

There's More at TrainsMag.com



**Discover new and
exclusive content!**



LIVE WEBCAMS!



HOT SPOTS!



**News Wire — Get
railroading news
as it happens!**

As a *Trains* subscriber, you get full and instant access to extraordinary online content, including:

News Wire

- 50+ original stories each week.
- Live reporting of breaking news events.
- Access to industry executives and insiders.
- Exclusive articles and interviews.
- Industry insight from well-known contributors like Bill Stephens, Bob Johnston, and Justin Franz.
- And much more!

Live Webcam

View live streaming of the UP and BNSF crossing at Rochelle, Ill. on your computer, tablet, or smartphone.

Map Archive

Search 85+ railroad maps by era, type, or keyword.

Video Library

View 100+ exclusive videos showcasing railroads from across North America — Class 1, short line, and steam tourist railroads.

Blog Posts & Forums

Follow your favorite *Trains* contributors as they discuss a variety of interesting topics, from railfanning to current issues in railroading.

Plus, **Hot Spots, photo galleries**, and more!

**To access your online benefits, go to
TrainsMag.com and register your account!**

LESSONS FROM AMTRAK'S LOST TRANSCONTINENTAL TRAINS p. 22

Trains

www.TrainsMag.com • July 2019

Positive
train
control
expert
Q&A p. 10

Keystone
State hot
spot p. 50

BIG BOY LIVES

Back on the rails
after 60 years p. 40

Freight train
composition
101 p. 32



PLUS

New roles for old General Electrics p. 18

Eric Williams' gallery at dusk and dawn p. 58

**BONUS
ONLINE
CONTENT
CODE PG. 5**



*“Family
Magic
OF
Trains”*



Saturday, July 6 & Sunday, July 7

Open 10 a.m. – 5 p.m. both days

Vintage Toy Trains • Collector Trains • Operating Layouts
Vendors & Exhibitors • Train Dealers • Railroad Clubs & Organizations

Buy Discount Tickets at

MENARDS®

or Menards.com/trains

Discount Price

\$3⁰⁰

Door Price \$6

Children 17 & Under Free

Chippewa Valley Expo Center

5150 Old Mill Plaza • Eau Claire, Wisconsin

I-94 exit 59, located on HWY 312

InternationalToyTrainExpo.org

Sponsored by Kalmbach Media, Model Train Classics, LLC, and Operation Life Saver.



Welcome back, No. 4014

Union Pacific Big Boy No. 4014 will create a new generation of enthusiasts and railroaders



Jim Wrinn

jwrinn@kalmbach.com

[@TrainsMagazine](https://twitter.com/TrainsMagazine)

[@trains_magazine](https://www.instagram.com/trains_magazine)

In May, Union Pacific inaugurated Big Boy No. 4014 with a show-stopping victory lap on its historic route between Cheyenne, Wyo., and Ogden, Utah. Thousands showed up, and UP, much as it did with the Bush Funeral Train last December, got tons of great ink and air time. The engine also did a lot for the long-term outlook for both enthusiasts and professionals.



UP Big Boy No. 4014 rolls onto the main line at Cheyenne, Wyo., May 2, 2019. TRAINS: Jim Wrinn

Big Boy has the power to attract and keep a crowd. Watch those two sets of main rods moving back and forth, and it's like watching a sprinter's legs in slow motion.

I predict that Big Boy in steam will be the gateway to a whole new generation of railroad enthusiasts. It's also a way to attract people who will want to make railroading their life's work because it is railroading, and it is fascinating.

I know this from experience. I was the 5-year-old on dad's shoulders the day Southern Railway 2-8-2 No. 4501 showed up in Asheville, N.C., a day late but no less impressive. It set me on a life-long love of railroading, made me find this publication the following year, and set me on the course to prepare this report for you.

So, as Big Boy travels other parts of the UP this year and in coming years, go out and enjoy the engine. It is impressive. But look around at the people watching the engine. Somewhere in the crowd is a kid who will grow up to become a locomotive engineer; somewhere there's a youngster who recognizes how cool railroad technology is and wants to take it the next step; and there's a young person who wants to record today's railroad scene and interpret it.

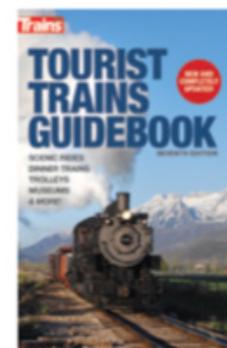
Thanks UP, No. 4014, and crew!

TOURIST TRAINS GUIDEBOOK

A staple for anyone who wants to go in search of amazing museums and fantastic train rides, the seventh edition is out, and it contains all updated entries and new photos.

The descendant of the original Steam Passenger Directory that many of us relied on as kids to find out where to go, this guide is full of useful information to

help you plan your next day trip or vacation. Look for it at KalmbachHobbyStore.com.



LAST CALL FOR FALL

Our fall tours are filling up fast. Space is available on our Pennsylvania and Switzerland tours, if you act soon. Call 727-330-7738 or go to SpecialInterestTours.com. Tell them Jim sent you!

Editor Jim Wrinn

Art Director Thomas G. Danneman

Production Editor Angela Pusztai-Pasternak

Associate Editor David Lassen

Associate Editor Brian Schmidt

Digital Editor Steve Sweeney

Editorial Assistant Diane Laska-Swanke

Senior Graphic Designer Scott Krall

Graphic Designer Samantha Primuth

Lead Illustrator Rick Johnson

Production Specialist Sue Hollinger-Klahn

Librarian Thomas Hoffmann

Editorial Director Diane M. Bacha

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

CUSTOMER SERVICE

phone: (877) 246-4843

Outside the U.S. and Canada: (903) 636-1125

Customer Service: customerservice@TrainsMagazine.info

ADVERTISING SALES

Advertising Sales Representative Mike Yuhas

Ad Services Representative Christa Burbank

phone: (888) 558-1544, ext. 625

email: adsales@trainsmag.com

EDITORIAL

phone: (262) 796-8776

email: editor@trainsmag.com

fax: (262) 798-6468

P.O. Box 1612

Waukesha, WI 53187-1612

Founder A.C. Kalmbach, 1910-1981

SELLING TRAINS MAGAZINE OR PRODUCTS IN YOUR STORE:

phone: 800-558-1544

Outside U.S. and Canada: 262-796-8776, ext. 818

email: tss@kalmbach.com

website: www.Retailers.Kalmbach.com

TRAINS HOME PAGE

www.TrainsMag.com

KALMBACH MEDIA

Chief Executive Officer Dan Hickey

Senior Vice President, Finance Christine Metcalf

Senior Vice President, Consumer Marketing Nicole McGuire

Vice President, Content Stephen C. George

Vice President, Operations Brian J. Schmidt

Vice President, Human Resources Sarah A. Horner

Senior Director, Advertising Sales and Events David T. Sherman

Advertising Sales Director Scott Redmond

Circulation Director Liz Runyon

Art and Production Manager Michael Soliday

New Business Manager Cathy Daniels

Retention Manager Kathy Steele

Single-Copy Specialist Kim Redmond

Subscription rate: single copy: \$6.99; U.S. 1 year (12 issues) \$42.95; 2 years (24 issues) \$79.95; 3 years (36 issues) \$114.95. Canadian: Add \$12.00 postage per year. All other international subscriptions: Add \$15.00 postage per year. Payable in U.S. funds, drawn on a U.S. bank RT.

©2019 Kalmbach Media Co. Any publication, reproduction, or use without express permission in writing of any text, illustration, or photographic content in any manner is prohibited except for inclusion of brief quotations when credit is given. Title registered as trademark.

TRAINS assumes no responsibility for the safe return of unsolicited photos, artwork, or manuscripts. Acceptable photos are paid for upon publication. Photos to be returned must include return postage. Feature articles are paid for upon acceptance. For information about submitting photos or articles, see Contributor Guidelines at www.TrainsMag.com. Printed in U.S.A. All rights reserved. Member, Alliance for Audited Media.



In this issue

July 2019

Vol. 79, No. 7

Features

Amtrak's lost transcons p. 22

Cross-country trains have come and gone; once eliminated, they're unlikely to return

Bob Johnston

Train makeup 101 p. 32

Or, how not to let this happen to you

David Iyata

COVER STORY

Big Boy resurrection p. 40

For the 150th anniversary of the Golden Spike, Extra 4014 West

Jim Wrinn

Gallery p. 58

Eric Williams

<< Montana Rail Link's Laurel-Missoula manifest freight slithers along the Missouri River east of Toston, Mont., on June 24, 2015. Tom Danneman

In every issue

Online Content Code: TRN1907
Enter this code at: www.TrainsMag.com/code
to gain access to web-exclusive content

News

News p. 10

Steven Ditmeyer; Diving into the *Crescent's* woes

Locomotive p. 18

From main line to short line

Passenger p. 20

VIA's summer shuffle

Departments

From the Editor p. 3

Welcome back, No. 4014

Preservation p. 48

Steam to keep watch on

Train-Watching p. 50

Hot spot: Gallitzin/Cresson, Pa.

Editor's note: "Ask TRAINS" and "Conversations" are on hold this month.

Commentary

Fred W. Frailey p. 16

Florida's great experiment

Brian Solomon p. 17

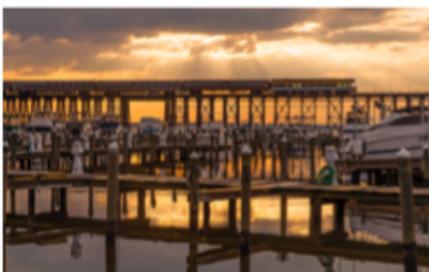
Running steam on a busy main line



ON THE COVER:

Big Boy No. 4014 rests at Rawlins, Wyo. At dawn, it will continue west to Wamsutter and Rock Springs, Wyo., on **May 5, 2019**. Zach Pumphery, lighting by Ryan Nicolay

On the web TrainsMag.com



TRAINS BLOGS

Check out what TRAINS' staff and contributors say about railroads and train-watching.

Photo by George W. Hamlin



TRAINS INSTAGRAM

Share your photos and videos with @trains_magazine.

Photo by Brian Schmidt



TRAINS NEWS WIRE

Subscribers can access all the latest railroad industry news and updates to stories daily.

Photo by David Lassen



TRAINS NEWSLETTER

Sign up on our homepage for a free weekly email newsletter to learn what's in our latest issue, get hot news, watch videos, sign up for trips and events, and more.

Photo illustration by Tom Danneman

Follow us on



facebook.com/TrainsMagazine



twitter.com/TrainsMagazine



[@trains_magazine](https://instagram.com/trains_magazine)

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

We Keep Rail Moving

Track Inspection Cars | Track Maintenance Planning Solutions | Autonomous Track Inspection Systems | Vehicle/Track Interaction Testing and Consulting Services

ENSCO Rail has nearly a half century of experience providing the global rail industry with innovative track condition monitoring and maintenance planning technologies. We empower our customers to optimize and improve the operations and safety of their railroads. When it comes to moving people and assets, ENSCO Rail is a trusted partner to help ensure the safety and efficiency of your operations.



Accelerating Technology. Leveraging Data. Increasing Safety.

+1 703.321.4515 | rail@ensco.com | www.enscorail.com

ENSCO Rail is a wholly owned subsidiary of ENSCO, Inc.

Rail grinding to go.



The Loram RGT is the industry's most powerful hi-rail grinder.

©2019 Loram Maintenance of Way, Inc.

Get there fast. Get done faster. The Loram RGT is the most powerful and productive, hi-rail specialty rail grinder that arrives at its destination by virtually any North American roadway. Deploy and recovery times are a swift 5-minutes. Its fully-flexible 8-stone rail grinding buggy – equipped with 30 hp motors turning Loram-formulated 6” and 10” grinding stones – delivers the most finishing power and capabilities of any truck-mounted solution. Maintain switches, crossings, transit track, open rail, areas of general service or remediate exceptions. Your railway can profit from a solid foundation of proper maintenance with **Loram, the global leader in maintenance of way services and equipment. Loram.com**

Rail Grinding | Ballast Maintenance | Friction Management
Material Handling | OEM | Geotechnical Services

LORAM 
SPEED PERFORMANCE RELIABILITY



For those of us who have attended or participated in the annual Wheel Rail Interaction conference over the past 25 years, the conference speaks for itself. What started as a one-off seminar with three speakers and the opinions of a room full of die-hard rail maintenance experts has expanded to a three-part conference with more than 35 speakers (and a room full of die-hard maintenance experts) addressing the latest practices and technologies to manage wheel/rail interaction. The success of WRI and everything the industry has learned from it, is owed to its founder and chief enthusiast, Gordon Bachinsky.

But don't take my word for it, see what a few of those die-hards have to say about 25 years of WRI.

— **Bob Tuzik**, *Executive Program Director, Wheel Rail Seminars*

A white Holland TrackSTAR truck is shown in a field. The truck has "Holland TrackSTAR" branding on the side and front. The background shows green trees under a blue sky.

Holland[®]

Look for **us** at the WRI '19 Conference
in New Orleans, June 18 - 21, 2019

Call 708.672.2300
Follow #HollandLP
Visit hollandco.com

Reprofiles your rails in a single sweep



Multi Purpose Milling Machine: The flexible solution for correcting severe rail and switch faults on hotspots, tunnels and bridges. The machine's advanced machining precision and efficiency reprofiles the rails in a single sweep and achieves almost as-new results. World's cleanest process: dust-free, spark-free!

2815 Coliseum Centre Dr. – Suite 450
Charlotte, NC 28217
www.vossloh-north-america.com

vossloh
North America

WRI 2019

Whitmore Rail®, an established leader in Comprehensive Friction Management, is one of the only companies in the world to combine

NEXT STOP, COMPLETE FRICTION MANAGEMENT.

advanced application equipment with performance lubricants and friction modifiers.

We offer the most state of the art electric and mechanical trackside applicators, paired with our track-mounted components, including gauge-face and top-of-rail wiping bars plus more.

Bring it all together with our proven petroleum and biodegradable rail curve and switch plate lubricants or top-of-rail friction modifiers.

Make Whitmore Rail your only stop for Friction Management. Contact us today at 972.771.1000 or sales@whitmores.com.

VISIT US AT
WRI 2019

WHITMORE
RAIL

whitmores.com/rail

An ISO 9001 and ISO 14001 registered company



I have attended WRI since 2010. From the start, I recognized WRI is the best seminar in the industry: I have gotten more out of WRI than any other conference. The reasons have everything to do with Gordon Bachinsky's enthusiasm, commitment to the audience, and to the extraordinarily knowledgeable and dedicated group of speakers and support staff that are assembled each year.

If you would like to attend a railroad engineering conference where the relationship between wheel and rail is front and center; if you look forward to listening to presenters who are experts in their field and are very much interested in sharing what they know; if you could benefit from presentations that provide practical information as well as the underlying theory; if you want an agenda that includes time for questions and value-added discussion; if you want to see how the rubber meets the road, so to speak, in the wheel-rail environment, then WRI is the conference for you.

— **Brad Kerchof**, *Director of Research & Tests, Norfolk Southern*

Thank you, Gordon, for your visionary leadership over the last 25 years to build WRI into what it is now, a cornerstone of practical rail engineering in the railroad industry. WRI has not only helped preserve and pass on institutional rail wear knowledge from generation to generation of railroaders, but has supported strengthened relationships between railroads and suppliers for the benefit of the industry overall.

— **Scott Paradise**, *Chief Engineer, Canadian Pacific-East Region*

The WRI seminar was my first real education in this critical area that significantly impacts the life of the rail. Leaders know what is important; they know the right questions to ask and when to take action. Thank you, Gordon, for recognizing the need and providing a forum for us to learn from each other and develop the knowledge that has led to the advancement of our programs and the ability to generate real savings.

— **Dan Hampton**, *Manager Contract Services II, Rail Grinding, Shoulder Ballast Cleaning, & Ditching, CSX Transportation*

Gordon and I worked together at CN where we saw the evolution of in-train power, rail infrastructure and maintenance techniques, the use of track/train dynamics, and the rise of wheel/rail interface management. We saw a similar set of challenges facing the rail transit industry. Gordon's background together with his eagerness to understand and get expert opinion on the issues have gone a long way toward making the Wheel Rail Interaction Seminars what they are.

Gordon's personal touch in getting people talking about subjects that previously were held within, due to competitive aspects of the industry, has been exceptional. I sincerely hope that his work and WRI continue to address Railway Engineering Principles and issues relating to commercial heavy-haul railroads and light rail transit systems.

— **F. P. Wyman Jones**, *Director Rail Operations Engineering, LA Metro*

NSH
SIMMONS

STANRAY
Wheel Truing Machines

New!
M1 Above-Floor

The Wheel Truing Standard

smtgroup.com • Albany, New York, USA • A Proud Member Of The NSH Group



Thank you, Gordon, for your vision and belief that Wheel/Rail was a big opportunity for railways and transits to be safer and more viable transporters of the things we love. Congratulations at this 25th anniversary on delivering a silver bullet of inspiration for synergistic thinking of rail as a system.

— **Mike Roney**, *President, Iron Moustache*

I remember from our early years working together at CN that Gordon had a keen interest in rail maintenance—particularly rail grinding—at a time when little was known or understood about wheel/rail interaction. The Wheel Rail Interaction conferences grew from this man’s passion to learn by engaging fellow industry experts in a common effort to improve our industry. Thank you for your commitment, Gordon.

— **George Fowler**, *Specialist/Senior Investigator, Roadbed/Tracks/Sig / Rail - Head Office Operations, Transportation Safety Board of Canada / Government of Canada*

Very early in his railroad career Gordon recognized the fundamental importance, profound influence, and synergistic nature of the wheel/rail interface. He knew that a poor wheel/rail interface could be the root source of considerable problems and expense, and that modest improvements to the wheel-rail interface could generate huge returns for railroads. He believed this strongly and recognized the importance of sharing that belief with others. From the first humble workshop in 1989, through economic upswings and downturns, the wheel-rail seminars have grown into a strong international event attracting ever greater participation each year. The North American Rail Industry owes a large debt of gratitude to Gordon for his tireless missionary work on behalf of the wheel/rail interface.

— **Eric Magel**, *Principal Engineer, Rolling Contact Fatigue, National Research Council of Canada*

Gordon and I have been railway engineering brothers since 1984. Whether in the field, observing battered rail and track, in the office, or socializing over glass of beer, Gordon’s passion over anything “railway” was boundless and contagious. His vision was to bring the latest knowledge in engineering science to railway folks who had to deal with safety, cost and operation issues on a daily basis. He succeeded in a most remarkable way. Over several years of WRI Seminars, some aloof scientific guys learned to speak plain railway English whilst the railway folks figured out how to implement the science stuff in their daily professional lives.

Thank you, Gordon, and thank you, Toni, for your indefatigable support for Gordon’s vision to bring the theory and implementation guys together, year after year, for the past 25 years. Congratulations to Gordon’s team for your success!

— **Joe Kalousek**, *(retired) National Research Council of Canada*

Bogies exceed **MILLION-MILE** barrier

Next-gen **INNOVATION**

Advanced **ENGINEERING** processes

PERFORMANCE-driven solutions

HEAVY HAUL rail leaders worldwide



T R A I N F U R T H E R

FREIGHT | TRANSIT | DIGITAL **Amsted Rail**

amstedrail.com



LINSINGER

high performance

low life cycle costs

milling technology

#trusttheinventor

solution for any application

low noise level
rail life extension

innovation

green technology

predictive maintenance



www.linsinger.com

News

LOCOMOTIVE P. 18 • PASSENGER P. 20



THE TRAINS INTERVIEW

Steven Ditmeyer

Industry veteran sees missed opportunities in implementation of PTC

▲ A westbound BNSF Railway intermodal train passes a Metra commuter train in Berwyn, Ill., on April 20, 2019. BNSF is exploring business benefits of positive train control. TRAINS: David Lassen

STEVEN DITMEYER'S long career in railroading and related industries began as a transportation trainee for the Missouri Pacific Railroad. He has been a transportation economist at The World Bank; chief engineer of research, communications, and control systems at Burlington Northern; and held positions with the Federal Railroad Administration. He is currently the principal at Transportation Technology and Economics, an industry consultant.

Q As a longtime participant with and observer of railroads, what is your opinion of the state of the overall industry?

A The railroads are quite profitable these days. Most of the big ones have adopted Precision Scheduled Railroading, which in my view is neither precision nor scheduled. It's a phrase to

describe a strategy that involves reducing the asset base of the railroads, tearing up double track, closing yards, closing shops, closing intermodal terminals and so on, and reducing operating costs by running fewer, longer trains.

As such, railroad traffic is remaining, I think, quite constant, but railroads are losing market share vis-a-vis trucks, and there's no growth in traffic now.

There's only one railroad that has not adopted Precision Scheduled Railroading, and that's BNSF. [Executive Chairman] Matt Rose has given excellent explanations of why they're not doing it. The other railroads that have adopted Precision



Steven Ditmeyer

Scheduled Railroading seem to be focusing on near-term profitability ... and reducing their operating ratios. But their CEOs do not focus on long-term infrastructure investments.

None of the PSR railroads ever mentions using [positive train control] to help them implement their so-called Precision Scheduled Railroading. Only BNSF is talking about taking its existing PTC system and enhancing it, [by] going to moving blocks, getting rid of wayside signals, integrating their PTC system with locomotive health reporting, maintenance-of-way operations, precision dispatching, and so on.

All the big railroads each spent about \$2 billion on PTC, but only BNSF seems to be focused on getting the business benefits from that investment.

Q You're talking about the



A BNSF train passes PTC equipment and a weather station at Rio, Ill. Steve Smedley

overlay type of PTC here, as compared with the more advanced systems, correct?

A Yes. Even these overlay systems all involve GPS receivers on locomotives. The GPS receivers can give real-time train location and speed information. And the railroads seem not to be using that real-time speed and location information.

There's a great concern about customer service. In fact, Union Pacific issued a press release [recently] announcing 475 people being laid off, because they're having difficulty with provision of service and with congestion on their lines. So their solution was to lay off people. And there was no mention in this press release of "We're going to use the continuous real-time information from our PTC system to help us manage our railroad better."

Q Can you expand on that? How would this information be of use to them?

A Dispatchers on most of the railroads are still working from a traditional centralized traffic control board. They know what block a train is in. They know when a train enters the block and when the train leaves the block, but unless the dispatcher has a stopwatch, they don't know how fast the train is going, and therefore they don't have a prediction of when the train will arrive, either at meet points or at their terminals.

The continuous real-time information from GPS [tells] them precisely where things are and precisely how fast they're going. This gives the railroad a better opportunity to forecast arrival times at meet points and junctions and terminals. It's information management. So many of the



READ THE LATEST RAIL NEWS. VISIT TRAINSMAG.COM



TTX Company needs images of its equipment in action.

We are seeking photos of intermodal equipment, boxcars and other TTX rolling stock in scenic settings for our 2020 calendar and other future marketing materials. Photographers will receive \$300 for full, non-exclusive rights for each image used. Selected images will become the property of TTX and will be retained electronically in our archives for various uses. Some editing of images may occur.

Digital images must be a minimum size of 6" x 8" (or 3,000 pixels by 2,400 pixels) at 300 dpi resolution. Files can be submitted as either JPG or TIFF file formats in RGB or CMYK. Please identify the location of each picture and provide your contact information for payment purposes if your image is featured.

Deadline for entries is August 1, 2019.

Send CDs (CDs will not be returned)

Jerry Vest • TTX Company
101 N. Wacker Drive • Chicago, IL 60606
312.606.2543
www.ttx.com/photography

KALMBACH HOBBYSTORE
Find More of What You're Looking For

Shop for books, DVDs, downloads, gear and other products related to your favorite hobby.

Visit KalmbachHobbyStore.com

P27901

Ron's Books
www.ronsbooks.com
P.O. BOX 714, HARRISON, NY 10528 • ronsbooks@aol.com
(914)967-7541 11AM to 10PM EST FAX (914)967-7492 24HR

NEVER a Shipping Charge within the U.S.*

70's Style - Passenger Trains Around New York City	27.75
A Travel History of Martha's Vineyard	21.50
After Promontory 150 Years of Transcontinental Railroad	45.75
American Steam Locomotives Design & Development 1880-1960	36.75
Amtrak's Auto Train	55.75
Auto-Train in Color	58.75
Canadian Trackage Guide 2019	36.00
Classic Railroad Scenes - H/C	36.75
Conrail Power in Color Vol 5	58.75
Conrail Rainbow Years Vol 1	40.75
Delaware & Hudson Railway Through Passenger Service in Color	58.75
Eureka & Palisade Biggest Little Railroad in the World	75.50
Florida Railroads (Postcard History) - Arcadia	21.50
From Gotham to the Berkshires New York Central's Harlem Division	60.75
Grand Central Terminal and Penn Station Statuary & Sculptures - Arcadia	21.50
Huntington Tracks - Collis & Henry Huntington pre Pacific Electric	55.75
Incentive Per Diem (1970's Box Cars) Color Guide	58.75
Louisville's Street Railways and How They Shaped the City's Growth	55.75
Macon Terminal Station: It's Predecessors and it's Railroads - Arcadia	21.50
Milwaukee Road Badlands Route - From Mitchell to Rapid City	45.75
Milwaukee Road Tales From the Racine & Southwestern	45.75
Modern Freight Cars: Rolling Stock From the 60's Through Today	20.75
My Life With Trains - Memoir of a Railroad - S/C	27.75
Narrow Gauge in the Somme Sector - Before During and After WW1	65.75
New York City Subways - Best of Matt Herson Vol 1 BMT	36.75
Next Stop on Grandpa's Road - NC&STL Railway Depots & Terminals	43.75
Norfolk & Western Power in Color Vol 2 1st Generation Roadswitchers	58.75
Norfolk Southern 2018-2019 Locomotive Directory	32.75
Pennsylvania Railroad Best of Bill Volkmer Vol 1, 2, 3 or 4 each	36.75
Pere Marquette 2-8-4 Berkshire Locomotives	23.75
Rail Competition Along Wisconsin's Western Wall	55.75
Railfanning the Northeast 1934-1954 With Richard Loane Vol 1, 2 or 3 each	36.75
Railroad Photography of Lucius Beebe & Charles Clegg	45.75
Railway Prototype Cyclopaedia Vol 20	45.00
Rio Grande High-Side Gondolas	32.75
Sandy River & Rangeley Lakes RR & Predecessors Vol 5 Town of Farmington	55.75
Santa Fe Power in Color Vol 1	58.75
Shortlines of Northern California Vol 1	65.75
Southern Pacific 1960s-1990s Vol 1 Sacramento to Sparks, NV	55.75
Southern Pacific Western Division	75.50
Southern Pacific's Streamlined Articulateds The Iconic AC-9 Class	27.75
Southern Railway - Flanary	75.50
Speed Graphics & Steam 1958 Vol 1 Ontario	65.75
Steam Railroads of Northern Iowa and Southern Minnesota - Arcadia	21.50
Targeted Tracks - Cumberland Valley RR in the Civil War	30.75
Timber Industry Ghosts	26.75
Tires & Wires - Electric Trolley Coaches Serving 16 Canadian Cities	55.75
Transcontinental Railroad in Utah	21.75
Twenty First Century Narrow Gauge a Pictorial Journey	65.75
Union Pacific America's Premier Railroad For Over 150 Years	34.75
Western & Atlantic Railroad - Arcadia	21.50
Wheat Country Railroad The Northern Pacific's Spokane & Palouse	40.75
When Trains Ruled the Rockies: My Life at Banff Railway Station	20.75

*\$25.00 minimum order for free shipping. Under \$25 add \$4. Send \$3 for latest list. All orders U.S. funds only. NY & CT res. add sales tax. Print name, address and phone. Credit card users add card number, CVC code & expiration date. Allow 4 weeks delivery. All foreign orders sent airmail and billed accordingly. Checks payable to Ron's Books. Inquiries must include SASE. Prices subject to change. WE BUY COLLECTIONS.

SOUTHERN PACIFIC
- 1960s to 1990s -
VOLUME ONE - SACRAMENTO TO SPARKS
The Story Behind The Picture
by DAVID HOUSTON

SHORTLINES OF NORTHERN CALIFORNIA
- Volume One -
Jim Shaw

SP 1960s-1990s 144 Pgs 5995
Vol. 1: Sacramento to Sparks, NV

NEW! 160 Pages - 6995
Both Steam & Diesel Eras
NEW! - In depth Photo Coverage 500 Photos - Brief History of each

= Titles Now Available - see our Website for more =

50 Years North American RRs Vol. 1 or 2 - 160 pages 6995
Burlington Route Passenger Trains - Volume 1 . . . 5995
Central Illinois Rails - Volume 2 - A Color Pictorial 5995
Chesapeake & Ohio Color Pictorial - Volume 2 . . . 5995
Great Northern Frt. Equipment - Book 1 or 3 each 4995
Illinois Central Gulf 1972-1988 - A Color Pictorial 5995
Kansas City Southern Color Pictorial 4995
Milwaukee Road Pass. Trains Vol. 3 - The Mid-West 5995
New England's Colorful Railroads all color 4995
New Haven Color Pictorial Volume 1 5495 - Vol. 2 5995
Pennsylvania Railroad Color Pictorial Vols. 1 or 2 4995
Pennsylvania Railroad Color Pict. Vols. 3, 4, 5 ea 5995
Rail Competition Along Wisconsin's Western Wall 5995
RRs of the Pine Tree State (Maine) Vol 1 or 2 color 4995
Rio Grande (D&RGW) Color Pictorial 5995
Soo Line/CP Rail in the Twin Cities all color 144pgs 5995
SP Pass. Trains - Day Trains - Coast Line 400pgs 7495
SP's San Joaquin Valley Line all color 5495
SP's Sunset Route (Pacific Lines) all color 5995
SP's Texas & New Orleans (T&NO) all color 5995
Western Pacific Color Pictorial Vol. 1 4995 - Vol. 2 5995
Windy City to the Twin Cities CB&Q/BN/early BNSF 5995
Wisconsin Central Heritage Volume 1 all color 5995

If ordered direct we offer FREE SHIPPING

Four Ways West
PUBLICATIONS
14618 VALLEY VIEW AVE - LA MIRADA, CA 90638-4351
Phone Orders: 714-521-4259
email orders: fourwayswest@ca.rr.com
Please Visit Our Website: www.fourwayswest.com

BIG BOY DVD's
Big Boys & Challengers
 Famous UP 4-8-8-4's, and 4-6-6-4's in action. 45 Min. plus bonus \$29.95
UP Steam Classics-Vol 2
 Big Boys & many other classes in regular service. 64 Min. \$31.00
 Music & Narration on both

Greg Scholl Video Productions
 P.O. Box 123-T7, Batavia, OH 45103
 513-732-0660

S&H \$5.00 for total U.S. Order. Canada \$10.00 for 1, \$16 for 2-9. Foreign \$14.00 for 1, \$23 for 2-9. Ohio Residents add 6.75% tax. Visa, MC, Amex, Discover, or MO. Order online at.
<http://www.gregschollvideo.com>

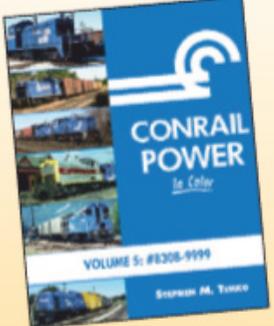
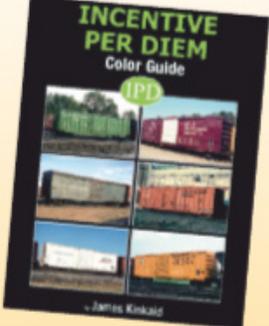
Trains magazine
 is available in
DIGITAL!

You can read
TRAINS
 anytime,
 anywhere!



For more information, visit:
<http://trn.trains.com/digitaleditions>

MORNING SUN BOOKS
 July 2019 Hardcover

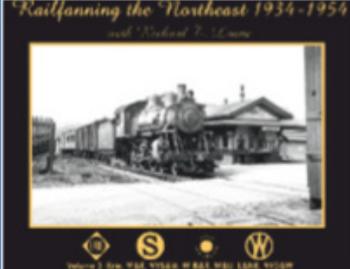
CONRAIL POWER IN COLOR
 VS: 8308-9999
 by Stephen M. Timko Item # 1679

**INCENTIVE PER DIEM
 COLOR GUIDE**
 by James Kinkaid Item # 1680

Order today at \$69.95 apiece!
 Prepublication Price is \$59.95
 Enter code **PREPUB** at checkout
 Free Shipping in US and Canada
 (all others \$21 each). Books shipped U.S. Mail. NJ res. add Sales Tax.
 Call (908) 806-6216 - Visa/MC accepted. 9AM-5PM EST.

Morning Sun Books, Inc.
 c/o W&C, 1200 CR #523
 Flemington, NJ 08822

Softcover Books and eBooks



Softcovers \$39.95 each, same ordering info as above
 Expanded Edition eBooks \$19.99, see website

MorningSunBooks.com

railroads viewed PTC simply as an advanced signal system, rather than really an advanced communications network that gave better quality information.

The challenge is better service to customers. One of the big railroads a few months back called me and said, 'You know, we're having difficulty telling our customers accurate information on when our cars are going to arrive.' Giving better information to customers helps with several things. One is better service you can charge a little more for, and it encourages the shipper to send more business your way. As far as laying off people, starting with Hunter Harrison and now some of the other railroads, it's just "We're going to lay off people. We're going to cut our operating costs." The strategy of laying off people is only to improve the operating ratio.

With this accurate information, you can do a better job of asset management. Knowing when locomotives will become available at other terminals, you could do a better job of crew management, freight-car utilization, and so on. Better asset management comes with the better information.

Q Matt Rose has said that BNSF has more freedom to adopt newer technologies because as the only privately held Class I railroad, it doesn't have to worry about quarterly earnings reports and similar concerns. Do you think that's the main reason other big railroads are not using the technology in the ways you suggest?

A I believe Matt Rose's explanation is the accurate one. But other railroads could do these things. They would have to, in effect, fight their Wall Street analysts. [Rose] talks about his experience before the company was taken over by Berkshire Hathaway, of meeting with young analysts who he would talk to about an infrastructure program, and they would want to know the forecast of the effect of that on your quarterly earnings.

Railroads may end up having to fight Wall Street more. ... There is a real crisis here in how Wall Street evaluates railroads, and that seems to have put a constraint on what railroads want to do and can do.

Also, when the mandate of PTC came, CEOs assigned implementation to their signaling departments. The signaling departments wanted to not just preserve their wayside signals; they saw this as an opportunity to invest in new wayside signals to which

they could attach PTC. That had the effect of basically doubling the cost of PTC implementation. And it also reduced the possibilities of business benefits, because the trains were still constrained by the wayside signals and the relay logic of the wayside signals, so they couldn't run trains closer together and get operating efficiencies out of it.

The other thing is on most railroads, signaling and telecom are widely separated in the organizational structure. Usually the signaling department is associated with the track department, and the telecom department

is associated with information technology. So they're going to come under different vice presidents and so on. At BNSF, they have brought signaling, telecom, and control centers under one person, a vice president. You have to have those groups working together, integrated,

in order to get benefits from PTC.

Q You played a significant role in developing Advanced Railroad Electronics System, an early PTC-type system, at Burlington Northern in the 1980s. [See "When a Railroad Almost Built a PTC System," TRAINS "News Wire," Sept. 26, 2014.] Can you talk about your work on that?

A I was head of our research and development, and I was also chief engineer for signaling and telecom. There was an ARES team established to deal with our contractor, Rockwell International. The people on the team dealt with their home department: mechanical, maintenance of way, signaling, telecom, etc. And they then worked to deal with each other to implement it.

Q Did you have the feeling you were working on something groundbreaking?

A Absolutely. And we demonstrated it to all the other railroads, to shippers, Congress, trade press, and to the union people. The union people were intimately involved. We had strong support from the Brotherhood of Locomotive Engineers and the International Brotherhood of Electrical Workers. ... The Brotherhood of Railway Signalmen was uncertain as to what their future would be. My pitch to them was "Even if the wayside signals disappear, there's going to be a lot more electronics gear along the tracks. Your jobs are not going to disappear. They're just going to be with different pieces of apparatus."
 — Dan Kittay



BNSF executive chairman Matt Rose, left, talks with analyst Anthony B. Hatch at a conference in Lombard, Ill. TRAINS: David Lassen

NEWS BRIEFS

Virgin Trains bond sales open door for expansion



VIRGIN TRAINS USA, the rebranded Brightline passenger service in Florida, raised \$3.5 billion through two sets of bond sales in April. The company said after the second sale that construction would begin "immediately" on its expansion to serve Orlando. It also announced it would begin service to Disney World and a connection to commuter operator SunRail at the same time it starts service to Orlando International Airport. TRAINS: David Lassen

UNION PACIFIC halted construction on its massive Brazos hump yard in Texas and idled humps at yards in Hinkle, Ore., and Pine Bluff, Ark., as part of its "Unified Plan 2020" version of Precision Scheduled Railroading. Money originally ticketed for Brazos will be used for improvements on the Sunset Route — sidings and a yard in Santa Teresa, N.M. — railroad officials said during a quarterly earnings call with Wall Street analysts.

THE CANADIAN TRANSPORTATION AGENCY found that **CANADIAN NATIONAL** violated its common-carrier obligations by imposing limitations on wood pulp shipments in the Vancouver, British Columbia, area in 2018, while clearing **CANADIAN PACIFIC** of the same charge. The agency ordered CN to develop a plan to avoid or minimize future embargoes. CN said it would appeal.

AMTRAK rejected ceding control of Chicago Union Station at a hearing convened by U.S. Rep Dan Lipinski (D-Ill.) on a signalling meltdown that disrupted morning and evening commutes for **METRA** passengers in February. While Metra CEO Jim Derwinski said it was important for Metra — which generates 90% of Union Station traffic — to have "control over our own destiny," Amtrak's senior director of national state relations, Ray Lang, said the passenger carrier was "not interested" in giving up control of the station, which it owns.

Follow
Trains
on Facebook! Like our
page today!



Go to [Facebook.com/TrainsMagazine](https://www.facebook.com/TrainsMagazine)

railroadbooks.biz has 1,900 plus new titles, all at discount!
Domestic shipping FREE over \$63
E-mail for free printable PDF list. chuck@railroadbooks.biz
www.railroadbooks.biz

ORDERS: U.S. (800) 554-7463
BUSINESS & INTERNATIONAL: +01 (812) 391-2664
SEND: \$2 for paper book list.
International Service. Book Search.
PO Box 4, Bloomington, IN, 47402-0004 U.S.A.

Model CX Bi-Directional Derail for Wood, Steel, or Concrete Ties

- Universal Fit
- No Sizing
- No Adzing
- No Shimming
- No Cropping Tie Plates
- No Removal of Anchors



WESTERN-CULLEN-HAYES, INC.
2700 West 36th Place Chicago, IL 60632-1617
Phone (773) 254-9600 Fax (773) 254-1110
Web Site: www.wch.com E-mail: wch@wch.com

US & CA PATENT PENDING

Daytime Excursions, Overnight Options

Duluth to
Two Harbors,
Minnesota



www.DuluthTrains.com

Lodging information:

www.TwoHarborsChamber.com

MOTOROLA SOLUTIONS
Channel Partner

RAILROAD COMMUNICATIONS

MOTOROLA TWO-WAY RADIOS
Portable • Mobile • Locomotive • Base
CP200D, 16F Scan, \$410
XPR7550E, 1000F, Plus Digital, \$797

RAILSCAN
MOBILE GAIN ANTENNA
MHB5800 3db-Gain antenna,
tuned to RR band, mag. mount...\$84

SCANNERS
BC125A W/Narrowband \$155
BC355N W/Narrowband \$140
Please add \$17 for shipping

Railcom
Box 38881 • Germantown, TN 38183

XPR7550

901-755-1514 • www.railcom.net
email: Railcom@aol.com

Big "E" Productions

The Leader in Contemporary Train DVDs

"No More Mindless Runbys"
Our DVDs show the Whole Train

We have 306 DVDs including 34 available in **Blu-ray** that show the whole train. Most of our programs show all of the trains, day and night, for at least 24 hours. Expert commentary gives the train symbol, origin and destination, and explains the history and operations of the railroad or railroads in the video. Our programs are documentaries that cover contemporary railroading from 1992 to the present and were shot in locations all over the United States and Canada.

Call or write for a catalogue
Big "E" Productions
P. O. Box 75, Greenland, NH 03840
800-832-1228 or 603-430-3055, 24 hours a day.
Or visit our Website at www.trainvideos.com

Diving into the Crescent's woes

Amtrak, NS struggle with train's performance

REPORT CARDS never tell the whole story, and Amtrak's annual evaluation of host railroad on-time performance is no exception.

Court decisions have voided punctuality metrics established in 2008's Passenger Rail Investment and Improvement Act, as well as Amtrak's ability to legally enforce — or even define — the statutory "priority" over freight trains it was granted in 1973. Thus, it has resorted to publicly honoring or shaming railroads for handling of its trains [see "Amtrak Slammed by Delays," "Passenger," October 2018].

The version for 2018 assigns an "A" to Canadian Pacific and an "F" to Norfolk Southern, based on each host railroad's ability to deliver state-supported trains within 15 minutes of scheduled arrivals 80% of the time. For long distance trains, the figure is 70%.

An Amtrak attempt to call attention to the report on Twitter by focusing on a single New York-New Orleans *Crescent* delay brought a "cease and desist" letter from an NS attorney, threatening that the railroad "will be forced to consider further action," if similar tweets continued. In response, as reported in March by the Wall Street Journal, Amtrak General Counsel William Herrmann doubled down by listing 11 more instances of NS-hosted trains incurring delays of an hour and a half or more.

The *Crescent*, operating on Norfolk Southern south of Washington, D.C., had consistently been a stellar performer; for instance, the train achieved 83% on a fiscal-year-to-date performance report by Amtrak in August 2012. For calendar 2018 that

Locomotive Leasing - Sales - Service
Full Maintenance Leases
Regional - Shortline - Industrial

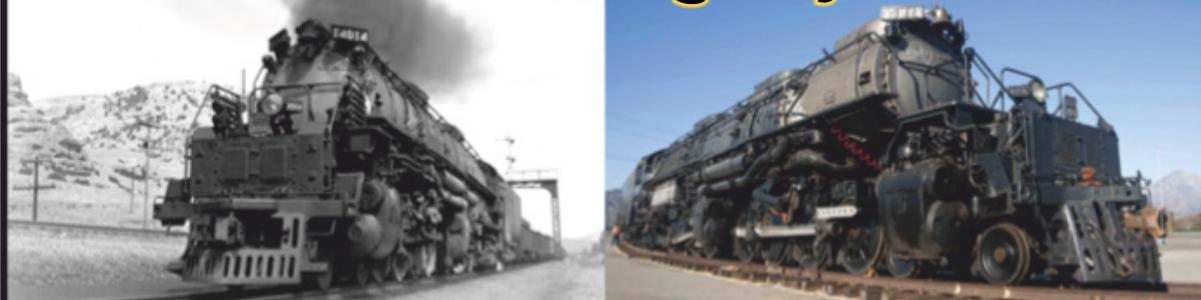
Moving America's Freight

Locomotives ready for immediate lease:
High - Medium - Low Horsepower
Specializing in Pre-Owned
Certified GE Dash-8 Locomotives

Let NIWX Corporation
put you on the right track
to move your freight today.
Call us at (630) 212-8660
or drop an email
to johnh@niwx.com
Visit us on line at
www.niwx.com

NIWX GE C40-8 9129 Moving America's Freight!

Watch *Trains* magazine's coverage of the inaugural runs of Union Pacific Big Boy 4014!



Four camera crews followed the massive 4-8-8-4 on its historic trip from Cheyenne to Ogden to celebrate the 150th anniversary of the transcontinental railroad. See No. 4014 in operation for the first time in 60 years on its home turf.

Trains
See exclusive
Big Boy videos at
www.TrainsMag.com

Coverage sponsored by

**Railfan
Depot**

www.RailfanDepot.com



www.nnry.com



The northbound *Crescent* stops at Meridian, Miss., a significant freight congestion bottleneck, in May 2014. Two photos, Bob Johnston

**AMTRAK CRESCENT ON-TIME PERFORMANCE:
MARCH 23-APRIL 17, 2019**

Arriving at:	Washington, D.C.	Atlanta	Atlanta	New Orleans
More than	Northbound No. 20		Southbound No. 19	
1 hour late	12 (48%)	12 (48%)	9 (36%)	4 (16%)
2 hours late	5 (20%)	5 (20%)	2 (8%)	10 (40%)
3 hours late	7 (28%)	4 (16%)	0 (0%)	5 (20%)
Total arrivals with more than 1-hour delay	24 (96%)	21 (84%)	11 (44%)	19 (76%)

Notes-No. 20: Departed New Orleans on time each of the 25 days measured.
Total recovery time into Birmingham, Atlanta, Charlotte, and Washington: 1 hour, 25 minutes

Notes-No. 19: Departure on April 27 substituted for March 23 departure, which left Washington almost 2 hours late. No. 19 departed Washington on time or less than 15 minutes late on 21 occasions and less than 45 minutes late four times.
Total recovery time into Charlotte, Atlanta, Birmingham, and New Orleans: 1 hour, 11 minutes

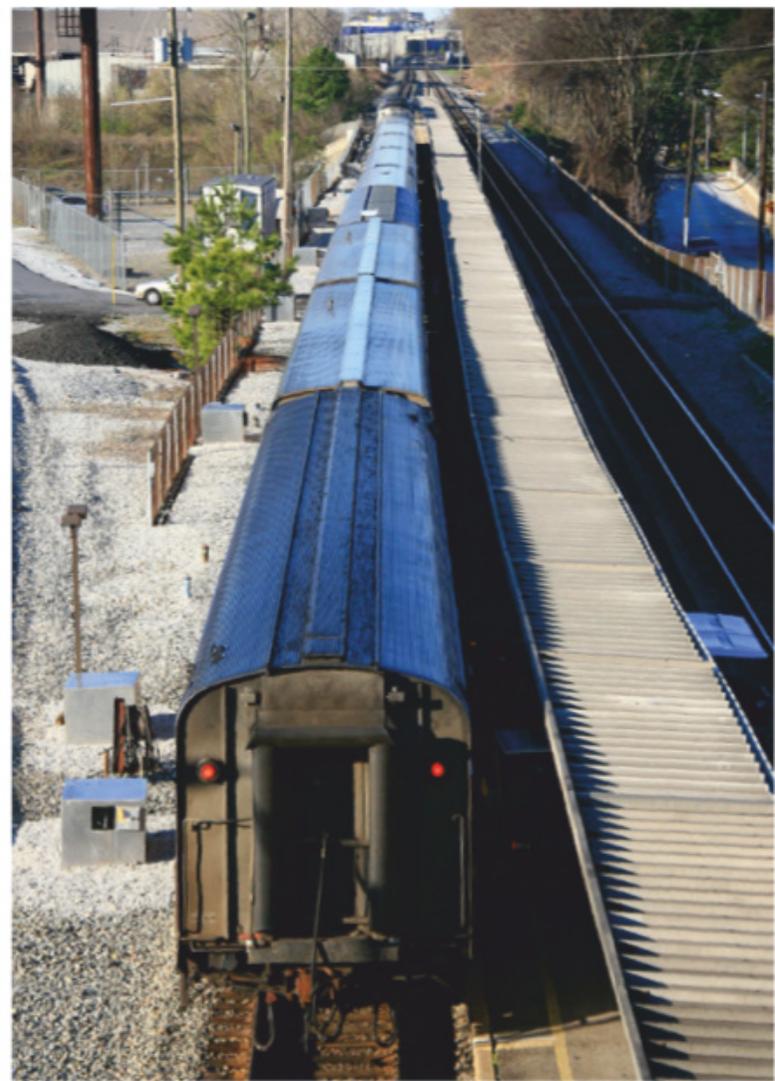
number was 29%. So TRAINS began logging station times for both northbound and southbound trains daily for 25 days, beginning March 23, 2019, in an attempt to answer the question, "How bad is it?" for Amtrak passengers (see table).

After compiling the results, we asked both Amtrak and Norfolk Southern specific questions about the challenges of executing a schedule both partners had previously agreed upon, and what is being done to reduce delays.

The NS spokesman TRAINS emailed acknowledged receipt of the questions but declined to respond. Amtrak, on the other hand, provided conductor delay reports for certain *Crescent* departures where we noted the worst tardiness.

In brief, the reports revealed several recurring themes common to badly delayed passenger trains: chokepoint conflicts at Atlanta and Meridian, Miss.; regular instances of 20-to-30-minute slow following of freight trains that then suffered mechanical defects; long waits for opposing *Crescents* in double-track territory because NS trains are occupying other tracks; and a surprising number of positive train control issues caused by initializing, interfacing between different railroads, and outright PTC failures.

"Amtrak and NS are engaged at both the executive and staff levels in a joint performance improvement initiative for the *Crescent*," says Amtrak spokesman Marc Magliari. Perhaps that effort will result in concrete improvement. — *Bob Johnston*



When the *Crescent* stops at Atlanta's Peachtree station, as shown in 2012, it ties up the Norfolk Southern main line.

RESTORED AND READY TO ROLL!

ALL-NEW
A Trains Exclusive



Follow the amazing history of Skookum — the Lazarus locomotive with a compelling backstory and restoration. Designed for logging railroad service, this rare steam locomotive featured an unusual 2-4-4-2 wheel arrangement and a working weight of 230,000 pounds.

The DVD explores Skookum's unique journey that spanned several decades of despair — from multiple owners and cross-country moves, to various delays and disruptions, including a derailment in 1955. Rescued by a group of dedicated railfans, the iconic locomotive was moved piece by piece from the Oregon woods and restored over five decades.

Skookum Lives is an inspiring DVD that culminates in the locomotive's return to service in March 2019.

#15356 • \$24.99

Order Now at
KalmbachHobbyStore.com/Skookum

Sales tax where applicable.

Florida's great experiment

The state is getting its passenger trains.
Now we cross our fingers

The Perils of Pauline are over. In mid-April, Virgin Trains USA closed on the sale of \$1.75 billion in private-placement bonds, effectively clearing the last hurdle on the way toward Miami-Orlando passenger trains along the Florida East Coast Railway. This long-delayed milestone means actual service along the full length of the route is about three years away, the biggest impediments being construction of 40 miles of new, 125-mph railroad and the addition of a second main track from Cocoa to West Palm Beach. I can't count the obstacles that Virgin Trains (previously named Brightline and before that All Aboard Florida) has overcome, starting with skepticism that any passenger train operation can defray its operating and capital costs. Cynics said it was a Ponzi scheme allowing majority owner Florida East Coast Industries to develop land near stations and then disappear, leaving the trains to fail and be taken over by the state. Every political entity between Cocoa and West Palm, fearing 32 more trains a day blazing through at 110 mph, appears to have filed suit to block the endeavor, to no avail. Service between Miami and West Palm began in 2018.

But will Virgin Trains succeed? After all, the prospectus for its unsuccessful effort to finance itself through the sale of stock rather than bonds contained 29 pages of small type detailing the risks. Yes, I believe it will and offer five reasons why.

THIS IS NOT A GOVERNMENT PROJECT. To gain consensus and fend off NIMBYs, governments tend to make concession after

concession. These usually compound the costs while reducing the benefits, until the project is overweight and tottering — for example, the *Acela*. And cost is no impediment because we pay for it collectively. I could go on, but you get the point, right? The cost of 170 miles of second main track, plus those 40 miles of new construction and all the locomotives and cars and shops and whatnot, will come to \$3 billion. Were the government paying, it would be five times as much, at least.

THE RAILROAD IS ALREADY THERE, FOR THE MOST PART. We're not starting from scratch, buying expensive coastal land, grading and laying steel. The Florida East Coast Railway has been around more than a century and is in great physical condition. It's relatively inexpensive to add to what's there. Were this not the case, I'd find it harder to see how Virgin Trains is economically feasible.

THE COMPETITION IS PITIFUL. The competition is Interstate 95 and the Florida Turnpike, because the distance is suboptimal for airlines. I've driven both roads more times than I like to remember lately, and each experience is worse than the one before. On the latest turnpike adventure this spring, waiting half an hour for a wreck to be cleared, my wife turned to me and asked, "How soon can this train begin running?" But this also tells you that there is lots of opportunity because the path between central and south Florida is heavily trod.

VIRGIN HOPES TO GET JUST A BITE OF THE PIE. Want to guess what portion of the travel market this enterprise wants to bite off? Forty percent? Thirty? Twenty? Try 7%, leaving the jammed super-highways with 91% (and Amtrak and airlines 2%). I like that. To succeed, Virgin Trains doesn't have to dominate the market, just grab an itty-bitsy piece of it.

IT IS WES' IDEA. Virgin Trains USA is largely owned by FEC Industries, which in turn is wholly owned by funds managed by Fortress Investment Group, whose co-founder and co-CEO is Wes Edens. (Edens is also chair of Virgin Trains.) By reputation, Edens is one of the keenest minds in the business world, and this whole thing was his brainchild. So Edens is in this up to his armpits, and in his world, failure is not an option. He hired the smartest people he could find to challenge every assumption and tell him he was crazy, and they could not.

Still, the skeptics, who include some of the brightest lights in railroading, may be right. One correspondent calls it pump-and-dump — pump it up to develop FECI property in Florida and then get out, leaving government to take over. Who knows? Virgin Trains touts Miami-Orlando as a scalable rollout of for-profit passenger rail elsewhere in the U.S. Already it is committed to Tampa-Orlando via Disney World and Victorville, Calif., to Las Vegas. Whoa already! Let's first see if Miami-Orlando works. On that score, I'm now ready to bet on Wes. **I**



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



A southbound Brightline train rolls through Delray Beach, Fla., on April 11, 2019. Now owned by Virgin Trains USA, the service is closer to expanding its route from West Palm Beach to Cocoa, Fla. TRAINS: Brian Schmidt

Running steam on a busy main line

Lessons from the Railway Preservation Society of Ireland



Brian Solomon

briansolomon.author@gmail.com

@briansolomon.author

Blog: briansolomon.com/trackingthelight/

Podcast: TrainsMag.com

Imagine regular mainline steam excursions operating directly from the busiest passenger terminals. I've been impressed by the regularity and professional operation of historic mainline steam trips directly from Dublin's busy main stations.

By American standards Irish railroads are busy and well travelled. With less than 6 million people in the Republic of Ireland, state operator Irish Rail carries more than 45 million passengers annually, while in Northern Ireland (consisting of the six northern counties that are part of the United Kingdom) with a population of just 1.8 million, NI Railways (a division of transport operator Translink) carried more than 15 million. These railroads operate intensive suburban services, in Dublin and Belfast, respectively, where peak-period services may have up to six trains an hour in each direction, with a greater number of trains at chokepoints.

Since 1964, despite challenging political and operating conditions, Railway Preservation Society of Ireland has regularly run mainline steam trips. While steam excursions tend to operate on weekends, the society coordinates with regularly scheduled passenger and freight trains. Careful timetabling and professional operation enable its steam trains to operate from Dublin's Connolly station that also serves up to 14 Irish Rail trains per hour on weekends — an impressive feat for an excursion operation with vintage equipment.

Regular cross-border trips have added complications that require the society to comply with the rules and operating regimes of both state railway operators. Since operations are based in both Dublin and Belfast, it is necessary to shuttle equipment back and forth. Throughout the society's 55 years, it has served all of Ireland, despite political tensions. Today, it enjoys a high degree of cooperation between its northern and southern groups and national rail operators. Each of the society's groups has its own set of coaches, but pool their five operable steam locomotives (two to three are typically kept serviceable at any one time). Locomotive heavy maintenance is conducted at the society's shops in Whitehead, north of Belfast, resulting in regular deadhead moves to position and maintain locomotives, as well as Dublin-Belfast excursions.

Significantly, while society volunteers carry out locomotive and carriage maintenance, operational support, and logistical planning, locomotives are crewed by qualified Irish Rail and NI Railways operating staff with the society paying for steam crew training.

European Union laws have required state railways to be split into infrastructure companies (that maintain track and signals) and train operators (known as "railway undertakings") as part of its opening of national railroad networks to new operators in 2006. Every operator must satisfy national regulators with adequate safety management systems. As a result of these changes, the society decided to



In September 2018, a Railway Preservation Society of Ireland charter, led by former Great Northern Railways of Ireland No. 85, is overtaken by a scheduled Irish Rail diesel railcar as the steam locomotive takes water at Portarlinton station on the Dublin-Cork main line. Brian Solomon

transform its Dublin operations from a guest operator into a railway undertaking. Having operator status gives the society both track access and safety responsibility to ensure its continued operations.

Keys to the society's popularity are its approaches to marketing and meeting customer expectations. Rather than cater to railroad enthusiasts or tourists, the majority of excursions are short day trips aimed at the general public. These trips from Dublin or Belfast are popular with families, and trains feature both a dining car and a bar car (with fresh draft Guinness, of course). In recent years, the society has also developed a market for diesel-hauled enthusiast trips and presently employs Irish Rail's EMD-built class 071s. However, the society has since acquired and is overhauling former Irish Rail 1960s-vintage EMD diesels.

The society maintains a bold media presence while carefully managing its professional relationships with all key stakeholders, including members of railroad infrastructure, engineering staff, and at all levels of operations. The regular sights and sounds of its trains in Dublin and Belfast are some of its best advertisements.

Could American operators follow Ireland's example? Based on the society's model, imagine the thrill and benefits of regular steam trips from major city terminals such as those in Boston, Chicago, or Los Angeles. These would neatly operate within the schedules of Amtrak and commuter trains without causing delays. Not only would regular steam trips delight railroad enthusiasts but they could entice the public and encourage new generations of railroaders and enthusiasts, while helping to enhance regional tourism and rekindling nostalgic interest in railroads.

Thanks to Railway Preservation Society of Ireland's Peter Rigney for assistance. Learn more: www.steamtrainsireland.com. **I**



From main line to short line

The Dash 8 continues to find new homes on smaller roads

▲ Genesee & Wyoming property Arizona Eastern operates a large fleet of B39-8s and B40-8s. Here, two B40-8s and a B39-8 drop downgrade into the Gila River valley near Guthrie, Ariz., in March 2019. Three photos, Chris Guss

GENERAL ELECTRIC'S DASH 8

line was a landmark product for the company. The model featured mechanical and electrical upgrades, increased power, and reliability over previous products produced by the company. Sold for more than a decade, the Dash 8 began development in 1980, with prototypes and pre-production models rolling out of GE's Erie, Pa., factory in the early 1980s and the first Dash 8 customer accepting delivery in fall 1984.

The resulting success of the line would propel GE to the No. 1 locomotive builder position in North America over rival Electro-Motive Division of General Motors, a distinction that still stands. While more than 2,200 Dash 8s were built between 1982 and 1994, their numbers have slowly been dwindling on Class I railroad rosters, with roughly 35% of the total built remaining. Union Pacific, which once operated more than 25% of all Dash 8s built, is down to less than 50 on its roster today.

Canadian National, whose only new Dash 8 purchases were 55 C40-8Ms, a cowl variant, has expanded its roster with large acquisitions of former BNSF Railway and UP units, and a handful of C40-8Ms with its acquisition of BC Rail. Thus, CN operates the largest fleet of Dash 8s in North America with 225 units on its roster, or about 10% of production.

While many of the Dash 8s purged by the Class I railroads have been retired and scrapped,

others are enjoying a second life on short lines. Traditionally, older GE units were found only on a handful of shortline rosters, with secondhand EMD locomotives dominating the market. But the Dash 8 line has had more widespread acceptance than its predecessors, with about two dozen short lines operating such locomotives today.

Part of this short line penetration success was GE Transportation's Certified Pre-Owned

Dash 8 fast facts

Four-axle models:

B32-8	B39-8
B32-8WH	B40-8
B36-8	B40-8W

Six-axle models:

C32-8	C40-8W
C39-8	C41-8W
C40-8	C44-8W
C40-8M	

2019 Class I operators:

Amtrak: 18	CSX: 188
BNSF: 175	NS: 153
CN: 225	UP: 43



Nashville & Eastern acquired four former BNSF Railway B40-8Ws. The railroad was recently acquired by R.J. Corman, which has begun repainting the fleet in its corporate colors of red and silver.

Locomotives & Parts group. Created in 2016, it acquired hundreds of retired Dash 8 locomotives from various Class I railroads and uses them in a wide range of applications, from parts sources to leasing entire groups of Dash 8s to short lines. While four-axle Dash 8s only made up about 20% of GEs production, they are the most plentiful on short lines due to their versatility. While the majority of the four-axle locomotives in use are the B39-8 and B40-8 models, BNSF returned 22 B40-8Ws off lease around a decade ago and many of these four-axle, comfort-cab locomotives have found homes on short lines such as Arkansas-Oklahoma, Great Western, Nashville & Eastern, Providence & Worcester, and West Tennessee. Six-axle Dash 8 operators today are Cimarron Valley, New Orleans Public Belt, Pan Am, and Providence & Worcester. Lancaster & Chester also has a C40-8 on its roster, but it has been converted to a slug.

A handful of Dash 8s work at other locations such as industrial sites across the country while two have been donated to museums. Norfolk



RESERVE YOUR OWN COPY
OF LOCOMOTIVE 2019 AT
KALMBACHHOBBYSTORE.COM



St. Paul, Minn.-based Minnesota Commercial operates an eclectic mix of motive power, including a number of former LMX B39-8s, such as No. 84, formerly LMX No. 8543.

Southern donated B32-8 No. 3563 to the Lake Shore Railway Historical Society and Museum in Erie, Pa., while Union Pacific donated B40-8 No. 1848 to the Illinois Railway Museum in Union, Ill.

More than 700 Dash 8s still reside on Class I railroad rosters, though about half of those are stored, so it can be difficult to find operating Dash 8s on a main line in certain parts of the country. As their ranks continue to thin, expect to see more of these iconic GEs pulling tonnage on short lines across the country. — *Chris Guss*

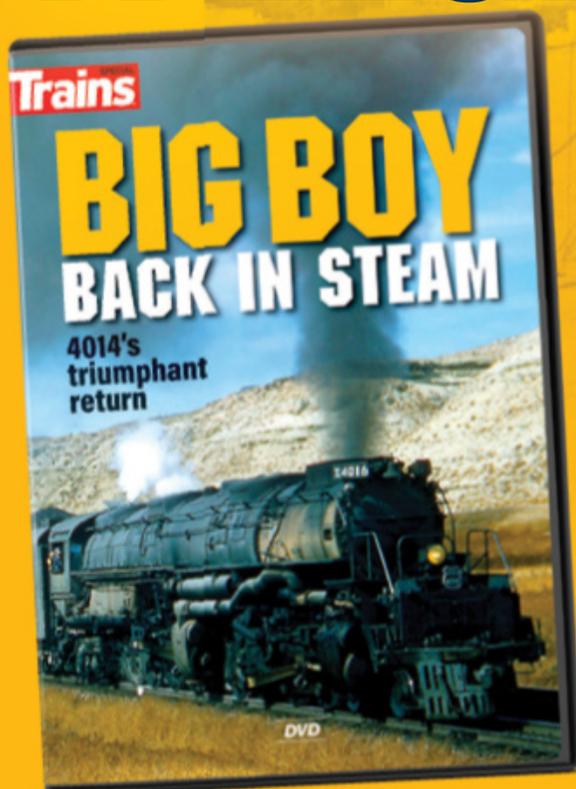
LOCOMOTIVE BRIEF

CSX units honor first responders, vets



CSX TRANSPORTATION has released two commemorative GE/Wabtec ES44AH locomotives: red-and-white No. 911, honoring first responders, and blue-and-camo No. 1776, honoring America's military veterans. Both units were unveiled in Huntington, W.Va., in late April. More commemorative units are in the works, but railroad officials have not said what their themes will be. Two photos, Chris Anderson

THE RETURN OF A LEGEND



#15209 • \$29.99
Running time: 110 minutes

Exclusively from *Trains*, the new **Big Boy – Back in Steam** DVD covers the history (1941–1959), restoration (2014–2019), and inaugural run (May 2019) of Union Pacific's Big Boy No. 4014. Follow its journey on its original operating territory between Cheyenne, Wyo., and Ogden, Utah, across legendary Sherman Hill and Wasatch Grade.

DVD features include:

- History of Big Boy
- How UP rebuilt no. 4014
- Historic trip to celebrate the Golden Spike
- And more!

Order Now at
KalmbachHobbyStore.com/BigBoyDVD



VIA's summer shuffle

Overnight trains face schedule changes, equipment challenges

▲ VIA's *Ocean* leaves Halifax, Nova Scotia, in 2010 with a *Park* observation car trailing the *Renaissance* car used as a buffer between the dissimilar styles of equipment. More stainless steel sleeping cars will be featured on one *Ocean* trainset as *Renaissance* cars are shopped.

Three photos, Bob Johnston

A FLUKE? On April 20 — two weeks before VIA Rail Canada and Canadian National altered the transcontinental *Canadian*'s schedule to ensure high-paying tourists experience Rocky Mountain scenery in daylight — westbound No. 1 arrived in Vancouver, British Columbia, 3 hours early, according to its then-current timcard.

The flagship's summer schedule, with one of three weekly round trips operating only as far east as Edmonton, Alberta, is just one development triggering systemwide rolling-stock manipulation. Also affected are the Montreal-Halifax, Nova Scotia *Ocean* and reinstated Winnipeg-Churchill service.

A rundown of the changes:

CANADIAN: Despite taking a full day longer than the schedule CN and VIA were using when TRAINS rode west in May 2007, timekeeping was dismal during the early spring portion of the

off-season biweekly operation. From mid-March to early April, six consecutive trains arrived in Vancouver between 8:45 p.m. and 5:25 a.m. instead of the advertised 6 p.m. Performance into Toronto was similar.

TRAINS asked VIA and CN about concrete steps that might explain more recent punctuality. Only VIA spokeswoman Mariam Diaby had a timely response, saying that VIA "will continue to work with CN to ensure a predictable and reliable schedule." Watch TRAINS "News Wire" to see if the schedule on page 21 actually delivers. Expanded freight traffic has regularly congealed a mostly single-track route, and the host railroad is spending hundreds of millions on capacity improvements to alleviate bottlenecks.

Cutting one round trip back to Edmonton creates more windows for this work and allows VIA to run the transcon with three equipment sets (a fourth covers the shorter turn). But now the company's three full-length, single-level Panorama domes are spread too thin to be assigned on every train. Previously, they were confined to the summertime *Canadian* west of Edmonton and one weekly peak-season "Touring Class" round trip on the Jasper-Prince George-Prince Rupert, B.C., route between mid-June and mid-September.

As a result, VIA says two of the three transcon *Canadian*

sets will have a Panorama dome. One definitely won't, and passengers have no way of knowing which consist goes without. The Vancouver-Edmonton round trip will at least start the season with a Panorama, but it is unclear what happens once the Prince Rupert train gets its luxury dome, integral to that scenic, remote daytime service. Regularly assigning a full-length dome east of Edmonton is a welcome first, especially with *Park* observation car use often restricted to Prestige Class passengers. But the change comes at a stiff price of not knowing when it will be on the train.

WINNIPEG-CHURCHILL TRAIN:

Rapidly melting snow in spring 2017 decimated tracks into Churchill, Manitoba, for two whale- and polar bear-watching seasons. That won't affect service this year, according to Keewatin Railway General Manager Tom McCahill. He tells TRAINS from The Pas, Man., that lack of maintenance by the Hudson Bay Railway was the culprit then. "We've had just as much snow this winter," McCahill says, "but the new owners have strengthened the roadbed, have been managing beaver dams [that interfere with drainage], and are already steaming the culverts, so there should be no problem."

Twice-weekly round trips to the northern Manitoba outpost from Winnipeg and a third



VIA doesn't have enough single-level Panorama domes to meet its needs, so one *Canadian* trainset will go without.



The train to Churchill is now featuring a Skyline dome in place of its dining car, as VIA diners are renovated. David Maiers

from The Pas are again offering domes and full dining service with an onboard chef preparing meals. Different is that a Skyline dome is subbing for a full dining car. That's because four diners are undergoing a \$12 million (U.S.) top-to-bottom renovation at Rail GD in New Richmond, Quebec.

Until the Montreal-Gaspé train was dropped in 2013, chefs regularly prepared full meals in its Skyline's cramped kitchen under the dome. Once "peak season" begins June 23 (through Nov. 16) on the Winnipeg-Churchill trains, VIA says the dome will be either a Skyline, a *Park* observation lounge (as in 2016), or both.

Unlike previous years, however, there won't be as many sleeping cars as demand may warrant. An ongoing modernization program of the mid-1950s Budd HEP-1 fleet has limited the number of available *Chateau* sleepers normally used to augment the train's consist. A spot check of every Winnipeg departure as of April 22 through the end of October reveals five trains completely sold out of all sleeper space, including upper and lower berths, and another dozen trips with little space remaining.

OCEAN: Another reason for reduced capacity is shopping of Renaissance cars used on the Montreal-Halifax *Ocean*. *Park* observations have graced these trains even when they operated six days per week, and more recently a non-revenue *Chateau* sleeper has been added to house onboard service crew.

Now, every other *Ocean* departure features six *Chateaus* and stainless steel coach-



Open section sleepers — shown here during the day on the *Canadian* in 2018 — will be part of all of VIA's overnight trains.

es, augmented with two Renaissance sleepers and mid-train Renaissance dining and adjacent service cars. Unlike the Panorama dilemma with the *Canadian*, VIA's reservation system reflects the difference; look for departures that offer upper and lower berths and "cabins for one [roomettes], two [bedrooms], and three [drawing rooms]" instead of the Renaissance-only consist, which only offers "cabins for two" with and without showers.

If you have yet to experience — or want to relive a past acquaintance with — the once-ubiquitous open section, maybe this summer is the time to travel. — *Bob Johnston*

THE CANADIAN'S SCHEDULED ARRIVAL TIMES				
	Eastbound	Days	Westbound	Days
dp-departure times	(Read down)		(Read up)	
Vancouver	dp 3:00 p.m.	M Tu F	8 a.m.	Th Sa Su
Jasper	11 a.m.	Tu W Sa	6:30 a.m.	W F Sa
Edmonton	6:50 p.m.	Tu W Sa	dp 12:01 a.m.	W F Sa
Winnipeg	10 p.m.	W Su	7:30 p.m.	M Th
Toronto	2:29 p.m.	F Tu	dp 9:45 a.m.	Su W

Sept. 12–23, 2019

Switzerland by Rail 2019

EUROPE'S RAILROAD WONDERLAND

See the magnificent beauty of Switzerland by train, including:

- Travel through the Alps' **Gotthard Panorama Express**.
- A ride on the **Furka Cogwheel Steam Railway**, a heritage railroad.
- Mountain views from the **Rigi-Kulm Cogwheel Railway**.
- And much more!

Our Switzerland adventure is limited, so reserve your spot to tour this breathtaking region today!

specialinteresttours.com • 727-330-7738
info@specialinteresttours.com

SPECIALINTEREST
TOURS

MAGAZINE
Trains

P33647

323

323

Amtrak

LAST PIONEER

DANGER 480 MPH

DANGER 480 MPH



AMTRAK'S LOST TRANSCONS

Cross-country trains have come and gone;
once eliminated, they're unlikely to return

by Bob Johnston

AS AMTRAK'S MANAGEMENT and national politicians debate the future of the U.S. passenger train network, it's a good time to consider the routes that have tied together east and west since May 1, 1971. Today, there is talk of recasting the system into discreet and isolated corridors, many of them routes the passenger railroad has not historically served. Cross-country service, though, has already been diminished, as cost-cutting expediency has undone gains made during periods of expansion.

An Amtrak shop worker in Seattle decorated the nose of the F40 leading the last eastbound *Pioneer*, shown at Green River, Wyo., on May 11, 1997. A reduction from daily service presaged the train's end. Bob Johnston

Coast to Coast



The westbound *Sunset Limited* crosses the CSX Transportation drawbridge across the St. Johns River north of Sanford, Fla., on March 6, 1994. Difficulties in staying on schedule led to the end of service to Miami, and ultimately the entire eastern extension. Five photos, Bob Johnston

GROWING BUSINESS means taking it where the people are. That thinking prompted Amtrak's management, led by then-president W. Graham Claytor Jr. and Assistant Vice President of Operations and Planning Jim Larson, to endorse extending the Los Angeles-New Orleans *Sunset Limited* east across the vibrant Gulf Coast to Orlando and Miami in 1993.

Until the early 1990s, Amtrak's transcontinental routes — with some notable experimental and state-subsidized exceptions (see page 28) — reflected choices made by U.S. Department of Transportation strategists when the company began. Since the eastern and western railroads met in Chicago, St. Louis, or New

A ticket for the first revenue trip of the *Sunset* from Florida to California. The "801" train number was used to differentiate from trains originating in New Orleans.



Orleans, that's where their trains had terminated. Expansion options into the booming Sun Belt or elsewhere were limited by equipment availability. Because of belt tightening imposed by the Carter administration in 1979, Amtrak only converted enough of its aging, steam-heated passenger cars to head-end power to sustain the slimmed-down system.

That changed with Claytor's perseverance in securing funding for 195 Superliner II bilevels and 50 Viewliner sleeping cars — purchases also driven by a congressional mandate for retention toilets on all equipment. Amtrak research determined there would be strong demand for a train to tap the burgeoning Orlando and Miami markets with an extension across Florida's Panhandle, last served by the former Seaboard Coast Line/Louisville & Nashville *Gulf Wind*. Ira Silverman, Amtrak's director of route marketing at the time, tells TRAINS

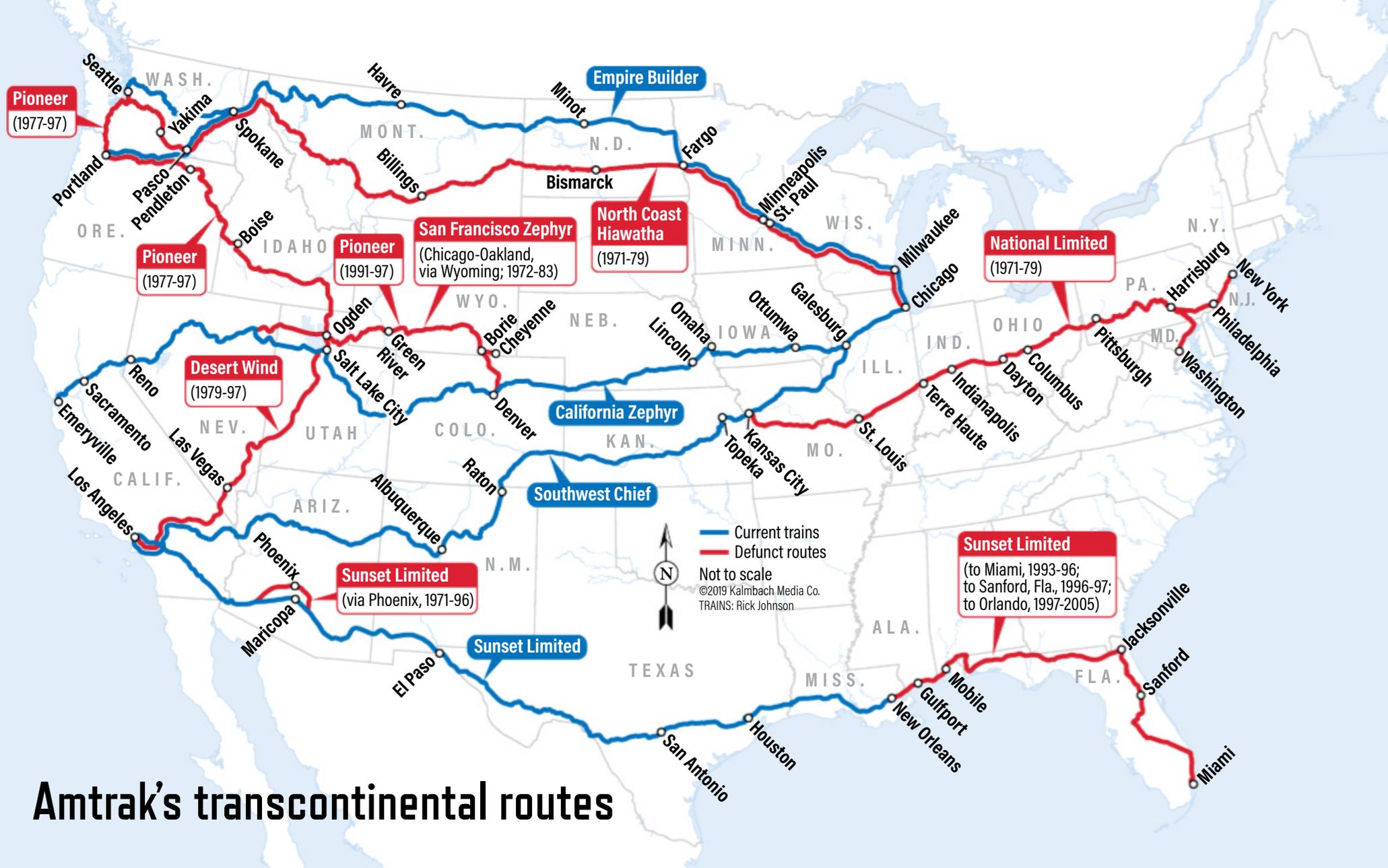
his department studied both a daily *City of New Orleans* run-through and a triweekly extension of the *Sunset Limited*. The *Sunset* option won out because it "cost less, there was no duplication of existing routes, and [a marketing analyst concluded] that a triweekly train



A note on the door of an Amtrak office at New Orleans Union Station remembers the three Amtrak crewmen among 47 killed in a *Sunset* accident near Mobile, Ala., in 1993.

keeps 70 percent of a daily train's traffic."

Contributing to the successful launch on April 4, 1993, was Larson's close working relationship with CSX's passenger operations liaison, Dick Young. The men respected each other's role and were able to agree on reasonably priced capacity and safety improvements over unsigned territory



Amtrak's transcontinental routes

west of Chattahoochee, Fla. These were paid for in part by state grants spearheaded by Amtrak government affairs personnel.

Though hampered by nocturnal trips across different parts of the New Orleans-Jacksonville, Fla., segment, the transcontinental *Sunset Limited* filled a void and produced high-revenue ridership where none had previously existed.

Initially, the train lived up to patronage expectations despite a setback following a horrific Sept. 22, 1993, accident that killed 47 passengers and crew. The tragedy came when the eastbound *Sunset* struck a barge-damaged bridge and crashed into Big Bayou Canot east of Mobile, Ala.

But as CSX slow orders grew and freight congestion intensified over the next several years, Amtrak trimmed the route in late 1996, moving the train's eastern endpoint to the Sanford, Fla., *Auto Train* facility. A deadhead move to directly serve Orlando was added the following year.

What really killed Amtrak's coast-to-coast foray, however, were two significant obstacles. First, following its merger with Southern Pacific, Union Pacific experienced a congestion meltdown through Texas that decimated reliability. Second was constant haranguing by U.S. DOT Secretary Norman Mineta about the *Sunset's* loss per passenger; in public rants through mid-2005, he facetiously claimed, "we could fly everyone to their destinations" more cheaply.

Those issues likely discouraged Amtrak



Amtrak issued this button to mark the beginning of coast-to-coast service with the *Sunset Limited* in 1993. The service would last for more than a decade.

from participating in rebuilding stations destroyed when Hurricane Katrina blasted the Gulf Coast on Aug. 29, 2005, and from resurrecting the *Sunset's* eastern segment when CSX tracks were restored in 2006. Instead, management felt it had to succumb to Mineta's views since he held the purse strings. It produced a stacked-deck report in 2009 contending \$32.7 million in capital and mobilization costs would be required to restart service to Florida, including in that figure upgrades to make all stations fully accessible. (Systemwide, Amtrak still hasn't completed compliance with accessibility laws.)

More recently, legislation backed by U.S. Sen. Roger Wicker (R-Miss.) enabled members of the Gulf Coast-based Southern



More than a month after Hurricane Katrina devastated the Gulf Coast and ended *Sunset* service, the station in Gulfport, Miss., shows the storm's aftermath on Oct. 9, 2005.

Rail Commission to develop a proposal to restore service. Their plan: run a daily *City of New Orleans* extension to Orlando as well as a New Orleans-Mobile round trip [see "Gulf Coast Revival?" September 2015]. The long-distance component has been shelved indefinitely, however, in the wake of Amtrak's leadership change in 2017, as well as the status of the CSX line across the Florida Panhandle. (As part of CSX's plan to spin off lower-density routes, an on-again, off-again deal to sell the route to shortline operator RailUSA, revived in March 2019, was slated to be completed in late May or early June.)

In any case, if service is reestablished to Orlando, it would likely be with a train from Chicago, not Los Angeles.

Expansion and contraction



The *National Limited* stops in Dayton, Ohio, in 1978. Freed from the need to follow railroad endpoints, Amtrak officials were able to make the *National* the first to break the traditional Mississippi River barrier for intercity passenger service. Brian Schmidt collection

WHEN AMTRAK BEGAN, officials had the luxury of experimenting with connections that weren't possible when each railroad had its own passenger fiefdom. The New York-Kansas City, Mo., *National Limited* broke the Mississippi River's historic east-west barrier, combining the routes of Penn Central's *Spirit of St. Louis* and Missouri Pacific's *Missouri River Eagle* into a single train.

Subsequent adjustments in the *National's* schedule and equipment utilization allowed Amtrak to resurrect a through New York-Los Angeles sleeping car via the *Super Chief* (renamed the *Southwest Limited* when Santa Fe sensed its high standards weren't being upheld); connect the Ohio and Indiana state capitals with daytime or evening trips; and facilitate connections for Missouri travelers to and from Chicago at St. Louis.

Amtrak's early years saw other additions. In 1972, when it was flush with operable hand-me-down equipment, the company ambitiously added a second, summer-only daily Chicago-Los Angeles train. The *Chief* served the same intermediate towns as the

flagship *Super Chief*, but at different times. The operation lasted just one summer.

The political pull of U.S. Sen. Mike Mansfield (D-Mont.) pressured Amtrak to add its first experimental train, the *North Coast Hiawatha*, on the former Northern Pacific route through Billings and Butte, Mont. Though triweekly west of Minneapolis/St. Paul, and initially combined with the *Empire Builder* at Spokane, Wash., the *North Coast Hi* provided a second Chicago-Twin Cities round trip. The train's schedule and route gyrations through the 1970s included one summer of daily operation and extension to Seattle via Wenatchee, Wash., in 1973.

Amtrak President Paul Reistrup was able to lobby influential lawmakers like Mansfield to fund massive equipment purchases of F40 locomotives, 492 single-level Amfleet cars, and 284 bilevel Superliners that would enable the carrier to survive and thrive (for decades, it turned out).

"The oil embargo and energy crisis at the time helped a lot," Reistrup told TRAINS

recently, adding, "We were basically running museum equipment. The steam-heat stuff leaked so the carpets were all soggy. It was awful — embarrassing — and they smelled because of all that leaking."

But as Amtrak awaited the new equipment, its maintenance costs grew exponentially. Brutal Midwest winters of 1977 and 1978 took their toll on the rapidly deteriorating fleet, reliability, and revenue. Meanwhile, the Carter administration and Congress imposed a ceiling on expenses.

With finite money and no political urgency to preserve the system, decision-makers at the Department of Transportation and Amtrak faced hard choices. Mindful that politicians might still try to exert influence to protect "their" train, officials sought regionally balanced cuts of trains at the bottom of ridership and revenue-versus-expense performance thresholds. Reistrup remembers the cutoff as 150 passenger-miles per train-mile. The *North Coast Hiawatha* was perhaps the most vulnerable, because triweeklies only generate three



Dining-car staffers exchange greetings as the westbound *Super Chief* (right) meets the *Chief* at Raton, N.M., on Aug. 2, 1972. It was the only summer Amtrak operated a second Chicago-LA train. Two photos, Bob Johnston

days of revenue against fixed route costs. And fewer people depend on a train that's not available daily.

The cuts came on Oct. 1, 1979. Over-nighters axed included the Chicago-Miami *Floridian*, the Chicago-Houston *Lone Star*, the New York-Florida *Champion*, and the Boston-Catlettsburg, Ky., *Hilltopper*. But the most devastating long-term impact proved to be elimination of the *National Limited*. Penn Central's poor track crippled it through the 1970s, and other trains served its endpoints. As one of the first long-distance trains featuring Amfleet and head-end power supplied by the new F40s, it was also targeted because of its need to compete for a limited number of sleeper and dining-car conversions.

Unfortunately, once the train expired, Conrail sold the railroad's western exit at Pittsburgh to real estate developers. Also, the Columbus station was replaced with a highway interchange, making service restoration across Ohio more challenging. The *National's* discontinuance became a painful reminder that some routes, once eliminated, may never return.



Displaying a rainbow of equipment typifying early-era Amtrak long-distance trains, the *North Coast Hiawatha* rolls west through Montana in March 1972. The train was the first major addition to Amtrak's original route map, thanks to the influence of U.S. Sen. Mike Mansfield.

Rising from regionals



The *California Zephyr* prepares to leave Salt Lake City as power for the *Desert Wind* and *Pioneer* awaits the call to action on July 13, 1987. The trains were assembled or split here beginning in 1983; before that, the *Pioneer* and *Desert Wind* originated in Ogden. James Belmont

IMAGINE IF AMTRAK had experimental trains today — as it once did. “It was the law,” Reistrup recalls. “We had to start an experimental train every year.”

In the 1970s, when Amtrak was charged with figuring out how to serve more people, it could utilize rail infrastructure that had hosted passenger trains in the not-too-distant past. States were urged to participate through Amtrak’s 403(b) legislative provision, which permitted them to pay a portion of only the avoidable or direct operating costs. Routes crossing state lines, however, were the national carrier’s responsibility.

The massive Amfleet I purchase was sparked by Northeast tunnel clearances, but its impact was systemwide. As the equipment arrived between 1975 and 1977, Amtrak was able to use the modern cars and F40 locomotives on new service without pulling equipment from existing trains. That window of opportunity lasted only for a couple of years, until expensive-to-maintain, steam-heated rolling stock was withdrawn, sold, or scrapped.

Union Pacific’s *City of Los Angeles* and *City of Portland*, two Chicago-West Coast flagships, were passed over at Amtrak’s inception. Their routes became glaring blank spaces on Amtrak’s spindly western web,

spliced only by the Chicago-Oakland, Calif., *San Francisco Zephyr*. That train’s initial path — a hybrid of the Burlington’s *Denver Zephyr*, the UP’s *City of Kansas City*, and the Southern Pacific’s *City of San Francisco* — provided a connection at Ogden, Utah, for two experimental trains.

First to launch, on June 7, 1977, was the Seattle-Salt Lake City *Pioneer*, named for settlers who followed the Oregon Trail. U.S. Sen. Frank Church (D-Idaho) led the charge, joining Reistrup on a pre-inaugural excursion that attracted more than 3,000 people at Boise, Idaho. There were also big crowds at other stops that had, to that point, been left off the Amtrak map.



The list of arrivals and departures in Denver on July 3, 1996, was more robust than today.

Reistrup noted that while the train was equipped with the company’s most modern coaches, cafe cars, and F40 locomotives, it would soon get some of the initial group of 25 sleeping cars being converted to head-end power.

“We knew we needed a sleeping car, and we certainly weren’t going to run a steam generator out there,” he says, “but we couldn’t convert them fast enough, so the train began with only Amfleets.”

Two years later, on Oct. 28, 1979, the Los Angeles-Ogden *Desert Wind* debuted as another Amfleet-coach-only overnight train. Amtrak had periodically run excursions between Los Angeles and Las Vegas, Nev.; the last was the weekend-only *Las Vegas Limited* that ran for about 3 months in 1976. But the Amfleet cars opened up the possibility of regular service to Vegas and Salt Lake City.

Support from powerful U.S. Sen. Howard Cannon (D-Nev.) helped deflect criticism that the new train began the same month Amtrak had dropped the *National Limited* and four other long-distance trains. Yet the *Desert Wind*, like the *Pioneer*, was given the benefit of the doubt because it was experimental, while the others were proven underperformers.

Superliners were just beginning to



Led by P32-8 No. 51, sporting the so-called "Pepsi can" paint scheme, the eastbound *Desert Wind* blows through Lake Point, Utah, on Sept. 26, 1993. The train's reduction to three days a week in 1995 would prove to be a harbinger of its demise two years later. James Belmont

arrive in 1979, but a through Los Angeles-Chicago Superliner coach and a Santa Fe hi-level transition car weren't added to the *Wind* until 1980. A through sleeper joined the consist in 1982, the same year the *Pioneer* began offering Seattle-Chicago Superliner coaches and sleeping cars. Thus commenced the big amalgamation and

disassembly of the *Zephyr*, *Pioneer*, and *Desert Wind* at Ogden. That dance relocated to Salt Lake City the next year when the *Zephyr* shifted to the Denver & Rio Grande Western west of Denver and became the *California Zephyr*. The three transcontinentals flourished together through the 1980s. In 1991, the *Pioneer* split was made at Denver, so it could restore service to UP's Overland Route while allowing expanded consists for the other two trains.

Then the weakening began. In fall 1993, the *Pioneer* became triweekly on the Denver-Seattle segment. This reflected intense budget pressure from the Clinton administration, as well as incoming Amtrak President Tom Downs' mistaken reliance on a consulting firm's report. The report reasoned that cutting daily service would not result in net revenue losses, as enough

ridership would claw back to days the trains operated. More reductions came in 1995, as the *Zephyr* was pared to four days a week (as was the *Empire Builder*) and the *Desert Wind* reduced to three days per week.

In recasting the company into three business units — Northeast Corridor, West Coast, and Intercity — in fiscal 1994, Downs eliminated managers with the institutional knowledge to challenge the wisdom of the cuts. On the other hand, each train gained managers charged with enhancing revenue through more responsive customer service and amenities. The *Pioneer* and the *Empire Builder* both benefitted from an infusion of onboard enthusiasm, innovation, and risk-taking from product manager Gary Erford and his Seattle-based team and crews. Trains across the system emphasized distinct branding and their own personality in a bid to attract customers.

But the damage inflicted by less-than-daily operation doomed both the *Pioneer* and *Desert Wind*. On May 10, 1997, those trains made their last runs. Political pressure did manage to save the triweekly *Texas Eagle*, also targeted to be cut that day.

Could either train return? A 2009 study mandated by the Passenger Rail Investment and Improvement Act pegged just the capital and mobilization restoration costs for the *Pioneer* at \$382 million to \$493 million. Mirroring what happened with the *National Limited*, key trackage into Boise from the south has been ripped up, necessitating either a new station on the UP main line outside of town or rebuilding tracks to the magnificent facility the *Pioneer* once visited. Costs for the *Desert Wind* would be considerably less, but there is a glimmer of hope for Las Vegas-Los Angeles trains in the future. In both cases, negotiating an operating agreement with Union Pacific would be a challenge.



The *Pioneer* began as an Amfleet-only train. By June 1981, it had become a hybrid of Amfleet, Superliner, and heritage equipment, as seen here in Pendleton, Ore. Two photos, Bob Johnston

Gone but not forgotten



CHANGES TO AMTRAK'S ROUTE MAP have come in some places even where train service has continued. **1** A P30CH leads the eastbound *Sunset Limited* into Phoenix on Feb. 28, 1987. Since June 1, 1996, the *Sunset* has been routed through Maricopa, Ariz.; Union Pacific no longer wanted to maintain the original route. **2** New F40s lead the westbound *San Francisco Zephyr* east of Denver in June 1981. Wyoming no longer sees passenger service, although today's *California Zephyr* serves most of the same route. **3** Amenities have changed, too. Now that passengers can bring their own video devices on board, Amtrak no longer shows movies on TV in its Superliner lounges. On July 2, 1996, "Grumpier Old Men" was an attraction for *California Zephyr* passengers. Four photos, Bob Johnston



Lessons learned



While the loss of trains like the *Pioneer* — shown here at Peterson, Utah, on July 4, 1992 — have diminished Amtrak's national network, the very concept of a national network could be upended by a plan to focus on regional service. Such a plan could bring political pushback. James Belmont

EVERYONE WHO HAS RIDDEN AMTRAK'S transcontinental trains can point to strengths and weaknesses they've experienced. Optimism in the early 1970s, followed by debilitating legacy equipment failures, the flickering golden age of customer service in the mid-1990s, and perfunctory operation of today's *Builder*, *Zephyr*, *Chief*, and *Sunset* reflect a tortured path.

The common thread dictating the mobility and service quality of these trains, however, is equipment and funding. Growth occurred in the early years when Amtrak had plenty of hand-me-downs to deploy, ebbed as the aging cars began to fail, then grew again with the infusion of Amfleet and Superliners. Budget cuts periodically caused irreversible harm when management felt it had no choice but to cut routes or diminish onboard offerings. Triweekly operation foreshadowed a train's demise.

Those dynamics continue to play out on a more challenging playing field. At Amtrak's inception, the company was able to try experimental routes, backstopped by Interstate Commerce Commission oversight and a statute requiring host railroads to maintain 1971 levels of utility until 1996. Deregulation beginning in 1980 limited Amtrak's long-distance options, as did 2008's Passenger Rail Investment and Improvement Act. Since then, the transcontinentals have been compartmentalized away from state-supported regional services even though the linked networks are complimentary.

Political will to maintain and grow the



The *Pioneer* stops at Boise, Idaho, in July 1996. Tracks south of Boise have been abandoned, an example of the barriers to reestablishing passenger service that can develop.

system has always been crucial for a transportation mode transplanted, for its own salvation, from the private sector into a universe of highways benefitting from regular public funding. Legislative involvement experienced a resurgence in 2018 when Amtrak's top executives made overt attempts to truncate the *Southwest Chief's* route. Appropriation language directed that \$50 million be spent to maintain it.

The future of the cross-country network will depend on lawmakers' reaction to

Amtrak's series of recently released five-year plans, which conclude that long-distance services "do not reflect on the preferences of today's passengers" and focus on subsidies and operating losses, rather than the passenger-miles delivered. Recent events suggest there will be significant political pushback if the blueprint doesn't strengthen the national network. That kind of support helped maintain the system in the past, and there is every indication it will be needed again now. **I**

TRAIN MAKE

Or, how not to let this happen to you

by David Ibata

This CN derailment near Falding, Ontario, in October 2010 left tank cars strewn on the right-of-way, and investigators wondering why. Transportation Safety Board of Canada

A single freight car, placed in the wrong spot, can be the downfall of an entire train. Such was the case for Canadian National train M31451-28 at milepost 144.19 on the Bala Subdivision near Falding, Ontario, on the morning of Oct. 1, 2010. Twenty-one cars derailed, tearing up 1,500 feet of track. Eight of the derailed cars were liquefied petroleum gas tankers, and seven contained fuel oil. Thankfully, there were no injuries or spills. Canada's Transportation Safety Board reported that the train was led by four diesel units with extended-range dynamic braking. The consist had 89 loads and 38 empties, a total of 127 cars; it weighed 12,909 tons and was 8,892 feet long. Thirty-nine of the first 49 cars were

equipped with long-travel hydraulic cushioning devices, including a block of 11 empty, 93-foot multilevel auto racks.

The conductor stepped away briefly and the engineer missed seeing a signal. When the conductor returned, the crew decided to stop the train in advance of the next signal, per CN operating rules. With the front of the train entering an ascending grade and the rear of the train still descending, the engineer throttled off and applied dynamic braking, but the train did not slow as expected. The engineer shoved the dynamic braking control lever from the third to sixth position. The crew felt the slack run in. The engineer eased up on the dynamics and was moving the control handle between the second and sixth positions when the train

brakes applied in emergency. The train stopped about 2,000 feet before the signal; cars 49 to 69 had derailed.

On-site investigation and a post-accident computer simulation indicated run-in forces apparently had caused the 51st car, an unloaded 40-foot, 27-ton aluminum covered hopper — described by TSB as “a short, light, empty car” of the type “known to be susceptible to string-lining and jack-knifing when placed ahead of significant trailing tonnage” — to derail first, lifted off the tracks by some 7,200 tons behind it as it exited a 5-degree, right-hand curve in a sag. Investigators said the engineer had applied dynamic braking in a rapid, nonstandard fashion without accounting for the run-in of slack on a descending grade.

UP 101

TRAINS TODAY

Today's mixed manifest train is not your grandpa's freight train. Gone are the days when the main operational consideration was simply assigning enough power at the head end to move the tonnage over the road, and blocking was done by convenience — positioning the first cars to be dropped off, loaded or empty, right behind the locomotive. With the advent of today's longer, heavier trains, the yardmaster now has to consider overall weight distribution, long-car/short-car combinations, the placement of distributed motive power, and other factors unfamiliar to railroaders who worked in a simpler era. The consequences of failing to do so can be severe.

“The days of everything being a 40-foot boxcar are pretty much over,” says Gary Wolf of Wolf Railway Consulting in Atlanta. Today's manifest is a wild combination of “piggybacks, double-stacks, five-packs, articulated cars, single-axle cars, spine cars,” and many cars with end-of-car cushioning devices — those EOCs mentioned in the accident report above. This heterogeneous combination can make a train act “like a giant rubber band going down the track.”

To be sure, longer trains mean fewer operating crews, better asset utilization, and more profit for the railroads. But they've also drawn scrutiny. In 2018, according to a Reuters report, the U.S. Government Accountability Office launched

an inquiry into the safety of longer trains after spectacular accidents on CSX Transportation involving a 178-car freight in Hyndman, Pa., and a 192-car manifest near Lakeland, Fla. The Federal Railroad Administration and Surface Transportation Board were said to be conducting their own investigations.

It's not just a train's length, but the way it's put together that can cause trouble. One of the first mishaps to draw widespread attention to train marshalling practices happened on the night of July 14, 1991, when a Southern Pacific freight derailed on the Cantara Loop near Dunsmuir, Calif. A tank car went over a cliff, 19,000 gallons of the herbicide-pesticide metam sodium spilled into the Sacramento River, and



A BNSF Railway manifest with a variety of freight cars and lading rolls west along the Missouri River and through curvaceous Lombard Canyon in Montana on June 26, 2017. Sharp curves and empty cars with significant trailing tonnage can spell trouble for train handling. TRAINS: Tom Danneman

everything in the river died for 20 miles downstream. The wreck was said at the time to be the worst environmental disaster in California history.

The California Public Utilities Commission investigated the incident and concluded that the derailment was caused by “heavy/light car and short/long car combinations too close to the head end of the train.” The state’s subsequent attempt to impose train makeup rules on the railroads failed in court, but ever since, the industry has been motivated to come up with solutions before other incidents force the regulators’ hands.

“Railroads started writing restrictions — for example, how many EOC cushion cars are allowed in a train before the dynamics become untenable,” Wolf says. “Or, where do you put these empty spine cars? How do you entrain articulated equipment like double-stacks? These were the questions we had to deal with in the 1980s and 1990s, as all this equipment came out to meet market demands.”

“Train operations have changed

significantly in recent years,” Canada’s TSB wrote in one 2009 accident report. “Before the mid-1990s, an average train in main-track service was about 5,000 feet long and weighed 6,000 to 7,000 tons. Some of today’s trains are over 12,000 feet long and weigh over 12,000 tons and as much as 18,000 tons. With the significant increase in average train length and weight, there have been associated increases in normal in-train forces.”

Indeed, some Class I railroads are regularly moving unit trains that weigh in excess of 30,000 tons.

Train makeup, and the resulting in-train forces that occurred while trains were en route, were contributing factors in 10 accidents investigated by the TSB during a 10-year span starting in 2001. “Inappropriate handling and marshalling can compromise the safe operation of longer, heavier trains,” the agency wrote in its March 2010 safety “Watchlist.” It called on railroads to “take further steps to ensure the appropriate handling and marshalling of longer, heavier trains.”

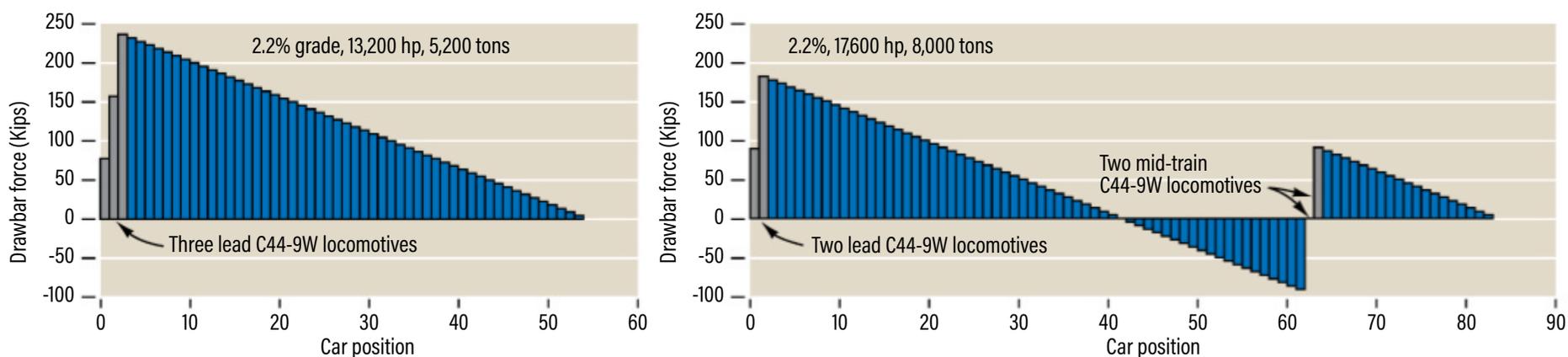
TRACK-TRAIN DYNAMICS

“Track-train dynamics,” the science that measures and predicts the forces at work in a moving freight train, has only grown more sophisticated in the years since those words were written. The study of track-train dynamics includes such factors as track curvature, grade profile, types of rolling stock, car combinations, weight, velocity, motive power and its distribution within a train, and control inputs (such as braking and throttle adjustments) of the human engineer — so many variables, pushing and pulling on the train and track in so many ways.

“In the last 10 years, the nature of train operations has changed dramatically and has required a rethinking of what we do and how we do it, along with the tools and science we apply,” says Robert LeBlanc, recently retired senior transportation engineer with CN.

“For decades, the size of freight trains was primarily constrained by siding capacity,” LeBlanc says in a phone interview from Edmonton, Alberta. By the latter

Typical distribution of train forces



half of the 20th century, “at probably all North American Class I railroads, sidings were pretty well established at 6,000 feet. That worked extremely well at the time with regard to the types of motive power available prior to distributed power. You could only put so many locomotives on the head of a train; if you had too many, the pulling forces would exceed the metallurgical characteristics of the coupler components and you’d end up damaging knuckles or pulling couplers apart, resulting in a train separation.”

In those days, LeBlanc says, “we marshaled trains primarily for operational convenience. We’d assemble cars in the sequence they’d later be taken off; we called that destination-block marshalling. If your first customer needs a bunch of empties, it’s convenient to put them close to the head end, if not at the immediate head end. In the past, we didn’t have a lot of problems with train separation, nor did we have a lot of marshalling-related derailments. That’s not unique to CN; the entire industry managed train marshalling to the same extent.”

When E. Hunter Harrison took CN’s helm, “almost overnight, we went from a 6,000-foot railroad to a 10,000-foot railroad,” LeBlanc says. Besides necessitating longer passing sidings, longer consists introduced new operating challenges: weight distribution within a train, placement of loads versus empties, the dynamics of longer cars and shorter cars coupled together, and how train length and weight interacted with the track profile. Steep grades with lots of curves — your typical mountain railroad — or severely undulating terrain presented all kinds of challenges. Not to mention those EOC-equipped cars.

“Cushioning devices can introduce anywhere from 6 to 16 inches of additional play on each end of a railcar,” LeBlanc says. “Excessive in-train force can exceed the tensile strength of metal coupler components. Train marshalling has to manage and moderate this additional cushion slack, because it drives in-train forces that can lead to a train separation or increased derailment risk.”

Prudent train makeup can mitigate the

severity of a derailment. A disproportionate amount of weight at the rear of the train, for example, can make a bad situation much worse. Given a long, tail-heavy consist, if a car in the middle jumps the track, all the momentum behind it can lead to an enormous pile-up. Hence, today’s practice of putting loads toward the front, empties toward the rear.

YARD TROUBLES

Canadian Pacific train 292-02, east-bound from Calgary, had stopped in Suffield, Alta., on Feb. 3, 2010, to pick up 27 empty auto carriers and place them directly behind the locomotives. The consist had two engines, 53 loads, and 49 empties; it weighed 8,983 tons and was 7,298 feet long. After stopping 26 miles down the line at



A northbound manifest crosses the Sacramento River at Cantera Loop north of Dunsmuir, Calif., on July 12, 2004. The massive steel guardrail protects the river from any cars that could fall into the waterway in the event of a derailment. Two photos, Tom Kline



Investigators look over the remains of a derailed CSX freight at Hyndman, Pa., in August 2017. National Transportation Safety Board



Broken knuckles litter the Kansas City Southern right-of-way at Pile Page, Okla., a reminder of past incidents here.

THERE ARE LIMITS
TO HOW MUCH
STRESS A TRAIN
CAN TAKE FOR A
GIVEN DEGREE OF
CURVATURE.

— GARY WOLF,
WOLF RAILWAY
CONSULTING

In March 2016, eight Union Pacific locomotives lead a mismatched freight along the Columbia River and the volcanic bluffs at Celilo, Ore. Note the empty center-beam and bulkhead flats in the consist. Tom Danneman



Three photos show the damage from the derailment of Canadian Pacific train 292-02 in Medicine Hat, Alberta, on Feb. 3, 2010. At far left, investigators marked the place where lateral forces on the 14th car led to the derailment of cars 13 through 19. Transportation Safety Board of Canada

Medicine Hat to make a crew change, the train started out on a descending grade with dynamic braking applied to keep the speed less than 10 mph. As the train passed over a pair of yard crossovers, seven of the auto racks went off the rails.

Subsequent investigation found that the engineer's use of dynamic braking alone — applied with 23,000 pounds more braking force than the recommended maximum of 60,000 pounds — “generated high in-train buff forces that were concentrated near the head end of the train where the empty auto carrier cars were positioned,” the TSB said in its post-accident report.

As the weight of loaded cars at the rear pressed against empties at the front, and “as the lighter auto-carrier cars negotiated the sharp turnout curve, the elevated in-train buff forces produced high lateral forces at the wheel-rail interface. ... Wheel climb occurred on the 14th car, leading to the derailment of the 13th through 19th cars.”

SOFTWARE TO THE RESCUE

Responding to the new operational challenges, the Class I railroads partnered to develop freight car marshalling software. The programs derive from extensive research, testing, and computer modeling by Wolf and his compatriots in private laboratories and at the Association of American Railroads' Transportation Technology Center near Pueblo, Colo. Today, a railroad yardmaster can enter into a computer program critical train makeup information including motive power, car types, loaded condition, and intended order in train. The software will then warn of potential trouble.

“This was revolutionary,” LeBlanc says. “Before freight train modeling became mainstream, railroads were very astute at knowing where the over-the-road problem areas were, and essentially relied on experience and past best practices — sort of educated guesses, along with some trial and error to test any new assumptions. You could work within the envelope, but a more informed approach was required to push the boundaries.”

“Starting in the 1970s, through computer modeling and the research

efforts undertaken in Pueblo, the railroads started collaborating to come up with basic train makeup rules. That in and of itself was very transformative. Then, as train dynamics models emerged and evolved, railroads started bringing these core tools in-house. You ended up with expert consultants who brought modeling tools and a wealth of experience to the table. They not only helped guide the industry to develop better marshalling practices, they helped ensure safety management wasn't compromised.

“It's continually evolving, but the art and science of freight-train makeup is certainly a significantly more mature practice than decades ago. Train simulations, for example, are now core to railroading — not just for pushing operational efficiency, but for risk management.”

Developing train makeup expertise took thousands of hours of computer simulations, and included tests of every conceivable combination of freight cars, motive power, and track characteristics. Even then, any particular modeling program is highly customized and of use only to the Class I railroad for which it was developed, given the grades, curvature and operating practices unique to that railroad.

In a September 2017 presentation to the International Association of Railway Operating Officers in Indianapolis, Wolf described draft and buff forces to be concerned about in undulating territory, where a long train can crest a grade and go through a sag simultaneously.

“Let's say you're dealing with a heavy grade; you've got five big diesels on the front, and these heavy draft forces right behind the fifth locomotive,” Wolf said. “If they become excessive and the degree of curvature is sharp, they can physically string-line the cars and pull them inside across the rail. There are limits to how much stress a train can take for a given degree of curvature.”

With excessive buff or run-in forces, Wolf said, “if you have this train coming down a heavy grade, with heavy dynamic braking pushing back on the train, the forces behind the fifth locomotive are at a maximum; and depending on the degree

of curvature at the couplers, you can physically jackknife that train and put the cars out in the woods. Such forces can even shift or buckle the track.”

The first effort to measure and predict these forces, and to provide guidelines for assembling freight trains, resulted in the so-called “Brantman Tables” of the 1970s. Building on that work, a consortium of U.S. and Canadian railroads, the Federal Railroad Administration, Transport Canada, and other entities researched the behavior of long trains and in 1979 published “Report R-185, Track-Train Dynamics to Improve Freight Train Performance.” LeBlanc calls it a “seminal piece of work.” The published document, he says, became the standard reference on the subject through the 1980s, and the fundamentals apply today. It was succeeded by another study group, which produced the “AAR R-802 Train Make-up Manual” in 1992.

These documents contained tables that predicted safe train consists and operating limits, based on the degree of curvature on one's territory. “As your curvature went up, the safe trailing tonnage behind it — in the case of a long car coupled to a short car — goes down by an extreme amount,” Wolf says. “These tables are very useful to get us in the ballpark.”

With the advent in the past 25 years of powerful computers and specialized modeling software like the Train Operations and Energy Simulator, developed for and licensed to AAR-member railroads, “we've taken things a notch further,” Wolf says. A train's behavior can be tested in various braking scenarios: with head-end and distributed power; with level, cresting, and undulating track; with tonnages of 6,000 to 10,000 to 16,000 tons; and with different car combinations like a block of 20 or 50 empties mixed in with the loads; across 400 to 500 simulations. Resulting data are used to write the algorithms of a railroad's train-building software.

Interviewed in his office in Atlanta — next to the CSX main line of the former Georgia Railroad — Wolf says, “During the 1990s and 2000s, my company helped set the train makeup rules for just about every railroad in North America. Many

railroads came to us for help with territory-specific restrictions that might need to be imposed. We did thousands and thousands of computer simulations with different train tonnages. You can do this in a computer to a high degree of accuracy without endangering anything.”

For example, the acceptance of distributed power in the late-20th century reduced the odds of coupler failure caused by too much power at the head end. Trains in the 10,000-foot-plus range appeared, along with a raft of new operating concerns.

“Where do you put the DP [distributed power] unit?” Wolf says. “Mid-train? End-of-train? Two-thirds of the way back? We did a lot of simulations, with manned and electronically operated helpers, to determine where you put distributed power to achieve minimum train forces.”

Who puts these lessons into practice?

“Usually the railroad’s transportation department,” Wolf says. “In the field, the superintendents of each division. In the assembly of the train itself, the yardmaster — assembling the train, deciding where to place the distributed power, ensuring that long-car/short-car combinations, which aren’t optimal in territories with heavy curvature, are placed back in the train where the forces will be lower. The final call is

made by the conductor. Conductors have to be familiar with the train makeup rules in the employee timetable. That’s the final safety step — the conductor taking a look at the train makeup.”

ONE MORE WRECK

On the subfreezing morning of March 21, 2009, Canadian National train M36231-20 was running eastbound at 50 mph on the Kingston Subdivision from Toronto to Montreal when the train brakes went into emergency near Brighton, Ontario. Six cars, the 98th to 103rd, had derailed; three tank cars contained hazardous materials but remained upright, and there were no spills. The Transportation Safety Board of Canada reported that the train had three locomotives at the head end, was about 8,850 feet long, and weighed roughly 11,845 tons. The TSB noted that the train had 137 cars, and that the first 103 cars had 62 empties and 41 loads. About half the cars had long-travel, end-of-car, hydraulic cushioning devices, mostly near the head end. Loads from the 104th to the 137th car were mostly equipped with conventional friction draft gears.

The TSB said that a post-accident computer simulation indicated “a higher-than-usual run-out (draft) event” had occurred at

the 108th car as the train traveled through undulating territory. As slack ran out, a coupler knuckle failed between the 107th and 108th cars. The train split in two and the air hoses separated; both the front and tail portions automatically went into emergency braking. With the combination of a descending grade, heavier cars positioned at the rear, and the train in emergency, the heavy tail quickly caught up with the front. When the separated sections collided, TSB reported, “force came to bear on two long, empty flat cars coupled together between shorter, loaded tank cars, a combination susceptible to derailment during high buff-force [run-in] events.” The flatcars jack-knifed. Lateral forces caused both rails to roll over and other cars to derail.

“While the train was marshaled in accordance with Canadian National’s General Operating Instructions and regulatory requirements,” the TSB concluded, “it was not configured in a manner that effectively managed in-train forces.”

EVOLUTION CONTINUES

Operating practices continue to evolve. Railroads have lengthened their sidings, and 10,000-foot-plus trains are no longer uncommon. Older-generation Grade C steel knuckles have been supplanted with

On Aug. 4, 2012, a northbound Canadian National freight, with a pair of empty flats up front, rolls over the Fox River and through Vernon Marsh just north of Mukwonago, Wis. Tom Danneman





Southbound Norfolk Southern manifest 37Q has cleared the color position light signal at Stuarts Draft, Va., the south end of this siding, on April 29, 2010. Freight trains like this with a mix of loaded and empty cars can be challenging to assemble — and operate. George W. Hamlin

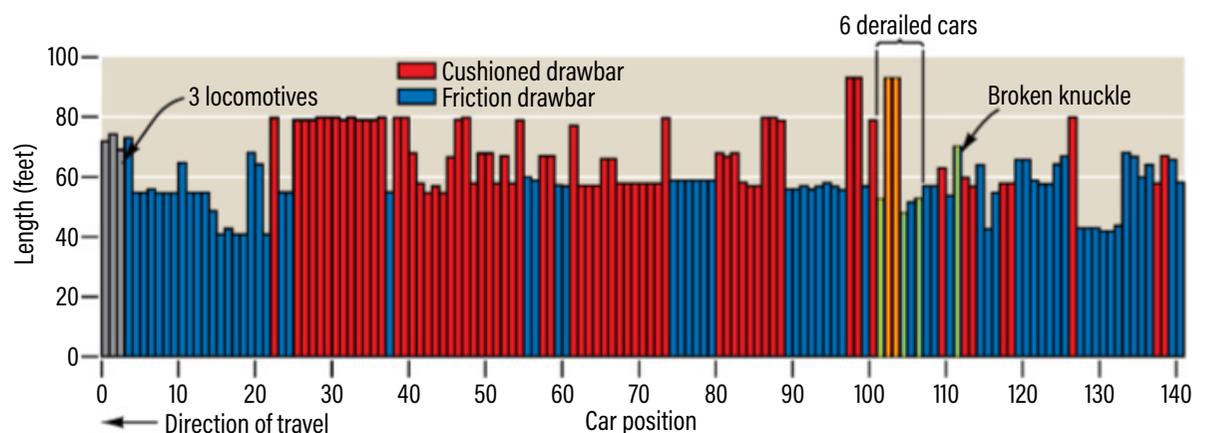
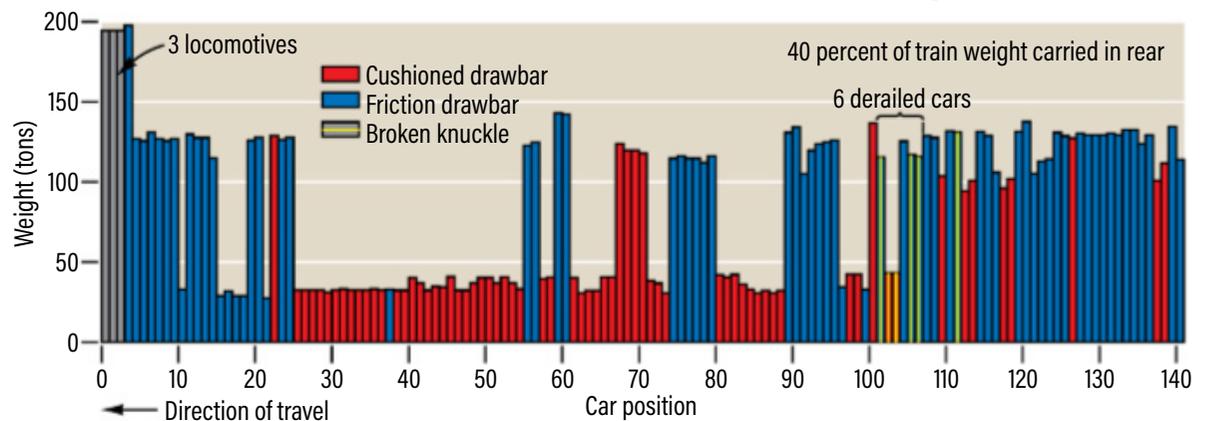
stronger Grade E knuckles that can withstand about 40 percent more force before metal fatigue, damage, and eventual failure occurs. Stronger knuckles make even-longer trains possible. Moreover, because of better adhesion-control systems, most modern A.C. locomotives have usable dispatch adhesion ratings approaching 35 percent. Modern railroading, Wolf says, means “longer trains, stronger steel in knuckles, higher adhesion locomotives, and higher velocities.

“I think trains built today, dynamically, are safer than the trains built 30 years ago, because now we have a better sense of the safety limits, on where you put the blocks of weight in a train,” he says. “A few years ago, I remember seeing a train going up to Sacramento along I-80, made up the way we recommended. I took some pride in seeing that they were following the train makeup practices we came up with in Atlanta.

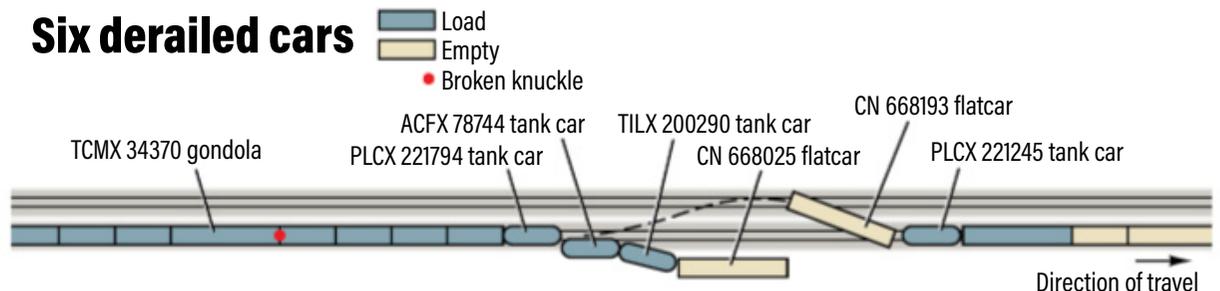
“We can change a lot of things. The one thing you can’t change is curvature and grade. What was built in 1895 is going to stay that way; it’s very difficult to change the route and make it less hilly or less curvy. What you can change is the amount of force you’re putting into a train.”

DAVID IBATA lives near Atlanta, edits the bimonthly newspaper of The Salvation Army USA Southern Territory, and freelances for numerous magazines and newspapers.

Distribution of forces, CN train M36231-20 at Brighton, Ont.



Six derailed cars



COVER STORY

BIG BOY

RESURRECTION

For the 150th anniversary of the Golden Spike, Extra 4014 West

by Jim Wrinn

On a test run, Big Boy No. 4014 steams west out of Cheyenne, Wyo., for the first time in 60 years, as the sun dips below the horizon at Tower A on Track 3, May 2, 2019.

John Crisanti





It is traditional to bring a gift to an anniversary party. In the case of the 150th anniversary of the Golden Spike, Union Pacific Railroad outdid itself with a gift to U.S. railway preservation and to American history by presenting freshly restored Big Boy No. 4014. The railroad finished the locomotive's restoration and test run with hours to spare before a May 4 departure from Cheyenne, Wyo., in a doubleheader with 4-8-4 No. 844.

The two made a multiday trek to Ogden, Utah, across original Big Boy territory, including Sherman Hill, Peru Hill, and Wasatch grade. At Ogden, the two posed nose-to-nose in a ceremony May 9 in which UP Chairman, President, and CEO Lance Fritz called over the radio to summon the 4-8-8-4 to the stage at Ogden Union Station. The two locomotives were on display in Ogden, the closest major UP terminal to Promontory Summit, where the first transcontinental railroad was completed in 1869.

The last time a Big Boy locomotive ran was in July 1959, 60 years ago. The type was designed and built for Wasatch grade, a 65-mile climb from Ogden to Evanston, Wyo., with territory that extended as far east as Green River, Wyo. Later, that territory was extended to Cheyenne.

The restoration, deemed impossible for years, took place in a short 2½-year window after No. 844 was restored in 2016. The railroad acquired No. 4014 in 2013, moved it in 2014, and began retooling the Cheyenne steam shop in 2015 to prepare for the restoration. A tour of portions of the UP system was expected to be announced for 2019. Once again, Union Pacific has shown that anything is possible. **I**

1 Union Pacific President Lance Fritz and his wife Julie break a bottle of champagne to christen the engine on May 4, 2019.

TRAINS: Jim Wrinn

2 UP 4014 West, in a doubleheader with 4-8-4 No. 844, makes its way east of Medicine Bow, Wyo., May 4. Its ultimate destination is the 150th Golden Spike anniversary celebration in Ogden, Utah. Steve Glischinski

3 The restored 4-8-8-4 steams up its boiler at 3:30 a.m. at Rock Springs, Wyo., on May 6, to prepare for its next leg to Evanston, Wyo. Its steam plumes are colored orange by surrounding streetlights. Two photos, Leo de Groot

4 Illuminated by dawn's first light, No. 4014 stops at Granger, Wyo., for maintenance on May 6. The crew kept a close eye on 4014 during its first mainline outing.





1

1 A view from east of Wamsutter, Wyo., from the cab roof of 4014 on May 5, 2019. TRAINS: Jim Wrinn

2 Fireman Austin Barker surveys the train at Wamsutter on May 5, 2019. TRAINS: Jim Wrinn

3 In a town with a population of less than 60, Echo, Utah, has a few extra guests trackside as UP 4014 West greets them with a big plume of steam on May 8, 2019.

Steve Glischinski

4 Through blowing snow, Big Boy and its train approach a signal along Wasatch Road at Coalville, Utah. Mike Castellow

5 Senior manager-Union Pacific Heritage Operations and No. 4014's Engineer Ed Dickens grasps the throttle in his left hand and a microphone in the right on May 5, 2019.

TRAINS: Jim Wrinn

6 No. 4014's train descends Wasatch grade through Echo Canyon on a rainy May 8 with a 12-mile-long motorcade in its wake. This view was made from the famous I-80 West Rest Stop, which was expecting and received large crowds of spectators from across the country and around the globe.

Rolf Stumpf



2

3





4



5



6



1



2

1 On May 9, Big Boy and 4-8-4 No. 844 pose in a scene evocative of the American image of Central Pacific 4-4-0 *Jupiter* and Union Pacific 4-4-0 No. 119 face-to-face at the Golden Spike ceremony in 1869. Banner in rear is a modern twist on the telegraph message sent nationwide on May 10, 1869, to tell all that the first transcontinental railroad was complete.

2 This was the first time No. 844 and No. 4014 were posed nose-to-nose under steam. They remained at Ogden Union Station on display through May 11. Their eastward trek home to Cheyenne, Wyo., began May 12 and concluded May 19.

3 On May 10, a crowd of approximately 10,000 gathered at the National Park Service site at Promontory Summit, Utah, for a recreation of the Golden Spike ceremony. Replicas of *Jupiter* and No. 119 filled the roles of honor.

Three photos, TRAINS: Jim Wrinn





Steam to keep watch on

Around the country, more restoration projects move toward completion

▲ With mudring rivet work completed (line of silver caps) on Reading 4-8-4 No. 2100, the American Steam Railroad group needs \$25,000 for firebox and combustion chamber repairs; \$250,000 for a completion targeted for 2020. ASR: Forrest Nash

WHILE UNION PACIFIC BIG BOY NO. 4014 has been the steam story of the year, other projects are going on. Here are a dozen restorations to watch.

1. Western Maryland Scenic's ex-Chesapeake & Ohio 2-6-6-2 No. 1309 should be back on its own wheels in mid-May and heading toward a July 4 weekend debut at Cumberland, Md.

2. Climax No. 9 in Cass, W.Va., was scorched in an early 1970s shop fire. This three-truck engine from Moore-Keppel is finally rising from the ashes.

3. Reading Co. 4-8-4 No. 2100 in Cleveland. American Steam Railroad Preservation Association has completed significant boiler and firebox work; it still needs \$250,000 to clinch a 2020 steam up.

4. With Reading 2102 in Port Clinton, Pa., Reading & Northern is putting a T-1 back in steam on former Reading rails.

5. Rio Grande 4-6-0 No. 168 in Antonito, Colo., passed a hydrostatic test in April. Steam before the end of the year is not unlikely.

6. Boston & Maine 4-6-2 No. 3713 in Scranton, Pa. Significant progress on the high stepping locomotive at Steamtown.

7. Florida East Coast 4-6-2 No. 148 in Clewiston, Fla., U.S. Sugar's own locomotive has a rebuilt boiler and just needs final assembly.

8. Rio Grande Southern 4-6-0 No. 20 in Golden, Colo.: After years of work at Pennsylvania's Strasburg Rail Road, the famed Ten-Wheeler will return to its Rocky Mountain home soon.

9. Chicago & North Western 4-6-0 No. 1385 in North Freedom, Wis. Beloved Midwestern icon has a new boiler from Continental Fabricators in St. Louis.

10. Rio Grande 2-8-2 No. 493 at Durango, Colo. Durango & Silverton is restoring the line's first oil burner and only K-37 Mike.

11. Conway Scenic 0-6-0 No. 7470, a former Canadian National switcher, is a New Hampshire steam staple.

12. Black Hills Central 2-6-6-2T No. 108 in Hill City, S.D.: A second Baldwin tank Mallet for the tourist railroad with amazingly steep grades. — *Jim Wrinn*



Lincoln Funeral Train rolls once more

Reenactment of the Lincoln Funeral train using replica of the 1868 4-4-0 *Leviathan* launched in April at Stone Gable Estates event center in Elizabethtown, Pa. Dan Copper



The Cumbres & Toltec Scenic will mark its 50th year in 2020. This was a TRAINS-sponsored photo charter in August 2018. TRAINS: Jim Wrinn

Has it really been 50 years for C&TS?

Preservation railway details 2020 celebrations

THE CUMBRES & TOLTEC SCENIC will host several events during 2020 to celebrate its 50th anniversary of operation and joint ownership by the states of Colorado and New Mexico. Here's what's planned:

- Opening Day of the 50th season, May 23. Special trains from both ends of the railroad.
- 50th anniversary of the signing of the joint agreement, July 1, 2020: A special ceremony at Osier, Colo., will be held 50 years after the historic July 1, 1970, agreement between Colorado and New Mexico was signed. Dignitaries from both states will be invited to preside at this event in Osier, the midpoint on the daily train.
- Roundup of Victorian Iron Horses, July and August 2020. The railroad will present an event with locomotives built before 1900.
- Galloping Goose Reunion, Aug. 22-30, 2020. Several excursions and events will feature a gaggle of operating Goose motors. The Galloping Geese are homemade railbuses built by the Rio Grande Southern and accommodated passengers and light freight to operate in the rugged Rocky Mountains. During the week, demonstrations of the historic properties and operations are planned as well as night photo sessions.
- A special Osier moonlight dinner train and gala program on Aug. 29, 2020, to observe the signing date and equipment transfer to Cumbres & Toltec.
- Rotary snowplow OY will operate early in the year to clear the line for the start of operations for the first time in more than 20 years. To be put on a list of people interested in tickets for the rotary snowplow, email rmartinez@cumbrestoltec.com. Tickets will be released in November 2019, and those on the advance list will have the best chance to secure a place. For details, please visit www.cumbrestoltec.com. — *Jim Wrinn*

Ride *this* train!

A Family Railroad Fun Guide

WORLD'S LARGEST MODEL TRAIN DISPLAY
25,000 SQ. FT.

- Train Journey
- Imagination Junction
- American Railroad Museum
- Expo Center
- A-Maze-N Funhouse
- Coney Island Replica
- Hobby/Toy Shop
- Gift Shop

America's Most Amazing Family Attraction!

"Travel Gem"
- AAA



ENTERTRAINMENT JUNCTION

www.EnterTRAINmentJunction.com

7379 Squire Court
Cincinnati, OH 45069
(513) 898-8000



3-hour scenic train ride to the highest peak in the Northeast!

Now! Up to 2 steam and 9 biodiesel trips per day! May - October
Get details and schedule online

BOOK AT THECOG.COM 800-922-8825



Don't Miss a Single Issue!

Subscribe Today!

Call **877-246-4843**

www.TrainsMag.com



Every issue is packed with:

- In-depth feature articles
- Preservation and railroad worker stories
- Ideas and insights
- News and analysis of industry trends and developments
- **and more!**



Hot spot: Gallitzin/Cresson, Pa.

These two towns are keystones of Pennsylvania train-watching

▲ A westbound NS intermodal approaches the popular Gallitzin Road overpass between Cresson and Gallitzin. Two photos, Alex Mayes

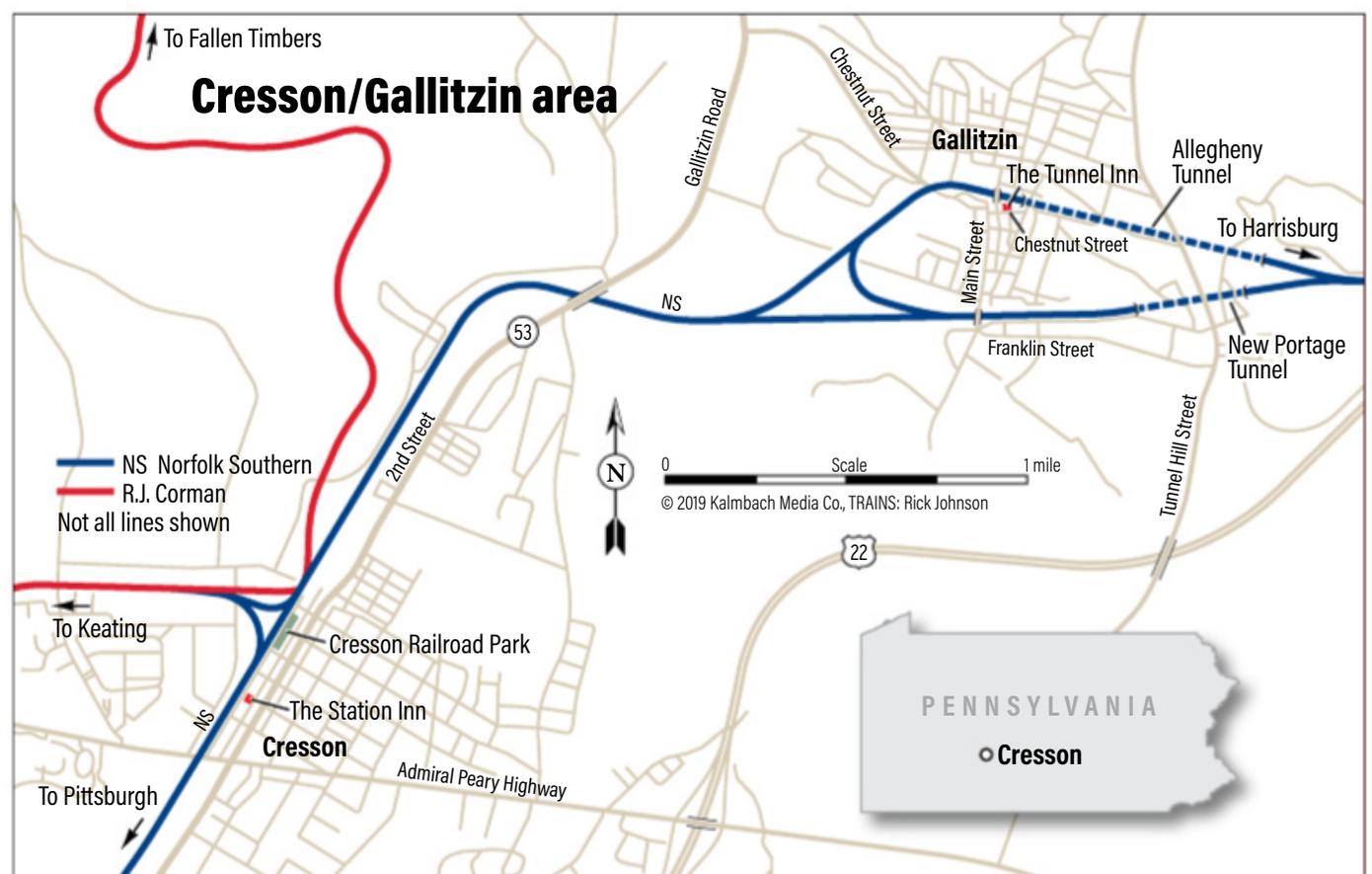
LOCATION: The 3.5-mile stretch of Norfolk Southern main line between Gallitzin and Cresson, Pa., has an ample variety of train-watching spots as well as outstanding photo locations. Located 14 miles west of Altoona on the former Conrail Pittsburgh Division, this hot spot is a popular rail-fan destination. It is easily

accessible via U.S. Route 22 and state Route 53, which run parallel to the NS main line.

The borough of Gallitzin, population 1,756, is located in eastern Cambria County along the eastern edge of the Allegheny Plateau. The borough of Cresson, population 1,631, is a helper base for trains ascending and descending the steep

grades between Johnstown and Altoona and has a small yard. R.J. Corman's operation, which runs on a branch between Cresson and Mahaffey, Pa., connects with the main here.

TRAIN-WATCHING: On most days, this section of main line sees about 40-50 Norfolk Southern freights, plus



Amtrak's *Pennsylvanian*, which runs daily between New York and Pittsburgh.

The main attraction in Gallitzin for railfans is the west portal of Allegheny Tunnel, constructed by the Pennsylvania Railroad beginning in 1851, which is easily photographed from an overpass. Fifty feet to the north lies Gallitzin Tunnel, opened in 1904 and closed by Conrail in 1995. This location is best photographed in the afternoon. Both eastbound and westbound trains pass through this double-track tunnel, and most eastbound trains have helpers on the rear.

Another interesting attraction for railfans in Gallitzin is the Allegheny Portage Railroad National Historic Site, which is located at the top of one of 10 inclined planes the Allegheny Portage Railroad operated over 1834-1854. Three miles to the west is another outstanding photo location, which is from the U.S. 53 overpass about halfway between Gallitzin and Cresson. Photography from this location is good for trains in both directions, depending on the time of day.

In downtown Cresson there is a train-watching and photography platform just feet south of the NS main line, which provides a good vantage point for trains in both directions. The platform offers great views of the NS yard and helper engines waiting to couple onto trains.

RADIO FREQUENCIES: NS Road 1, 160.800; NS Road 2 161.070; R.J. Corman, 160.845



Eastbound and westbound trains meet at the west end of Allegheny Tunnel in Gallitzin, as seen from the Main Street overpass.

Your ad in *Trains*

reaches the world's largest audience of people passionate about railroading.

To Advertise call:

888-558-1544

Mike Yuhas,
Sales Rep. ext. 625



MID-CONTINENT RAILWAY MUSEUM



MidContinent.org (800) 930-1385

North Freedom, Wisconsin
1 hour northwest of Madison, WI

TRAIN RIDE • MUSEUM
EXPLORE OUR NEW DISPLAY BUILDING!

CONWAY SCENIC RAILROAD



All Aboard!



Experience old-fashioned train rides, all departing from our 1874 Victorian Station in North Conway Village, NH.

Excursions from 1 to 5½ hours - Coach • First Class • Dining Cars

ConwayScenic.com • (603)356-5251 • North Conway Village

Travel Through Time On Indiana's Most Scenic Railroad

WHITEWATER VALLEY RAILROAD



455 Market St.
Connersville, IN 47331
765-825-2054

Saturdays - Sundays - Holidays • May - October

free parking • groups welcome • caboose rentals • departs 12:01 p.m. operating railroad museum • gift shop • 2 hour layover in Metamora



Come and see where the Red Diamonds still work the rails. Ex Cincinnati Union Terminal #25, the last remaining 750 hp unit in existence and only one of four Lima-Hamilton diesels to survive.

www.whitewatervalleyrr.org

The Whitewater Valley Railroad is a Not For Profit 501c3 Organization

Ride this train!

A Family Railroad Fun Guide

+ WHAT'S MORE: Be sure to check out The Station Inn in Cresson and The Tunnel Inn in Gallitzin. Both provide railfan-centered lodging with a view of the main line.

Fifteen miles north of Gallitzin is Prince Gallitzin State Park, in Patton. This 6,200-acre park has several attractions, including 1,600-acre Glendale Lake, a 437-site tent and trailer campground, swimming, boating, hiking, and hunting.

A short drive from Gallitzin is the Johnstown Flood National Memorial on U.S. Route 219 in Conemaugh. This memorial commemorates the 2,200 people who died in the Johnstown Flood when a dam was breached on May 31, 1889, and sent 3.6 million gallons of water hurtling towards Johnstown. The visitor's center provides dramatic representations about this tragic event and houses a large collection of artifacts from the flood. The remnants of the dam that was breached are a short walk from the visitor's center.

A few miles south of this memorial is the Flight 93 National Memorial in Shanksville, which is the site of the crash of United Air Flight 93 that was hijacked in the 9/11 attacks. An observation platform at the visitor's center and a white marble wall are both aligned beneath the flight path of Flight 93. — *Alex Mayes*

MORE ON MRVP

Drew's Gateway City getaway



BNSF Railway's Madison Turn takes the "High Line" under the iconic Gateway Arch in St. Louis. Drew Halverson

WITH ALL EYES FIXED on points farther into America's frontier this spring, rail photographer Drew Halverson and his crew set out to explore the railroad action in, around, and even *under* the proverbial Gateway to the West. Top-notch video captures Drew's adventures getting to St. Louis, along with his exploration of the Arch Tunnels, Lenox Tower, and other notable railroad sites. Subscribe today, and enjoy the fun by clicking on MRVideoPlus.com/DTAinSTL

MRVIDEOPLUS.COM isn't just for modelers! Embrace the heavy-duty railroad content. With your subscription to Model Railroader Video Plus, you'll have access to exclusive high-definition videos and miniseries covering tons of railroad-related topics.



▶ SIGN UP FOR FREE TODAY AT WWW.MRVIDEOPLUS.COM/27DEAL

WEST VIRGINIA
MTN RAIL
ADVENTURES
— ELKINS • CASS • DURBIN —



JOIN MOUNTAIN RAIL FOR AN INCREDIBLE 2019 SEASON!

Rail connections. Overnight options. Railfan photography specials. The return of the Middle Fork Climax. Celebrate the reopening of the Cass to Durbin line.

304.636.9477 • MTN-RAIL.COM • f @



**\$1 OFF +
FREE SHIPPING**

LEAN, MEAN MACHINES!



From the publisher of *Trains* magazine, *Locomotive 2019* covers the latest trends, statistics, and inside stories from the exciting world of locomotives. You'll also find a variety of vintage and modern locomotives photographed in spectacular locations.

The 2019 edition features:

- **ALCO Tribute:** Fifty years after the company ceased production, we pay homage to ALCO and its surviving locomotives.
- **Mission Control:** How Wabtec-GE remotely monitors locomotives around the globe.
- **Electro-Motive F59s:** A behind-the-scenes look at the birth of General Motors' game-changing passenger locomotives, the F59PH and its F59PHI offspring.
- **All-New Motive Power Review:** An exclusive listing of new locomotives and major rebuilds in North America.
- **4141: The Inside Story of a Presidential Locomotive:** A look at Union Pacific's SD70ACe dedicated to George H.W. Bush.
- **Notable Contributors:** Articles by David P. Morgan, Bill Stephens, Samuel Phillips, M. Ross Valentine, and David R. Busse.
- **Updated Big Six Fleets by the Numbers:** A look at trends in comparison to last year.
- **And More!**

Reserve now at KalmbachHobbyStore.com/Locomotive2019

Offer expires 9/12/19 at 11:59 p.m. CT. Free standard shipping to U.S. addresses only.
Sales tax where applicable. *Locomotive 2019* will arrive in September 2019.

P34169

Grand Canyon Steam PHOTO SAFARI

Space is limited!

Consolidation No. 29's Last Trip to South Rim

Oct. 26-27, 2019 · Williams, Ariz.

EXCLUSIVE TWO-DAY EVENT

Join Grand Canyon Railway and *Trains* magazine for a special salute to 1906 2-8-0 No. 29, before it goes into storage.

Trains MAGAZINE

GRAND CANYON
Railway & Hotel
EST. 1901

Highlights include:

- Private train.
- Special cameo appearance by 2-8-2 No. 4960.
- Passenger and freight consists.
- Evening social.
- Shop tour.
- And much more!

Limited to 70 adventuresome travelers. Reserve your spot today!

For more information and/or to purchase tickets, call 800-843-8799 or thetrain.com/trains

P35274

RAILROAD ATTRACTION DIRECTORY

To advertise in this section, call Mike Yuhas toll-free at 888-558-1544, Ext 625.

ARKANSAS Springdale

ARKANSAS & MISSOURI RAILROAD

306 East Emma



This day-long, 134-mile round trip includes a three-hour layover in historic downtown Van Buren where you can enjoy lunch in a local cafe, shop along Main Street and enjoy the rich architecture of the historic downtown. Or, take a three-hour, 70-mile excursion from Van Buren to Winslow and back.

www.amtrainrides.com 479-725-4017

CALIFORNIA Fish Camp

YOSEMITE MOUNTAIN SUGAR PINE RAILROAD

56001 Yosemite Highway 41

Ride "The Logger" steam train through the Sierra National Forest, featuring West Side Lumber Company Shay #10 or #15. We are located near the south gate to Yosemite National Park. One-hour daytime trips and three-hour evening trains that include dinner and entertainment are offered. Open April through October.

YMSPRR.COM 559-683-7273

COLORADO Georgetown

GEORGETOWN LOOP RAILROAD

646 Loop Drive



Come ride the Rockies with the Georgetown Loop Railroad, April 27 through January 5. You can ride the train, tour a mine and pan for gold. Ride our steam engine during any of our special events. Railroad Days, Mother's and Father's Day, Pumpkin Fest and October Fest. During November and December we have Holiday's Adventure with Santa visiting. Book the Princess or Cowboy train for your birthday party.

www.georgetownlooprr.com 1-888-456-6777

COLORADO Golden

COLORADO RAILROAD MUSEUM

17155 W. 44th Avenue



There's something amazing about trains. The familiar whistle has always promised adventure. Experience it again with a visit to the Colorado Railroad Museum, one of the top 10 railroad museums in the United States with one of the largest collections of narrow-gauge equipment. The 15-acre rail yard also features a roundhouse restoration facility and renowned library. Train rides throughout the year. Group rates and programs available.

ColoradoRailroadMuseum.org 800-365-6263

COLORADO Leadville

LEADVILLE COLORADO & SOUTHERN

326 East 7th

May 26 - June 15 1:00pm. June 16 - August 17 10:00am & 2:00pm. August 18 - October 7 weekdays 1:00pm, weekends 10:00am & 2:00pm. Spectacular trip travels into the high Rocky Mountains, the railroad follows old C&S roadbed & 1893 restored depot. Family friendly, pets allowed. For more info visit our web site.

www.leadvillerrailroad.com 1-866-386-3936

FLORIDA Fort Myers

SEMINOLE GULF RAILWAY

1-75 exit 136 at Colonial Blvd.

Murder Mystery Dinner Train



Enjoy a comical murder mystery show while our chef prepares your five course dinner with a choice of 3 entrees. The Murder Mystery Dinner Train operates 5 nights a week all year from the Colonial Station (2805 Colonial Blvd, Fort Myers, FL 33966). Get-Away packages with hotel stay available with special pricing available only through Seminole Gulf Railway.

www.semgulf.com 800-SEM-GULF (736-4853)

FLORIDA Plant City

ROBERT W. WILLAFORD RAILROAD MUSEUM

102 N. Palmer St.



Located at the "diamond" of the "A" line and "S" line for CSX Railroad

In the Historic 1909 Union Station Depot. Visit our fully restored 1963 Seaboard Caboose and 1942 Whitcomb switch engine. Museum is open Mon thru Wed from 12:00 to 4:00 and Thurs thru Sat from 10:00 to 4:00. Platform is open 24 hours a day, every day for great train viewing.

CSX freight, Tropicana Juice Train, Ethanol, TECO Coal, Amtrak are daily arrivals

www.willafordrailroadmuseum.com 813-719-6989

ILLINOIS Monticello

MONTICELLO RAILWAY MUSEUM

992 Iron Horse Place - Monticello Illinois 61856



Ride beautifully-restored diesel and steam trains every Saturday and Sunday, May 4 thru October 6. Steam using Southern 2-8-0 No. 401 one weekend a month. Schedules and information at MRYM.org. Charter our business or dining cars - or a whole train - for your group. I-72 at Exit 166. Bus Parking - Picnic Grove - Exhibit Cars.

Surrounded by Lincoln Sites!

MRYM.org



ILLINOIS Union

ILLINOIS RAILWAY MUSEUM

7000 Olson Road



Home of Nebraska Zephyr. Steam, diesel trains, electric cars. Send \$5.00 for 32 page Guide Book; or #10 SASE for color brochure with schedule & discount coupon. Trains operate Sat: May-Oct, Sun: Apr-Oct, Daily: Memorial Day-Labor Day. Museum open Apr-Oct. Lodging: 847-695-7540 and 815-363-6177.

www.irm.org 815-923-4000

INDIANA Connersville

WHITEWATER VALLEY RAILROAD

5th and Grand



Travel through time on Indiana's most scenic railroad. 33-mile round trip to Metamora, May through Oct. Special events Feb through Dec. Vintage diesels: 1951 Lima-Ham 750HP SW, 1954 EMD/Milw. SD10, 1948 Alco S1. Gift Shop.

www.whitewatervalleyrr.org 765-825-2054

INDIANA North Judson

HOOSIER VALLEY RAILROAD MUSEUM

507 Mulberry Street

From the junction of four former railroads, travel through rural farm country and across the Kankakee River in vintage cabooses or open-air cars. 10-mile round-trip themed train rides, May - Oct & special events. Family and group rates. Guest Engineer Program. Free admission to the museum. Static displays, operating signals and railroaders. Open Saturdays year-round, 9-4 central time.

www.hoosiervalley.org 574-896-3950

YOUR STATE Your City

Advertise your tourist railroad here!

Contact Mike Yuhas at 888-558-1544 Ext. 625

IOWA Boone

BOONE & SCENIC VALLEY RAILROAD & MUSEUM

225 10th Street



An operating railroad museum featuring 11 miles of track winding through the Des Moines River Valley, crossing the 156' tall Bass Point Creek High Bridge. Dinner, dessert, picnic, basic excursions, and trolley rides. Full schedule through 10/31, with diesel and electric operations most Saturdays. Special events throughout the year. Features 9,000 square foot James H. Andrew Railroad Museum.

www.bsrr.com 800-626-0319

KANSAS Abilene

ABILENE & SMOKY VALLEY RAILROAD

200 SE Fifth Street

Ride the Rails of History. 11 mile round trip through the Smoky Hill River Valley. Also offering dinner trains, steam engine runs on the newly restored #3415 & private charters. Call for schedules & reservations.

www.asvrr.org 888-426-6687

KENTUCKY New Haven

KENTUCKY RAILWAY MUSEUM

136 S. Main St.



Small town America at its best...Journey on a 22 mile train excursion aboard L&N's historic Lebanon Branch. Slow down and discover the joy of traveling by train. Take a guided tour with one of our expert museum docents. The gift store has everything for the train enthusiast.



www.kyrail.org 800-272-0152

KENTUCKY Versailles

BLUEGRASS SCENIC RAILROAD AND MUSEUM

175 Beasley Road

90-minute train rides through Central Kentucky Thoroughbred horse country.

Weekends May through October.

www.BluegrassRailroad.com 800-755-2478

MARYLAND Baltimore

BALTIMORE STREETCAR MUSEUM
1901 Falls Road

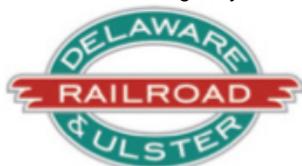


Ride original Baltimore streetcars on a 1-1/4-mile round trip. Enjoy displays, tours, museum store. Open Sundays, March-December; Saturdays and Sundays, June-October. Noon-5 p.m.

www.baltimorestreetcarmuseum.org 410-547-0264

NEW YORK Arkville

DELAWARE & ULSTER RAILROAD
43510 State Highway 28



Route of the Rip Van Winkle Flyer

Travel with us through the New York State's legendary Catskill Mountains from mid-May to early December, with both our excursion and vintage streamliner train rides, check our website for operating calendar.

We offer Train Robbery Barbeques, Spring & September Steam Weekends along with other unique events, private charters available all along the scenic East Branch of the Delaware River. www.durr.org I♥NY (845) 586 - 2929

OHIO Bellevue

MAD RIVER & NKP RAILROAD SOCIETY
233 York Street

Open daily 12 - 4pm Memorial Day through Labor Day - weekends only May, Sept. and Oct. Visit our web site.

www.madrivermuseum.org 419-483-2222

OKLAHOMA Oklahoma City

OKLAHOMA RAILWAY MUSEUM
3400 NE Grand Blvd

All Aboard!

Come for a ride on our historic railroad

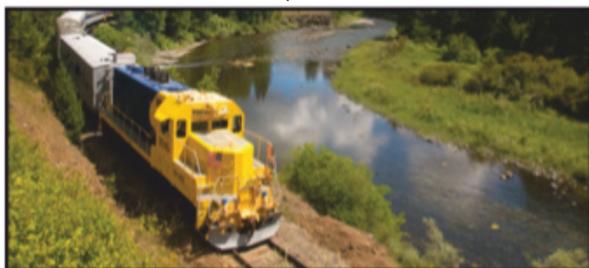


Open Thur., Fri., Sat., 9:00-5:00. Rides on 1st & 3rd Sat. April through August. Trains leave the museum's Oakwood Depot at 9:15, 11:15, 1:15 & 3:15 for a 40 min. round trip on former M-K-T mainline in Okla. City. For info, birthday parties & other functions give us a call or visit our web site.

www.oklahomarailwaymuseum.org 405-424-8222

OREGON Elgin

EAGLE CAP EXCURSION TRAIN
300 Depot Street



Go where cars can't take you! Follow the shores of the Grande Ronde and Willowa Rivers in beautiful Northeast Oregon. Choose a standard Two Rivers, with lunch, or the Wine & Cheese Train, mounted bandits, Bigfoot Train or a photography workshop.

www.eaglecaptrainrides.com 800-323-7330

PENNSYLVANIA Marysville

BRIDGEVIEW BED & BREAKFAST
810 S. Main St.

Lately, train watching around The Bridgeview B&B has been extremely exciting with motive power from BNSF, UP, KCS, CP, CN, CSX and Ferromex often leading, plus add NS heritage units into the mix and you have some amazing lashup possibilities! Trains entering or exiting Enola Yard pass right by our front porch. From the spacious decks and sitting room, you can watch the Susquehanna River, Blue Mountains and train action on Rockville Bridge! Plus, visit Hershey, Gettysburg, and PA Dutch Country! Comfortable rooms all with private baths, A/C, Wifi, and a tasty breakfast are included with your stay. Take a virtual tour on our website and check us out on Facebook for daily updates, pictures and guest comments.



www.bridgeviewbnb.com 717-957-2438

PENNSYLVANIA Robertsdale

FRIENDS OF THE EAST BROAD TOP
550 Main Street

Visit the East Broad Top Railroad's original southern operating terminus. Museum open first and third weekends, May through September, 10-5 Saturdays and 1-4 Sundays. Special hours in October.

www.febt.org 814-635-2388

PENNSYLVANIA Titusville

OIL CREEK & TITUSVILLE RAILROAD
409 S. Perry St., Titusville, PA 16354



Take a ride on a vintage train 'through the valley that changed the world.'

Regular Rides June - October

Many Special Events including Murder Mystery Dinners, Wine Tasting Train Rides, Diesel Days, Christmas in July, Speeder Rides, Santa Trains & more.

Call or visit our website for complete schedule.

www.octrr.org 814-676-1733

SOUTH CAROLINA Greenwood

THE RAILROAD HISTORICAL CENTER
908 South Main Street



SC Upstate's Largest Static Railroad Display!

From the 1906 Baldwin Steam Engine, to the 1914 Executive 'Carolina' car, you will see some of the most beautiful train restorations in the Southeast, including 3 of the existing 4 cars from the old P&N Railway, plus Pullman Passenger and Sleeper cars and the Erie Lackawanna Dining Car #746. Open every Saturday 10-4, May 12 through October, or call for tours at any time but Sunday.

Call today!

www.greenwoodrrmuseum.com 864-229-7093

TEXAS Flatonia

FLATONIA RAIL PARK



Flatonia is a railfan's delight. Downtown is the Central Texas Rail History Center, with artifacts, photos and model trains. Also downtown is Flatonia Rail Park, which features historic Tower No. 3 and SP Caboose 4743. West of downtown at the interlocker is the Rail Photo Pavilion, which is open 24/7. Flatonia is located on I-10 halfway between Houston and San Antonio.

www.railcrossroadstx.com
info@railcrossrdstx.com

TEXAS Galveston

GALVESTON RAILROAD MUSEUM

Home of the Santa Fe Warbonnets
2602 Santa Fe Place Galveston, TX 77550
Former Headquarters Gulf Colorado & Santa Fe Depot
One of the Largest Railroad Museums in Southwest.
Approx. 5 acres of 50 vintage rail cars, locomotives, freight, passenger. Indoor & Outdoor displays. One of the largest China & Silverware collection. O & H/O model Layouts. Free Parking with Admission. Open Daily 10-5.

www.galvestonrrmuseum.org 409-765-5700

TEXAS Grapevine

GRAPEVINE VINTAGE RAILROAD
705 S. Main St.

Step back in time aboard the **Grapevine Vintage Railroad!** Featuring four enclosed circa 1925 passenger coaches, two circa 1927 open-air coaches, Engine 2248 - an 1896 steam engine - and a 1953 GP-7 diesel engine, this train is the perfect excursion for the entire family. Hop aboard for round trips from Grapevine's Cotton Belt Railroad Depot to Fort Worth's Historic Stockyards, as well as a series of special events throughout the year.



www.gvrr.com 817-410-3185

TEXAS Rosenberg

ROSENBERG RAILROAD MUSEUM
1921 Avenue F, Rosenberg, TX 77471

The Rosenberg Railroad Museum is dedicated to the preservation and education of railroading history in Fort Bend County. Exhibits include 1970's MOPAC caboose, 1903 Tower 17, 1879 passenger car, Garden railroad, HO layouts and more! RRM is open Wed - Sat, 10 - 5 and Sundays 1 - 5.

www.rosenbergRRmuseum.org 281-633-2846

WEST VIRGINIA Landgraaf

ELKHORN INN & THEATER
Route 52 (Between Eckman & Kimball)



As seen on HGTV "Building Character" and "reZONED"! Newly restored "Coal Heritage Trail" Inn on NS Pocahontas railway line in scenic, southern, WV. Railview guest rooms, balcony and patio cafe. Call about our Railfan weekends. 14 guest rooms, claw-foot tubs, fireplace, vintage quilts, art, antiques & gift shop/museum room. Meals available. Sat TV, VCR, slide-viewer, studio & Wi-Fi internet. On Route 52, 30 minutes from Bluefield WV/VA. See our "railfan" pages on our web site. Local phone: 304-862-2031

www.elkhorninnwv.com 800-708-2040

WISCONSIN East Troy

EAST TROY RAILROAD MUSEUM
2002 Church Street



CHICAGO DAY is July 13th! Featuring CSS&SB and Chicago Elevated cars. Take 14-mile round trips from historic East Troy depot and museum to Indianhead Park in Mukwonago. Four South Shore cars running plus CTAs. Regular trains Fri-Sat-Sun June through September. Sat-Sun only May & October. See schedules and more at www.easttroymuseum.org or call 262.642.3263.

www.easttroymuseum.org 262.642.3263

When visiting these attractions, mention you saw their ad in *Trains!*

WISCONSIN Frederic

1901 SOO LINE DEPOT
201 W Oak St.



Restored 1996 – Frederic Area Museum and State Trail Rest Stop – Soo Line wide-vision caboose #137. Weekends – Memorial Day through leaf season.

www.fredericwi.com 1-800-222-POLK

WISCONSIN Green Bay

NATIONAL RAILROAD MUSEUM

2285 S. Broadway

All Aboard! Explore the UP Big Boy, Eisenhower's WWII command train, the exhibit *Pullman Porters: From Service to Civil Rights*, and our new exhibit entitled *Requiem For Steam: The Railroad Photographs Of David Plowden*. View the Bauer Drumhead collection – 40 illuminated passenger train tail signs. Open year round.

www.nationalrrmuseum.org 920-437-7623

WISCONSIN North Freedom

MID-CONTINENT RAILWAY MUSEUM

E8948 Museum Road



Take a 55-minute, 7-mile round-trip ride over a former C&NW branchline through rural south-central Wisconsin. Ride in century-old coach cars, climb aboard the caboose, or join the engineer in the cab of the diesel locomotive. Trains operate three times daily through Sept. 2nd and continuing weekends through Oct. 20th.

Mid-Continent's collection of rolling stock and displays focus on Upper Midwestern railroads from the Civil War through WWII. Browse the displays and gift shop in the depot, explore the train yard, and view the award-winning restorations. Free museum admission. Train rides require ticket purchase. Reservations required for dining trains (offered on select dates).

www.midcontinent.org 800-930-1385

WISCONSIN Trego

WISCONSIN GREAT NORTHERN RAILROAD

N6639 Dilly Lake Road



**America's Only Moving
BED & BREAKFAST DINNER TRAIN**

The train departs Tuesday through Saturday evening at 5:30 pm year round. The train features a choice of traditional Pullman double bedrooms or deluxe suites in our 1914 Pullman Private Car. Enjoy complimentary hors d'oeuvres in the lounge and then move to the diner for a scrumptious 4-course chef prepared meal from our onboard kitchen. When the train returns to the station view the starlit sky while trading railroad tales with other passengers around our gas fire on the patio. Wake up to a hot breakfast buffet in the diner. Also, Family Pizza Train & Sightseeing Excursion.

www.spoonetrainride.com 715-635-3200

Ride the rails to increased sales
with a Railroad Attraction Directory
ad in *Trains!*

Call Mike Yuhas Today!
888-558-1544 Ext. 625

WEST INDIES St. Kitts

ST. KITTS SCENIC RAILWAY

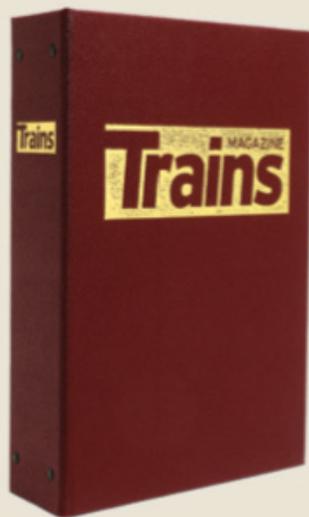


Include St. Kitts in your Eastern Caribbean cruise itinerary. Narrow gauge St. Kitts Scenic Railway Tour circles this unspoiled island paradise, 18 miles by train, 12 miles by bus. Twin-level observation cars, fully narrated, complimentary drinks, a cappella Choir. One of the Great Little Railways of the World.

www.stkittsscenicrailway.com (869) 465-7263



**Protect Your
Investment!**



Preserve your
library of
Trains magazines
with durable
hardcover binders.

\$13.95 Each
Order Item No. 14002



ORDER YOURS TODAY!

Shop at
KalmbachHobbyStore.com

P29528



In the August issue



Moving on
A short line picks up
where another left off

CENTRAL MAINE & QUEBEC stepped in to run a short line after the fatal Lac-Mégantic oil-train disaster. We see how this replacement is doing. **EXTRA 4014 EAST** is our look at the homestretch for Union Pacific's restored Big Boy. Steve Glischinski takes us to the Southwest for shortline **GP30S**. Our foldout map is **NEW YORK CENTRAL**. And we'll look at **SELF-PROPELLED RAILCARS** of the early 20th century that are still with us.

On sale July 9, 2019

SUMMER2019

ON SALE MAY 28, 2019

**Donald W. Furler's
1940s photos of big steam
in the Northeast**

Colorful Upper Michigan, 1964

**John W. Barriger's
"super-railroads"**

**Diesel diversity
in the East, 1969**

**PLUS: The Way It Was,
Car Stop, True Color,
What's in a Photograph,
Bumping Post, AND MORE!**



SUBSCRIBE TODAY!
1-877-243-4904

ClassicTrainsMag.com

CLASSIFIEDS

Word Rate: per issue: 1 insertion — \$1.57 per word, 6 insertions — \$1.47 per word, 12 insertions — \$1.37 per word. \$25.00 MINIMUM per ad. Payment must accompany ad. To receive the discount you must order and prepay for all ads at one time. Count all initials, single numbers, groups of numbers, names, address number, street number or name, city, state, zip, phone numbers each as one word. Example: Paul P. Potter, 2102 Pacific St., Waukesha, WI 53202 would count as 9 words.

All Copy: Set in standard 6 point type. First several words only set in bold face. If possible, ads should be sent typewritten and categorized to ensure accuracy.

CLOSING DATES: Jan. 2019 issue closes Oct. 24, Feb. closes Nov. 19, Mar. closes Dec. 19, Apr. closes Jan. 23, May closes Feb. 20, June closes Mar. 27, July closes Apr. 24, Aug. closes May 21, Sept. closes June 25, Oct. closes July 24, Nov. closes Aug. 20, Dec. closes Sept. 25.

For TRAINS' private records, please furnish: a telephone number and when using a P.O. Box in your ad, a street address.

Send your ads to: *Trains* magazine – Classified Advertising 21027 Crossroads Circle, P.O. Box 1612 Waukesha, WI 53187-1612 Toll-free (888) 558-1544 Ext. 440 Fax: (262) 796-0126 E-mail: onlineclassads@kalmbach.com

EXCURSIONS

1950'S DOME CAR TOURS: Travel in style with ZEPHYR ROUTE aboard private rail cars MOONLIGHT DOME and sleeper BIRCH GROVE from Chicago to Denver, August 4-6. Chicago to St. Paul via full dome, October 4-6. Meals aboard served the traditional dining car way. For details and other trips: www.zephyrroute.com or call 630-542-3607.

LODGING

GO BEYOND MODEL TRAINS Our B&B has antique Pullman train cars as your guest suite. All cars with modern amenities. Central Minnesota, 800-328-6315, www.whistlestopbedandbreakfast.com

GT 1888 DEPOT, CASSOPOLIS, MICHIGAN: Sleeps 4, Kitchenette, adjacent track Old Tower for viewing. Robert 269-979-2460.

ROADMASTERS LODGE AND FLS CABOOSE: Nightly lodging in Folkston, GA, next to the tracks walking distance to Folkston Funnel. Lodge sleeps 6 with a full kitchen, Caboose sleeps 2 adults, 2 children. "Once again being managed by the original owners, James and Sarah Lewis". www.roadmasterslodge.com - 912-270-5102.

STATIONINNPA.COM 827 Front St., Cresson, PA. The Inn is 150 feet from the PRR Pittsburgh Main. We host hundreds of railfans yearly. Our website cams stream train activity 24/7. Check to see what you are missing. 814-886-4757

WISCONSIN, FERRYVILLE - Custom built two-bedroom luxury vacation home along scenic Mississippi River and BNSF Railroad. www.153main.com 608-317-1530.

WWW.MANASSASJUNCTION.COM: Trackside lodging in a 1902 Victorian B&B. View Amtrak, Norfolk and Southern and VRE from property. 10 minute walk to board or view trains at historic Manassas Depot and Museum. 703-216-7803.

BOOKS AND MAGAZINES

CALIFORNIA RAILROAD GUIDE 2019: A 552 page comprehensive and detailed guide to railroad operations in California, with numerous maps and tables. Covers passenger, freight, light rail, tourist line and museums. Available as printed book, PDF direct download and PDF on DVD. Please visit our website to view content, sample pages, reviews and ordering information. King Street Press: <http://www.kingstreetpress.org> Email: dave@kingstreetpress.org

CAN DAN AND HIS CLUB SAVE Their favorite engine from the scrap yard? Read the Deltic Disaster and Other Tales, available at Amazon.

LOCOMOTIVE BUILDER RECORD BOOKS 80 books available, with more coming, offering fully detailed builders' records. Send SASE for list to RH Lehmutz, 104 N. 2080 E. Circle, St. George, UT 84790 or email: rhlehmutz@hotmail.com for details, costs and sample page.

RAILROAD BOOK COLLECTION: Excellent condition. Many 1st editions. 102 Volumes. Sold As Package. Write for list: achtermann1147@gmail.com

COLLECTIBLES

RAILROADIANA FOR SALE: Rare and diverse offering of railroad china, silver, lanterns, globes, brass locks, keys and miscellaneous for sale. Continuously offering service plates. George Washington china and unknown top-marked patterns. Send \$2 and LSSAE for unique listing to Golden Spike Enterprises, PO Box 985, Land O Lakes, FL 34639.

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

PHOTOS, PRINTS AND SLIDES

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

MISCELLANEOUS

RAILROAD PATCHES, Engineer caps with insignia. 1,000 designs. Catalog \$5.00. Patch King, Box 145, York Harbor, ME 03911.

WANTED

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

ORIGINAL SLIDE COLLECTIONS Black & white negative collections, and Hi-Res Scans. Any railroad or railroad subjects. Call 732-774-2042

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

RAIL SHOWS AND EVENTS

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 5-6, 2019: NATIONAL ASSOCIATION OF TIMETABLE COLLECTOR'S annual convention and transportation collectibles show, Milwaukee, WI. Best Western Plus Hotel, 5105 S. Howell Ave. Milwaukee. Open to the public Saturday July 6 from 9:00am-3:00pm. Admission: \$5.00. Information at website: www.timetable.com or phone 262-617-5440.

JULY 13, 2019: 68th Florida Railfair Model Train and Railroad Artifact Show. The Volusia County Fairgrounds (Tommy Lawrence Arena), Deland, Florida (SR 44 and I-4). Saturday 9:00am-4:00pm. Early admission available Friday PM, (12th). Over 275 tables of model trains and railroad artifacts for sale. Miller, 3106 N. Rochester St., Arlington, VA 22213. 703-536-2954, Local: 386-736-8185. Email: rshows@aol.com or www.gserr.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

JULY 27-28, 2019: European Train Enthusiasts (<http://www.ete.org>) EUROWEST at Hiller Aviation Museum, San Carlos Airport, 601 Skyway Road, San Carlos, CA 94070. Saturday 10:00am-5:00pm and Sunday 10:00am-4:00pm. Layouts, clinics, vendors, raffle. Admission (<http://www.hiller.org>) includes Air Museum, free parking. Contact Dave Cowl: eurowest@ete.org

AUCTIONS

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

REAL ESTATE

ARIZONA MOUNTAIN ACREAGE: Adjacent BNSF Transcon. Remote, 4 seasons, spectacular vistas railway/mountains, small cabin. Dabneytavern478@gmail.com

Don't wait any longer!

Place your classified ad today!

888-558-1544 x 440

ADVERTISERS

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

Big Boy Back in Steam.....	19
Big E Productions.....	14
Conway Scenic Railroad.....	51
Durbin & Greenbrier Valley Railroad.....	52
EnterTRAINment, Inc.....	49
Four Ways West.....	11
Grand Canyon Photo Special.....	53
Greg Scholl Video Productions.....	12
International Toy Train Expo.....	2
Lake Superior Railroad Museum.....	13
Locomotive 2019.....	53
Mid-Continent Railway Historical Society..	51
Morning Sun Books, Inc.....	12
Mount Washington Cog Railway.....	49
NIWX Corporation.....	14
Railcom.....	14
railroadbooks.biz.....	13
Ron's Books.....	11
Skookum Restoration DVD.....	15
Switzerland 2019 Tour.....	21
Trains magazine.....	14, 68
TTX Company.....	11
Western-Cullen Hayes, Inc.....	13
Wheel Rail Seminars.....	6-9
Whitewater Valley Railroad.....	51

Train vs. mountain

As the sun sets behind the Wasatch Mountains, March 11, 2011, a BNSF Railway train struggles to reach the top of Soldier Summit, Utah, on Union Pacific Railroad. Even with four units up front and a DPU at the rear, this short train barely makes 15 mph on the final 2.4% grade.





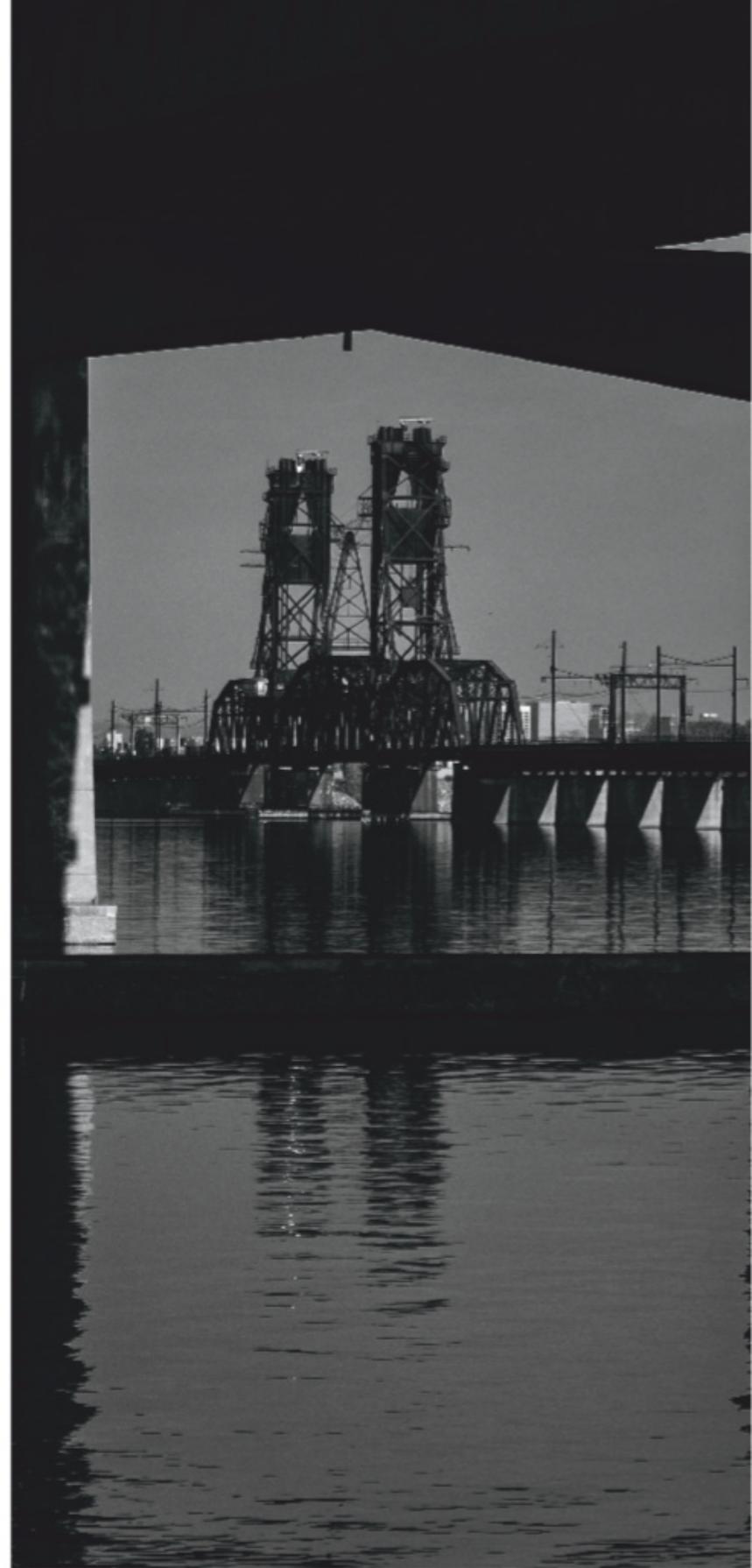


Rocking and rolling

A New York-bound Amtrak train crosses the causeway at Quiambaug Cove, Stonington, Conn., Dec. 11, 2015. After purchasing this line from Conrail in 1999, Amtrak extended catenary from New Haven, Conn., to Boston, completing North-east Corridor electrification.

Eric Williams

Millburn, N.J.-based photographer Eric Williams combines his love for design and light with railroads and landscape. See more of his photography at the Center for Railroad Photography & Art's "Conversations" conference at Lake Forest College in Lake Forest, Ill., Sept. 13-15, 2019. Details: www.railphoto-art.org



You've been framed

A Conrail transfer run crosses Newark Bay on the Upper Bay Bridge on Sept. 11, 2015. Seen through the NJ Turnpike bridge piers, the transfer originated in Oak Island Yard at the opposite end of the bridge and delivered cars to Greenville Yard in Jersey City, N.J.

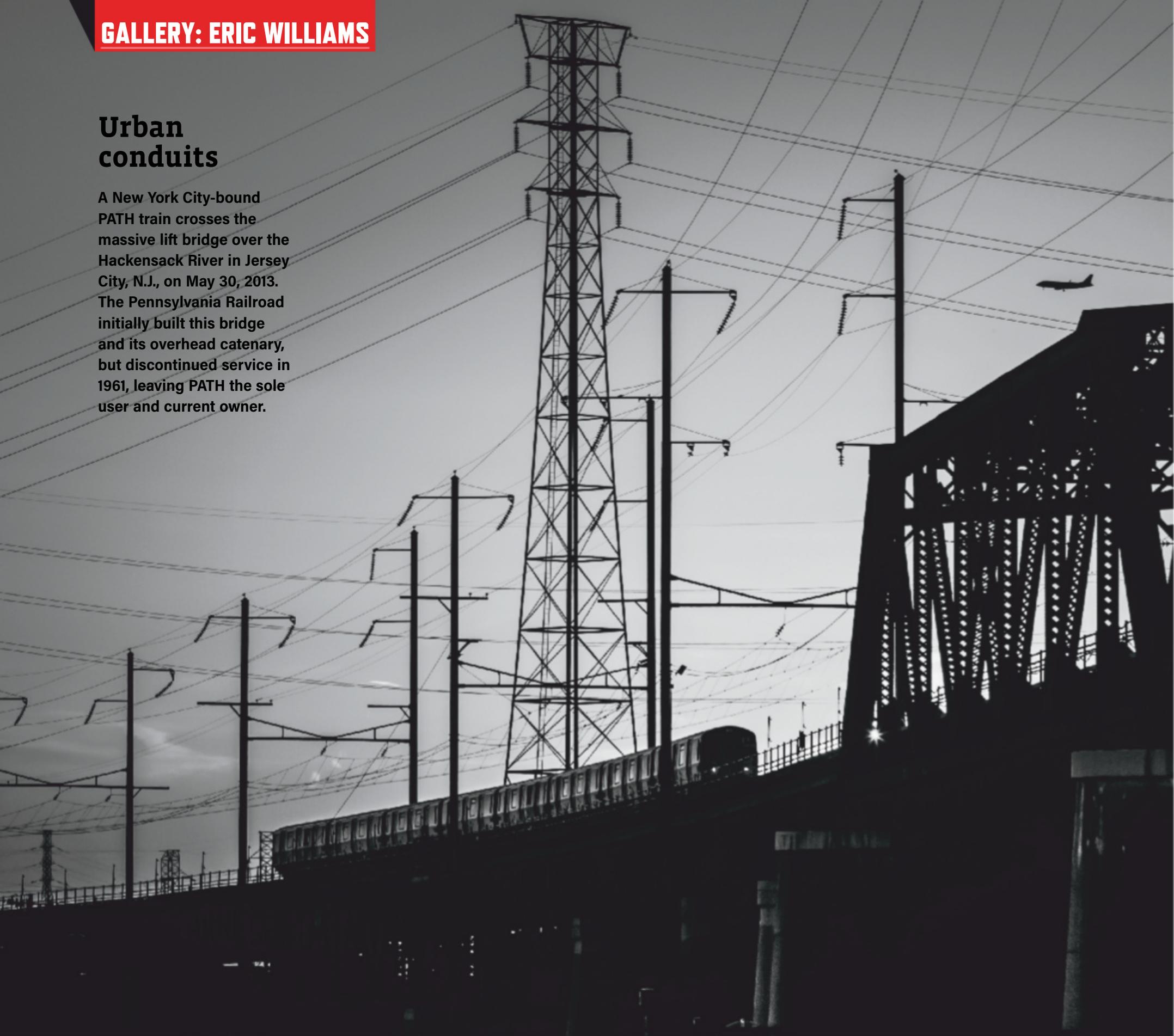


The gateway to the gateway

ALTO Tower marks the beginning of the climb up the east slope of the Alleghenies out of Altoona, Pa. Pennsylvania Railroad built the tower in 1915, and it served four owners before Norfolk Southern shifted control authority to a remote dispatcher in 2012. A passing NS train highlights the structure's detail on Feb. 24, 2018.

Urban conduits

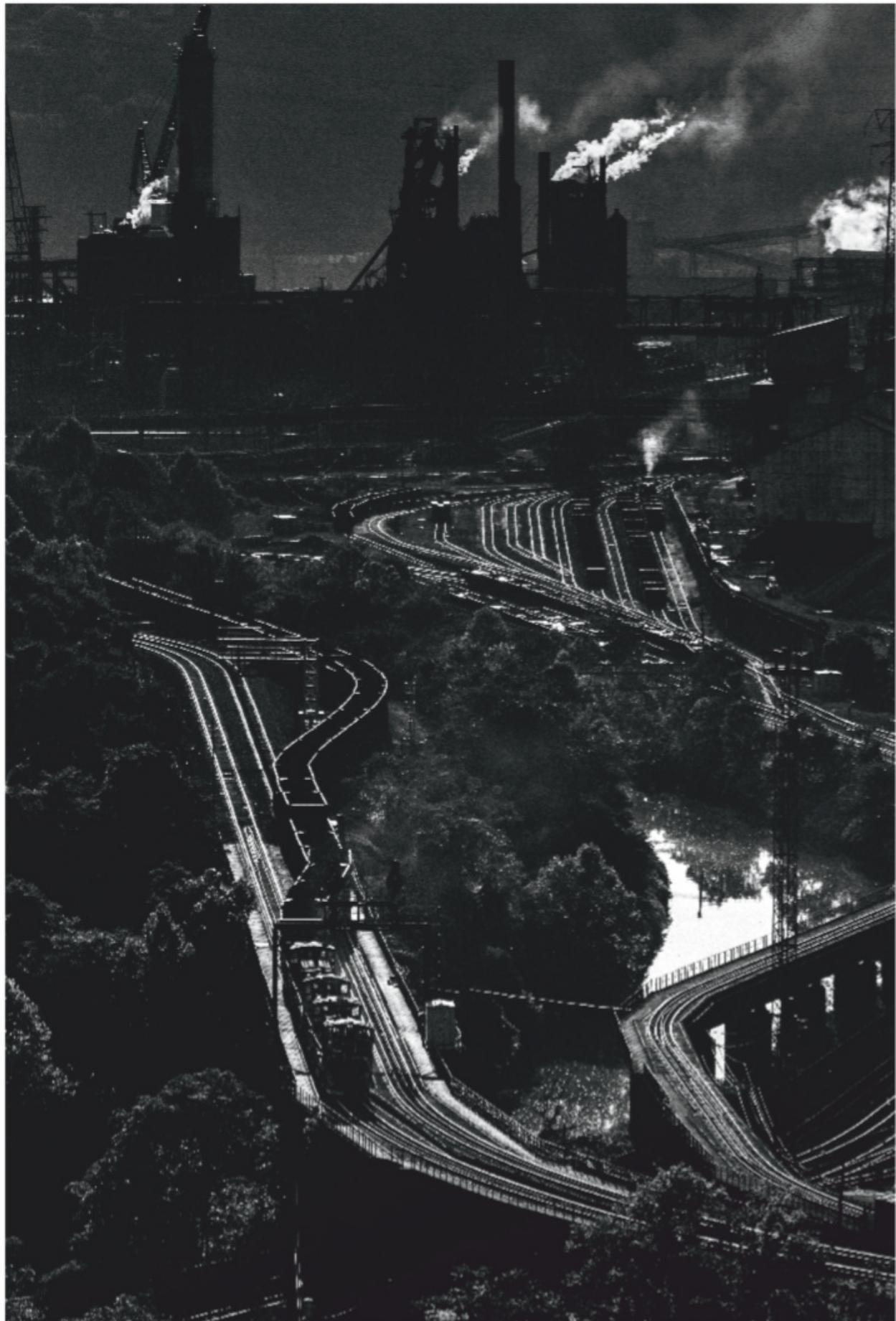
A New York City-bound PATH train crosses the massive lift bridge over the Hackensack River in Jersey City, N.J., on May 30, 2013. The Pennsylvania Railroad initially built this bridge and its overhead catenary, but discontinued service in 1961, leaving PATH the sole user and current owner.





Heart of steel

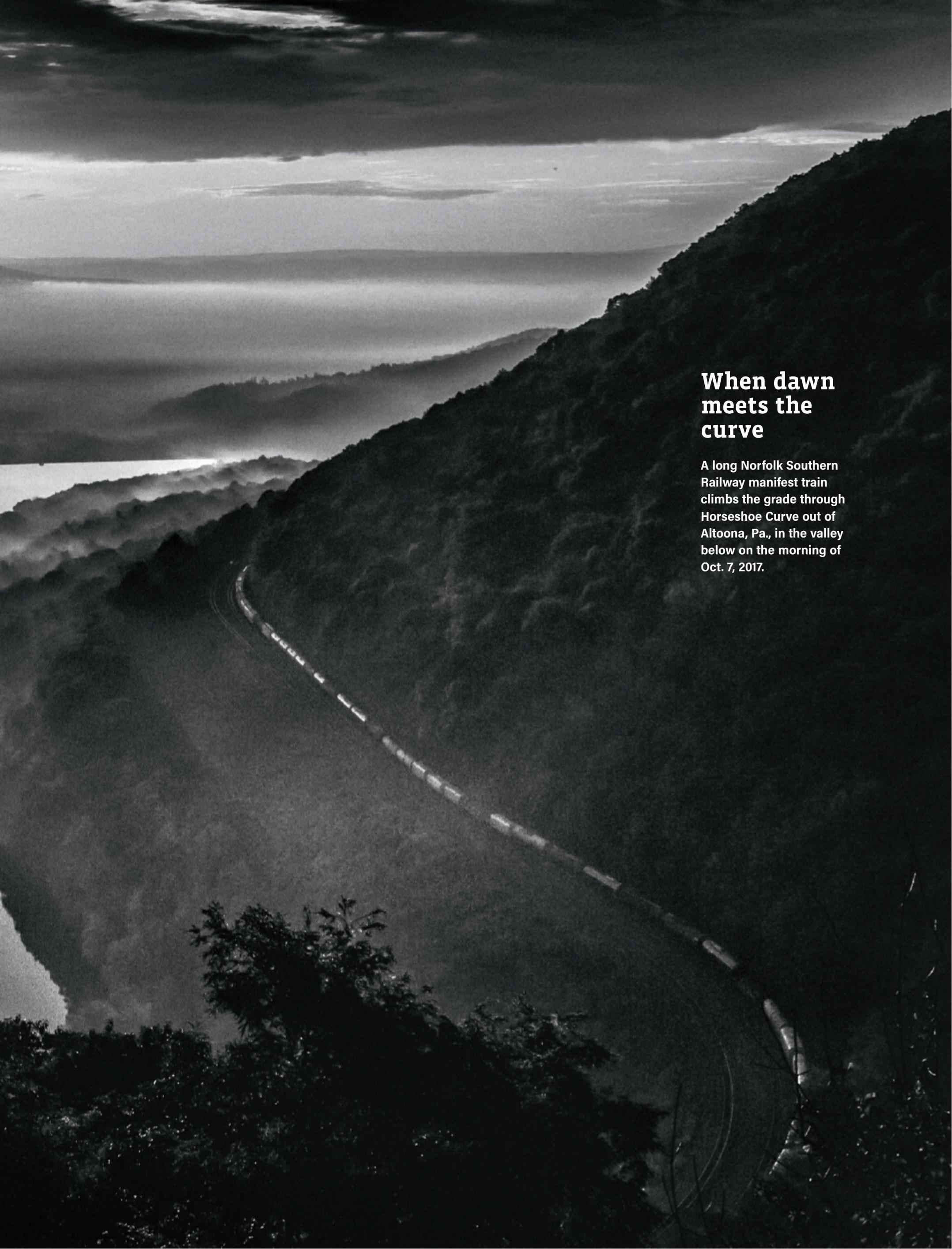
Almost enveloped in a lattice of steel, a Union Railroad crew backs a coke train toward the unloader at Edgar Thomson Plant in North Braddock, Pa., on Aug. 9, 2018. The last of the state's active integrated steel mills, the plant keeps the railroad's utilitarian end-cab switcher fleet busy.



In a fog

The morning of Aug. 9, 2012, is shaping up to be hot and humid. As the sun rises, its rays hit the cool valley air beneath Moodna Viaduct, creating flash fog that lasts about 15 minutes. During this period, assuming they are awake, only the Hoboken, N.J.-bound Metro-North Railroad commuters witness the transformed landscape.





When dawn meets the curve

A long Norfolk Southern
Railway manifest train
climbs the grade through
Horseshoe Curve out of
Altoona, Pa., in the valley
below on the morning of
Oct. 7, 2017.



Rolling up the river

Following the Hudson River on the former New York Central Water Level Route, a CSX Transportation intermodal train heads north on CSX's River Line to Albany, N.Y., Nov. 4, 2016.

Night moves

A CSX Transportation manifest train makes its way south along its River Line, passing a home overlooking Mine Dock Park on the western bank of the Hudson River at Fort Montgomery, N.Y., on April 23, 2015.



Crossover

A short Norfolk Southern Railway intermodal train approaches the helper pockets at East Conemaugh, Pa., on Dec. 30, 2018, but will proceed without assistance. Tying this track maze together are the double crossover sets, which allow helpers to access all tracks as needed.

