual name of any accommodation, but that's what the local folk called their daily



mixed train, which made all stops from Ogden west to Montello, Nev. Until the automobile age and improved roads arrived in the 1910s and 1920s, it was the principal lifeline for the hardy souls north of the Great Salt Lake.

Many of those residents were ranchers who began to settle the forbidding landscape when the railroad was built. The Dec. 17, 1869, edition of the *Deseret Evening News* reported that “Five beef carcasses, slaughtered at Promontory and sent [to San Francisco] in a refrigerator car, were offered for sale at twelve cents per pound. The beef is superior to the general market ...”

The cattle could be both a blessing and a curse, however. “A freight train was wrecked near Promontory; a bull standing on the track overturned the engine and eleven cars. Two were killed and two seriously injured,” according to the *Deseret News* on May 2, 1876.

TRAGEDY ON THE LINE

Death and injury were a constant presence in 19th-century railroading, and the Promontory line had its share of tragedy. To cite just one example among many, a boomer named F.A. Moffatt met his end in January 1874, when he apparently slipped from the top of

an icy car near Promontory. According to the *Deseret Evening News*:

“As the freight train from the West neared the above-named place, the brakeman was missed ... A party was sent with a handcar in search of the missing man. His remains were soon found, which presented a horrible appearance — they were mutilated in a fearful manner, torn in fragments. ... He was about thirty years of age and formerly resided in some part of the state of Ohio ... He bore a good character — was sober, industrious, honest, and attentive to his business. His sudden and untimely end has cast a deep gloom over his friends in this neighborhood.”

The same paper also remarked on the occasional passenger deaths aboard the trains. No record survives of passengers killed by accident, but the *News* reported in 1878 that “... a lady, named Turner, of Chicago, died on the east bound Central Pacific train, near the Promontory. The deceased had been residing in California for some months, in the hope of benefitting her health, being a consumptive. On reaching Ogden, the remains were packed in ice and forwarded eastward to the care of her husband, who was at Omaha.”

Like the unfortunate Chicago woman, the

Promontory line suffered a lingering death. The beginning of the end came in 1904, when Southern Pacific, which had leased Central Pacific in 1885, opened Lucin Cutoff.

Even in an age accustomed to heroic engineering, it was a remarkable piece of work — a system of causeways and trestles stretching 38 miles across the Great Salt Lake. Along with its approaches from east and west, it was 102 miles long, 44 miles shorter than the Promontory line. The cutoff avoided the fearsome grade on the old line, to say nothing of eliminating 3,919 degrees of curvature — nearly 11 full circles.

The statistics belie the level of human struggle, however. SP Chief Engineer William Hood believed that the lake could be crossed, and he convinced an aging Huntington to approve the project. But the old man died in 1900, just as construction was about to begin, and the project languished until E.H. Harriman bought a controlling interest in SP in 1901, adding it to the Union Pacific property that he already controlled. Though he was never a man of small plans, even Harriman shrunk, at first, before the magnitude of the task. But Hood eventually proved persuasive, and Harriman told him to proceed.

At times the lake seemed like a bottomless pit. Ordinary fill simply floated away on the dense salt waters. Some 400 side-dump gondolas, filled at a nearby quarry by a dozen steam shovels, supplied untold tons of rock. Unlike the dirt, the rock sank, but the crusty lakebed cracked beneath the weight and swallowed every bit of it. Nobody knew when the sinking would stop. But still the gondolas came, dumping more rock until a firm foundation was established. As many as

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Ogden, 1887. Two Union Pacific locomotives (with UP Congdon stacks) on the left, one with the Overland passenger train; a Central Pacific passenger train (with CP diamond stack) on the right; with the shared depot between them. A UP switch engine is at the far right. Kyle K. Wyatt collection

3,000 men toiled on the project at a time, making their camps atop the work. Nineteen steam pile drivers sunk 25,000 pilings into the lakebed, the product of 38,000 trees. The pile drivers required as much as 500,000 gallons of water daily, all of which had to be brought into the site in tank cars. In spite of the obstacles, the work was finished in less than two years.

THE END OF THE LINE

Transcontinental traffic was diverted to the cutoff as SP became more confident of its construction, and by the end of 1904, the new route was handling most trains. The so-called Alkali Limited, trains 203 and 204, continued to serve the Promontory line from Ogden to its junction point with the new main line at Lucin, Utah, but even that service was cut back on July 1, 1906, with its eastern terminus moved from Ogden to Brigham City, and its western terminus moved to Kelton, Utah, 72 miles east of Montello and 92 miles west of Ogden. The change allowed SP to cover sparse local traffic with one crew instead of two, with crews on the truncated service beginning and ending their 12-hour days at Brigham City. Apart from rare re-routes from the cutoff, the Promontory line was effectively a branch, though all of its tracks remained in place.

This didn't sit well with ranchers in the area west of Kelton. Francis Hyland, who



James Belmont

CORINNE: THE 'DODGE CITY' OF UTAH

FOUNDED IN 1869 ALONG THE WEST BANK OF THE BEAR RIVER, the town of Corinne, Utah, became a transfer point for rail-to-river shipments of general merchandise and mining supplies into Montana. During its heyday, this "Wild West" town had 28 saloons, 16 liquor stores, numerous supply houses, dance halls, and seven churches. The population included an elected town marshal, merchants, miners, railroaders, shippers, teachers, freighters, tourists, and clergy. By the end of 1869, more than 500 buildings stood in this vibrant, booming community with a population of 1,000 people. Fast forward 150 years, and Corinne has become a rural farming community with a population of 725. On May 26, 2009, the Brigham City-based 'Malad Local' is pictured traversing one of the most historic surviving segments of track in Utah: 1.55 miles of original Central Pacific Railroad track between Corinne Junction and Corinne. When building the Malad Branch in 1903, the Oregon Short Line (UP) acquired trackage rights on this section of the Central Pacific. When the SP (CP) abandoned its Promontory Branch in 1942, the Oregon Short Line purchased the track. Sitting in a field nearby is the original Central Pacific Corinne freight depot. It was acquired by the Rails to Promontory organization from a local farmer in 1995, and moved to its original location as a State Centennial project in 1996. — *James Belmont*

owned a spread near Terrace, Utah, traveled to Salt Lake City in 1906 to meet with the U.S. attorney there, alleging that the Pacific Railroad Acts obligated SP to provide service in perpetuity. He succeeded only in getting a weekly train between Kelton and Lucin.

In 1933, SP sought to eliminate even that service, petitioning the Interstate Commerce Commission to run trains only for six weeks in the fall to handle grain and livestock shipments. Local stockmen, again led by Hyland, fought SP's petition, going so far as to enlist the backing of Secretary of War George H. Dern, who regarded the Promontory line as an important alternate route. Curiously, however, even the War Department admitted that any damage to the cutoff could likely be repaired in a day or two, which seemed to support SP's position that the Promontory line was expendable. ICC nonetheless denied the petition in 1934. SP filed again six months later, but the result was the same: The railroad was ordered to keep the line open.

In the end, the War Department was one of the chief agents of the Promontory line's demise, and even more ironically, it was done despite a genuine national emergency.

The end, when it came, came quickly. SP filed an abandonment petition on April 3, 1942, less than four months after America's entry into World War II, and the ICC approved it on June 11. The Navy Department received salvage rights, and it contracted with Hyman-Michaels Co. to remove the tracks, a process that began on July 1. Within three months, the Promontory line was gone.

Still, those rails had served their purpose. Central Pacific President Leland Stanford was the only one of the railroad's Big Four founders to attend the golden spike ceremony in 1869. Never a great orator, he did come up with one trenchant observation that day: "Following these rails of steel will come the pioneers of the industrial frontier, the builders, who will create America's new empire in the golden west." Indeed, they did.

Beginning in 1942, the rails that had once built the nation would be used to defend it, finding new life at the U.S. Army's Defense Depot Ogden and at Clearfield Naval Supply Depot south of the city. SP returned the grade to the desolation from which it was carved, leaving it to the heat, the cold, the infrequent rains, and the wind. **I**



RIDE WITH TRAINS' EDITOR JIM WRINN ON THE ABANDONED CP GRADE AT TRAINSMAG.COM/VIDEO

MAKING A MASTERS





LEADER

Niles Canyon Railway dazzles with two 150th anniversary parties, special runs with *Skookum*, and a throwback to silent filmmaking in the San Francisco Bay Area
Story and photos by Elrond Lawrence



CALIFORNIA'S NILES CANYON RAILWAY is celebrating not one, but two 150th anniversaries in 2019. Located in the San Francisco Bay Area, this 10-mile rolling museum along the route of the original Central Pacific is planning a year of celebrations while keeping its eye on the future.

On Oct. 2, 1866, the first official train rolled into Niles Canyon, a short, narrow canyon that follows the Alameda Creek in the southeast Bay Area. Years before the last spike was driven in 1869 at Promontory, Utah, this twisting rail line was chosen to be the final transcontinental link to the Pacific Ocean, realizing Abraham Lincoln's dream of a railroad from ocean to ocean.

The short train was operated by the original Western Pacific Railroad, *not* the WP that would become part of Union Pacific in 1982. This WP was building from San Jose to Sacramento; on board were federal railroad officials, inspecting the line so the railroad could receive mortgage bonds and land grants. Even though track ended midway through the canyon, hopes were high. But like so many startup companies that have come to define this part of California in the 21st century, the original Western Pacific never

ran a second train into the canyon. The company suspended operations after building only 20 miles.

The dream resurfaced in 1868, when Central Pacific purchased the bankrupt WP and began building between Sacramento and Niles Canyon. Finally, the last link to the Pacific was completed on Sept. 6, 1869, just four months after the driving of the golden spike in Utah.

One hundred and fifty years later, the Niles Canyon Railway is the only railroad still operating over the original and best-preserved alignment of the Central Pacific. Stand trackside on a Sunday afternoon, the hills alive with spring color, and savor first-generation Southern Pacific "Black Widow" diesels that power trains of families between the historic towns of Niles and Sunol. Mid-century diesels from Western Pacific reflect the history of the second rail line through the canyon, once home to the classic *California Zephyr* and now part of Union Pacific's empire. Inside the crowded yard at Brightside, a shop building contains Southern Pacific No. 9010, the last surviving ML4000 built by Krauss-Maffei, which will finally premiere in July following an

Clover Valley Lumber Co. Mallet 2-6-6-2T No. 4 and Western Pacific F7 No. 918-D lead Niles Canyon Railway's special photo excursions in Niles Canyon between Niles and Sunol, Calif., on March 9, 2014.

incredible restoration that's drawn international attention. But wait, there's more!

This magnificent museum is operated by the nonprofit Pacific Locomotive Association, which revived the abandoned SP right-of-way in 1988. Regular steam- and diesel-powered trains operate on Sundays throughout the year via a route slightly more than 6 miles long. During February-March and September-October, trains run on the first and third Sundays with diesel power; from April through August, trains run every Sunday with steam power on selected dates. Between Thanksgiving and New Year's Day, a spectacular and wildly popular "Train of Lights" winds through the dark canyon four nights a week, thrilling kids of all ages and stirring the spirits of Leland Stanford and the other "Big Four" — Collis Huntington, Mark Hopkins, and Charles Crocker — who guided the Central Pacific to complete the stalled line to Sacramento via Pleasanton and the Livermore Valley, Altamont Pass, Tracy, and Stockton.

Once opened for business in 1869, all trains to and from the San Francisco Bay Area traveled through Niles Canyon. That status ended quickly with

CP's 1870 purchase of a shorter California Pacific route from Sacramento to Vallejo, the first link in what would become today's "Cal-P" line along San Pablo Bay to Oakland. With the opening of the Cal-P, the Niles Canyon route was downgraded to a secondary line.

Fast forward to 1909, when the Niles main line (now part of Southern Pacific) gained a neighbor: the second Western Pacific, which built along the south bank of the Alameda Creek with a newer, straighter route. The two railroads shared the canyon for decades, through the steam-to-diesel transition and the 1949 introduction of WP's flagship *California Zephyr*. Scheduled SP passenger service ended in 1941, though the railroad continued to operate specials and excursions. Southern Pacific ran its last revenue steam through Niles Canyon in March 1958, when GS-6 No. 4460 led a *Fresno Flyer* special east. Two railfan excursions that May officially ended SP steam through the canyon.

In 1982, the WP line was absorbed into the Union Pacific system as part of the UP-Missouri Pacific-WP merger, and Southern Pacific's main line was on life support. With most

'Skookum' will doublehead with Clover Valley No. 4 to create a highly anticipated sonic experience in the canyon.



Tiger-striped Southern Pacific NW2 No. 1423 and California Western motorcar M200 rest on tracks at Brightside Yard on Dec. 29, 2018.



Former Southern Pacific Black Widows operate excursions over Farwell Bridge, like this eastbound train in August 2015.

Oakland traffic traveling via the faster Cal-P, the railroad finally abandoned its historic route in 1984. The right-of-way was deeded to Alameda County and the rails were pulled up.

Enter Pacific Locomotive Association, then based in nearby Castro Point, which contracted with the county to restore the track between Niles and Sunol. In 1987, using rail donated by UP, volunteers hand-laid the first mile and a half of track from Brightside to Sunol, just as the original builders did in the 1860s. On May 21, 1988, California Western railbus M200 rolled into Sunol and the Niles Canyon Railway was born.

Today, Pacific Locomotive Association's historic collection includes rebuilt Robert Dollar Co. 2-6-2T No. 3, three-truck Heislors and a Shay from Pickering Lumber, a Quincy Railroad 2-6-2T, and more (SP No. 2467, a 4-6-2 Pacific restored by the association, is displayed at the California State Railroad Museum in Sacramento). The big news of 2019 was the arrival of *Skookum*, the recently restored Deep River Logging Co. No. 7, a 2-4-4-2 articulated Mallet from

Oregon that will operate through the summer. On selected days, *Skookum* will doublehead with the association's Clover Valley Lumber Co. No. 4, a 2-6-6-2T Mallet, creating a highly anticipated sonic experience in the narrow canyon.

Headliners of the SP diesel fleet include Black Widow duo SD9 No. 5472 and GP9 No. 5623; "tiger striped" No. 1423, a 1949-built NW2; and freshly painted scarlet-and-gray SW900 No. 1195. Western Pacific is represented by F7 No. 918-D, restored to *Zephyr* orange and silver, and recently repainted Perlman Green GP7 No. 713. Other diesels include an Oakland Terminal Baldwin, a Santa Fe 44-tonner GE, and switchers from Whitcomb and Plymouth.

The passenger-car fleet is equally impressive, highlighted by SP articulated coach No. 2473-2474; Harriman heavy-weight cars from SP, WP, and Arizona Eastern; a Santa Fe Railway "Pleasure Dome," and more. Especially prized are two Yosemite Valley Railroad survivors built in the early 1900s: RPO baggage No. 107 and observation car No. 330, the latter

rescued from oblivion in Yreka as a decaying diner. Open-air coaches are a common sight on Sunday trains, including the *K.C. Bones* and other viewing cars rebuilt from baggage cars and assorted rolling stock. Most of the passenger fleet is used for the holiday “Train of Lights,” which typically uses 16 cars. The freight roster features box-cars, refrigerator cars, gondolas, tank cars, cabooses, and more from SP, Santa Fe, WP, Sacramento Northern, Pacific Fruit Express, and other owners.

The Niles Canyon collection swelled dramatically when the Pacific Locomotive Association contracted with the Golden Gate Railroad Museum in San Francisco to house the museum’s roster of former SP equipment, including Southern Pacific 4-6-2 No. 2472 — a Pacific-class Baldwin that typified SP’s everyday power

through Niles Canyon from the 1920s through the 1940s — plus Fairbanks-Morse H-12-44 No. 1487, business car *Oakland*, Railway Post Office No. 5901, and others, which arrived in December 2006.

The new additions propelled Niles Canyon into the spotlight, especially a series of fantrips led by SP 2472 in May 2008, 50 years after a sister Pacific pulled a “Farewell to Steam” trip through the canyon. However, the agreement expired in 2017, and the collection is awaiting a move to Golden Gate Railroad Museum’s new home in Schellville, Calif.

That move can’t come soon enough, as the Niles Canyon collection of restored locomotives and cars has filled the railroad’s three-track Brightside yard at milepost 34, which also features shop buildings and a passing siding. Visiting the yard

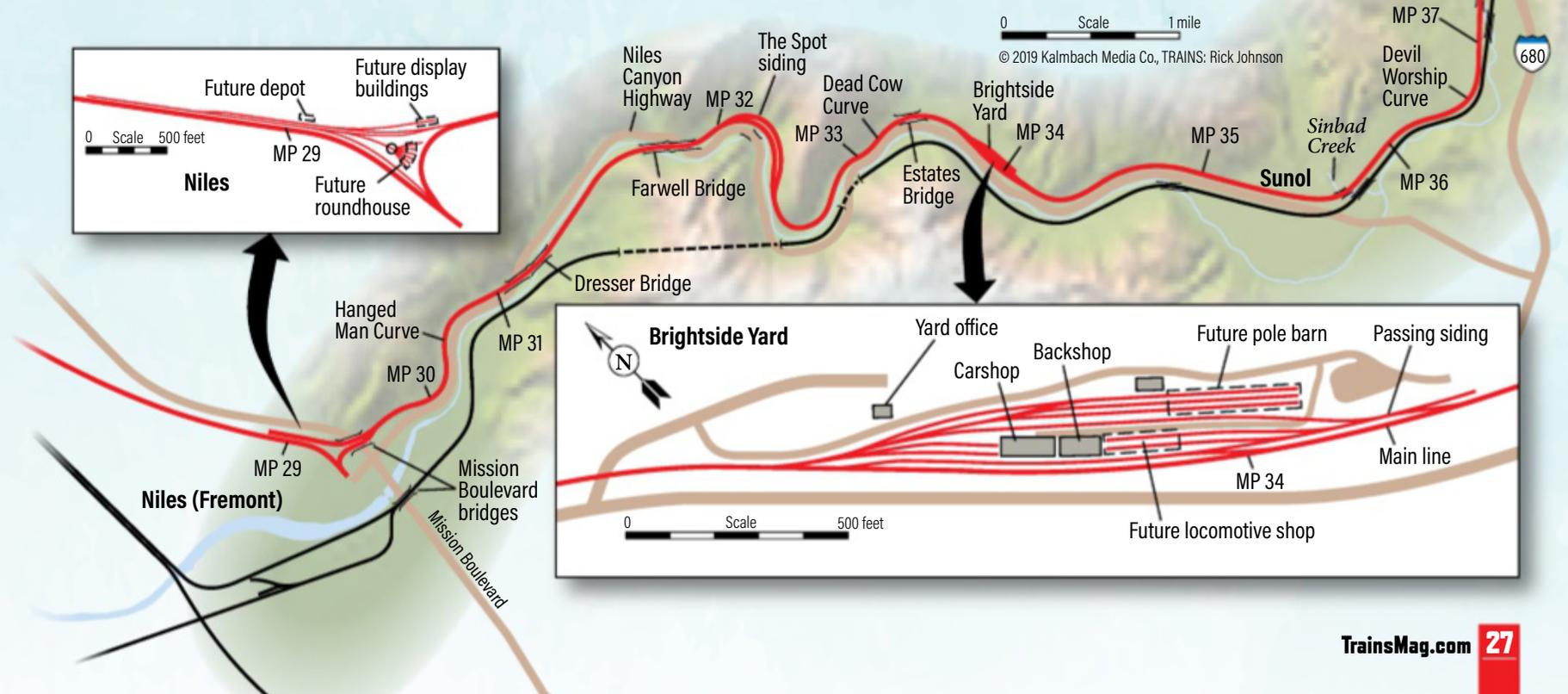


Western Pacific GP7 No. 713, built in 1953 by EMD, leads a Niles Canyon Railway excursion west through the canyon on Oct. 21, 2018.

on a sunny December day, Pacific Locomotive Association President Henry Baum leads a tour that begins with a look at Robert Dollar No. 3, which sees the steam crew placing a newly painted saddle water tank onto the boiler. The tour then moves into the two-track shop building, where Krauss-Maffei ML4000 No. 9010 awaits its return to action. Beside the 1964 German import is Yosemite Valley Railroad No. 330, a beautiful 1907 observation car complete with stained glass windows that owner Wes Swift is prepping for exterior painting ... again. Summer temperatures in the canyon easily reach 100 degrees; with no cover for the ornate wooden car, the sun has taken its toll, and No. 330’s interior restoration is on hold



A crane hoists the top half of SP No. 9010, the last-surviving Krauss-Maffei ML4000, as Brightside shop workers continue restoration in 2016.



until the exterior is *re*-restored.

“Space is tight at Brightside,” explains Baum, who has served as president since 2011. “We’re anxious to build a new shed that will cover our oldest equipment. As soon as [Golden Gate Railroad Museum] moves its collection, we’ll get a lot more space.” The new 800-foot car barn will span all three yard tracks.

The railroad is expanding in every way: the association, which began with just six members, has more than 1,000 members. About 300 actively volunteer, and 100 of those make up Niles Canyon’s “core group,” Baum says. Many of those volunteers have been busy rebuilding the rail line east from Sunol on the old Central Pacific alignment, with nearly 4 miles completed; currently the line ends about a mile west of the Pleasanton city limits.

The railroad can build as far as Bernal Avenue in downtown Pleasanton, where a major multilane street prevents the railroad from continuing two blocks to the city’s restored SP depot. Baum and Pacific Locomotive Association leaders are

pleased with the endpoint they’ve identified, which has plenty of space for parking and loading passengers. Once the passenger stop is complete (Baum says “within five years”), Niles Canyon can operate trains 11 miles between Pleasanton and Niles, located at the west end.

For now, the eastern stop for Sunday operations continues to be the picturesque town of Sunol. The 1884-built SP depot, removed in 1941 and converted into a private residence, was returned to its trackside location in 1998 and serves as Niles Canyon’s ticket office and gift shop. Passengers can board and detrain at either Sunol or Niles.

Niles, a historic district of the larger city of Fremont, nearly became the moviemaking capital of the world in 1912 when Essanay Studios built a \$50,000 studio complex and began making silent films starring Charlie Chaplin, Broncho Billy, and other stars of the era. Unfortunately, filmmaking began to consolidate in Southern California in 1916, and Hollywood ultimately stole the

spotlight. In August 2019, the railroad will celebrate Niles’ film history with special train rides and silent-film showings in a partnership with the Niles Essanay Silent Film Museum.

Pacific Locomotive Association has completed a wye for turning equipment near the Niles passenger stop and hopes to eventually build a roundhouse and turntable. The town’s former Western Pacific depot has been restored, but it’s separated from the Niles Canyon stop by fencing and a busy rail line that hosts Union Pacific and Amtrak trains.

In between the historic towns, passengers enjoy unspoiled scenery and trackside elements that all but disappeared from modern railroads: working magnetic flagmen (wig-wags) protect private crossings while inoperable semaphores, “searchlight” target signals, pole lines, station signs, and a “tell-tale” built by a local Boy Scout troop evoke the atmosphere of classic railroading.

As a bonus for historic transcon fans, the right-of-way retains many of its original

stone bridge abutments and culverts from the original 1866 route. About 15 years ago, an “El Niño” weather system brought storm after storm to the Bay Area, revealing a piece of history at the site where the first 1866 train was photographed: a stone retaining wall built in 1865 by the original Western Pacific. Adding to the line’s time-machine atmosphere are a dozen Western Union telegraph poles, built circa 1861, that stand along the right-of-way between Farwell and Niles.

The weekend of July 20-21, 2019, will bring the long-awaited debut of former Southern Pacific No. 9010, the last surviving diesel-hydraulic ML4000 in America. Built by Krauss-Maffei in Germany, No. 9010 was one of 15 hood imports Southern Pacific purchased in the early 1960s, part of a high-horsepower experiment that ended in 1969. The locomotive survived and was converted into an SP camera vehicle for filming simulator footage. Pacific Locomotive Association purchased the remaining hulk, and Howard Wise, a veteran of successful



▲ Passengers aboard the “Train of Lights” enjoy a spectacular ride at dusk on Dec. 29, 2018.
▶ Both from the Pacific Locomotive Association, from left: Howard Wise and President Henry Baum stand inside Brightside shops. Project leader of the restoration of Southern Pacific ML4000 No. 9010, Wise expects the locomotive to be ready for excursions in July 2019.

**“Space is tight at Brightside [Yard]. We’re anxious to build a new shed that will cover our oldest equipment.”
— Henry Baum, Pacific Locomotive Association president**



restoration projects, was named project leader. Working closely with machinist Bill Stimmerman, the duo rebuilt the cab and operator's station, while Wise built a new nose faithful to No. 9010's 1964 appearance and team member Bob Zenk completed the body work. Parts and materials were obtained from sources around the globe.

The KM is cosmetically complete, wearing a dazzling coat of SP scarlet-and-gray paint and will eventually be operable. For the July weekend, Wise says the KM will be connected to SD9 No. 5472 and will control special trains as the pilot locomotive.

Another milestone event is a steam excursion weekend in September celebrating the 1869 completion of the Central Pacific between the Bay Area and Sacramento, powered by *Skookum* No. 7. Other excursions include a moonlight train for the 50th anniversary of the moon landing in July and a two-day Steampunk Festival in June. The doubleheader runs with the *Skookum* and Clover Valley No. 4 are planned for

May and September. Baum notes that some of the special event trains will run on the line's new eastern extension and all special trains will feature photo stops.

One source of pride for Baum is a healthy relationship with the community of Sunol, which historically has been tolerant but suspicious of the railroad. In recent years, Baum and Pacific Locomotive Association volunteers have reached out to the Sunol community and established a high level of trust. In a 2017 "Stroll and Roll Weekend" on paralleling Highway 84, the highway was closed to vehicle traffic and Niles Canyon operated "rescue trains" to carry pedestrians and bicyclists back to their cars. The budding relationship has paid off: a member of the Sunol citizens' advisory council approached Baum last year and asked how they could help with the 150th anniversary celebrations.

With all the successes of this heritage railway along the original transcon, none are more visible than the "Train of Lights" excursions, which

stretch a quarter-mile in length and carry a combined total of 18,000 people every holiday season. The "Train of Lights" tradition began for Pacific Locomotive Association members in 1991, then opened to the public in 1994. In 2018, nearly the entire holiday schedule sold out within 4 hours of being available, and some groups even teamed up to charter their own trains. The on-board gift shop sells about \$1,000 in souvenirs each night. Niles Canyon volunteers begin decorating the train the week after Labor Day and typically finish on the Tuesday before Thanksgiving, Baum says.

Riding the beautifully lighted train down the canyon at dusk is a magical experience: an apparition winding through coastal hills on a railroad forged 150 years ago, while motorists on adjacent Highway 84 brake and slow to take in the electric splendor. Rocking gently in an open-air coach, Baum smiles and admits, "I fell in love with the train, and I fell in love with the canyon." I

A westbound "Train of Lights" rolls from Sunol to Niles at dusk on Dec. 27, 2009. Collectively, the holiday excursions carry 18,000 people each season. In 2018, tickets sold out for these trains within 4 hours.

YEAR OF THE ARTICULATEDS, PART 1

SKOOKUM'S



With high tide rolling in from the Pacific Ocean, legendary Pacific Northwest logger *Skookum* steams across an inlet of Nehalem Bay near Wheeler, Ore., on March 18, 2019. The route is former Southern Pacific.

LAST DANCE IN OREGON

The Lazarus locomotive returns after 64 years
for a TRAINS magazine special event

Story and photos by Jim Wrinn



OF THE ALMOST 180 preserved locomotives in steam in the U.S. today (that is, in operation in public at least one day in a calendar year), the majority are 2-8-2s. After Mikados, the most common wheel arrangement is the Consolidation and the lowly but useful 0-4-0T. Among this revered group of survivors is only one 2-4-4-2, an unwanted oddball from the start, a locomotive named *Skookum*.

Only six articulated Mallet-type locomotives of this wheel arrangement worldwide were built, and of those only two operated in North America. This one, formally Columbia River Belt Line Railway No. 7, is the sole survivor. And only in March 2019 did the 1909 Baldwin product come back to life for the 83 lucky customers of two two-day TRAINS magazine-sponsored photo charters at the Oregon Coast Scenic Railroad.

Skookum project manager Martin E. Hansen wrote the definitive story about the locomotive in our October 2018 issue, and I'll direct you there for the full saga. The short version is that *Skookum* was built for a Tennessee logger who rejected her. She found a home hauling logs in Washington state, fell off a trestle in 1955, and was left for dead. Fans carried her carcass away and began the slow process of restoration.



With steam exuding from the front cylinder cocks and stack, *Skookum* tickles the ferns and fir trees of the forest that lines the former Southern Pacific Tillamook Branch, much to the delight of photographers.

Over the years, *Skookum* changed hands three times (once in 1979, following a TRAINS classified ad offering the engine for sale). She was moved multiple times, and sadly, parts were lost. When current owner Chris Baldo acquired the engine, he hired Oregon Coast Scenic Chief Mechanical Officer Scott Wickert

to bring her back to life.

Much of the locomotive had to be recreated. That task tested all involved, but finally, in early 2019, *Skookum* was ready to steam once more. Or so everyone thought: On the eve of her debut for TRAINS, *Skookum* broke an eccentric crank, and the crew worked overtime to get it ready. After the first two days of the charter, the engine snapped the same part. Again, the crew went to work and got the engine back.

This rare bird looked at home along the coast or in the deep woods with a set of skele-

ton log cars heading back to the woods for another load.

Our event marked the engine's return to steam and her departure from Oregon and the Pacific Northwest where she called home for so many years.

After our event, *Skookum* was trucked to California's Niles Canyon Railway to take up residence for the summer (see page 24). You can see and ride behind her there, if you like. But for a few days in March 2019, the Pacific Northwest welcomed back, after 64 years, this Lazarus locomotive they call *Skookum*, the only 2-4-4-2 in the land. **I**



Skookum's low-pressure cylinders, main rod extension, 48-inch drivers, and dark-green, Baldwin boiler jacket bask in the sun at Tillamook Bay in March 2019. Capped stack adds to the engine's personality.



Striking a classic pose with skeleton log flats, *Skookum* appears to be headed back for another load of logs, above. At right, No. 7 eases away from an inspection stop at Barview, Ore., along the Pacific.



Milwaukee Road's Pacific Extension:
doomed to fail, or done in by management?

The too-late TRANSCON

by Dan Machalaba

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

IN THE BITTERROOT MOUNTAINS of Montana and Idaho stands a railroad engineering marvel. When the Milwaukee Road built its transcontinental main line early in the 20th century, the railroad sought to ease the grade for trains ascending and descending the rugged terrain. So it laid out its track to follow the walls of a box canyon through tunnels and over towering trestles and then loop back in a 11-mile-long horseshoe curve.

The track loop at St. Paul Pass still impresses visitors to the Bitterroots. Steve Burns, a local

resident and retired logger, says, "It amazes me every time I go up there how those people worked hard to create the railroad and carve their way through the mountains."

But one thing is missing: the railroad.

Completed in 1909, the Milwaukee Road's Pacific Coast Extension was the last U.S. transcontinental to be built, and the first — and only — one to be abandoned. After the last train ran over the transcontinental line in 1980, salvage crews began picking up the rails, ties, and signals over more than 1,000 miles of track. The track bed over St. Paul Pass later became a hiking and biking trail.

The death of the Milwaukee Road's Pacific Coast Extension continues to stir passion and debate. Building the line cost far more than planned and left the road heavily in debt. Freight traffic on the Milwaukee's transcontinental came nowhere near projections. Other transcontinental railroads were entrenched and fiercely resisted the Milwaukee's entry into their markets.

"It was a serious mistake to build that railroad," says Paul Cruikshank, who was the Milwaukee Road's vice president of operations when the railroad abandoned its line to the Pacific

Northwest. "It was too late and didn't get the business it needed," he says.

But others decry the destruction of the transcontinental route, which they say could have been valuable today. And they blame Milwaukee Road management for making poor decisions, starving the transcontinental of capital, and showing more interest in shedding the railroad than in developing it.

"It is incomprehensible that we could put all those resources together to build this incredible infrastructure just to walk away from it," says Wade Bilbrey, a resident of Avery, Idaho, at the foot of St. Paul Pass. He adds: "We're a throwaway society. Here, we threw away a railroad."

From granger to transcon

At the start of the 20th century, the Milwaukee Road was a well-managed, blue-chip granger railroad with tracks blanketing the upper Midwest. It enjoyed a healthy freight business as a bridge route between St. Paul and Chicago for two transcontinental carriers, the Great Northern Railway and the Northern Pacific Railway. Those railroads were controlled by railroad titan James J. Hill, who decided in 1901 to acquire the Chicago, Burlington & Quincy Railroad, giving him his own route to Chicago and cutting



On June 6, 1979, a westbound crosses Clear Creek Trestle on St. Paul Pass (page 25). Blair Kooistra Today, the route is a trail. Dan Machalaba

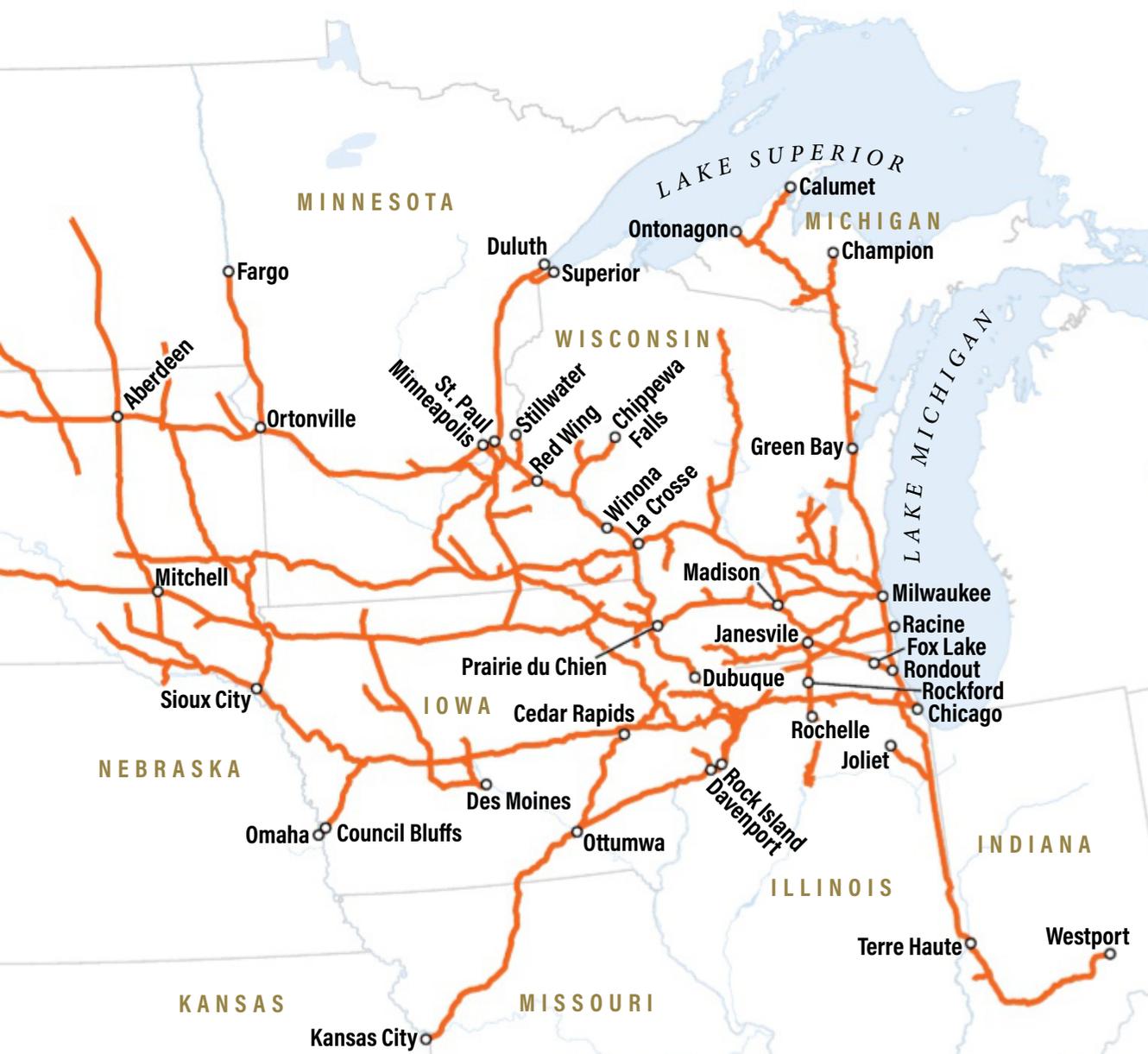






Above, Little Joes lead a westbound freight through Loweth, Mont., on July 7, 1973 — the peak year for traffic on the Pacific Extension, but little more than a year before the end of electrification. Photograph by John F. Bjorklund, Center for Railroad Photography & Art collection
At right, Loweth in 2018: a long-dark signal still stands along the abandoned right-of-way. Dan Machalaba





predecessors, notably electricity and compressed air, and used machines to do the work formerly done by cows, oxen, horses, and men. Putnam's Magazine in 1909 noted a mile a day had been considered rapid track-laying, but with new tracklaying machines the Milwaukee covered much of the distance between Mobridge and Tacoma-Seattle at the rate of 5 miles a day.

The Milwaukee's board of directors followed the completion of their Pacific Extension by choosing to electrify the main line between Harlowton, Mont., and Seattle. By 1920 the company had completed 656 miles to form the longest electrified mainline railway in the world at the time. Electric traction proved more efficient and cleaner than steam locomotives in tunnels, over mountains, and through the long, cold, and snowy winters. The Milwaukee touted its clean "white coal," as it called the conversion of snow to water power to electricity.

Pressure from the Milwaukee board and Rockefeller helped convince Milwaukee management to go ahead with the electrification and buy the copper for the overhead trolley wire from Butte mines. But the Milwaukee ran out of money to close a 212-mile gap between electrified sections, creating operating inefficiencies for the life of the project.

Too late to the party

Arriving late to the ranks of the transcontinentals had downsides. The Milwaukee was the last of four railroads to build into the Pacific Northwest. The Northern Pacific was completed in 1883, the Great Northern in 1893 and the Union Pacific before 1900. The incumbents had tied up most of the large shippers in Seattle and Tacoma with their tracks and blocked access by the Milwaukee. The Milwaukee

out the Milwaukee. Threatened by the loss of traffic, the Milwaukee extended its tracks to the Pacific Northwest.

Reaching the Pacific would mean longer freight hauls and greater freight revenues. A.J. Earling, the road's president, wanted to capitalize on the vast timberlands and growing trade with the Orient including silk, tea, rubber, and other raw materials to Seattle and Tacoma, and exports of lumber, grain, metals, and manufactured products to Asia. William Rockefeller, brother of John D. Rockefeller and a major shareholder of the Milwaukee, obtained control of the Anaconda Copper Co. in 1900, with its copper mine and smelter near Butte, Mont. Rockefeller was unhappy with the Northern Pacific's rates and service, wanted a friendly railroad, and encouraged the Milwaukee to go west.

The Milwaukee's Pacific Coast Extension took off from the end of Milwaukee's tracks at Mobridge, S.D., and reached 1,500 miles across Montana, the Idaho panhandle, and the state of Washington to the deep-water ports of Tacoma and Seattle. While the nearby Northern Pacific often took a meandering route along rivers to reach towns for the freight traffic, the Milwaukee established the shortest route from Chicago to Seattle, 130 miles shorter than the combined Burlington/Northern Pacific route and 22 miles shorter than Burlington/Great Northern.

The Pacific Coast Extension was built

in three years, faster than any previous transcontinental. It required more than six years to build the Union Pacific and Central Pacific, which together reached from Omaha to San Francisco Bay. The two roads built from both ends toward the middle. The Milwaukee could ship construction materials on the Northern Pacific and begin building simultaneously at numerous intermediate points.

The Milwaukee had more tools than its



In August 1978, train No. 201 — a "hotshot" in name only — travels in the "Gap" — the never-electrified trackage between Avery, Idaho, and Othello, Wash. Once one of the fastest parts of the railroad, it was by this date badly deteriorated and lightly used. Blair Kooistra



St. Paul Pass, while an engineering feat, was a drain on the Milwaukee's resources. On June 10, 1979, two SD40s on the point and two helpers added at Avery, Idaho, drag 83 cars up the 1.7-percent grade near Adair, Idaho, on the way to the summit of the Bitterroots. Five photos, Blair Kooistra

turned to car barges on Puget Sound to go around its rivals and reach some of its customers.

Opening of the Panama Canal in 1914 was another traffic killer. The canal siphoned off shipments from the transcontinental railroads and was a major cause of the financial failure of the Milwaukee.

The new transcontinental also found itself in the path of floods, rock slides, and avalanches. An enormous forest fire in 1910 raged through the Bitterroot Mountains, burning 3 million acres of timberland, killing 87 people, and taking dead aim at St. Paul Pass. Milwaukee rescue trains saved hundreds of lives as engineers raced across burning trestles and into the safety of nearby tunnels to wait out the fire. The fire destroyed wooden trestles and spurred the Milwaukee to complete the shift to steel trestles and electric power.

"The whole place was burnt to a crisp," says retired logger Burns. "They called it the Devil's Broomstick. It swept the country of trees."

The first transcontinentals took the easy routes, leaving less options for the railroads that followed. Milwaukee surveyors liked a route along the north bank of the Columbia River in Washington state, only to find that the Hill lines had claimed it for their Spokane, Portland & Seattle Railway. The route the Milwaukee adopted required building over two mountain ranges. All told, the Milwaukee's transcontinental line crossed five mountain ranges: the Castles, Rockies, Bitterroots, Saddles, and Cascades.

The Milwaukee Road faced other challenges. Unlike the Union Pacific and Northern Pacific, the Milwaukee Road received no government land grants and had to purchase land from private owners. Taking the shortest, most direct route, as the Milwaukee tried to do, sometimes meant bypassing population centers and investing in extraordinary engineering feats such as the loop at St. Paul Pass. All of those tunnels, trestles, and embankments helped keep the grade over the mountain at a

steady 1.7 percent but cost the railroad dearly to build, maintain, and operate. "I call St. Paul Pass the Achilles' heel of the Pacific Extension," says Mark Meyer, a retired locomotive utilization manager at BNSF Railway.

By 1925, following the electrification, a total of \$257 million had been invested in the Pacific Coast Extension, more than four times the original estimate. Unable to meet its debt obligations, the company, then known as the Chicago, Milwaukee & St. Paul, entered receivership in 1925, the largest bankruptcy in U.S. history to that time.

In its report on the Milwaukee's 1925 bankruptcy, the Interstate Commerce Commission concluded that the principal cause was building the Puget Sound Extension. The Commission added that the

project was the "result of rivalry between powerful groups. Rockefeller and others controlling the St. Paul felt that they could not tolerate its being bottled up in South Dakota by the Hill lines to the north controlling the Burlington and the [E.H.] Harriman lines to the south working closely with the North Western."

"The Milwaukee was doomed right in the beginning," adds Tom Power, the Milwaukee Road's chief financial officer from 1977 to 1985. "They came late and cost a hell of a lot more than expected."

Postwar promise

The company emerged from bankruptcy in 1928 as the "Chicago, Milwaukee, St. Paul & Pacific Railroad Co." But shortly after that came the Great Depression, and Milwaukee



The *Olympian Hiawatha* snakes through the Cascade Mountains near Garcia, Wash., on the afternoon of June 6, 1955, behind General Electric EP-2 bipolar electric No. E-4, built in 1918. Introduced in 1947, the *Olympian Hiawatha* would be gone by 1961. David W. Salter



entered bankruptcy again on June 29, 1935. It stayed there for 10 years, until a traffic boost from World War II pulled the Milwaukee out of bankruptcy in 1945.

The postwar period was one of relative stability and prosperity for the Milwaukee. The company modernized its network, rebuilding tracks, replacing steam locomotives with diesels, and revamping freight yards. It also added trains to its sparsely travelled Pacific Coast Extension. If one didn't look too closely it might have appeared that the Milwaukee was an up-and-coming railroad.

The Milwaukee launched a new streamlined passenger train in 1947 called the *Olympian Hiawatha*. Sporting a full-length dome car and an observation lounge with a rounded glass solarium, the *Olympian Hiawatha* was one of two passenger trains operating daily each way over the Pacific Coast Extension between Chicago and Seattle. Faced with competition from automobiles and passenger losses, the road discontinued the *Columbian* in 1955 and the *Olympian Hiawatha* in 1961.

During the 1950s the only freight trains operating daily over the length of the transcontinental were Nos. 263 and 264, and sometimes an extra. "You have a railroad with one train a day each way, one stupid train a day," says William H. Brodsky, a former assistant vice president at the Milwaukee. "That's not a way to pay for a transcontinental."

Freight traffic started to build in the 1960s. The Milwaukee was hauling increasing numbers of containers east from the Puget Sound ports and new automobiles to the Pacific Northwest. Milwaukee lowered floors of tunnels on Lines West in the early 1960s to accommodate the higher trilevel auto cars and in 1969 opened an auto reload yard in Kent, Wash. By the early 1970s, the transcontinental line was handling more than twice the volume of business it did in 1960.

In 1963 Milwaukee added expedited trains between Chicago and the Pacific Northwest: train 261, the *XL Special*, and 262, the *Thunderhawk*. The *XL Special*

Along its former route, the Milwaukee lives on

MENTION THE MILWAUKEE ROAD'S former transcontinental line and many people think of high trestles, long tunnels, and massive river bridges. Along the route are other lesser-known remnants.

In tiny Avery, Idaho, a park contains the depot museum and community center, a streamlined Milwaukee Road lounge car, and a relocated signal that is constantly lit. Between the depot, the train car, and the signal is an oval fish pond.

Volunteer Sanda Piccinini keeps the pond stocked with trout and maintains the fish food supply. The fish pond represented an attempt by the Milwaukee Road to entertain passengers waiting for trains and engine changes.

Avery was once a bustling railroad town with depot, electric substation, roundhouse, repair shop, main line, and multiple side tracks all crammed into a steep mountain valley. Piccinini recalls visiting Avery as a young girl to watch new model automobiles ride through town on railcars bound for the Seattle area.

Depot museums are maintained by Milwaukee Road enthusiasts in Harlowton, Mont., and South Cle Elum, Wash. The Deer Lodge, Mont., station houses the Depot Church. Nearby is a preserved Little Joe electric locomotive in Deer Lodge's railroad park, along with an 11-foot-high wooden "golden spike," an orange Milwaukee Road caboose, and a yellow diesel-electric passenger locomotive.

The Missoula, Mont., station is the headquarters of the Boone & Crockett Club, a big game conservation organization. Mounted bear, sheep, deer, and antelope fill the building's lobby. The old railroad right-of-way out front is a bicycle and walking path.

In Butte, Mont., the Milwaukee Road's restored depot is home to television station KXLF. The second floor remains much as it was in the 1950s when the depot housed the offices of the Milwaukee's Rocky Mountain Division, with the original wood and frosted glass doors labeled "superintendent," "trainmaster," or "chief dispatcher."

"It's a little like the Twilight Zone, like stepping back in time," says Michael Sol, an authority on the Milwaukee Road. Several substations still stand along the route such as in South Cle Elum; Loweth, Mont.; and Taunton, Wash.; as well as old signal masts in some locations. St. Maries River Railroad operates over 20 miles of original main line in Idaho, while BNSF Railway has incorporated hundreds of miles of Milwaukee's former transcontinental line in South Dakota, North Dakota, and into Montana, primarily for grain trains.

At the former stop of Ingomar, Mont., the depot became a residence. Standing on a small track section in the vast area of ranchland is an old Milwaukee Road steam engine tender, which for decades carted fresh drinking water to Ingomar. The tender is right where a freight train dropped it in 1980 when the railroad pulled out of town. — Dan Machalaba



A Milwaukee lounge car and fish pond are among remnants of the railroad in Avery, Idaho, where the Milwaukee's depot also survives. Dan Machalaba



A Milwaukee coal train loops through the Otter Tail Power Co. in Gascoyne, N.D., in July 1980. The railroad mostly missed out on coal business because of high rates and right-of-way that couldn't handle the traffic. Photograph by John F. Bjorklund, Center for Railroad Photography & Art collection

boasted the fastest schedule between Chicago and Seattle, a running time of 55½ hours, 21½ hours faster than train 263, which continued on its 77-hour schedule.

But Milwaukee largely missed the boom in coal hauling. Northern Pacific was just beginning to experience the surge in traffic from the Powder River Basin coal fields. Milwaukee's transcontinental line passed through coal reserves at Roundup, Mont., but the Milwaukee's rates weren't low enough, and its main line wasn't good enough for unit coal trains.

Deferral and decay

The seeds of the Pacific Extension's final undoing were already being planted. Amounts budgeted to rebuild the track shrank year after year. The Milwaukee paid dividends when it couldn't justify them and deferred maintenance to make its finances look brighter, says Michael Sol, a retired attorney and long-time student of the Milwaukee Road, in Missoula. "Essentially, the company was raided for funds for dividends," he says.

Brodsky, the former Milwaukee assistant vice president, sees the start of the Milwaukee's downfall in the 1950s when the Milwaukee's board slashed new tie purchases from 1.4 million to 400,000 a year. John P. Kiley, the Milwaukee's president who oversaw much of the line's modernization in the 1950s, retired in 1957 and was

replaced by William J. Quinn, a lawyer. Milwaukee's focus shifted to finding a merger partner.

"Upper management wouldn't do anything to help themselves," says Brodsky. "The deal was always 'Who can we get to come and fix us?'"

Milwaukee entered merger talks with fellow granger Chicago & North Western Transportation in 1954; Chicago, Rock Island & Pacific Railroad in 1959; and then

for a second time with the Chicago & North Western in the 1960s.

Milwaukee also tried to become part of a larger, stronger system but found no takers.

Brodsky and other critics charge that Milwaukee failed for years to take full advantage of opportunities to increase business along the Puget Sound Extension. The Milwaukee had an opportunity to buy Spokane International Railway, connecting to the Canadian Pacific Railway at the



A decaying tie and minimally bolted rail joint — here on Snoqualmie Pass in October 1978 — testify to the poor maintenance of the Pacific Extension in its final days. Three photos, Blair Kooistra

Canadian border northeast of Spokane. The line is now a major source of revenue for the Union Pacific, which bought the Spokane International in 1958. Milwaukee also had a chance to buy the 30-mile Pacific Coast Railroad, which Milwaukee used to get into Seattle. Great Northern bought it, and Milwaukee paid 90 percent or more of the line's maintenance costs to one of its chief competitors.

The Milwaukee bet wrong when it upgraded the Omaha line to run Union Pacific's transcontinental passenger trains between Omaha and Chicago, replacing the Chicago & North Western. Milwaukee officials expected the move would lead to increased revenues from UP freight deliveries at Omaha. But the Milwaukee failed to win much new freight business and UP continued to give most of its connecting freight business at Omaha to the North Western.

For decades the Hill Lines had "short hauled" the Milwaukee, refusing to set joint rates west of the Twin Cities and forcing the Milwaukee to turn over traffic there for transport west. In 1970, the ICC approved the merger of the Hill Lines, integrating the Northern Pacific, Great Northern, Burlington, and Spokane, Portland & Seattle railroads into the Burlington Northern. The Milwaukee was granted some protective conditions such as trackage rights over Burlington Northern to Portland, Ore., and Canada. Traffic on the Pacific Extension climbed to three or four freight trains a day each way by 1973, its peak traffic year. But the Milwaukee's tracks in the West were deteriorating faster than the company could fix them.

Not only were the Milwaukee's rail and ties substandard but even its ballast was mostly cheap gravel inferior to the rock ballast used by other major railroads, according to Tom Murray's book "The Milwaukee Road." Mainline track was mostly jointed rail, and the Milwaukee lagged far behind other railroads in installing welded rail.

Jim Schwinkendorf, who held executive positions at the Milwaukee in the 1970s and 1980s, was alarmed by the deterioration he saw on the transcontinental route. "The ties were rotting beneath the rails," he says. "The spikes didn't hold the rails evenly, and the track was losing gauge. You didn't see ballast. You just saw mud, yellowish tan mud."

Deraillments were becoming a daily occurrence in the Bitterroots. With massive Russian wheat purchases in 1972-73, the Milwaukee started to haul grain west-bound in yellow, 100-ton covered hoppers with the slogan, "America's Resourceful Railroad." Some of the heavier cars were going off the rails where the trackbed had been lowered for auto shipments. The Milwaukee began installing "derailed car indi-



On April 23, 1978, half of a Portland-bound train reaches the top of the 3.6-percent grade on Tacoma Hill. The siding here at New Shanty, Wash. — where cuts of cars going south were left — shows just how rough some of the Milwaukee's jointed-rail trackage could be.



To handle export grain, the Milwaukee bought new Pullman-Standard covered hoppers, but the traffic accelerated track damage and derailments, speeding the railroad toward bankruptcy. These cars await cleanup in the mud and rotting grain at Whittier, Wash., on May 25, 1979.

cator" lights that flashed when trains were on the rails; a solid light meant part of the train was on the ground but had not yet caused a major wreck. Schwinkendorf says the lights were a "poor man's solution. A rich railroad would have fixed the track."

Transit times soared, that is, if shippers could find cars to load their freight. Milwaukee was sidelining cars, instead of repairing them, once they needed repairs above a certain level. Much of the locomo-

tive fleet was parked because the railroad was operating under a "run to failure" policy, forcing the Milwaukee to lease power from other railroads.

The electrification was past its prime. The wooden poles holding up the wire were rotting badly. Milwaukee kept them standing by sinking stubs into the ground next to the poles and lashing the stubs to the poles. Trains still ran behind 1915 box-cabs. The powerful and stylish Little Joes,



Locomotives in various states of operation or disrepair collect at the Tideflats shops in Tacoma, Wash., in November 1979. Following the winter of 1977-78, over half of the Milwaukee's locomotives were unavailable because of mechanical defects. Two photos, Blair Kooistra

so named because they were built for Soviet dictator Josef Stalin but never delivered, were approaching 25 years old. The gap in the electrification had never been closed. General Electric offered to provide new electric locomotives, close the gap and replace the existing 3,000-volt, direct-current system with a modern high-voltage alternating-current system. But the Milwaukee rejected the GE offer and dismantled the electrification in 1974 just as the Arab oil crisis sent diesel oil prices soaring.

After some unprofitable years, the Milwaukee voluntarily entered reorganization on Dec. 19, 1977, with the U.S. Bankruptcy Court in Chicago. Trustee Stanley Hillman and his successor, Richard Ogilvie, decided that for the Milwaukee to emerge from bankruptcy as an operating railroad it had to abandon the Pacific Extension and shrink back to its Midwest "core."

Milwaukee's upper management had mostly given up on the Milwaukee's western extension. "It was a very tired, old management," says John Rowe, who was the lawyer to the trustees. "They were behind the eight ball so long, running a business that never seemed to make it, they sort of lost their self-confidence."

Proceeds of line sales and salvage operations were used to improve equipment and infrastructure in the Midwest core. In 1985, a smaller Milwaukee Road was sold to Canadian Pacific subsidiary Soo Line.



Flying white flags as an extra, freight No. 263 descends the Castle Mountains at Ringling, Mont., in 1958. The power was turned off in 1974 after the railroad turned down a General Electric offer to modernize the electrification and provide new locomotives. Richard Steinheimer

Rowe says the sale raised cash to pay bondholders, stockholders, suppliers, and union members. Union Pacific and Burlington Northern stepped in to provide rail service to more than 90 percent of the customers along the Milwaukee's Pacific Extension. "I thought it was an amazing out-

come," Rowe says. "I was shocked by how good it was."

Widespread disbelief spread along the Pacific Extension. "I thought there was no way they would let them tear out the railroad," says Dick Stoltz, a former Milwaukee Road employee in Harlowton. "Those are

jobs that pay well and are secure. It shows you what we know.” Irvin Naasz, a former Milwaukee section gang leader, says he became worried when the railroad shut down the electrification. “Then I really knew when they sent in second-hand ties that they were getting ready to give her up,” he says.

Employees of the Pacific Coast Extension and some Milwaukee executives had mounted an effort they called “New Milwaukee” to reorganize the Milwaukee Road as a transcontinental railroad. But they failed to win over the trustees, Milwaukee top management, and the federal government. Meanwhile, the railroad industry was in crisis from truck competition, overcapacity, and declining traffic. Congress had bailed out the Penn Central and other bankrupt Northeastern railroads to form Conrail, and now Transportation Department officials sought to deregulate the rail industry, not subsidize individual failing railroads, says Gerard McCullough, associate professor of applied economics at the University of Minnesota.

In approving the Burlington Northern merger in 1970, the ICC declared that a strengthened Pacific Coast Extension was essential to the preservation of competition over 2,000 miles of the country.



A BNSF freight crosses the Missouri River at Mobridge, S.D., on Jan. 25, 2017. Burlington Northern and later BNSF began service to Mobridge — the starting point for the Pacific Extension — after the Milwaukee’s demise. Robert Della-Pietra

But in 1980, the ICC rejected the New Milwaukee plan to save the Milwaukee’s transcontinental.

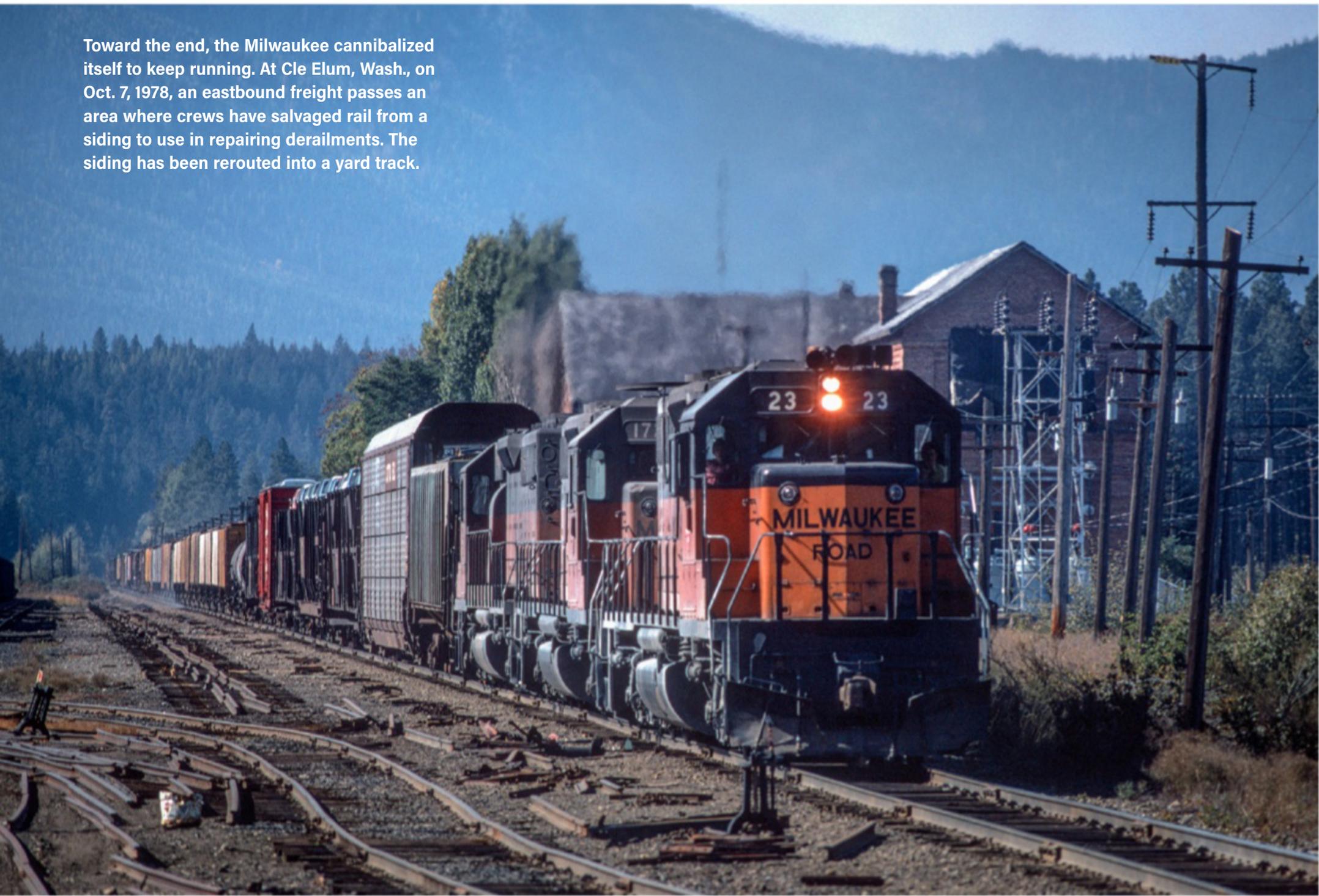
“The ICC didn’t do its job to develop a fully effective, competitive network,” says Robert Gallamore, co-author of “American Railroads: Decline and Renaissance in the Twentieth Century.” Loss of the Milwaukee to the West Coast, he says, left Montana’s extensive wheat-growing area captive to the Burlington Northern.

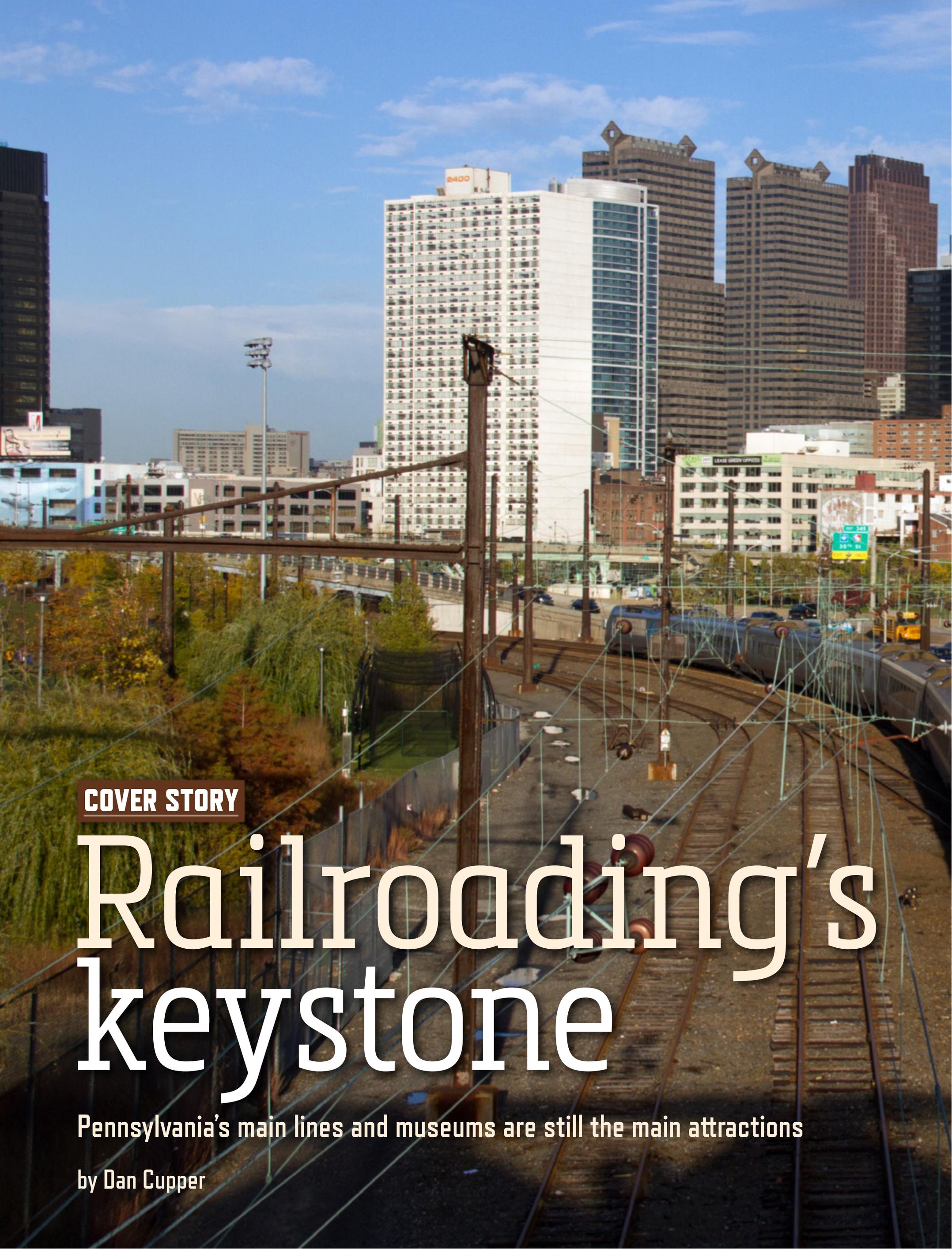
The Milwaukee’s transcontinental line could have been a strong railroad today, says Brodsky, the retired Milwaukee executive

who later became president of Montana Rail Link, which operates former Northern Pacific track in Montana and Idaho. Brodsky has seen first hand the strong growth of rail traffic in the Pacific Northwest that in recent years has strained rail capacity.

Mark Wegner, president of the Twin Cities & Western Railroad, which operates over former Milwaukee track in Minnesota, says there wasn’t much need for the Milwaukee’s Pacific Extension when it was built but there is now that it is gone. Says Wegner: “They were 30 years too late or 30 years too early, depending on how you look at it.”

Toward the end, the Milwaukee cannibalized itself to keep running. At Cle Elum, Wash., on Oct. 7, 1978, an eastbound freight passes an area where crews have salvaged rail from a siding to use in repairing derailments. The siding has been rerouted into a yard track.





COVER STORY

Railroading's keystone

Pennsylvania's main lines and museums are still the main attractions

by Dan Cupper



Boston-Washington, D.C., *Acela Express* train No. 2165 departs Philadelphia in November 2013. The high speed trains were introduced in 2000 and represent the pinnacle of rail travel in North America. Scott A. Hartley



Buffalo & Pittsburgh coal train T065 rolls west over CSX track in Pittsburgh in June 2018. The line is part of CSX's Chicago-Washington, D.C., main line. Alex Hall

Few states can match Pennsylvania for volume of mainline freight and passenger action, significance of railroad heritage, and abundance of short lines and tourist railroads. American railroading would not be what it is today without the innovations and infrastructure produced in the Keystone State.

The scope is breathtaking: from the first operation of a steam locomotive in America on the Delaware & Hudson in 1829, to modern export diesel locomotives from the historic General Electric plant at Erie, now a part of Pennsylvania-based Wabtec.

MAIN LINES

Three major freight main lines cross or pass through the state, and Amtrak's Northeast Corridor, the busiest passenger railroad in North America, serves Philadelphia on its way from Boston to New York, Baltimore, and Washington, D.C.

The three heavy freight lines are, from north to south:

- CSX Transportation's former Conrail main line from New York and Buffalo to Erie and Cleveland, and from there to Chicago via the former Baltimore & Ohio.
- Norfolk Southern's former Conrail main line from New York and Philadelphia to Harrisburg, and former Conrail

main lines from Baltimore to Harrisburg and on west to Pittsburgh, Cleveland, and from there to Chicago via the former Conrail Chicago Line. Both this and the CSX line carry about 50 trains a day.

- CSX's former Baltimore & Ohio main line from Baltimore/Washington, D.C., to Chicago via Pittsburgh, using the former Pittsburgh & Lake Erie through western Pennsylvania. This heavily traveled route includes the widely known Sand Patch grade and Sand Patch Tunnel, both in Pennsylvania.

Amtrak's Northeast Corridor offers a parade of dozens of intercity and regional Amtrak trains, including the high speed *Acela Express*. Also radiating from Philadelphia is a spiderweb of 13 regional commuter lines operated by the Southeastern Pennsylvania Transportation Authority.

SEPTA also serves local patrons on three Amtrak lines from Philadelphia (to Trenton, N.J.; Paoli/Downingtown, Pa.; and Wilmington/Newark, Del.). A SEPTA-built 7-mile line links Center City with Philadelphia International Airport.

REGIONALS AND SHORT LINES

Depending on how one counts, as many as seven regional railroads operate in Pennsylvania, most of them fused together from the cast-off lines of Conrail and CSX. Buffalo & Pittsburgh, a Genesee

& Wyoming property, operates the former CSX lines in western and northwestern Pennsylvania. Some 627 miles of the carrier's 729-mile network are found in Pennsylvania. Delaware-Lackawanna, owned by Genesee Valley Transportation Co., operates 85 miles of line, including the former Delaware, Lackawanna & Western main line between Scranton and Delaware Water Gap. New York, Susquehanna & Western leases a former Conrail line in northeastern Pennsylvania. Reading & Northern comprises 300 miles of former Conrail routes in northeastern Pennsylvania. R.J. Corman operates 243 miles of former Conrail coal branches in western Pennsylvania, and a stub near Allentown. Western New York & Pennsylvania Railroad operates a portion of the former Conrail Buffalo Line, as well as other lines in New York state, for a total of 280 miles. Wheeling & Lake Erie operates former Norfolk Southern Pittsburgh-area lines. Of note, D-L and WNY&P have attracted a cult following among railfans, because they operate power discarded by Class I railroads decades ago — Alco-design, high-horsepower, four- and six-axle road units.

An honorable mention, Canadian

Pennsylvania's railroads today

- Amtrak
- Canadian National
- CSX
- Norfolk Southern
- Short lines or regionals



Not to scale. Not all lines shown. © 2019 Kalmach Media Co, TRAINS: Rick Johnson

National operates, since 2004, the Bessemer & Lake Erie northwest of Pittsburgh.

Pennsylvania's 50-plus short lines are too numerous to list, but they fall into a couple of categories. Several holding companies control multiple short lines in the state. Among these are Genesee & Wyoming (Yorkrail — the former Maryland & Pennsylvania or "Ma & Pa"), the North Shore family of short lines (Juniata Valley, North Shore, Lycoming Valley, Nittany & Bald Eagle; Shamokin Valley, and Union County Industrial), and Carload Express (Allegheny Valley and Southwest Pennsylvania).

Other lines are independent, such as the Everett, Columbia & Reading, and Tyburn. The East Erie Commercial still services the locomotive plant at Erie, too.

SMS Rail Lines employs a Baldwin switcher in an industrial park at Morrisville, likely the last such diesel in common-carrier revenue service in the state that was once home to the Baldwin Locomotive Works.

STATIONS AND PASSENGER SERVICE

Among the grandest and busiest stations is Amtrak's 30th Street Station in Philadelphia, an eight-story, Neoclassical/Art Deco structure. In 1988-1991, it underwent a \$75 million renovation, but unlike many other intercity stations, it had never sunk into an advanced state of decay. Most travelers pass through the main hall, a 290-foot-by-135-foot expanse that opens under a 95-foot-high ceiling with massive chandeliers. From this area, passengers can go upstairs to platforms serving SEPTA commuter trains, or downstairs to Amtrak's intercity trains and NJ Transit's service to Atlantic City, N.J.

Those who have time stop to take in two striking pieces of artwork. One is a 30-foot-long plaster frieze, executed in 1895 by Austrian sculptor Karl Bitter, titled "Spirit of Transportation." The other piece is "Angel of the Resurrection," a 28-foot-tall

bronze sculpture by Walker Hancock that commemorates — and names — the 1,307 Pennsylvania Railroad employees who died in World War II among more than 54,000 employees who served in that conflict.

In the hall behind the ticket counter are bronze plaques honoring J. Edgar Thomson (railroad president 1852-1874), who presided during its period of greatest expansion; William Wallace Atterbury (railroad president 1925-1935), who had the foresight to push electrification of the road's Eastern main lines; and George Gibbs, consulting engineer who was influential in the development of the storied GG1 streamlined electric locomotive design.

Other stations around the state that have been repurposed and no longer cater to rail travelers are P&LE Terminal in Pittsburgh, now the Station Square shopping and restaurant complex, and Lackawanna's Scranton station, now a hotel, a near-twin of Baltimore's Penn Station.

In Bethlehem, the former Union Station is now a medical office center. The eight-story Reading Terminal, built in Philadel-

phia in 1893 as the headquarters of the Reading Co., now serves as the Pennsylvania Convention Center, with its soaring arched trainshed intact.

A few stations remain active for mixed use, but still serve daily Amtrak intercity trains. The Pennsylvania's 1902 Pittsburgh station with its grand port-cochere rotunda has been converted into apartments/condominiums, with Amtrak operating out of a small corner for its trains, the *Capitol Limited* and *Pennsylvanian*.

The *Pennsylvanian*, incidentally, is the only way to see the entire sweep of the state, east to west; the *Lake Shore Limited*, *Capitol Limited*, and Northeast Corridor all cut across corners of Pennsylvania, but reveal little of the interior with its abundant scenery and heavy railroad infrastructure.

In Lewistown, the Pennsylvania Railroad Technical & Historical Society has done a spectacular job of restoring the station. It is the oldest standing Pennsylvania station, dating to 1849, when the entire railroad consisted of a single-track line from Harrisburg. Historical society archives are



A CSX train encounters SEPTA light rail on Route 11 at the crossing at Sixth and Main streets in Darby, Pa. Such tracks are broad gauge, but long considered a standard in Pennsylvania rail transit. Bill Monaghan



Pennsylvania Northeastern, right, has handed off interchange cars to the East Penn at Telford, Pa., in June 2013. The state is home to many colorful shortline and regional railroads. Dale W. Woodland



Lackawanna-painted F units lead a Steamtown excursion to Delaware Water Gap, Pa., in June 2013. Robert Kaplan

housed there, and a small waiting room is available for *Pennsylvanian* passengers.

In the state's northwestern corner, the 1927-built, Art Deco-style Erie Union Station sits astride CSX's New York-Chicago main line. Today, only the *Lake Shore Limited* calls at the station, which has been renovated to include offices and retail space.

Scores of smaller stations survive as local-history museums, libraries, art galleries, retail shops, restaurants, or offices.

RAIL TRANSIT

For density of passenger operations, SEPTA's network of commuter lines radiating from Philadelphia is hard to beat. The agency carries 120,000 rail passengers each weekday on 13 routes. Passengers board or alight at 155 stations, ranging from Amtrak's stately 30th Street Station to the glass-and-chrome Jefferson Station underground complex to simple wooden shelters.

But unlike any other American city's

commuter rail service, you won't find a diesel locomotive pushing or pulling passenger trains — SEPTA's regular service is 100 percent electrified.

All SEPTA routes are either former Pennsylvania or Reading Co. lines, which were tied together by the excavation of the \$330 million Center City Commuter Tunnel, opened in 1984. SEPTA also operates the closest thing to interurban service in the state with its Norristown High-Speed line, a 13-mile, standard-gauge, grade-separated, dedicated right-of-way line, whose modern cars are powered by outside third rail.

In addition, SEPTA operates eight trolley or light rail routes, one of which intersects a CSX freight line at grade. The double-track Route 11 line crosses CSX's single-track Philadelphia Subdivision on a diamond at Main and Sixth streets in Darby, Pa. Nearby is the Elmwood Carhouse, where light rail vehicles are staged and serviced. A distinctive feature of SEPTA's

trolley/light rail routes is that they remain "Pennsylvania gauge" — 5 feet, 2½ inches instead of the steam-railroad standard of 4 feet, 8½ inches. Other SEPTA rail operations in Philadelphia include the Media and Sharon Hill trolleys and the Broad Street and Market-Frankford heavy rail subway-elevated lines.

Another heavy rail system with an underground Philadelphia terminal is the 14-mile PATCO Lindenwold high speed line, which carries commuters to and from South Jersey points via the Benjamin Franklin Bridge over the Delaware River.

On the other end of the state, Pittsburgh's Port Authority Transit operates a 26-mile light rail system, the "T." Like SEPTA, Pittsburgh uses Pennsylvania broad gauge. From the city, the system leads to many south suburban communities via a former Pennsylvania bridge over the Monongahela River called the Panhandle Bridge, after a Pennsylvania predecessor.



Strasburg Rail Road 2-10-0 No. 90 rolls into the station at Strasburg, Pa., with the last train of the day on July 11, 2007. Michael Karlik



Two generations of electric power pose at the Railroad Museum of Pennsylvania in Strasburg: AEM-7 No. 915 and GG1 No. 4800. Dan Cupper



Downtown, it goes underground, with a subway and tunnel to PNC Park and Heinz Field on the city's North Side. Today's "T" carries around 27,000 passengers a day.

TOURIST RAILROADS AND MUSEUMS

The biggest success story of them all, of course, is the 4.5-mile Strasburg Rail Road, chartered in 1832, nearly abandoned in the 1950s, and revived in 1959 to become one of the premier steam railroads in North America. Situated amid Amish farms, it is positioned to handle scores of tour bus riders who come to see the Pennsylvania Dutch culture and agrarian countryside. In peak years, it handled 400,000 passengers.

Largest of its several operable steam engines is 2-10-0 No. 90, a 1924 Baldwin that once hauled sugar beets in Colorado. Strasburg also operates No. 89, a former Canadian National 2-6-0, and No. 475, a former Norfolk & Western 4-8-0 (down for boiler inspection). Besides its seasonal tourist business, Strasburg operates freight service.

Steamtown National Historic Site in Scranton operates a former Baldwin Locomotive Works 1929 0-6-0 shop switcher, No. 26, on short runs. In the past, the operation has run trips east on the former Lackawanna main line to Moscow, Pa., and private charters have run to East Strouds-

burg, Pa., at the Delaware Water Gap. Its collection of several dozen engines includes some notable large locomotives on static display, including Union Pacific Big Boy 4-8-8-4 No. 4012; Reading T-1-class 4-8-4 No. 2124; Nickel Plate Road 2-8-4 Berkshire-type engine No. 759; and Boston & Maine 4-6-2 engine No. 3713, which is under restoration by the Lackawanna & Wyoming Valley Chapter of the National Railway Historical Society.

Steam Into History at New Freedom operates a recently built 4-4-0, *York*, No. 17, on the former Northern Central Railway line just north of the Maryland state line. Its twin, the equally new *Leviathan*, is owned by the Stone Gables Estate/Star Barn Village in Elizabethtown, a 275-acre wedding and special-events venue. The owner intends to lay 3 miles of track, part of it on a long-abandoned Pennsylvania Railroad line.

The freight-hauling Everett Railroad at Hollidaysburg operates a 1920 Alco 2-6-0 on seasonal runs, special occasions, and charters. North of Philadelphia, New Hope & Ivyland operates a 1925 Baldwin 2-8-0 on an ex-Reading branch.

Reading & Northern operates frequent Budd RDC trips, as well as occasional steam trips with its ex-Gulf, Mobile & Northern 4-6-2 No. 425. R&N also owns

Reading & Northern 4-6-2 No. 425 crosses Hometown Trestle near Hometown, Pa., in October 2016. The structure is one of many scenic highlights in the state. Trey Holland

ex-Reading 4-8-4 No. 2102 and has plans to return it to operation. R&N also operates the Lehigh Gorge Scenic Railroad from Jim Thorpe northward through the Lehigh River Valley. At Jim Thorpe, the mansion of 19th-century LV President Asa Packer is open to tourists; the Lehigh Gorge excursions include an option to ride the train one way and bike back on a rail trail.

Closely related to the R&N is a group that restored and occasionally operates 1923 Jersey Central Alco 0-6-0 No. 113. Based at the Minersville station, the engine makes trips that use R&N track and cars.

The only operational ex-Pennsylvania steam locomotive is found near Grantham, 10 miles southwest of Harrisburg. Williams Grove Historical Steam Engine Association periodically fires up its Altoona-built Pennsylvania Class B4a 0-6-0 switcher, offering rides in rebuilt flatcars or a caboose. The engine usually runs daily through the week leading up to Labor Day, when vintage steam tractors and farm equipment are demonstrated.

Wanamaker, Kempton & Southern, situated west of Allentown, operates on 3.5



CSX train Q352 descends the east slope of Sand Patch grade at Fairhope, Pa., in July 2007. The onetime Baltimore & Ohio route is a railfan favorite in southern Pennsylvania. Alex Mayes

miles of a former Reading branch with center-cab diesels, and has plans to return one of its steam engines to service. WK&S remains one of the state's older tourist lines, having started in 1963.

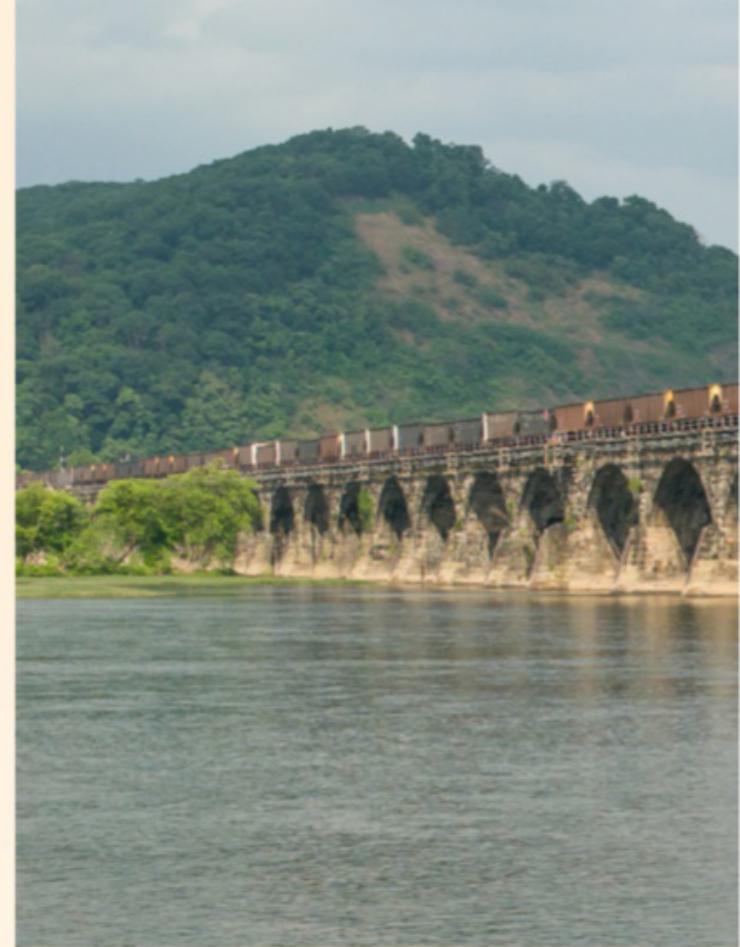
Nearby, another notable operation is a new one (2014), the 4-mile Allentown & Auburn Railroad, running between Topton and Kutztown. It operates an ex-Pennsylvania gas-electric "doodlebug," a Baldwin diesel switcher, and a 1937 Electro-Motive Corp. SW-model diesel. That unit has spent its entire life on in-state short lines, starting with Philadelphia, Bethlehem & New England; then to Steelton & Highspire; then to Ma & Pa; then to Stewartstown; finally to A&A.

Others include the 13-mile Oil Creek & Titusville in the Oil Creek State Park in northwestern Pennsylvania; the 9-mile Colebrookdale Railroad, running a former Reading branch near Pottstown, Pa.; the 7.7-mile West Chester Railroad southwest of Philadelphia, which owns and operates several Alco units on a former SEPTA commuter route; and Tioga Central Railroad, which uses a 35-mile ex-NYC line now

operated as the Wellsboro & Corning Railroad. In Honesdale, in far northeastern Pennsylvania, the Stourbridge Line operates a rare EMD BL2 diesel as well as an ex-Canadian Pacific FP7 painted in a 1950s Pennsylvania five-stripe scheme. The only common-carrier line to offer passenger excursions near Pittsburgh, Kiski Junction Railroad, closed in 2018 due to a lack of freight traffic.

Friends of the East Broad Top Railroad supplies volunteer labor to help maintain the facilities at Rockhill Furnace, but the railroad itself has been in hibernation since its 2011 closure.

One of four state-operated railroad museums in America, the Railroad Museum of Pennsylvania is the state's premier site for historically significant engines and rolling stock, in addition to its education center, exhibits, and library. Standing across the street from the Strasburg Rail Road station and shops, near Lancaster, the museum is home to more than 100 pieces, including the former Pennsylvania historic collection of engines and cars. This group, which includes an M1b-class 4-8-2 and a K4s-class



4-6-2, was assembled and occasionally displayed since the 1930s before coming to the museum in the 1960s. Many pieces of equipment are kept indoors, while the rest remain on display in the museum's yard. A \$250,000 campaign was recently completed to stabilize five engines in the Pennsylvania collection that are not currently housed in the George M. Hart Rolling Stock Hall. They will be displayed in a \$6.1-million, six-stall roundhouse to be built on the western side of the museum's yard.

Among the gems here are a Budd Co.-built stainless-steel observation car from the *Crusader*, a posh Reading Co. train that ran between Philadelphia and Jersey City, N.J.; a Lehigh Valley RDC, also built by Budd, whose factory was in Red Lion near Philadelphia; and a brightly painted and brass-trimmed 1875 Baldwin 2-6-0 engine, the Virginia & Truckee *Tahoe*, representing the artistry of the builders at that time.

Even Amtrak, a relative newcomer to railroad history, is represented. In the yard are AEM-7 electric locomotive No. 915 (built 1981), E60MA electric locomotive No. 603 (built at GE's Erie plant in 1974); and an original Metroliner electric-propelled snack coach, from Penn Central's and later, Amtrak's, high speed corridor service begun in 1969. These three provide a modern counterpart to Pennsylvania No. 4800, the first GG1 electric locomotive.

The Lancaster area is significant for another reason: In 1935, the National Railway Historical Society was organized there.

In the consummate railroad town, the Altoona Railroaders Memorial Museum offers exhibits and programs in the former Pennsylvania Railroad Master Mechanics Building. The museum has built the seven-stall Harry Bennett Memorial Roundhouse and education center, which serves as home to the museum's Altoona-built



Visitors wave at a westbound Norfolk Southern intermodal train at Horseshoe Curve near Altoona, Pa., in May 2013. The location is a National Historic Landmark. Dan Cupper



A Norfolk Southern hopper train crosses the Susquehanna River on the landmark Rockville Bridge north of Harrisburg in June 2017. George W. Hamlin

Pennsylvania K4s-class 4-6-2 steam engine No. 1361. No. 1361 was displayed from 1957 to 1985 at Horseshoe Curve, then briefly returned to service in 1987-1988. It is under restoration again.

Among the select pieces of this collection are GG1 No. 4913 (built in Altoona), the 1949 observation car *Mountain View*, and the 1938 bar-lounge car *Harbor Springs*, both used on Pennsylvania's flagship all-Pullman overnight New York-Chicago train, the *Broadway Limited*. A huge, one-of-a-kind 16-axle, heavy-duty, depressed-center flatcar known as the "Queen Mary," also built in Altoona, is on display. At 124 feet long, it is so long that its center deck is occasionally used as a stage.

The museum tells the story of a town that buzzed with 16,000 workers spread across the 218-acre Pennsylvania shop compound, designing, building, testing, and repairing thousands upon thousands of engines and cars, including 6,700 steam and electric locomotives. The now-gone East Altoona roundhouse was the largest in the world, with 52 stalls and a diameter of 395 feet.

The museum also administers the nearby Horseshoe Curve National Historic Landmark facilities, which include visitor-center exhibits and a funicular to carry visitors to trackside. The Curve is the first place in America where a park was developed solely for the purpose of watching trains pass. Climbing and descending the Alleghenies, some 50 to 60 trains and helper movements a day pass the Curve on NS's Pittsburgh Line.

Among other notable railroad museum sites is the National Park Service's Allegheny Portage Railroad National Historic Site at Cresson, not far from Horseshoe Curve, which

tells the story of cross-state canal-and-inclined-plane rail travel in the 1830s and 1840s, pre-Pennsylvania. Just up the road, the Gallitzin Tunnels Park and Museum has exhibits that highlight the three tunnels (one now closed) at the summit of the Alleghenies, the highest point on the NS Pittsburgh Line.

At Hamburg, north of Reading, the Reading Co. Technical & Historical Society maintains the Reading Railroad Heritage Museum. A collection of more than 70 pieces of rolling stock forms the core of this site, which also offers yard tours and library facilities.

And near Erie, the Lake Shore Railway Historical Society operates a museum in the former New York Central North East, Pa., station, adjacent to the CSX Chicago-Albany, N.Y., main line. Among the equipment displayed are several locomotives built at the nearby GE plant in Erie, including a former Chicago South Shore & South Bend "Little Joe" electric; Wellsville, Addison & Galeton center-cab switcher No. 1700; and a U25B freight locomotive, NYC No. 2500.

While Pennsylvania's electric and interurban railroad heritage pales in comparison to that of the Midwest, the state is home to three operating trolley or interurban museums.

With a station on the grounds of Steamtown at Scranton, the Electric City Trolley Museum Association offers a 5.5-mile ride over a portion of the former Lackawanna & Wyoming Valley interurban. The line passes through a 4,747-foot-long tunnel, one of the longest built for an interurban in the U.S., then ends at a sports venue on Montage Mountain. Most of the 25 cars in the group's collection were built by the J.G. Brill Co. of Philadelphia, once among the

largest suppliers of streetcars in the U.S.

At Rockhill Furnace, the Rockhill Trolley Museum uses a portion of the former EBT Shade Gap Branch right-of-way. This museum has continued to run despite the shutdown of the EBT in 2011. Among its many operating cars are one of the two former Chicago North Shore & Milwaukee *Electroliners*. Rechristened as *Liberty Liners*, they served the Norristown High Speed Line after North Shore's 1963 demise and were retired from revenue service in 1978.

At Washington, Pa., the Pennsylvania Trolley Museum is the oldest such site in the state, being founded in 1954. With around 50 cars in its collection, a 3.5-mile ride, and several restored trolley buildings from around western Pennsylvania, it is the biggest and most impressive of the state's trolley operations.

RAILFAN SITES

Four railfan bed-and-breakfast inns thrive in the state, all on main lines. The Bridgeview Bed & Breakfast at Marysville sits adjacent to Rockville Bridge. The Station Inn at Cresson is positioned directly across the street from the Pittsburgh Line's West Slope, with an excellent view of helper operations. A few miles away, The Tunnel Inn at Gallitzin stands just 20 paces from the Jackson Street Bridge, which overlooks the western portals of the double-track Allegheny Tunnel. In Western Pennsylvania, the Fallston Flagstop offers views of three CSX and NS lines, but book early as it has but a single guest room.

All of this makes Pennsylvania one of the premier railroad states in the U.S. When are you going? **I**



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Big Steam surprise

Despite hurdles, mainline-worthy machines roll on

▲ **Big Steam on the road to restoration:** Nashville, Chattanooga & St. Louis 4-8-4 No. 576, the last of its kind, pauses at Nashville Union Station (now a hotel) on March 9. CSX was towing the locomotive to the Tennessee Central Railway Museum shop to begin a multiyear restoration. Special effects smoke simulated open cylinder cocks. Dean Mastoras

2019 WAS SUPPOSED to be a major drought year for Big Steam. Positive train control was and is a big, expensive issue for mainline steam excursions. So is Amtrak's ban on special moves. The lingering legacy of Hunter Harrison's Precision Scheduled Railroading doesn't help with its fixation on the operating ratio.

Despite all of that, Big Steam is having a relatively good year beyond Union Pacific and its Big Boy 4-8-8-4 No. 4014 public relations juggernaut set to launch in early May. Clever steam operators have found ways to run their steeds on friendly short lines, savvy tourist operations, and regional railroads. Here's a quick preview of the year ahead:

- Iowa Interstate's Americanized Chinese QJ 2-10-2, No. 6988, will pull short excursions in Illinois in May, and in Iowa in late

June and early July through the nonprofit Central States Steam Preservation Association.

- Minneapolis-based Milwaukee Road 4-8-4 No. 261 will pull excursions for the Milwaukee Road Historical Association on the tracks of the Twin Cities & Western and its

subsidiary Minnesota Prairie Line June 22-23. No. 261 will operate westbound and newly acquired Milwaukee Road E9A No. 32A will pull eastbound trips back to Minneapolis.

- Nickel Plate Road 2-8-4 No. 765 will return for the sixth straight year to Ohio's



Roanoke, Va.-based Norfolk & Western Class J No. 611 is in residency at Pennsylvania's Strasburg Rail Road this fall. TRAINS: Jim Wrinn

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Cuyahoga Valley Scenic Railroad for two long weekends, Sept. 20-22 and 27-29. The engine will not visit Chicago's Metra commuter railroad in 2019 on account of PTC.

- Norfolk & Western J Class 4-8-4 No. 611 will visit a new venue, Pennsylvania's Strasburg Rail Road, in September and October for multiple events solo and with Strasburg's own N&W M Class 4-8-0 No. 475.
- Southern Pacific 4-8-4 No. 4449 will be fired up in August for the National Garden Railway convention and again late in the year for Holiday Express Trains on shortline partner Portland & Western.
- Pere Marquette 2-8-4 No. 1225 booked a 120-mile Mount Pleasant, Mich.-Cadillac, Mich., round trip for Oct. 5.

Not bad for what was supposed to be an off year. And more Big Steam is on its way.

In March, CSX towed Nashville, Chattanooga & St. Louis 4-8-4 No. 576 from an unloading site in west Nashville across town to the Tennessee Central Railway Museum for a multiyear restoration. In late July, the Kentucky Steam Heritage Corp. plans to move Chesapeake & Ohio 2-8-4 No. 2716 from Kentucky Railway Museum to its restoration center in Ravenna, Ky.

In Los Angeles, excursion veteran Santa Fe 4-8-4 No. 3751 continues boiler work. In Albuquerque, N.M., excursion new-



From Pikes Peak to museum

The Colorado Railroad Museum in Golden has received three power and passenger cars from the Broadmoor Pikes Peak Cog Railway, formerly the Manitou & Pike's Peak Railway, Nos. 7, 9, and 12. The museum is also home to the cog's first steam locomotive. Dave Schaaf

comer Santa Fe 4-8-4 No. 2926 is getting its finishing touches. Back in Portland, 4-8-4 No. 700 of the Seattle, Portland & Spokane Railway, continues its overhaul.

Any steam outfit with mainline aspirations is working to acquire PTC gear. Some are getting help with the high cost of the equipment. Early in 2019, the John Emery

Rail Heritage Foundation issued \$500,000 to 29 nonprofit railway preservation organizations. Included in those grants were funds for PTC gear for Nos. 261, 765, and 2926.

Big Steam's supporters are a hearty lot. They do not give up easily. Innovations are pushing the steam-gauge needle. There will be plenty of steam in 2019. — Jim Wrinn

SPECIAL INTEREST TOURS

October 11-20, 2019

Keystone Railroad Delights

Explore Pennsylvania ^{by} Rail

including:

- Steamtown
 - Horseshoe Curve
 - Strasburg Rail Road
 - Reading Blue Mountain & Northern Railroad
 - Middletown & Hummelstown Railroad
 - Electric City Trolley Museum
 - Railroad Museum of Pennsylvania
- ...And more!



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Short line: Pacific Harbor Line

America's two biggest ports share one hardworking short line

▲ A "Dock Job" works along the Dominguez Channel in Wilmington, Calif., in March 2011.

WITH CLOSE TO 40 DAILY JOBS, Pacific Harbor Line might be the busiest short line in America. Cobbled together from pieces of the Pacific Electric, Santa Fe, Southern Pacific, and Union Pacific is a 24-hour railroad.

While most of the railroad runs behind industrial fencing, there are opportunities to photograph its operations. Much of the accessible right-of-way is in industrial areas overrun with homeless. Also, four law enforcement agencies patrol the harbors. Be honest and there is a good chance they will move on.

LOCATION: The ports of Long Beach and Los Angeles, 24 miles south of downtown LA.

TYPICAL DAY: Operations are virtually nonstop. Jobs include dedicated switchers isolated at marine company yards, about two dozen BNSF Railway and Union Pacific "Dock Jobs" handling cuts of containers,

Roster

Nos. 20-21

Model: MP20B-3

No. 24

Model: EMD24B

Nos. 30-31, 33-34

Model: 3GS21B

No. 40

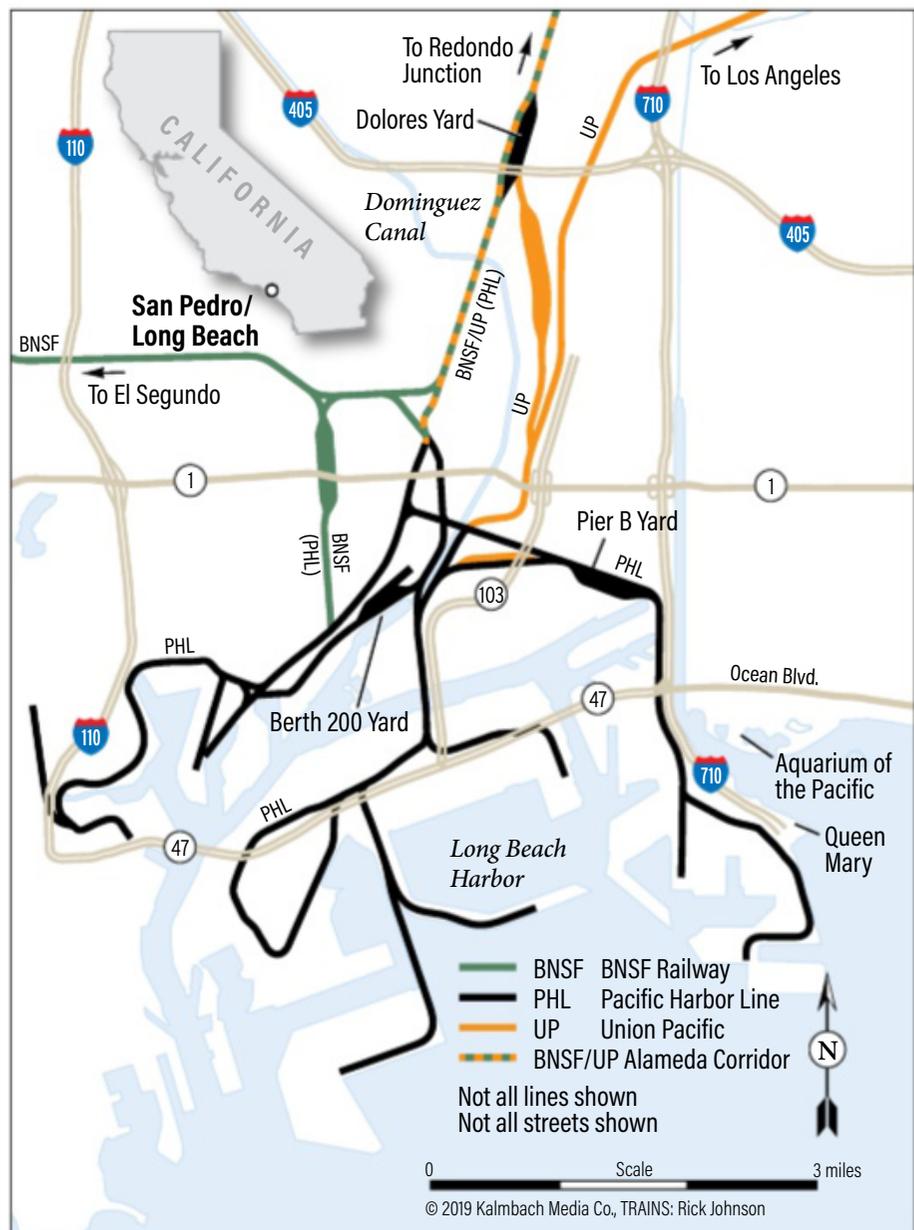
Model: PR43C

Nos. 60-73

Model: MP20C-3

Nos. 80-81

Model: 3GS21C





A container train rolls along Pier B Street in Long Beach in March 2012 with a MP20C-3 in charge. Three photos, Charles Freericks

and manifest jobs that serve customers from Terminal Island to Compton.

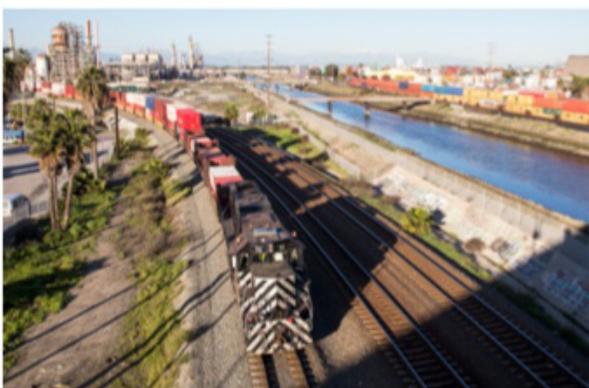
BEST VIEWING: Tracks follow the Dominguez Channel under the Anaheim Street overpass in Wilmington. Park on Henry Ford Avenue and walk to the top of the overpass. Crossing Anaheim on the bridge is not safe, so pick a side in advance. Many other photo locations require mobility. Listen to the PHL dispatcher at Badger Bridge (Channel 58, 160.980 MHz) and keep a railroad map nearby. When a train gets permission, drive to a spot to see it.

Better access points include the corner of Front Street and Gibson Boulevard for the Amerigas Switch, the Avalon Boulevard grade crossing for westbounds out of Berth 200 Yard, the Chowder Barge parking lot for westbounds from Terminal Island to Berth 200, Pier B Street in Long Beach, the wye at Young Street and Henry Ford, and the southern end of Dolores Yard. If you are lucky to catch a move, there is also street running on McFarland Avenue.

WHY VISIT?: Where else are you going to see five types of standard-cab power in Santa Fe zebra stripes in 2019?

DON'T MISS: Be sure to see the modern enginehouse in Berth 200 Yard. It is the only place you're going to see a good portion of the locomotive roster.

NEARBY: Minutes away is the *Queen Mary*, now a hotel. The Aquarium of the Pacific at the Long Beach marina is also great for boat-watching. — Charles Freericks



MP20C-3 No. 72 works along the canal in Wilmington, as seen from Anaheim Street.

Ride this train!

A Family Railroad Fun Guide

Travel Through Time On Indiana's Most Scenic Railroad WHITEWATER VALLEY RAILROAD



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MORE ON MRVP

Big Boy restoration from the beginning



Bracketed by diesel power, No. 4014 is towed over Cajon Pass en route to restoration in Wyoming. Drew Halverson

UNION PACIFIC'S magnificent 4-8-8-4 articulated steam locomotive No. 4014 is back under steam. It was a long road to restoration for the Big Boy, an effort that began in 2014 with a memorable journey from Southern California to Wyoming. Of course, the TRAINS editorial staff was there to capture the first steps for printed features in the magazine.

MRVP's Drew Halverson had his video camera rolling as the impressive power rolled across the desert landscape between Los Angeles and Las Vegas, Nev. Through MRVP exclusive video footage captured for **Drew's Trackside Adventures: Episode 15**, you can experience this thrilling, history-making event along the UP main line. A trek that began with Drew mingling with fellow onlookers at West Colton, Calif., quickly shifted to Cajon Pass. That's where Drew first captured the Big Boy under tow, before he raced on to a servicing stop at Victorville, Calif., and then dashed off to capture views of the mighty motive power in the desert.

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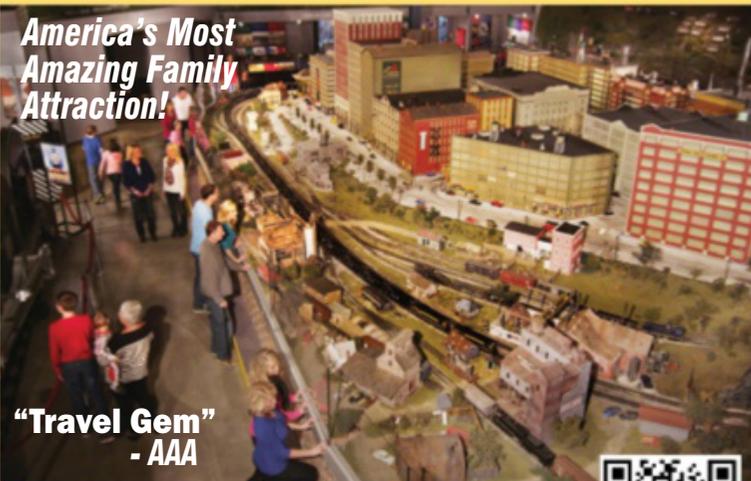


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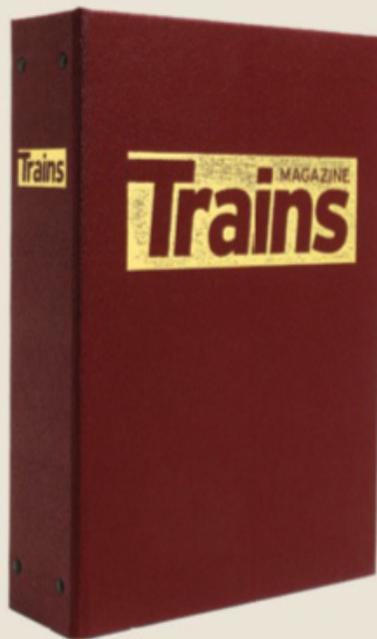


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◀ Union Pacific SD60 No. 2181 is on the point of a welded rail train tucked into the storage siding at Woodford, Calif., for the weekend in March 2002. Howard Ande

Q Is Union Pacific the only U.S. carrier to use long strands of welded rail? — Steve Mawhinney, Roseville, Calif.

A There is no formal definition for long rail, but the term is used when describing the rails which are welded together to produce continuous welded rail, or

CWR. Most CWR is produced at a rail welding plant by welding together 18 strings of 80-foot rail to produce one 1,440-foot string of rail. This is loaded

onto a rail train and installed in the track before being welded to its neighbors.

Two mills that produce so-called long rail are Nippon Steel

& Sumitomo Metal Corp. in Japan and Steel Dynamics in Columbia City, Ind. The rail arriving in Stockton, Calif., from Sumitomo is 480 feet long. It travels aboard the custom-made ship *Pacific Spike*. UP unloads this rail and then welds three 480-foot sections together into a normal 1,440-foot string. Steel Dynamics rolls 320-foot rails and welds them into 1,440- or 1,600-foot strings, depending on the customer. Brad Kerchof, director of research and tests at Norfolk Southern, says that the most important advantage of long rail is fewer welds. This is most important for maintenance and reliability, since welds are weaker than unbroken rail and are more prone to defects and uneven wear. It also saves money on welding.— Tyler Trahan

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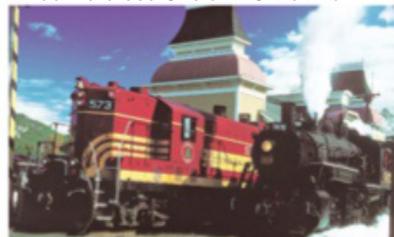


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**In the July issue****Long-distance goodbyes
Passenger trains
that are no more**

AMTRAK has eliminated many long-distance routes in its history. We take a look at the lines that are no more and lessons for today. **EXTRA 4014 WEST** is our look at Union Pacific's newly restored Big Boy steam locomotive on its inaugural run. Robert Scott takes us to visit a Pacific Northwest short line, the **PUGET SOUND & PACIFIC**. And we'll examine the importance of **FREIGHT TRAIN CONSISTS** to safety as well as efficient operations. All that and more in our next issue!

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RAIL SHOWS AND EVENTS

MAY 4, 2019: Toledo, Ohio. 12th Annual National Train Day celebration. 9:30am-4:00pm. Martin Luther King, Jr. Plaza. Rolling stock, operating layouts, children's train, speeder rides, vendors, historical and visionary exhibits. FREE admission, FREE parking. traindaytoledo@aol.com Facebook: NationalTrainDayToledo

MAY 18-19, 2019: Model Train and Railroadiana Show at the North Carolina Transportation Museum in Spencer, North Carolina. Saturday 9:00pm-5:00pm. Sunday 12:00am-5:00pm. Dealers, layouts, clinics, train rides and more for the whole family! Details: nctrans.org or 704-636-2889 ext. 251.

JUNE 1-2, 2019: Tampa Model Train Show & Sale. Florida State Fairgrounds (Special Events Center), Tampa, Florida. Saturday 9:00am-5:00pm and Sunday 10:00am-4:00pm. Over 300 tables, thousands of railroad items for sale. Early admission available Friday P.M. (May 31st) Parking fee. LSSAE: Miller, 3106 N. Rochester St., Arlington, VA 22213, 703-536-2954. E-mail: rrshows@aol.com or www.gserr.com

JUNE 9, 2019: 43rd Annual Kane County Railroadiana and Model Train Show. Kane County Fairgrounds 525 South Randall Road, St. Charles, IL. Sunday, 10:00am-3:00pm Admission: \$6.00 w/tax. Tables \$60.00. Information: 847-358-1185, RussFierce@aol.com or www.RRShows.com

JULY 27, 2019: Rail Fair, Copeland Park, Rose & Clinton Streets, La Crosse, WI. 10:00am-4:00pm. Admission \$5.00 adults, under 12 free. Railroad Show, Sale & Exhibition. 608-781-9383

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Pikes Peak sunrise

The cool breeze begins to nudge the warm river fog an hour before sunrise as an eastbound loaded unit oil train crosses the Wisconsin River where it unites with the Mississippi River at Pikes Peak State Park, Iowa, on Oct. 8, 2017.

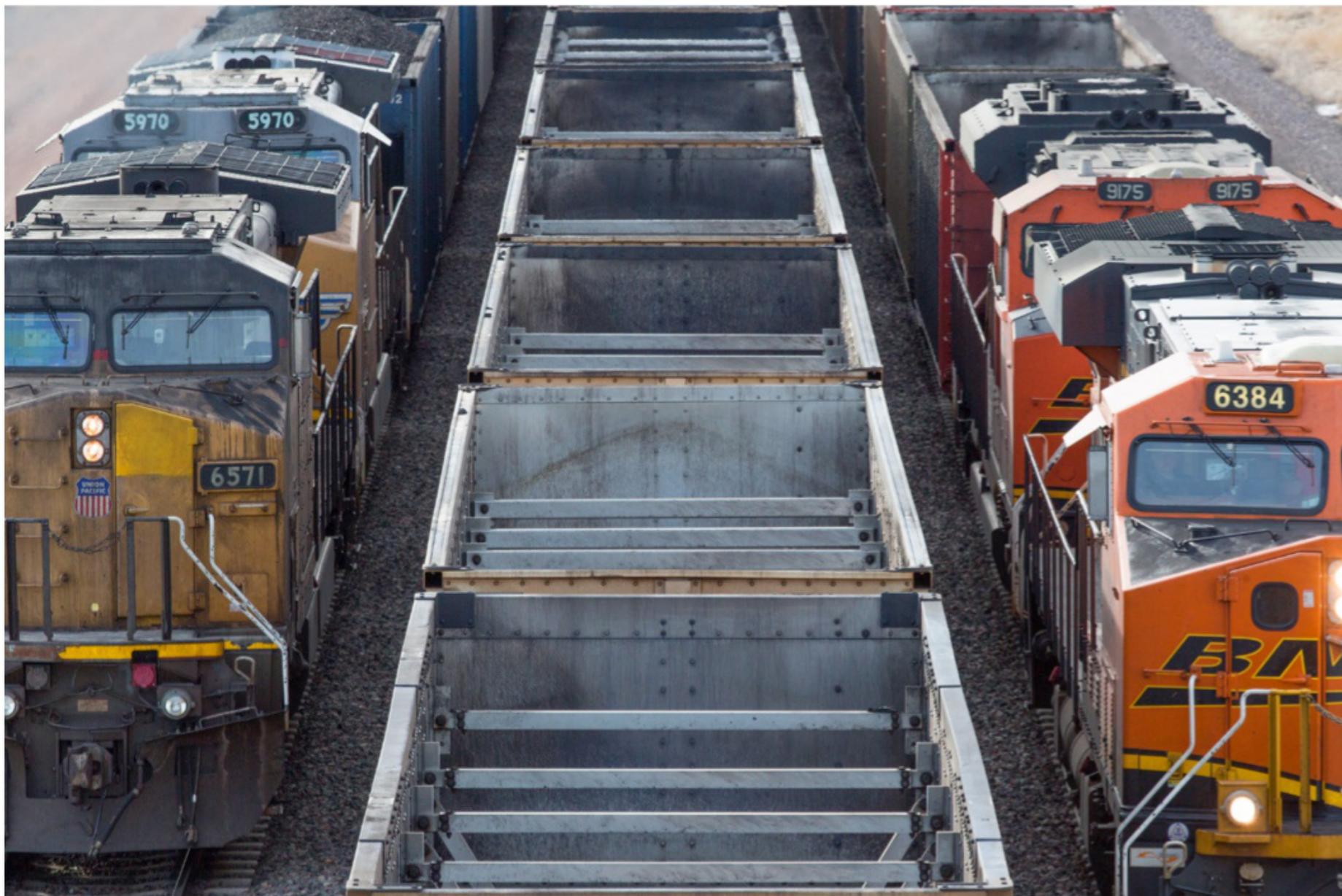


Black diamond winter

Wyoming's Powder River Basin holds billions of cubic tons of subsurface coal across a roughly 120-by-200-square-mile high desert plain where ranchlands coexist with enormous mining operations. A loaded, departing BNSF Railway unit coal train navigates converse curves, as winter winds whistle through the parched tall grass and snow fences. The U.S. consumes about a billion tons of coal annually, of which 40 percent comes from the PRB.







Triple threat

A 30-mph subzero wind chills the silent, barren land south of Bill, Wyo., on Jan. 23, 2016, when three Powder River coal trains pass, momentarily filling the scene with smoke and the deafening whine of turbochargers and A.C.-traction motors. The photographer has a firm grasp of his camera to capture the image as more than 20,000 hp shakes the dilapidated wood overpass under his feet.



Glass slipper

Sunrise illuminates the Indiana Harbor Belt in Brookfield, Ill., on Dec. 11, 2011. Four Union Pacific GE Dash 9s are on the point of a unit train of refrigerator cars waiting for block signals to clear. Ice coats the wheel sets, reminiscent of this train's previous two-day winter battle from California.

City of Lights

A parade of trains moves across the Parisian landscape as the Eiffel Tower, perhaps the world's best-known structure, greets the evening of March 11, 2017. The Paris Javel RER Station's pedestrian crossover offers the photographer an opportunity to capture an arriving and departing pair of Metro rush-hour trains.

