

ON LOCATION

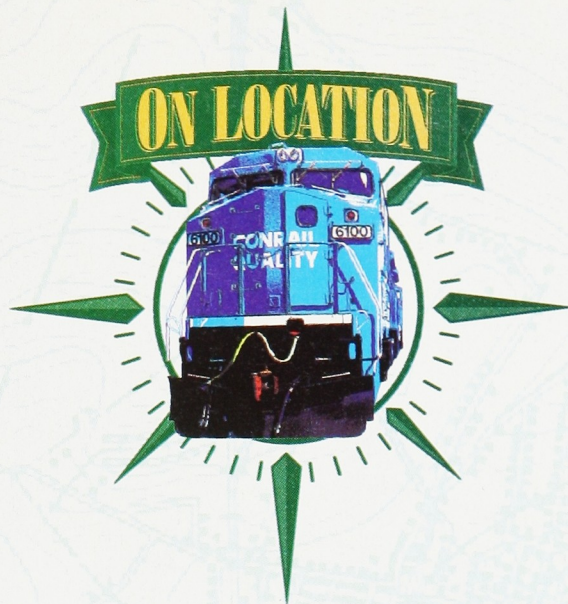
An in-depth look at Horseshoe Curve,
the Chicago racetrack, Colorado's joint line and more



HORSESHOE CURVE

CONRAIL'S MOUNTAIN RAILROAD





The former Pennsylvania Railroad main line between Altoona and Johnstown has it all: multiple track, tunnels, steep grades—and famous Horseshoe Curve

Photo essay by Scott Hartley

A LOT HAS CHANGED in the decade since Fred Frailey wrote in January 1985 *TRAINS* that the 39-mile stretch of Conrail's line between Altoona and Johnstown, Pa., was "still the world's busiest mountain railroad." Conrail now is a profitable public stock corporation and sinks much of its earnings back into an improved physical plant. There are more trains on the mountain now than a decade ago, and they're moved by bigger and better locomotives. A clearance-improvement project across Pennsylvania and Ohio will allow double-stack containers.

Despite all the changes, the mountain still provides an obstacle unmatched anywhere else on Conrail's system. It also gives visitors one of the greatest shows in railroading.

Conrail tackles the Alleghenies with three tracks: the south track for eastbounds, the north track for westbounds, and the middle track for movement in either direction. A fourth track from the old Pennsylvania Railroad "broad way" remains between Gallitzin and Cresson. Each day, Conrail moves 47 scheduled freight trains and usually a few extras, plus Amtrak's *Broadway Limited* (slated for replacement by a New York-Pittsburgh day train beginning September 10) and *Pennsylvanian*. Traffic is heavier toward the end of the week, with fewer trains on Sunday and Monday.

The Altoona-Johnstown trackage closed the final gap in PRR's Philadelphia-Pittsburgh route in 1854. Connecting the segments at either end involved building a railroad over the 2300-foot-elevation Allegheny range. The accomplishment featured engineering landmarks that included a horseshoe curve and a tunnel under the sum-

I SD40-2 helpers shove a general freight upgrade past the park at Horseshoe Curve, where old PRR GP9 7048 resides. Photo angles are somewhat limited at the park, but a stop there is a definite must for a visitor to the area, as it displays the very essence of this historic mountain railroad.



mit at Gallitzin. The 1.8-percent westbound grade would require helper locomotives, but only for 12 miles. The west slope was longer but not as steep, having a steady 1.05-percent grade from Johnstown to Gallitzin.

Most freights over the mountain operate without crew change between Harrisburg and Conway Yard, west of Pittsburgh, 271 miles. High-horsepower six-motor locomotives predominate. Run-through units from other roads appear occasionally, but always trailing because cab-signal-equipped units must lead on this line. Because of the horsepower requirements, all but the lightest trains receive some assistance up the east slope from Altoona to Gallitzin.

During an average 24-hour period, a total of 14 helper sets are utilized to move trains over the mountain. They usually shove from the rear of general merchandise freights, but often the helpers will tie onto the head end of intermodal trains. The heaviest trains get two helper sets, if available. Helpers aren't needed just for their tractive effort—extra dynamic braking is essential, particularly on the steepest part of the eastbound track just east of Gallitzin.

Helper activity depends on train size and traffic movement. If a fleet of westbounds is in the picture, the dispatcher might choose to turn helpers at the top of the mountain and send them back to Altoona for another shove. A helper might stay on as far as Cone-maugh Yard in Johnstown, or even run all the way to Pittsburgh, returning light or pushing an eastbound.

2 In Altoona, site of Conrail's principal locomotive shops, burly SD45-2 helpers 6664 and 6659 idle at Alto Tower in October 1991, awaiting their next assignment. With its classic PRR tower and signal bridge, this spot (where the Cove Secondary diverges) just west of the Amtrak station is a favorite for photographers. Another good Altoona location is the street bridge over the tracks at aptly named Slope interlocking, a half mile to the west.

At a glance

Name: Conrail, Harrisburg Division, Pittsburgh Line

Headquarters address: 2001 Market St., Two Commerce Square, Philadelphia, PA 19101

Daily average train frequency: 47 freight (18 intermodal, 1 automobile, 8 unit, and 20 general merchandise); 4 Amtrak; 10 light engine (helpers).

Top track speeds: Altoona-Gallitzin: Freight and passenger, 35. Gallitzin-Johnstown: Freight, 50; passenger, 70.

Radio frequency: Conrail Road channel 1, 160.800, AAR 46

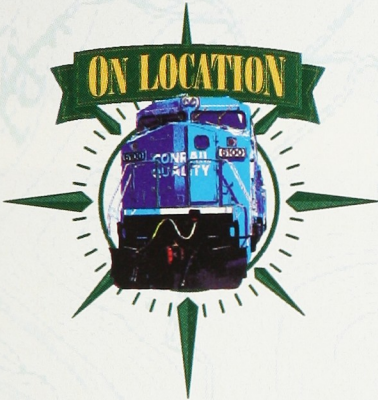
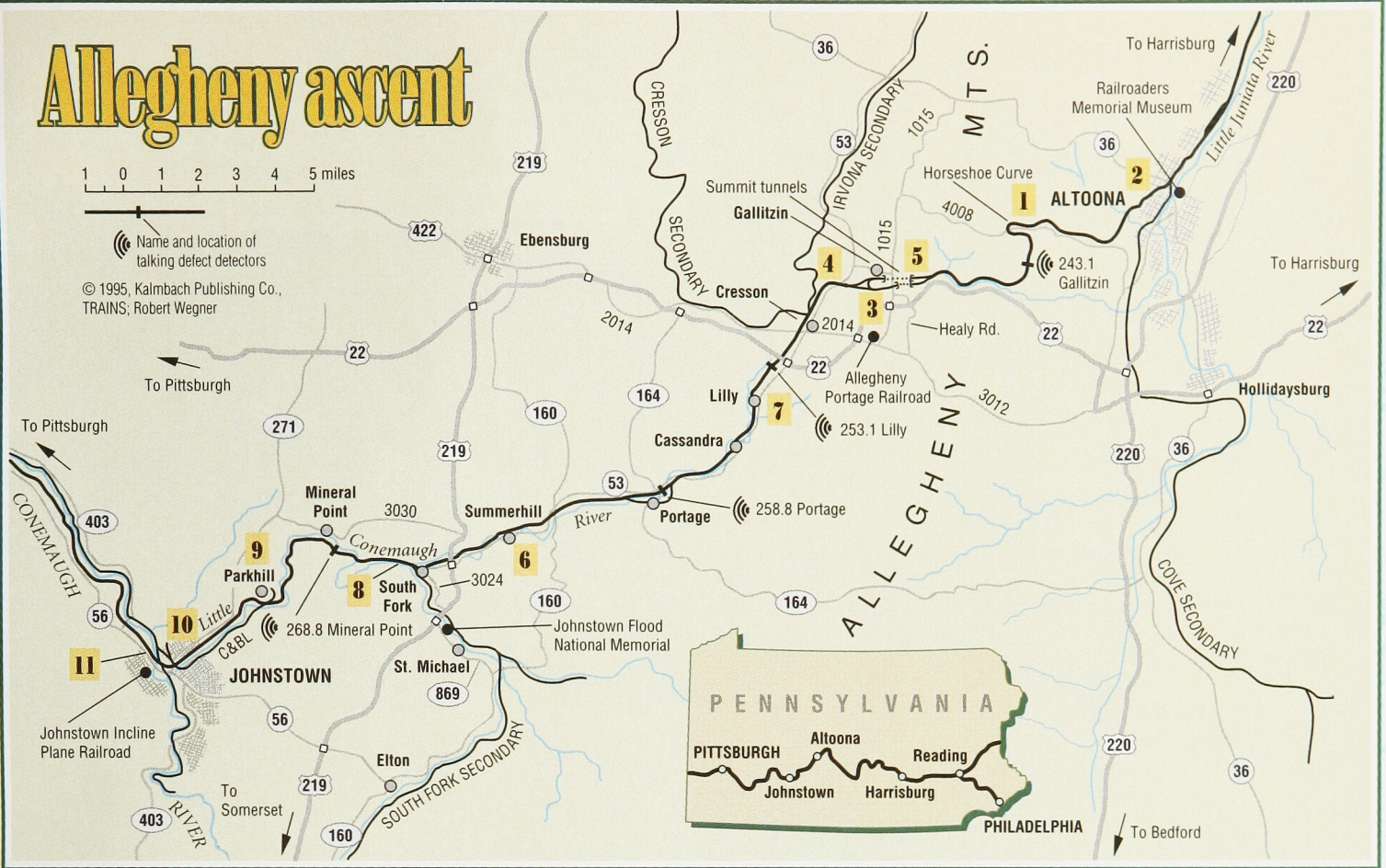
Major traffic: General freight, trailers and containers, coal.

Allegheny ascent

1 0 1 2 3 4 5 miles

Name and location of talking defect detectors

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3 Clearance improvement work is in full swing as a westbound exits Gallitzin Tunnel on May 27, 1995. Construction clutter indicates the changes in the offing here: Gallitzin Tunnel will not be enlarged, but will host a maintenance road; adjacent Allegheny Tunnel is being double-tracked; to the south, New Portage Tunnel will stay single. Out of view to the left, a restored caboose welcomes visitors to this spot.



4 For the 2-mile stretch between Gallitzin and Cresson, Conrail has five tracks in service, recalling the "broad way of steel" of PRR days. The Route 53 overpass, which offers this long, uncluttered view to the east, is the best place to catch the action. Here, a two-unit SD40-2 helper set boosts a coal train toward the summit in September 1992.

No visit to the mountain is complete without spending a couple of hours at the Horseshoe Curve National Historic Site. There are many horseshoe curves on American railroads, but none is more famous than the one 6 miles west of Altoona. A park was established trackside at the curve in 1879, making it perhaps the nation's first train-watchers' hot spot. Substantially rehabilitated in 1992 by the National Park Service and America's Industrial Heritage Project, it is operated by the Railroaders Memorial Museum of Altoona. A base museum adjoins the funicular railway ride up to the open grassy area at trackside, where retired Pennsy GP9 7048 stands vigil.

There is no better place on the east slope to witness the action. Westbounds are audible long before they come into view, and the ground shakes as they pass. Seeing two or even three trains moving simultaneously is not unusual. From the park, one can see tracks and trains on three sides—this is real-life surround-sound.

Most of the east slope is, alas, inaccessible to observers. A popular fan gathering place is the Brickyard grade crossing just west of Altoona. From there, the tracks vanish into the wilderness until they emerge at Horseshoe. Then they disappear again, not to become visible until they are seen clinging to the hillside high above Sugar Run.



5 From high above the east portal of New Portage Tunnel, eastbound train TV-2 looks like this as it heads down the steep section of Track 1 crews call "The Slide." Tracks 2 and 3 are to the left of the "van train"; U.S. 22 is barely visible to the right; Bennington Curve is ahead of the locomotives. This vantage point is in Tunnelhill, a small settlement just east of Gallitzin.



6 Behind GE and GM power, a westbound general freight sails downgrade through Summerhill on the afternoon of October 16, 1994. Note how the position-light signals for eastbound trains are mounted unusually high so engineers can see them over the road bridge which provides this photo angle. Conrail is gradually phasing out the distinctive PRR-style signals.



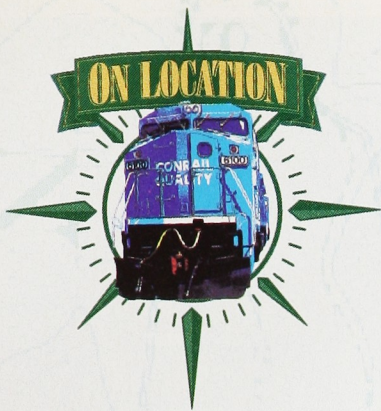


Conrail takes a hard line on trespassing in this area. The number of train movements on this multi-track railroad makes it a dangerous place, and railroad police actively patrol the route. Hikers, motorbikers, hunters, and railfans are all treated the same if found on Conrail property—usually this means a court summons and a fine.

Visitors often ignore Conrail west of the summit, but they shouldn't. The 27-mile stretch from Gallitzin to Johnstown offers numerous areas of public access, good lighting, many excellent photo locations including rivers, small towns, Pennsy position-light signals, and stone-arch bridges. The Route 53 overpass between Gallitzin and Cresson, where five tracks are still in service, is a popular photo spot. Train-watchers can enjoy their sport from streets named Railroad Avenue in Lilly, Portage, and South Fork. Offering lodging specifically for fans is Tom Davis' Station Inn, located right across the main line from the Cresson engine terminal, the servicing point for helpers and local freight power. Grade crossings are few, but highway bridges offer overhead vantage points in just about every town. Fans have kept a hilltop clear at Cassandra, offering a pleasant place to sit back and watch the mid-morning parade.

Interlocking towers have long been a part of operations on the mountain, but they're nearly all gone. Conrail replaced towers with

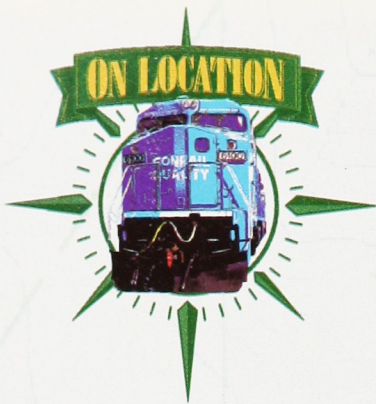
7 More than a third of the freights Conrail schedules over the Pittsburgh Line are intermodal trains, a fraction likely to increase when the double-stack clearance program is completed. Near Lilly, a C40-8W, B40-8, and SD40-2 lead trailers eastbound through a cut in October 1994.



8 An SD50 swings through the curve at South Fork on the point of a westbound freight. This community presents a wealth of opportunities for the photographer: the picturesque town is nestled on a hillside, a bridge carries a road across the tracks and the Little Cone-maugh River, and a secondary line leaves the main line at an interlocking controlled by SO Tower.



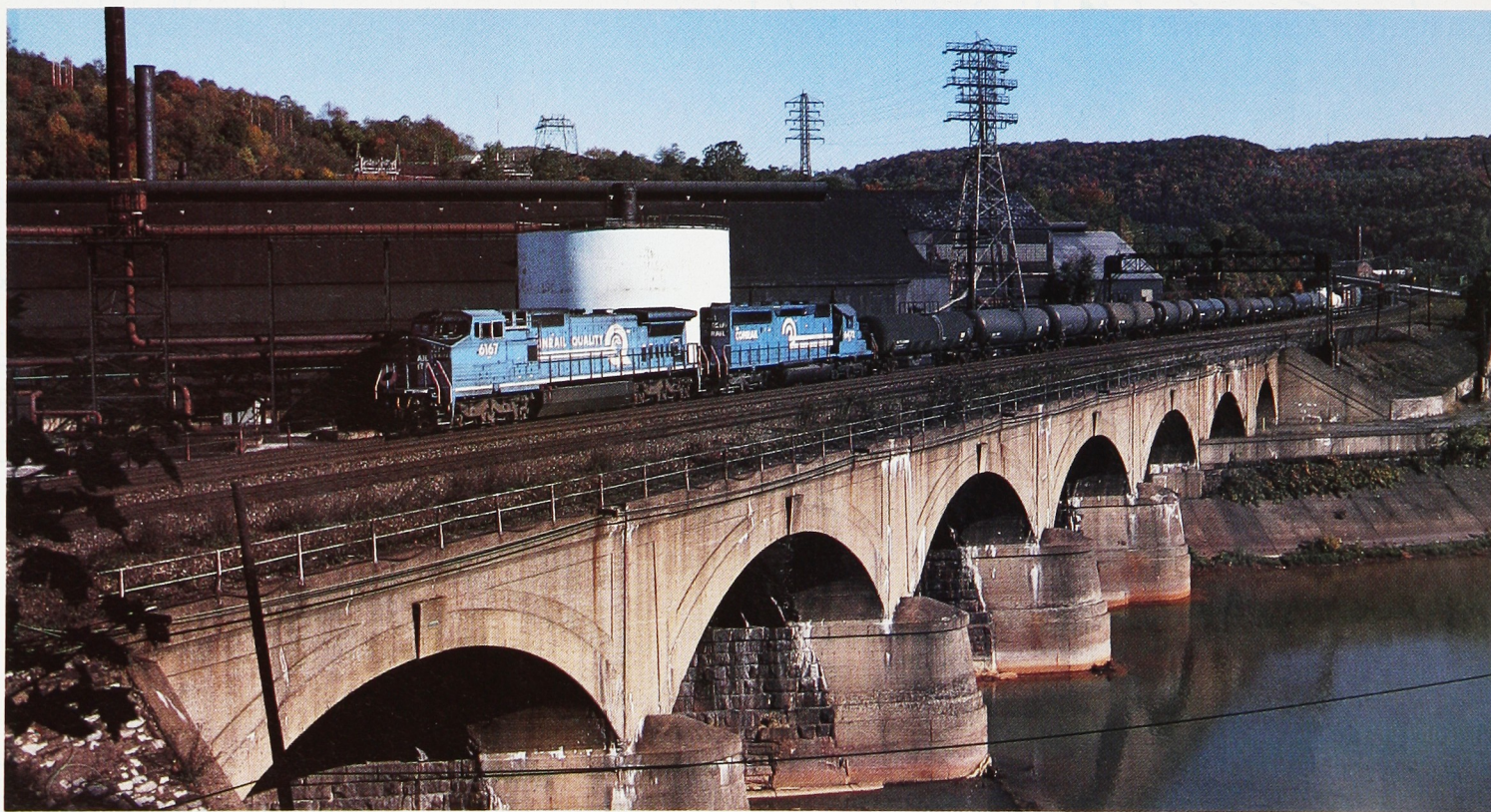
9 On its way west, Conrail's hot MAIL-9 ducks under the little-used Cone-maugh & Black Lick bridge at Parkhill. The SD45-2 helps ahead of the four-axle road power help date this October 1990 scene—while they still turn up on locals and branches, the ex-EL units have been displaced as helpers by SD40-2's.



10 Amtrak's train 40, the Chicago-New York *Broadway Limited*, is scheduled into Johnstown's handsome station at 9:13 a.m. For now, three of the four daily Altoona-Johnstown Amtrak trains traverse the line in daylight, but the onetime PRR fleet leader is to end its 93-year run this September.



TIM HENSCH



11 Conrail's line through the Alleghenies is steeped in history. The stone-arch bridge at Johnstown over which this westbound rolls was the scene of untold suffering on May 31, 1889, when debris from the Johnstown Flood piled up against it and burned, killing many trapped in the wreckage. Today, the same structure (widened with concrete additions) carries Conrail's parade of freights across the Conemaugh River.

remote-controlled interlockings between Philadelphia and Altoona and between Johnstown and Pittsburgh in the early 1980's, and some interlocking functions between Altoona and Johnstown were consolidated at the same time. Four towers remain in service on the mountain, guiding trains under the direction of the Harrisburg West Dispatcher: Alto at Altoona, AR at Gallitzin, SO at South Fork, and C at Johnstown. While AR is scheduled to be closed this year, Conrail does not have any immediate replacement plans for the others.

Conrail's other New York-Chicago artery, the former New York Central "Water Level Route," certainly has its attractions. But it's hard to beat Conrail's rugged, historic Pittsburgh Line. **I**



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HIGHLANDS

BURLINGTON NORTHERN'S CHICAGO RACETRACK

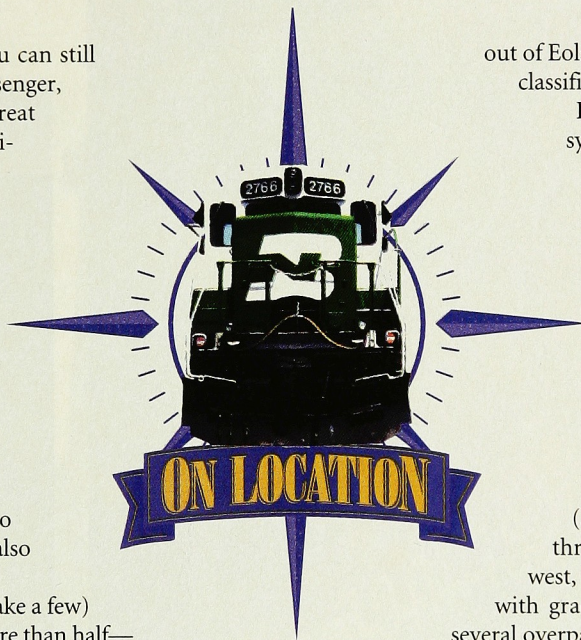
**For traffic density, variety, and accessibility, you can't beat
Burlington Northern's triple-track East End**

THERE ARE FEW PLACES where you can still see a diverse mix of freight, passenger, and commuter traffic, in great quantity, operating in a pristine multiple-track setting. The steel boulevards of the past have, for the most part, been slimmed down or abandoned. Most that do survive are passenger-only hothouses or approaches to freight yards. Burlington Northern's former Chicago, Burlington & Quincy triple-track line (with some stretches of two and four tracks) between Chicago and Aurora, Ill., is perhaps the best remaining example of the breed. Commonly called by railroaders after its location on the Chicago Division ("the East End"), the line is also widely known as "the Racetrack."

A stratospheric 135 trains (give or take a few) use the line on an average weekday. More than half—84—are Metra push-pull commuter trains (or "dinkies," as they've been known since CB&Q operated them), a figure which falls to 22 on Saturdays and 14 on Sundays. Amtrak accounts for two daily trains each way: the *California Zephyr/Desert Wind/Pioneer* to the West Coast and the *Illinois Zephyr* to Quincy. All Amtraks stop at Naperville, while the *IZ* also calls at La Grange Road.

That leaves nearly 50 freights, about two-thirds of which are BN's own. Southern Pacific exercises its trackage rights over BN's Chicago-Kansas City line about 6 times daily, although SP's intermodal trains were to shift to the Santa Fe in fall 1995 following the BNSF merger. Canadian National also runs about 6 trains a day over the Racetrack, part of its Chicago-Superior (Wis.) trackage rights. Two pairs of run-through Conrail trains generally change locomotives at Eola Yard east of Aurora. There are also local jobs

I Behind "Whiteface" 6378 and a sister SD40-2, a mixed freight heads west at Highlands, in eastern Hinsdale. While right-handed operation is the norm on the East End (with two-way running on the center track), trains can run either direction on any track. Highlands—with its signal bridge, quaint depot, overhead street bridge, and adjacent park—is a favorite among Racetrack train-watchers, an ideal spot for fans out with families.



out of Eola and Cicero Yard, site of BN's Chicago classification and intermodal facilities.

BN dispatches the Racetrack from its systemwide command center in Fort Worth. On lesser roads, the daily commuter tides would swamp freight movements, but the Racetrack's three reverse-signaled tracks and 14 crossovers provide a degree of flexibility that permits freights to mingle with dinkies—there's no "commuter window" here!

Access to the eastern one-third of the line is limited to a few Metra stations and street overpasses, including the massive Ogden Avenue bridge (slated for replacement soon) at the east throat of Cicero Yard. From La Vergne west, the line is mostly at ground level, laced with grade crossings, and unfenced, although several overpasses provide variety. The western third of the line is hardest to get close to, being relatively devoid of stations, and it is dogged by power lines west of Naperville.

Not only is the East End bustling with traffic, but the public is actually invited to trackside by the many suburban stations, some of which are so closely spaced that their parking areas run together. The right of way dominates the centers of the tidy communities through which it passes, and—thanks to landscaping which highlights rather than hides it—is virtually presented to the visitor in a fanfare of greenery. Yet the line always feels like a hardworking, traditional railroad—there's a brown tinge to everything in the vicinity of the tracks, and there's still a classic trackside pole line, located unobtrusively on the north side of the right of way.

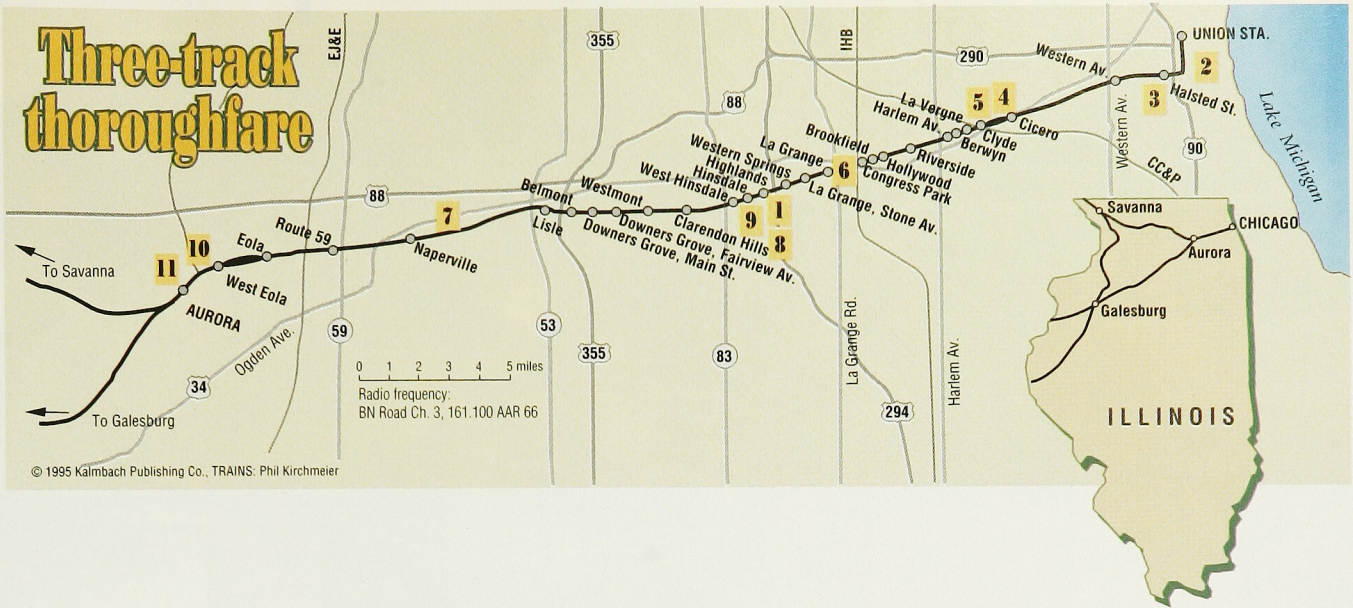
The Racetrack has many admirers. Senior Editor Dave Ingles has known it for decades. He called it "quite simply, the greatest railroad in the world" in a train-tallying piece following Gary W. Dollzall's 12-page scrutiny of the line in our August 1988 issue. Art Director Mike Danneman and FastTrack Productions' Paul D. Schneider also know it well, especially in photographic terms. Mike is partial to the central and western portions of the line, while Paul is wont to prowl its gritty east end. For others, perhaps, the Racetrack is a treasure because it upholds the tradition of the great multi-purpose main lines of the past.—Robert S. McGonigal



TWO PHOTOS: PAUL D. SCHNEIDER

2 Four Amtrak trains traverse the length of the Racetrack each day, but many more visit its eastern extremity. As BN's tracks turn west after heading out of Union Station, they form one leg of the wye Amtrak uses to turn equipment, including most arriving long-distance trains. The Canal Street bridge, near Amtrak's 16th Street enginehouse, is a great place to catch the action.

3 In a gritty, classically Chicago setting, Chicago Rail Link's two SW1500's bring a train west off the St. Charles Air Line onto the BN. An unmarked stairway leads up from Halsted Street to the Metra station of the same name, giving access to this spot. Directly above in this telephoto view is the Interstate 90/94 bridge; BN's now-closed Union Avenue tower is to the right; the Canal Street overpass is visible at lower right.





PAUL D. SCHNEIDER

4 Luck at La Vergne: A Southern Pacific stack train charges west beneath a Chicago, Central & Pacific freight. BN trains, entering or leaving Cicero Yard (just beyond the CC&P overpass), tend to run slow here, but SP and CN North America trains, which use the Belt Railway of Chicago's Clearing Yard, sail through at speed. So do all but a few Metra trains. Over-and-unders are rare here, as traffic on CC&P is light.





TRAINS: MIKE DANNEMAN



PAUL D. SCHNEIDER

5 For yard and local work on the Chicago Division, BN stables a number of ancient SD9's (such as this one) and SW's at Clyde diesel shop, part of the Cicero complex. BN keeps its heavy power on coal routes, so SD60's and SD70MAC's are rare here. Grand Trunk Western GP38-2's at Clyde are a reminder of parent CN North America's presence on the East End.

6 After sunset, two dinkies meet at Congress Park. This small station, skipped by most Metra trains, is east of the bridge carrying the BN over the Indiana Harbor Belt, another busy property. Local conditions work against setting up in spots with views of both lines, but Congress Park's small BN yard, connecting ramp tracks, and the IHB itself make this an attractive place.



7 Naperville Curve has long been regarded as one of the outstanding features of the mostly tangent East End. Growth—of both trees and housing—has reduced photo opportunities somewhat and brought a more built-up feel to this once-rural place, but it still offers welcome contrasts to locations to the east. Here, an eastbound intermodal train rounds the long, gentle bend.



8 The Racetrack is lined with classic photo props like depots and signal bridges, but there's room for pan shots too, as evidenced by this view of an LMX B39-8 lease unit skimming eastward past the park at Highlands.



THREE PHOTOS, TRAINS: MIKE DANNEMAN



9 At Hinsdale, one of the Aurora line's many attractively landscaped stations, a Metra F40PH-2M pauses with a westbound dinky. Fans may miss the noble presence of the green E9's which handled suburban trains on the BN until late 1992, but slant-windshield "Motor Homes" like No. 189 which took the E units' place (along with some straight F40's) are colorful additions to the Racetrack.

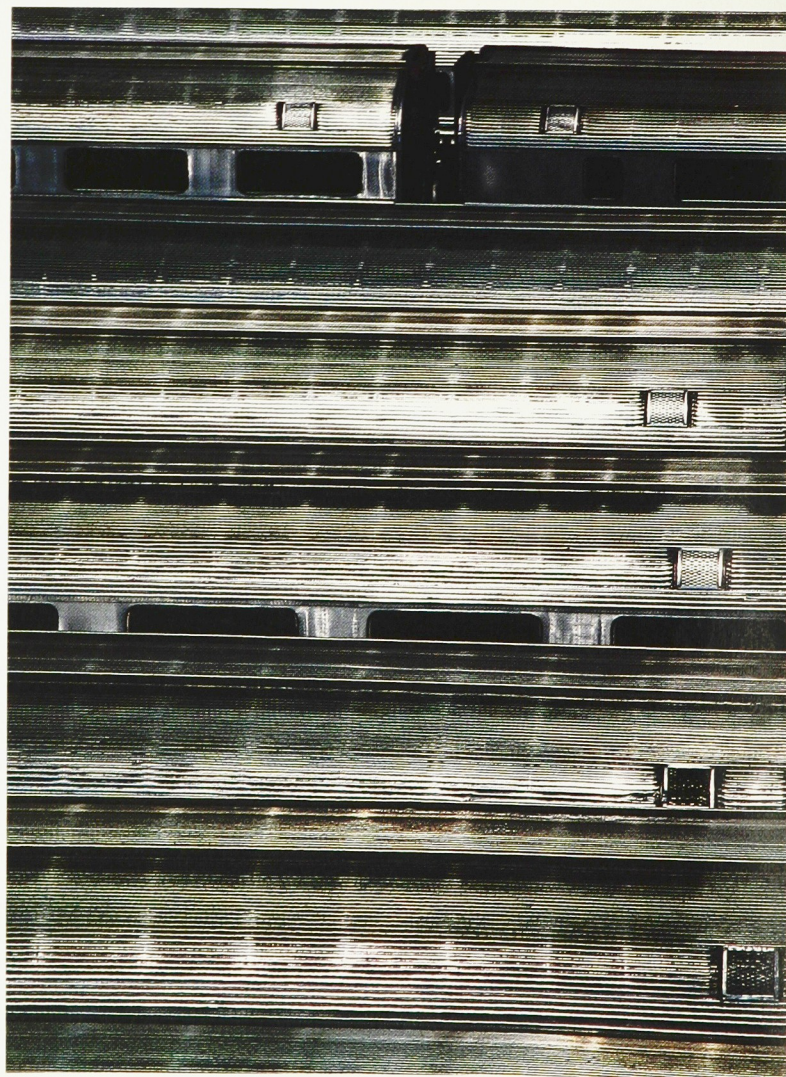


TWO PHOTOS, TRAINS: MIKE DANNEMAN

10 Just off McClure Road on the east side of Aurora, West Eola is an open, accessible spot, a favorite among fans. Besides the passage of through trains, one is treated to switching activity generated by Eola Yard. To the left of this view of a westbound is a small engine facility, complete with a classic CB&Q truss-type turntable.



11 Whiling away the weekend, shiny Metra bilevel commuter cars stand on storage tracks at Hill Yard in Aurora. A few blocks to the west of the High Street overpass from which this shot was taken is the Aurora Transportation Center, end of the line for Metra trains. The ATC occupies historic CB&Q shop buildings located below the elevated main line through town. **I**



Tehachapi, California

Southern Pacific and Santa Fe share a spectacular and unique California mountain crossing

BY DAVID LUSTIG

IF THE PRIMARY JOB of a railroad survey crew is to find the best path to lay down track, then Southern Pacific's people did so in an extraordinary way when it came to the crossing of the Tehachapi Mountains to link northern and southern California. The route is efficient, the crossing unique, and the area beautiful. It is also, some say, the greatest train-watching location in North America.

Endowed with a full range of seasons and stunning scenery, the region offers an incredible first-hand education on how to build a rail line through harsh territory—construction gangs on the Bakersfield side had to raise the roadbed more than 3500 feet to reach the summit.

SP, in the process of being assimilated into Union Pacific, shares the route with BNSF's Santa Fe, which a century ago realized it would be far less costly to cut a deal with SP for trackage rights than attempt to establish its own crossing.

Nobody ever said it would be easy to build the line, and history bears this out. Put down in the mid-1870's, the Tehachapi line has had to be rebuilt several times following the catastrophic consequences of ravaging winters, 100-year floods, and, in 1952, an earthquake of magnitude 7.5 on the Richter scale.

In the 68 rail miles from the flourishing San Joaquin Valley on the west up through Tehachapi Pass, around the mesmerizing Tehachapi Loop, through the growing city of Tehachapi, and down to the Mojave Desert on the other side, workers laid track literally on the side of mountains, created grades up to 2½ percent, bored more than a dozen tunnels, bridged and rebridged creeks, and, of course, produced the Loop. All this preceded the advent of power tools.

Today, the Tehachapi (teh-HATCH-uh-pee) crossing remains a principal route, with an average three dozen trains of both big Western systems grinding their way up and dynamic-braking their way down the mountains every 24 hours. Typically 18 to 20 cross during daylight hours, spread throughout the day and split fairly evenly between SP and Santa Fe. There are occasional lulls, but no pattern to them. For railroaders, Tehachapi can be a major pain to manage, but for those of us at trackside, it's a continuous cornucopia of exciting, heart-pounding action.

Traffic includes solid piggyback and container trains, dedicated unit trains and mixed merchandise. But it's all freight. There have been no regularly scheduled passenger trains here since SP's *San Joaquin Daylight* and Santa Fe's noctur-

nal *San Francisco Chief* quit in 1971 upon the inception of Amtrak. Perpetual rumors crop up that an Oakland-Bakersfield *San Joaquin* might extend to Los Angeles, but longer travel times compared with the current connecting Amtrak Thruway buses, as well as increasing freight congestion, bode against it.

For the trackside observer, most of the railroad through the Tehachapis can be followed by highway and side roads, but keeping track of what and who is where can be complicated. As is typical everywhere these days, there are no open stations and very few functional railroad buildings lineside; one conspicuous exception is at Tehachapi, where the closed depot shelters maintenance-of-way equipment.

From Bena through the mountains to Mojave, there are literally dozens of excellent observation and photography spots, each with its own distinctive vantage points; only a tiny selection is presented here. You almost have to work to find an unsatisfactory spot. However, some of the roads leading to trackside are unpaved and may be private. Another problem has been vandalism; fans have parked their cars and hiked into pristine lineside areas only to come back to plundered cars, so be prudent.

Stand at Caliente and you can almost be encircled by a train as it moves along the north side of town, traverses a sharp curve, and winds upgrade along the south side. Bealville is one of the many locations where frequent meets occur. Woodford, with its two straightaways along the passing siding, is right next to the road and an excellent place to pull out a lawn chair and let the action come to you. Then, of course, there is arguably the greatest demonstration of civil engineering: Tehachapi Loop.

A comment about the Loop: While an excellent spot to watch trains, it can be a difficult place to photograph them well. Wide-angle lenses help. Caution: the land inside the Loop is private property, and visitors aren't welcome. If you're driving upgrade on the paved secondary road after checking the Loop out, continue another mile or so to the roadside historical marker. While not as good a photography

1 One of two signature Loop shots occurs when a train is long enough to cross over or under itself, as a Santa Fe westbound is doing at midday on May 13, 1996. Leading the head-end quartet is C40-8W 909; the rear-end helper is made up of F45 92 and BN GP50 3130. Scott A. Hartley photo.



TRAINS: J. DAVID INGLES



spot, it is a wonderful location to observe and understand exactly what transpires as a train loops itself to gain altitude. Parking places are scant here, but there is an unmarked, though well-worn, path north from the road by the marker that leads to a popular overlook.

Students of motive power will have a field day in the Tehachapis, which is a perfect place to find out if new locomotive designs can, pun intended, make the grade.

SP's ultimate steam-locomotive answer was a quartet of 4-8-8-2 cab-heads spaced throughout specific lengths of the train. Water standpipes at places like Woodford were also specifically positioned so that when the lead locomotive of a freight would pause at one, the other three steamers would be within a couple of yards of theirs. Each train crew would uncouple from the freight cars ahead of them, effectively making mini-trains, and back down to their individual spouts. When everyone was finished, each would recouple to each other and the freight would start anew its contest with the mountains. Santa Fe's big guns were not articulated but 2-8-2's, 2-10-2's, and 4-8-4's.

Diesels brought another profusion of diversity. Both railroads originally chose four-axle EMD F units, but found their drag capabilities wanting. In their place over the years came six-axle power such as SP EMD SD9's and 35's, Alco RSD5's and 12's, and Santa Fe EMD SD24's and Alco RSD15's. Six-axle units have the ability to lug better at the slower speed the stiff grades dictated.

2 East of Bena the railroad leaves the productive San Joaquin Valley to enter the hills and begin the true climb toward the pass. Four high-horsepower B-B units—three Dash 8's and a GP50—from the 1980's, just before Santa Fe brought back the red Warbonnet, lead an eastbound in April 1991.

Today, both systems employ modern EMD and GE six-axle units in assorted combinations; four-axle models, especially on Santa Fe intermodals, keep the show interesting, and both the UP-SP and BNSF mergers will be making it more so. Depending on tonnage, most SP and some Santa Fe trains have one and sometimes two sets of mid-train helper engines. Helpers are tacked on at Bakersfield or Mojave, and sometimes stay on the entire run, other times cutting off at places like Woodford or Tehachapi to head home.

The Tehachapis may be only two hours by auto from Los Angeles, but it can and does snow at the higher elevations, providing another dimension to train-watching in Southern California. Be forewarned that even during spring and fall, Tehachapi weather can be different from that of the surrounding flatlands. The mountains seem to make their own weather, and while it may be clear and sunny in Bakersfield and Mojave, it can be overcast and downright inhospitable up on top. For backdrop, the hills are brown most of the year, but green in the late winter months.

The Tehachapi Mountains have been a gathering place for great train-watching and photography since the dawn of the hobby. But perhaps it can be most succinctly summed up by a recent remark of a fan from the Midwest, who while standing on a hill overlooking Caliente and watching a train snake its way through the mountains, simply remarked, "This place is just incredible."

He was absolutely right. **I**



STEVE SCHMOLLINGER



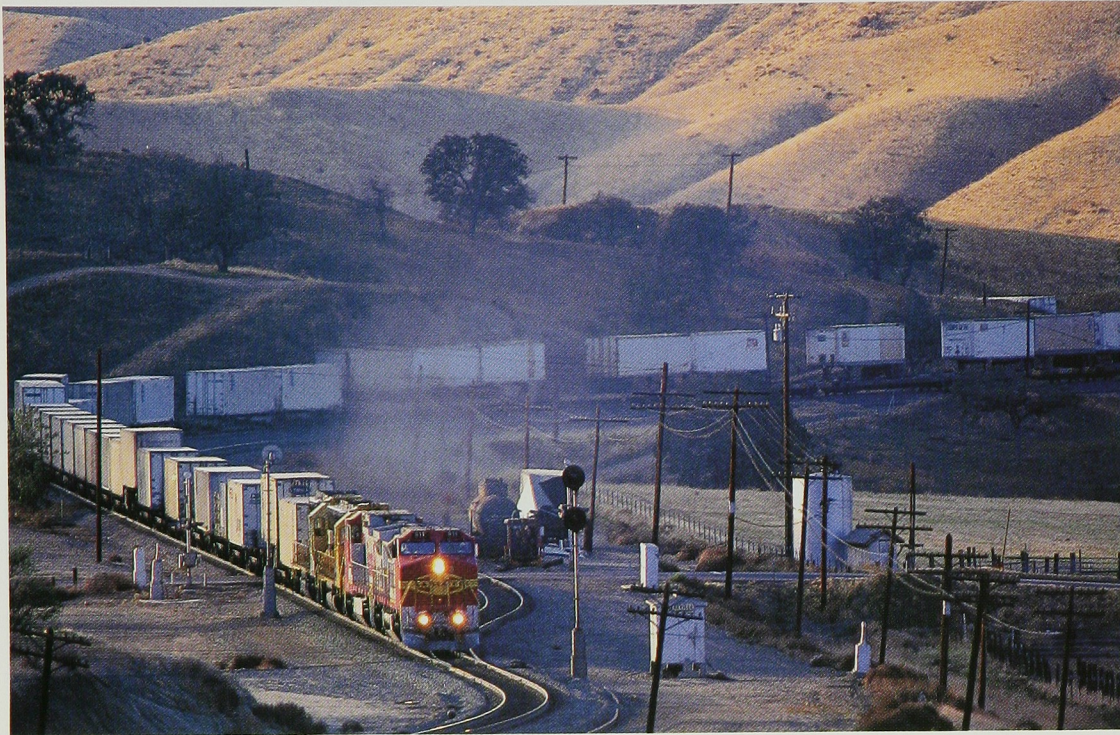
SCOTT A. HARTLEY

3 Early in the morning of April 30, 1992, an eastbound Santa Fe train cools its heels in Caliente siding for a parade of westbounds. The conductor is on the ground to give one SP train a rollby inspection as another one descends toward the meet; it'll loop around behind the photographer.

4 Telephoto lenses can do wonders on Tehachapi. Behold Caliente as seen from Cliff through a 500mm lens, as Santa Fe's Q-RICH (Richmond, Calif.-Chicago) curls through the 10-degree horseshoe just east of Caliente siding in April 1993. In charge are three GE B40-8W's and an EMD F45.

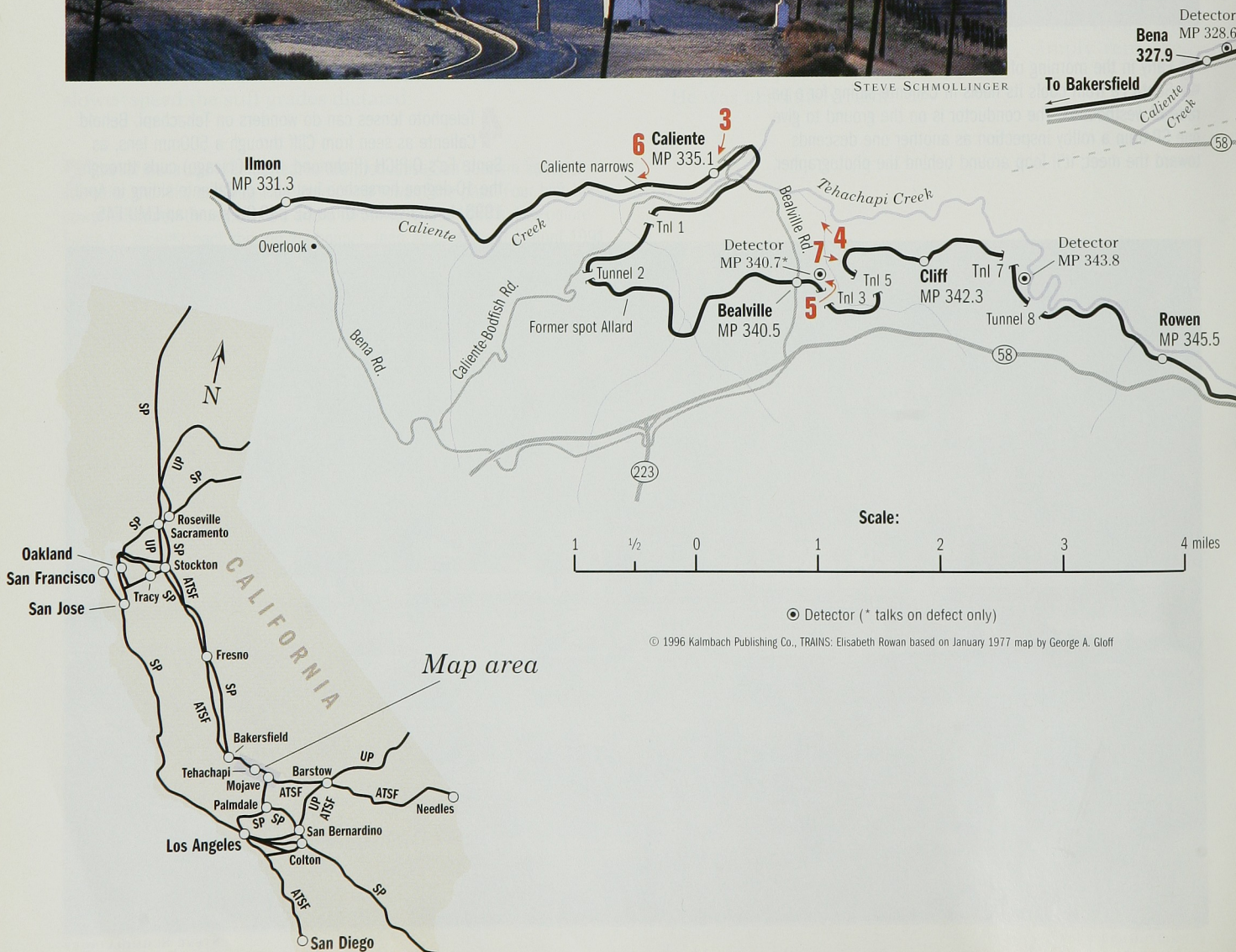


STEVE SCHMOLLINGER



STEVE SCHMOLLINGER

5 We're looking down on the east switch of Bealville siding at sunset on November 26, 1993, as an east-bound Santa Fe intermodal train with four units (two GE's and two EMD's) crosses Bealville Road.





STEVE SCHMOLLINGER

6 "Tunnel motor" SD40T-2 8232 leads five units on an eastbound Southern Pacific mixed freight through the "Caliente narrows" on an April 1991 morning, when light is best here. The telephoto lens, of course, accentuates the curves.

AT A GLANCE . . .

Name: Southern Pacific, Los Angeles Division, Mojave Subdivision; Bakersfield (MP 312.9) to Mojave (380.7), Calif., 67.8 miles. Santa Fe has trackage rights, Kern Jct. (313.6) to East Mojave (381.3).

Headquarters addresses: Burlington Northern Santa Fe Corp., 777 Main St., Fort Worth, TX 76102-5384, (817) 878-2000; Southern Pacific is being merged into Union Pacific Railroad, 1416 Dodge St., Omaha, NE 68179, (402) 271-5000.

SIGs: Santa Fe Railway Historical and Modeling Society, c/o Stan Hall, 1704 Valley Ridge, Norman, OK 73072; Southern Pacific Historical & Technical Society, P.O. Box 93697, Pasadena, CA 91109-3697.

Radio Frequencies: SP Road Ch. 2, 160.320 AAR 14; Santa Fe Road Ch. 1, 160.650 AAR 36, Barstow-Mojave and Kern Jct.-Bakersfield.

Top track speeds: 70 for passenger, 65 for freight;

through the pass, 25 mph, MP 336.0 (Caliente) to MP 359.5 (Tehachapi).

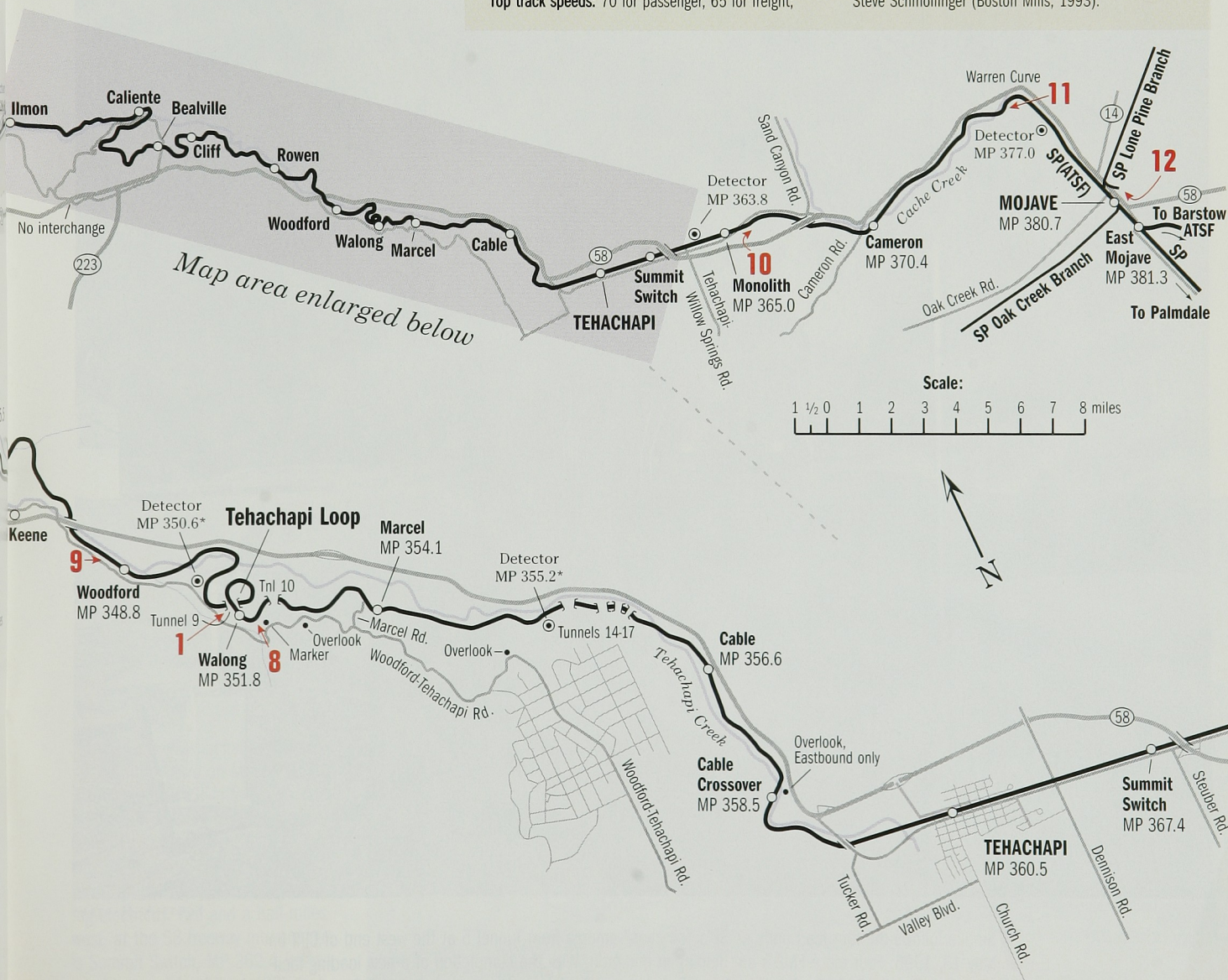
Daily average train frequencies: About three dozen trains every 24 hours, split evenly between Santa Fe and SP; 18 to 20 go through in daylight hours.

Major traffic: Intermodal, perishables and other food products, auto parts.

Scenic highlights: Tehachapi Loop (Walong siding), horseshoe curve at Caliente, several tunnels.

Accommodations: Motels and restaurants in Bakersfield, Tehachapi, and Mojave.

References: "Tehachapi!" by Richard Steinheimer, January 1977 TRAINS; "Tehachapi," by John R. Signor (Golden West Books, 1983); "Tehachapi Rail Map and Guide," by Sam Pottinger (Steel Rails West, 1991); "Tehachapi: Railroading on a Desert Mountain," by Steve Schmollinger (Boston Mills, 1993).





SCOTT A. HARTLEY

7 Smoke follows the four lead units as SP's "oil cans" emerge from Tunnel 5 at the west end of Cliff on May 13, 1996. Four more EMD's are helping in mid-train. With the completion of a new loading facility at Mojave in fall 1996, the L.A.-bound TankTrain ceased its daily treks across Tehachapi Pass.



BRIAN L. JENNISON

8 Follow the path north from the roadside marker to behold Tehachapi Loop as seen in this March 24, 1989, view of three Santa Fe trains. The engines on the eastbound 971 curling uphill are just passing Walong's east switch as the 189 train waits in the siding. Following 971 is the 998 train (visible at far right, rear). A 24mm lens will get the entire Loop in from here.



STEVE SCHMOLLINGER

9 Woodford siding has several vantage points easily reachable from the nearby parallel Woodford-Tehachapi Road, a blacktop. In March 1992 a Southern Pacific work train with "tunnel motor" SD40T-2 8506 assigned waited on the spur track as a westbound Santa Fe vehicle train met SP's loaded "oil cans" from Bakersfield pounding upgrade toward the Loop en route to L.A.

10 East of Tehachapi is Monolith, where on March 12, 1996, a new BNSF-lettered SD75M leads four units on a westbound Santa Fe stack train at the Old Highway 58 crossing. Note the "windmill farm" on the far hillside for generating electricity. Two and a half miles west, at the 58 freeway interchange, is Summit Switch, MP 362.4, marking the top of the hill at 4025 feet.

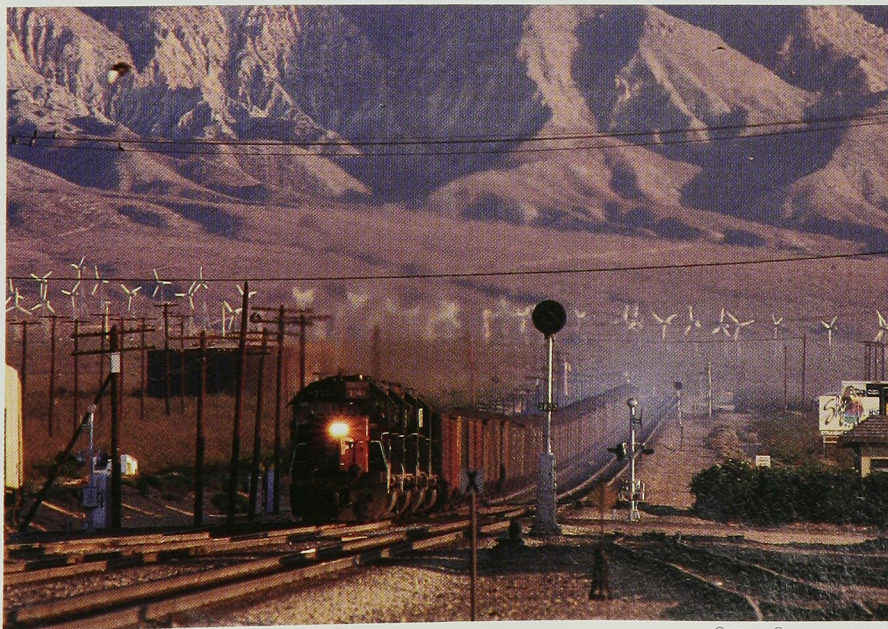


TRAINS: J. DAVID INGLES



BRIAN L. JENNISON

11 On October 21, 1995, five big Warbonnet GE's roll the hottest of the hot, Santa Fe's 199 train, around "Warren Curve," one of several good spots east of the mountains between the city of Tehachapi and Mojave. High track speeds on this stretch are the norm, especially for eastbounds.



STEVE SCHMOLLINGER

12 Against the backdrop of hillside windmills and seen through a 500mm lens, a Southern Pacific coal train rolls out of the hills and down into Mojave in November 1991. A highway and rail junction, this desert town of 3700 marks the split of Santa Fe's line to Barstow and SP's to Palmdale, itself a diverging point for routes to the L.A. area via Cajon Pass or Soledad Canyon. **I**



Heart of the Wisconsin Central

Two dozen trains a day on the CTC-equipped Chicago main line belie the term 'regional'

BY J. DAVID INGLES

WHAT IS NOW Wisconsin Central's main line from Chicago through southeastern Wisconsin has come full circle in a relatively short time. Twenty-five years ago, Soo Line typically ran 10 to 12 daily freights here. In the late 1970's when Milwaukee Road was at its nadir, daily Soo trains across the CMStP&P diamonds at Duplainville, 16 miles west of Milwaukee, sometimes outnumbered the Milwaukee Road's, probably a first.

Soo, as second-high bidder, was stunned to be declared the winner of the bankrupt CMStP&P in 1985, and installed a connecting track at Duplainville. With the Milwaukee's shorter Chicago-Twin Cities route available, Soo favored it and reincarnated its historic Wisconsin and Michigan lines, now with less traffic, as an in-house regional, Lake States Transportation Division. As a result, for a time in 1986-87 the Duplainville-Chicago segment saw only one road freight, a southbound, each day.

What a difference a decade makes. Wisconsin Central Ltd., which bought Lake States from Soo in 1987, has grown its traffic so that on a typical day, WC's single-track main through Duplainville sees 24 to 30 moves, often more than on the double track of what is now Canadian Pacific's Soo Line.

To be anatomically correct, WC's main line here isn't its "heart." That label better belongs to Stevens Point, WC's operations headquarters and home to its customer service center, train dispatchers, and second-largest yard and locomotive shop. "Point," as locals call it, and Neenah represent focal points from which WC trains can depart in any of four or five directions.

Rather, WC's Chicago main line represents a "trunk," as in tree, and with those 24 to 30 trains, you can't beat it on WC for volume. It's a main line that belies the term "regional"—single track, yes, but with CTC signals, 50-mph speed limit, welded rail, deep ballast, and high-horsepower diesels.

Our representation from Waukesha to Neenah takes in roughly the northern half of WC's Chicago Subdivision and the southern third of the Neenah Sub. In its entirety, the Chicago Sub goes 148 miles from suburban Forest Park, Ill., to

Shops Yard in North Fond du Lac. The Neenah Sub extends from Shops north to Neenah and west to "Point," 89 miles.

Although the Chicago main is geographically aligned generally north-south, train operation reflects the larger picture and is east-west. Hence, Chicago-bound trains go mostly south but operate as eastbounds.

Spiked down by a latecomer—the original Wisconsin Central—the line skirted Milwaukee. Between Waukesha and Fond du Lac, the main undulates through Kettle Moraine country, an area of hills, small towns, small lakes, and large marshes. (The name is a combination of two geological terms. A *kettle* is a steep-sided hollow without surface drainage, especially in a deposit of glacial drift and often containing a lake or swamp; a *moraine* is an accumulation of earth and stones carried and finally deposited by a glacier.)

Good photo sites abound, from standard trackside and overpass angles to vistas of the rural landscapes. For the visitor who wants to follow the WC north from Waukesha or Duplainville, it's best to head west and use County J to the Slinger area. From there, U.S. 41 from Milwaukee parallels WC on the east, and Wisconsin 175 does so on the west. Recently, 41 was made into a limited-access freeway, so reaching some of the better spots takes time. However, unless several meets intervene, actually chasing any one WC train here is fruitless—they go too fast. Sidings employed for meets include Waukesha, Rugby Junction, Marsh,

Byron, and Valley. The East Dispatcher in Stevens Point usually advises trains in advance of meets on radio channel 3, or you can check home signals for their indication. Shorter signaled sidings also exist at Slinger and Duplainville.

Byron Hill provides an exception to the "not chaseable"

1 Bound for Norfolk Southern's Calumet Yard in Chicago, train 50 rolls through Slinger on August 17, 1996, in a Jeff Hampton photo from the Highway 60 overpass. Run-through NS diesels are normal on 50 and counterpart 51. In addition to a wig-wag signal (inset), the hamlet of Van Dyne offers views of WC's parallel ex-Soo and C&NW tracks from the Highway 175 bridge.



MIKE DANNEMAN





JEFF HAMPTON

2 The limestone depot on Broadway in downtown Waukesha is a good afternoon spot, as this September 17, 1996, photo attests. The daily ore trains between Minnesota’s Mesabi range and Geneva, Utah [March 1995 TRAINS], symbolized SPLD or SPEM for loads or empties, are usually powered by Southern Pacific GE AC44CW’s. Other “foreign-line” diesels seen occasionally on WC include Conrail and CSX on ore and general freights, plus Grand Trunk Western units on summer ballast runs shuttling between northern Minnesota and lower Michigan.



JEFF HAMPTON

3 Wisconsin & Southern (WSOR, or “Wissor”) trains—usually one each way on weekdays in daylight—utilize WC rights between Slinger and Grand Avenue in Waukesha. This train, bound for Slinger with four units (two is the norm), is clearing the west switch of Duplainville siding, used mostly for interchange among WC trains and with CP’s Soo Line. Two grade crossings near the Duplainville diamonds, east of Highway 164, are popular gathering spots for fans.

4 Led by SD45 6498 (the first one WC painted—its nose striping is unique), a train of Missabe Road ore jennies hauling raw ore from the Mesabi range to a Chicago-area steel mill passes the Lomira depot on March 23, 1996. These moves are seasonal and uncommon. Other depots still standing at trackside on WC between Neenah and Chicago commuter territory are at Oshkosh and Burlington; the Slinger depot is preserved near the WSOR diamond.



TIM HENSCH

advisory, with its 7-mile, 1.25-percent climb for eastbounds out of the Lake Winnebago basin. Another bump, with a 1 percent grade westbound, is just to the south at Lomira. In Soo days, Byron Hill was a helper district, but they're only needed now on a few ore trains. Helpers cut off at Byron.

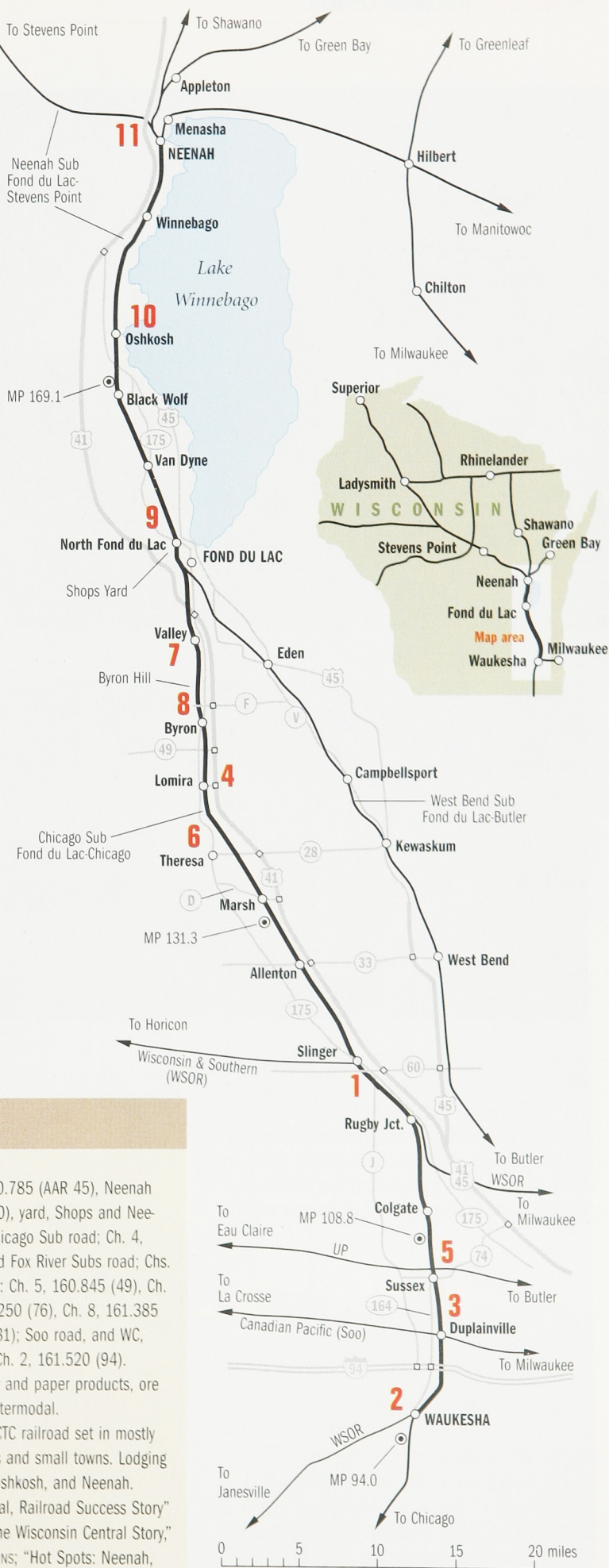
More than half the trains on this end of the Chicago Sub move in daylight. Schedules in early 1997 saw eastbounds 50, 142, and 48 called out of Shops in the morning, followed by 46, the Milwaukee turn, which does some local work en route. Trains 44 and 42 are afternoon calls at Shops. Due to Chicago congestion problems, westbounds are a bit less predictable, but a typical daytime lineup sees trains 51, 49, 243, 45, and 43, sometimes spread out and sometimes bunched up. One Geneva ore train each way is typical, but times are unpredictable. Local 58 goes east from Shops to switch in the south end of Fond du Lac and at Lomira, and the Waukesha switcher works weekdays to Sussex.

On the Neenah Sub west of Shops, 175 parallels the two-track main toward Oshkosh. The top photo site is Van Dyne. From Oshkosh to Neenah, following the line is tortuous, although County A on the east will work. At Neenah, all trains call the yardmaster on Channel 1 for instructions.

Daytime action is more sporadic on the east end of the Neenah Sub than on the Chicago Sub. In the morning, train 11 heads west from Shops, and 2 comes in from Stevens Point, followed by 8, which turns back as 7. ANPRA, the old C&NW through-train connection from upper Michigan, was the only regular road job on the West Bend Sub (there is a nocturnal local), but with WC's pending purchase from UP of the lines north of Green Bay, this operation ceased.

WC's road-freight diesel roster is one-half SD45's, and they predominate on this "heart" of the railroad, helped out by the 6 cowl F45's (plus 1 FP45), 20 GP40's, and the 6 ex-Algoma Central SD40's. Shops Yard is switched by SW1200's and SW1500's, and locals usually rate a four-motor unit from the GP7, GP30, GP35, GP35M, and GP38 ranks. WC has repainted all its ex-BN and Santa Fe units, and by the end of 1996 was halfway through repainting its Algoma Centrals.

Still, a dozen or more trains behind mostly SD45's, plus the SP GE AC44CW's, makes for an attractive daily menu.



AT A GLANCE

Railroad: Wisconsin Central: Chicago Subdivision, Waukesha (MP 95) to Shops Yard, North Fond du Lac (MP 158); Neenah Subdivision, Shops Yard to Neenah (MP 187). Wisconsin & Southern has trackage rights, Slinger (MP 122.6)-Grand Avenue, Waukesha (MP 97.2).

Location: Southeastern Wisconsin, northwest of Milwaukee, generally following U.S. 41.

Approximate train frequency: South of Fond du Lac: WC, 16 scheduled through freights daily plus one or more ore trains and two weekday locals; WSOR (trackage rights, Slinger-Waukesha), two trains each weekday plus occasional weekends. North of Fond du Lac: WC, 12 scheduled road freights daily plus one or more ore trains, nine weekday locals (some also on weekends). Round-the-clock daily yard engines at Shops Yard and Neenah Yard, plus industry switch jobs in Neenah-Menasha and several "FL"-series Appleton-area locals.

Radio frequencies: Ch. 1, 160.785 (AAR 45), Neenah Sub road; Ch. 2, 160.260 (10), yard, Shops and Neenah; Ch. 3, 161.295 (79), Chicago Sub road; Ch. 4, 160.335 (15), West Bend and Fox River Subs road; Chs. 5-8, yard, Shops and Neenah; Ch. 5, 160.845 (49), Ch. 6, 161.070 (64), Ch. 7, 161.250 (76), Ch. 8, 161.385 (85). WSOR road, 161.575 (31); Soo road, and WC, Duplainville-Milwaukee, Soo Ch. 2, 161.520 (94).

Commodities handled: Paper and paper products, ore and coal, plastic granules, intermodal.

Remarks: Busy single-track, CTC railroad set in mostly rural scenery with rolling hills and small towns. Lodging in Waukesha, Fond du Lac, Oshkosh, and Neenah.

References: "Wisconsin Central, Railroad Success Story" [Kalmbach Books, 1997], "The Wisconsin Central Story," September-October 1990 TRAINS; "Hot Spots: Neenah, Wisconsin," May 1994 TRAINS.



TRAINS: J. DAVID INGLES

5 Train 48, the connection to Conrail in Chicago, thunders through Sussex with three SD45's on March 3, 1996, passing under a coal train on UP's Eau Claire Subdivision (the former C&NW "Adams Line") and across Highway 74. At left are the private passenger cars of printer Quad/Graphics, a major WC shipper. WC frequently runs passenger specials for "Quad," as well as for other firms. WC owns three business cars and regularly leases two others.



MIKE DANNEMAN

6 Many views of marshland conservation areas are available in the vicinity of Theresa (THRESS-uh). From Highway 28 in the early afternoon, we see train 242 bound for Belt Railway's Clearing Yard in Chicago. Other, more expansive vistas are to be found just to the south at the hamlet of Theresa Station, which is east of Theresa village.

7 Byron Hill offers photographers three grade crossings, an overpass at the summit on Highway F, and parallel views from Highway 175. This spot is at Highway B, the old Hamilton station site, as train 45 from CSX's Barr Yard drops downhill on a June 1996 afternoon. Tracking down one of WC's seven ex-Santa Fe cowl F45's is tough enough—to find two, and in the uncommon company of an SP AC44CW to boot, is a real prize.



MIKE DANNEMAN



MIKE DANNEMAN

8 The lead SD45 of train 46 plows freshly drifted snow from the main line at the Highway 175 grade crossing in Byron at midday on January 27, 1996, as it passes train 49 creeping through the siding. Several passing-siding end-points on this part of WC are readily accessible for “meet” photos, including Winnebago (parallel to Highway A), Black Wolf, Valley West, Marsh East (at “D”), Rugby Junction West, and Waukesha East. Train 46 goes to Milwaukee in late morning via the Soo Line from Duplainville, turning right back as 47.

9 A GP40 rolls by as a pair of SW1500’s switches the south (east) end of Shops Yard in North Fond du Lac in late afternoon. This area, at the Lakeshore Drive grade crossing across from the yard office, is a popular and safe train-watching spot, as is “Shops West,” its counterpart 2 miles north at the opposite end of the yard, at the corner of Minnesota Street and Subway Road.



ANDREW MCBRIDE



OTTO P. DOBNICK

10 Since late 1995 WC has used only the ex-Chicago & North Western-Fox River Valley alignment across Oshkosh, and trains roll through town at a respectable 30 mph, vs. 10 mph on the old Soo Line route through backyards and down Division Street. For train-chasers, this makes Oshkosh a “one-photo town,” and the 1899 swing bridge over the Fox River outlet of Lake Winnebago is one of two good spots (the old C&NW passenger depot, remodeled into private offices, is the other). In summer, the bridge is open for pleasure boats, and trains must call the bridgetender to proceed. This afternoon view in September 1996 depicts train 8 from Stevens Point to Shops Yard.

11 Behind a GP30-SDL39 duo, a “Flow” local headed for Appleton-area paper mills skirts the south end of Lake Winnebago just north of Main Street in Neenah in 1994. The nickname comes from Fox Valley & Western FLO-series local-job designations. As of January 1997, only five of WC’s eight remaining GP30’s were still in service. The Neenah area offers numerous photo vantage points—see May 1994 TRAINS “Hot Spots.” **I**



TIM HENSCH

Colorado's Joint Line

The only north-south railroad between Kansas and Utah offers plenty of BNSF and UP action, against the scenic backdrop of the Front Range

BY STEVE PATTERSON

COLORADO'S JOINT LINE, the 120-mile route along the Front Range of the Rockies between Denver and Pueblo, is one of the busiest and most scenic stretches of railroad in the West. Although it traces its beginnings to those of the Rio Grande, long Denver's "home railroad," the route owes its name to the other two former rail players along the Front Range, the Santa Fe and Burlington's Colorado & Southern.

William Jackson Palmer, working with the Kansas Pacific survey party in 1867 seeking a route to Colorado, tried to convince KP to follow the Arkansas River to Pueblo, but KP built along the Smoky Hill River drainage to reach Denver on August 15, 1870. Undaunted, Palmer incorporated his Denver & Rio Grande, planning to build to El Paso and Mexico City, and D&RG's 3-foot-gauge track was completed into Pueblo in June 1872. (He was forced to resign in 1883, and D&RG ran out of money after reaching Santa Fe, N.Mex., in 1886.)

Also expanding west was Cyrus K. Holliday's Atchison, Topeka & Santa Fe, from Topeka following the Santa Fe Trail. The first AT&SF train arrived in Pueblo on March 1, 1876, and subsequent battles and struggles between AT&SF and Palmer's D&RG over Raton Pass, N.Mex., and in Colorado's nearby Royal Gorge became famous.

Determined since September 1879 to have its own line to Denver and fed up with new D&RG owner Jay Gould, AT&SF organized the Denver & Santa Fe in March 1887 and built its own line to Denver, arriving on October 1, 1887. Rio Grande, resenting the parallel line, told Santa Fe it could not intersect with D&RG at any point, so D&SF had to construct overpasses above D&RG at three locations. The remains of two are evident today, at Fountain and Spruce. The competition did, however, force D&RG to standard-gauge its main lines, in 1888.

Another standard-gauge line, the Denver & New Orleans, had built from Denver to Pueblo in 1882. It went bankrupt in 1885 and ultimately became part of Colorado & Southern. Its track, miles east of the Santa Fe and D&RG, was not the best, and by the turn of the century Santa Fe was handling much of D&NO's traffic. The idea of a joint arrangement

arose, and on April 1, 1900, AT&SF and C&S signed their first Joint Line contract, whereby AT&SF would handle C&S's through business between Denver and Pueblo, plus all terminal switching at Colorado Springs and Pueblo. C&S would handle terminal switching at Denver. D&RG was not a party to the Joint Line Agreement. The district thus had a name, and Santa Fe crews have been on C&S (BN) trains for 99 years. The original D&NO line was eventually abandoned. The contract was renewed in 1915, 1940, and 1985, but with the formation of Burlington Northern Santa Fe in 1996, there is no need for it now.

When the U.S. Railroad Administration took over America's railroads during World War I, it noticed the bottleneck on the Front Range and decided in October 1918 to join the tracks at each of the flyovers—Sedalia, Spruce, and Fountain. This created a continuous track for what today is termed "directional train operation." After the war, the Rio Grande (D&RG became D&RGW on August 1, 1921) began dispatching all Joint Line southbound trains and Santa Fe all northbounds. The onerous practice remains today for UP's dispatchers in Omaha and BNSF's in Fort Worth.

In Colorado Springs, the AT&SF track wound through streets and backyards, and by the late 1960's the city put up a million dollars toward track relocation. After years of huddling, Santa Fe and

Rio Grande in the mid-1970's agreed to operate trains in both directions over D&RGW between Palmer Lake and Kelker, and AT&SF between Kelker and Crews, by installing CTC signaling and extending or building new passing sidings. AT&SF dispatchers won control of the CTC.

This made the Joint Line into an "hourglass" configuration, an operational disaster when Powder River coal began booming in the 1980's. BN, a Joint Line tenant, quickly became the road with the most trains, albeit with Santa Fe people aboard. Thanks to the BNSF and UP-SP mergers, though, hope and remedy are on the horizon.

The changes affect train crews as well as visitors. BNSF and UP plan to rebuild a second main track the entire 32.5



TWO PHOTOS, JOE MCMILLAN

Palmer Lake is a popular Joint Line train-watching spot. BN SD70MAC's approach the town from the north with coal loads on an April 1998 evening (above), and a northbound BNSF freight, shot with a telephoto lens from a roadside knoll, nears the sweeping curve on a July 1996 afternoon (right).



225

225

SANTA FE

5



DAVID A. PHILLIPS

2 The southward track's bridge over two roads and a creek at Larkspur (above) is still lettered "Santa Fe," but this train on the afternoon of November 15, 1998, is a loaded Union Pacific coal train behind GE A.C. units.

3 Much of the Joint Line's right of way in Denver has changed, but one backdrop that has not is the Gates Rubber plant (top right) in South Denver, passed by a southbound BNSF grain train on an August 1998 afternoon.

4 In the hamlet of Louviers, north of Sedalia, the photographer is standing next to the southward track as two Southern Pacific GE AC4400CW's (right) roll north with UP coal empties at 4:05 p.m. on the last day of 1997.

miles from Palmer Lake to Crews next to the existing track, absorbing present sidings and prudently locating crossovers. Further, the Joint Line once again is to get its own timetable in early 1999, and with that will come re-established mileposts. Instead of a southbound train crew contending with 3-digit descending AT&SF mileposts alternating with 2-digit ascending D&RGW mileposts, D&RGW mileposts will be adopted on both tracks in ascending order from Denver to Pueblo.

Hints for train-watchers: With upward of 40 trains pounding the rails 365 days a year, perennial maintenance gangs are a must, which in turn entails work-window embargoes. Also, UP and BNSF both have official "zero tolerance" poli-



AT A GLANCE

Railroads: Burlington Northern Santa Fe, Pikes Peak Subdivision; Union Pacific, Colorado Springs Subdivision. Length: 119.35 miles between Denver and Pueblo, Colo.

Headquarters addresses: Burlington Northern & Santa Fe Railway, 2650 Lou Menk Drive, Fort Worth, TX 76131. Union Pacific Railroad, 1416 Dodge Street, Omaha, NE 68179.

Radio frequencies: BNSF road, 160.650 (AAR 36) governs; UP dispatcher on 160.920 (AAR 54). Various other channels in use at Denver and Pueblo for yard assignments.

Average daily train frequency: BNSF, 20 to 28, mostly coal plus some unit grain and general freight; UP, 12 to 18, mostly coal. Depending on track conditions or congestion in Kansas or Nebraska, in either direction, BNSF trains—and UP trackage-rights moves—can be rerouted over the former Santa Fe via La Junta, Colo., and the Joint Line (UP's come off the former SSW-Rock Island line at Stratford, Texas).

Top track speed: 55 mph, between Fountain and Pueblo on either track.

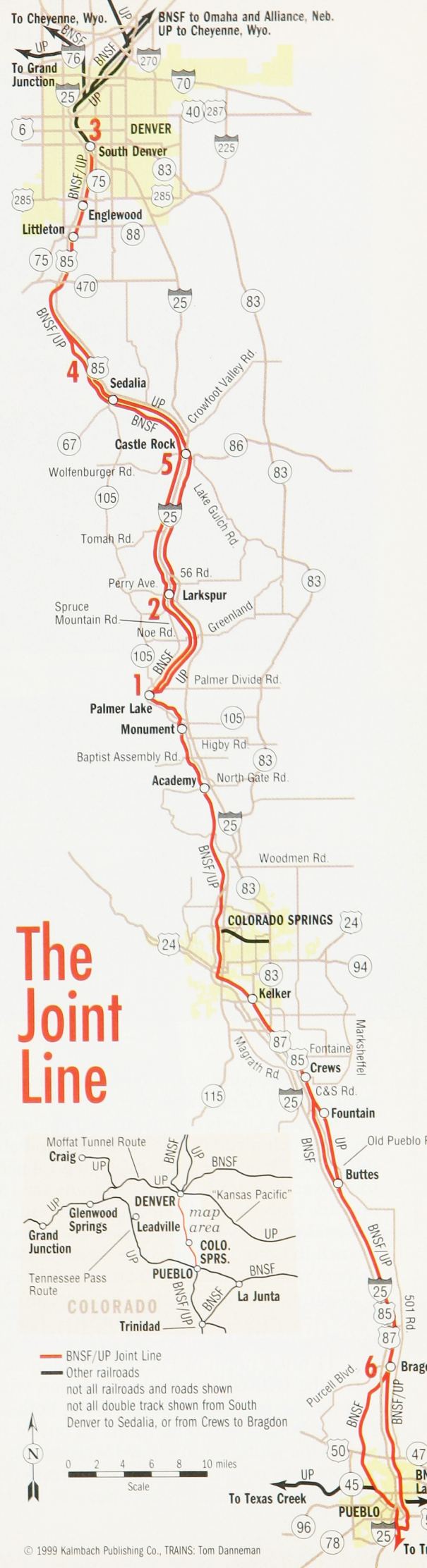
Accommodations: Most popular lodging outlets and restaurants are available at Denver, Castle Rock, Colorado Springs, and Pueblo. Two KOA campgrounds are trackside. One, with a former Frisco caboose displayed out front, is adjacent to the southward track near ATSF MP 698 (39 miles south of Denver); the other is west of I-25 opposite the crossovers at Bragdon.



DAVID A. PHILLIPS



C.W. EDINGER





DAVID A. PHILLIPS



J.R. JONES

5 As traffic on busy I-25 hurries by, a southbound BNSF grain train curves past the town of Castle Rock's towering natural landmark on November 15, 1998. Most Joint Line photo spots are easily accessible from I-25 or U.S. 85.

6 Bragdon, 11 miles out, is where the route options into Pueblo divide (southbound) or come together (northbound). On January 7, 1998, a southbound BNSF merchandiser makes the usual choice, the former AT&SF.

use the D&RGW to Bragdon, bypassing BNSF's Pueblo Yard. Favorite Joint Line train-watching locations include:

- Palmer Lake summit, by the lake—you can't miss a train approaching from either direction. Lots of parking spaces. Watch BNSF pushers cut off and return to Denver.
- Larkspur, site of the Joint Line's largest bridge, on the southward track, still lettered "Santa Fe" on the south side.
- Overhead bridges leading to scenic Air Force Academy.
- The old D&RGW passenger station at Colorado Springs, now the popular Giuseppe's Italian restaurant.
- The Joint Line's only through-truss bridge, on the northward track over the Fountain River 19 miles south of Colorado Springs.

With the expansion of light-rail transit in Denver, the Joint Line's north end is being rebuilt. As the right-of-way was raised or depressed between South Denver and Littleton, nearly a dozen grade crossings were eliminated, in preparation for extending the light-rail to Joint Line MP 13, a project which should be complete by mid-2000.

William Jackson Palmer would be amazed at what is funneling up and down his railroad only a century and a quarter later; for it remains the only north-south rail route between Wichita, Kans., and Salt Lake City, Utah. **I**

STEVE PATTERSON, of suburban Denver, has been a contributor to TRAINS for 39 years and is in his 20th year working as a locomotive engineer for BNSF on the Joint Line.

cies on trespassing, so it's best to observe trains from overhead bridges or off the property.

The Joint Line is an operational challenge. Leaving Denver, trains climb 2039 feet in 52 miles to Palmer Lake's summit of 7237 feet on a grade averaging 1.4 percent. Any BNSF train over 8000 tons (most coal trains are 16,000) is assisted upgrade with manned helpers, which return light to Denver. UP coal trains, which originate on the ex-D&RGW Craig Branch in Colorado and come through Moffat Tunnel, have helpers which are radio-controlled by the engineer up front.

Northward from Pueblo (elevation 4672) to the U.S. Air Force Academy, the grade averages a steady 1 percent until MP 60, where it becomes 1.4 percent for 8 miles. At Bragdon, 11 miles north of Pueblo, southbound UP trains head down the D&RGW to Pueblo Junction while BNSF trains take the former Santa Fe into town; both tracks are under CTC. At Pueblo Junction, trains go one of three directions, west to the yards, south toward Walsenburg and Trinidad, or east toward La Junta. Depending on track availability, many BNSF northward trains swap crews at Pueblo Junction and