

ClassicTrains
SPECIAL EDITION NO. 17

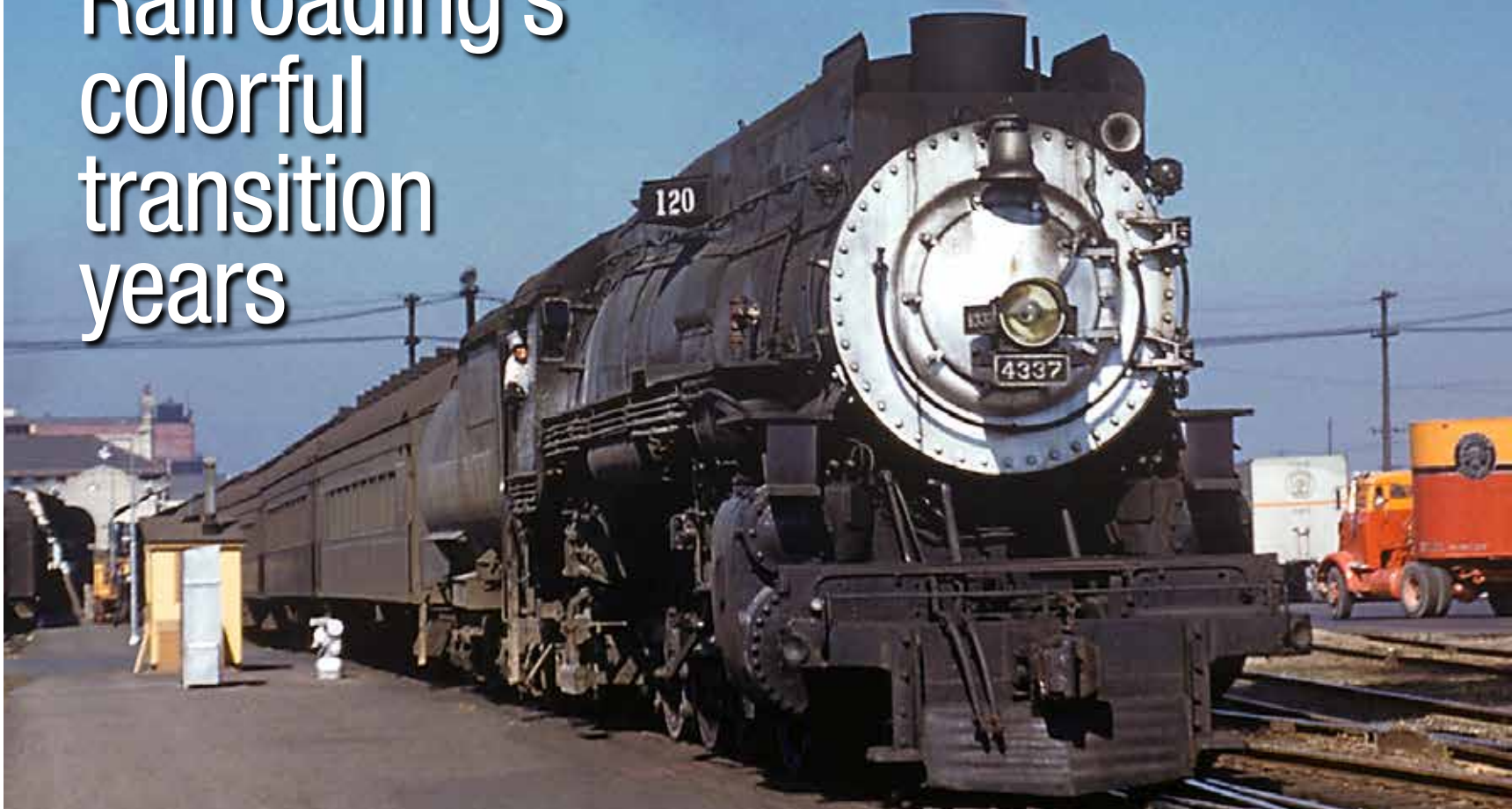
More

TRAINS

of the 1950s

Holiday 2015

Railroading's
colorful
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years



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In a 1954 photo east of St. Paul (Minn.) Union Depot, a Northern Pacific 0-6-0 backs toward us as a Great Northern NW2 shoves cars into the station and NP F units rest between runs. Charles B. McCreary



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Edited by Robert S. McGonigal

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BY DAVID P. MORGAN



On February 5, 1953, at Hermitage, Va., on Richmond's north side, N&W 4-8-2 No. 121 brings ACL train 26 from Petersburg, Va., past RF&P and Seaboard E units, which are trading places on a southbound. R. R. Malinoski

By popular demand, more of the '50s!

When we published the original TRAINS OF THE 1950s in May 2013, its popularity took us by surprise, and the issue quickly sold out. In a trio of subsequent publications, we covered three other decades from the classic era: the 1940s, '60s, and '70s. We had planned to end our “decade” series after those four issues. But reader requests for a 1950s sequel, not to mention the deep, rich pool of articles from back issues of TRAINS magazine — the raw material for our series — persuaded us to revisit that fascinating time.

And here is the result: MORE TRAINS OF THE 1950s. Except for the all-color “Kodachrome Decade” photo gallery on pages 60–69, all the articles first appeared in TRAINS during the 1950s. The layouts are completely new, in most cases featuring additional photos, with rare color images often replacing the original black-and-whites.

The 1950s was a time of transition for America's railroads. Steam locomotives gave way to diesel-electrics. The optimism that led many railroads to buy fleets of new passenger trains after World War II began to dim. New technologies expedited the handling of freight. Motor trucks, automobiles, and airliners siphoned increasing amounts of traffic from the rails.

It was a decade of almost infinite variety and, as the passage of time has proved, enduring fascination for those of us who love trains.

Robert S. McGonigal

More TRAINS of the 1950s

CLASSIC TRAINS SPECIAL EDITION NO. 17 • 2015

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A tank car begins its descent from the crest of the hump at UP's new North Platte yard. The mast atop the hump control tower is for radio communication with switch engines. A hump conductor directs the pin-puller from a position on the ground floor. Wallace W. Abbey

“THREE AND A FLOCK OF SINGLES . . .”

At Union Pacific's North Platte hump yard, you put freight cars into one end, throw a few levers, and out roll trains that are ready for the road

BY **WALLACE W. ABBEY**

In the Union Pacific's general telegraph office at North Platte, Nebr., a Teletype printer pecks out the opening of an incoming message:

CHIAN 20 801A
 NO 15N ALL CONCD NOP
 EX 3935 ROOT O G 15

It's the consist of an eastbound train that already is eating into the 225 miles between Cheyenne (CHIAN), Wyo., and North Platte (NOP). The Teletype hammers out the initials and number, lading, and destination of the train's 73 cars. The last line sums up:

69 LDS 4 EMPTIES 4386 TONS.

"All concerned" at North Platte are thereby informed that within two or three hours — the dispatcher upstairs over the passenger station knows when — Extra 3935 East will arrive and head in on one of the receiving tracks in the \$3½ million hump yard born here in 1948.

Speed in reclassification, here as in any such installation, is the keynote. Extra 3935 East's 73 cars are humped in 18 minutes, rolling into the 42-track classification yard in 61 cuts. That never could have been done in the old 20-track flat yard, which was something of a wasp waist in the middle of a busy piece of railroad.

The North Platte hump yard operates much like any modern gravity yard, with intercommunication systems, radio-equipped switchers, and elaborate car inspection facilities. Yet it has its singular characteristics: the big Challenger articulateds and long-barreled 4-12-2s, the red-and-yellow ROAD OF THE STREAMLINERS slogan on the car inspection station, the little red truck that picks up the Extra's rear-end crew at the west end of the receiving yard. These features tab this yard as strictly North Platte and Union Pacific.

North Platte sits right in the middle of the pond as far as freight traffic over the eastern lines of the Union Pacific is concerned. Out of the west comes a parade of trains from beyond the Continental Divide and from Colorado. From the east there's the combined flow from Council Bluffs, Iowa, and Kansas City and eastern connections. The North Platte hump yard is the sausage-grinder that takes cars in any order and turns 'em out



UP NW2 No. 1091, with extra ballast and low-speed gearing, shoves the last cars of an inbound train up the hump. Behind the diesel is the car inspection station. Wallace W. Abbey

linked with brothers of like destination.

On the average day, 2,400 cars roll into the receiving yards. When the fruit rush from California is in full swing in August, September, and October, the count climbs to 3,700 a day. About a third of this movement is to and from Kansas City through Hastings, Nebr., Marysville, Kans., and Topeka. Since the greater percentage of the overall movement is west to east, the yard was laid out to facilitate reclassification of eastbound trains. Construction of the yard was speedy. Work began April 1, 1948, and the first train was humped five months later, on August 28.

The humpmasters direct cars through the

retarders at the rate of about 100 an hour. All eastbound cars are classified by gravity, along with 70 percent of the westbound traffic in other than rush periods. Eastbound reefers are blocked for connections at Council Bluffs or Kansas City and sent on their way in 2 to 2½ hours. The "rip" tracks normally repair cars containing perishables in 2 to 4 hours, manifest in 6 to 12.

Yard operations are worked by 1,000 h.p. EMD NW2 switchers. As many as 23 tricks may be marked on the board in a 24-hour period when traffic is heavy. Two engines work the hump, alternating at shoving trains and picking up and setting out cars on the



In a view from partway up a light tower, two cars have passed the hump tower and are entering the master retarder. All cars are humped in an eastward direction. Union Pacific



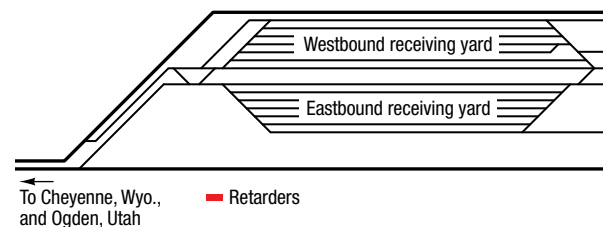
Having rolled free of the NW2 in the background, a refrigerator car headed for the bowl of the yard approaches a box containing a radar speed-monitoring device. Union Pacific



The speed meter, shown with housing cover open, transmits car speed to an "electronic brain" in the tower beyond. This information, along with car weight and other data, determines the force applied by retarders farther into the yard. Union Pacific

UNION PACIFIC HUMP YARD

North Platte, Nebr.



rip tracks. Hump engines are geared down and weighted with several hundred pounds of lead for added traction.

Steam locomotives, however, are the dominant road power on the Nebraska and Kansas divisions. Diesels pull the streamliners, but 2-10-2s and 4-12-2s are the standard freight haulers. A half-dozen or so Challengers work between North Platte and Cheyenne.

The combination of human ingenuity and mechanical efficiency that shepherds thousands of cars through the North Platte yard is something to marvel at. People even drive out from town on sunny Sunday afternoons to watch the cars roll down the incline. To them it's novel. They may understand; they may not. But they want to watch, to learn.

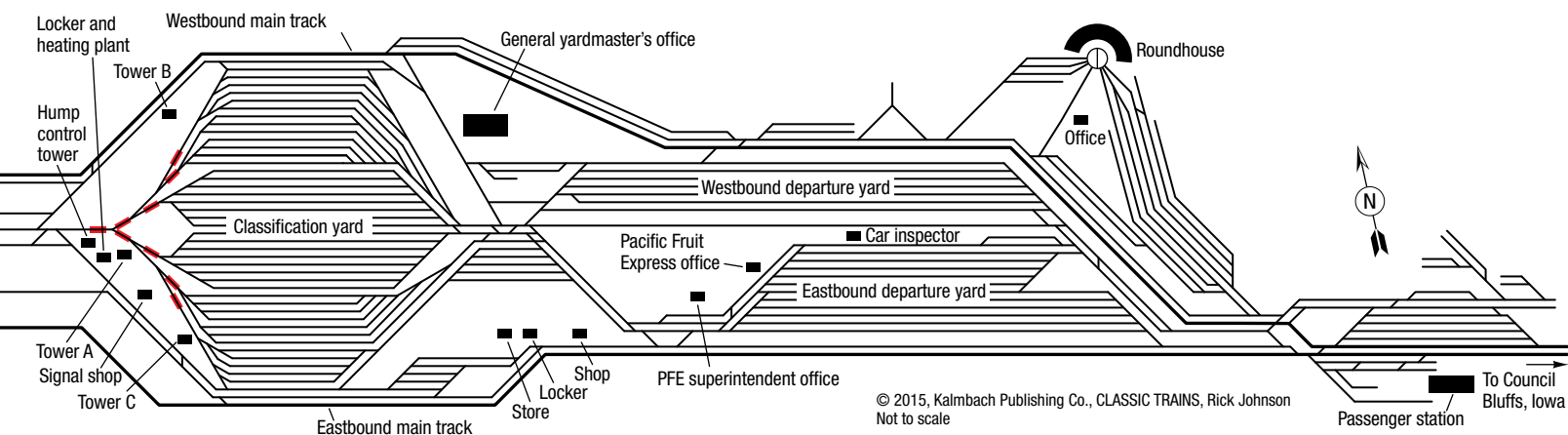
At his desk on the first floor of the hump-master's tower, the hump conductor consults his yellow Teletype consist, marked to show where each of the cars passing over the hump is to be pigeonholed. He instructs the man outside who uncouples the cars, the pin-puller, over a loudspeaker.

"That's your last single, Otis. Then you'll have two, two, and another single." Otis yanks up on an uncoupling lever. With the reins off, the car gallops down the 4 percent grade.

"Now you've got three and a flock of singles." Otis nods assent in the general direction of the tower, walks back to meet the next coupling, and trims three cars off the slowly advancing string.

For a few minutes, cars spill over the hump in quick succession. Six or seven are "in the air" at once. Up in Tower B the operator juggles his switch and retarder controls with the air of calm alertness that characterizes towermen everywhere. He moves quickly. The hump crest dumps two cuts of cars his way. He lines the first into its designated track. When the track circuit light goes out, indicating that the cars are on the switch, he reverses the switch lever. The cars clear the turnout, the circuit picks up, and compressed air slaps the points over. The next cut of cars slides by into an adjacent track.

Then it's over. The hump engine is bringing the caboose down the hill to track 1. Retarders and switch machines are silent.



Voices mingle on the intercom; a Teletype clatters. An outbound train whistles off in the departure yard. The humpmaster starts working over the consist of the next train to be broken up. A 4-12-2 strings out its train past the passenger station and toward the North Platte River bridge.

Added to recent Nebraska Division time-cards is mention of freight diesels between North Platte and Gibbon, where Kansas City-bound freights swing south to Hastings and the rolling Kansas Division. Perhaps the trains that come down to North Platte today behind 4-6-6-4s will snake out of the valley of the Platte into the valley of the Kaw tomorrow behind glossy yellow diesels.

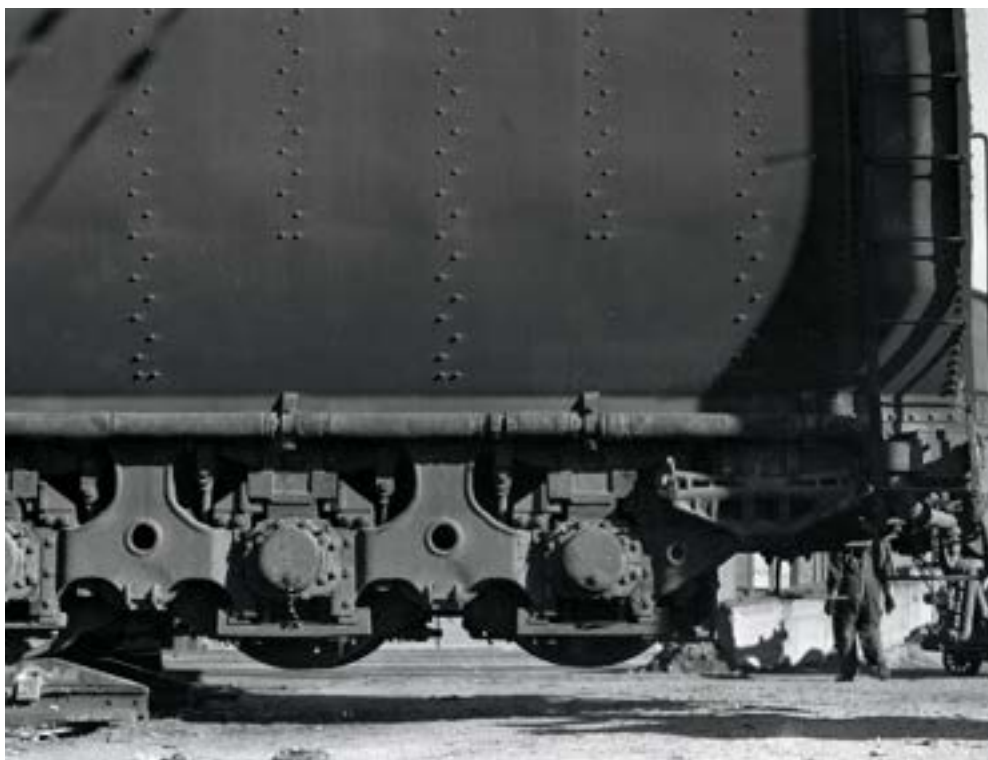
But the type of motive power is immaterial to one fact: the trains that Chief Dispatcher A. E. Hackman fathers over the First Subdivision east of North Platte aren't the same



Air-operated pistons press steel bars against car wheels as they pass over the retarders. Journal-box covers are open for inspection and addition of lubricant if needed. Both, UP



The biggest engines to regularly visit North Platte are a half dozen or so 4-6-6-4 Challengers, which work in from Cheyenne. Art Stensvad



The Challengers are too long for the North Platte turntable, but they can still use it. Wedges are clamped to the table's rails at one end, and a 4-6-6-4 is backed on, leaving the tender's rear four wheels hanging in mid-air as the locomotive is turned. Art Stensvad

trains that Chief W. D. Deakins brought down from Cheyenne over the Second Sub. Teletype wheel reports that precede them east out of North Platte show that they've been redealt over the hump into the ideal hand to display to any yardmaster:

NORTH PLATTE NEBR 7-20-49
YARD HASTINGS
EXTRA 9058 J R SNYDER
1-KF-20 CALLED FOR
7AM DATE HAS:

Sixty-nine perishable loads, all but one for Kansas City. Ahead of the yellow caboose are 1 for Kansas City and the Santa Fe, 1 each for the Kansas City Southern and the Rock Island, 2 for the Katy, 4 for the Frisco, 24 for the Gulf, Mobile & Ohio, and so on.

The North Platte sausage-grinder turns 'em out in good order. ■

WALLACE W. ABBEY, a prolific rail journalist, book author, and photographer, grew up in Evanston, Ill. He was on the *TRAINS* staff 1950-54 and on *Railway Age's* 1956-59. Between stints in public relations for Soo Line (1959-70) and Milwaukee Road (1975-80), he was a consultant. He served Trailer Train 1980-82 and then the Transportation Test Center at Pueblo, Colo. Abbey died in 2014.



In early 1954, 4-12-2 No. 9028 brings a train into North Platte from the east. Only UP had 4-12-2s, 88 built during 1926–30. Art Stensvad



North Platte by night: An eastward view from the hump into the 42-track yard shows Towers A (right) and B. These structures, along with Tower C (hidden by Tower A) control retarders that slow the cars and switches that route them to the proper track. Wallace W. Abbey

The diesel's **BIG YEAR**

In 1950 the steam locomotive was on the way out, and the diesel enjoyed its biggest year ever

BY DAVID P. MORGAN



The testimony offered in 1950 on behalf of the diesel locomotive varied with road and region: Louisville & Nashville frankly admitted that the “international situation” [*i.e.*, the conflict in Korea] had unexpectedly made it boost its equipment budget by \$8.2 million for 64 more Electro-Motive units. Both the Union Railroad and the Frisco made no bones about the fact that they were headed for 100 percent dieselization. For its part, the Pennsylvania saw fit to sugar-coat a 337-unit, \$55 million diesel order with the solemn statement that it intended to “continue the use of steam power where it is economically justified.”

But the verdict was the same: The diesel was *the* locomotive in 1950. American railroad management had authorized an investment of more than half a billion dollars in

new diesels — more than 6 million horsepower developed by 4,027 units. The 1950 orders more than doubled the motive-power business of 1949. It was the biggest boom in diesel history, the peak in a bull market in locomotives that started in late 1948.

Indeed, by the yardsticks of proven performance and cold cash, 1950 had no peer in U.S. locomotive lore. But if the railroads had splurged millions in diesel showrooms, it was a hardheaded and conservative brand of splurging. The press releases, glossy photos, and color ads of 1950 boiled down to this: (1) the railroads, long since persuaded of the diesel’s economy, were anxious to give it a free rein over a rising tide of tonnage; (2) but remembering well how war in 1941 had emptied their roundhouses, they needed no second lesson in logistics. An improved net return (up from a dismal 2.86 percent in

1949 to better than 4 percent in 1950) had lent management the means to accept the challenge.

In 1950 mass dieselization meant less fanfare and more fact. When the Texas-Mexican eliminated steam in 1939, nobody even knew about it. A decade later the Monon and the Gulf, Mobile & Ohio rated press attention by their successive riddance of coal-burning power.

Louisville & Nashville EMD F7s, an M-1 2-8-4, an Alco-GE RS3, and an EMD SW7 stand at South Louisville in the mid-1950s. L&N got its last steam, 22 M-1s, in 1949.

Jack B. Fravert, L&N Railroad Historical Society coll.





KCS and Frisco E8s mingle at Kansas City Union Station in April 1954. Electro-Motive built 460 of the 2,250 h.p. passenger units during 1949–53. Dick Neumiller, Bon French collection

But in 1950, complete dieselization was no novelty. Several subsidiaries of Southern Railway proclaimed the honor, as did such independents as Elgin, Joliet & Eastern; Chicago & Eastern Illinois; and Chicago Great Western. And it was only a matter of months before they would have the company of larger systems like Lehigh Valley and Katy.

Geographically, New England had the edge. New York Central's Boston & Albany was practically all-diesel. New Haven's impressive roster of Pacifics, Mountains, and Santa Fes was reduced steadily to scrap, and its 10 streamlined 4-6-4s were for sale. Boston & Maine, Maine Central, and Bangor & Aroostook presented the same picture. An old 2-8-0 might show up on a work extra or a wayfreight, and Pacifics still held down commuter runs out of Boston's North and South stations, but elsewhere, only air horns were heard. Even the Rutland was celebrating its newly found freedom from bankruptcy with road trials of a Bangor & Aroostook GP7 road-switcher.

Central Vermont went on exhausting steam into this vacuum. Its 2-10-4s shook the windows at St. Albans as they blasted south out of Italy Yard; and on a winter afternoon, the *Ambassador's* Mountain type laid down white steam across white hills. But CV steam power was predictably doomed.

Beyond Yankee stone fences, the diesel was more deeply entrenched than many people realized. Statistics said it had swallowed up in 1950 roughly 10 percent more of the steam locomotive's work and was handling, as the year ended, 59 percent of the switching, 45 percent of the gross ton-miles, and 54 percent of the passenger-train-miles. More to the point was *how* the diesel was

doing it. In 1950 the average American freight and passenger trains rolled faster than ever before. The average passenger engine turned in 234.3 miles a day, a figure previously unmatched. Freight locomotives averaged 117.5 miles daily, which was shaded by the wartime 1943 performance of 124.5; yet the typical 1950 freight haul carried 1,199 net tons, yet another record.

The impact of peak performance like this provoked much comment, mostly of it complimentary to the diesel. Monon President John W. Barriger didn't mind crediting internal-combustion power with the solvency, even the very existence, of his road. Chicago Great Western implied the same thing. A New York brokerage house cited the diesel as "the greatest boon to the railroads in many years." The Pennsylvania confessed that the extension of catenary west of Harrisburg could not match dieselization as a profitable investment. President E. E. Norris of the Southern, tickled pink with diesels, publicly

FOR ELECTRO-MOTIVE, 1950 WAS THE BIGGEST YEAR FOR THE WORLD'S BIGGEST LOCOMOTIVE BUILDER. PRODUCTION JUMPED 25 PERCENT.

wasted no nostalgia over steam.

There were, however, some whispers. Certain qualified critics thought that danger lurked in the high initial cost of dieselization, and they wondered if many roads were not gauging their traffic demands too rigidly when replacing steam power. One reporter questioned the "25 hours a day" assignments of the freight diesels of one granger line. A master mechanic lamented that the units ordered to completely dieselize one division

of his company could only do the job if they never required heavy repairs — and if business did not suddenly boom.

If the Korean or any other crisis warranted, roads like the Rio Grande and New York Central could tap storage tracks for sleeping 4-6-6-4s and Mikados. But what if a war with Russia kicked off in 1953 or 1955? Would the railroads have enough locomotives in mothballs to meet a sudden hike in

tonnage? Answers of sorts could be located in the information that C&EI, CGW, and EJ&E all ordered more diesel power in 1950 *after* killing the fires in their last steam locomotives. The coming of the diesel to the GM&O all but closed down its Bloomington, Ill., shops, but early this year some 65 steam engines were in storage there, out of reach of the cutting torch. GM&O management, long after dooming steam locomotion, halted the dismantling of its last few steam servicing facilities, and rigged up old locomotive tenders as auxiliary water carriers in case extra-heavy traffic required steam's revival.

There were still a few culprits who flouted the rules of dieseldom and made the crime pay. One of them was Nickel Plate Road.





Where it found the diesel had merit, NKP went along with the popular trend. After the war, single 2,000 h.p. Alco-GE cab units took over the road's two-car accommodations because existing 4-6-0s had passed retirement age, and pairs of the Alco-GEs appeared on limiteds because NKP's smallish Hudsons no longer could handle the weight of mainline trains. NKP likewise began replacing its 0-6-0s and 0-8-0 yard power with diesels in the interests of economy.

But Nickel Plate's mission in life (excluding that of its recent Wheeling & Lake Erie acquisition) is high-speed merchandise freight service, sold in a competitive territory dominated by New York Central. Yet to bring home the bacon, NKP continued its full faith in Lima 2-8-4s. Serviced at modern engine terminals, these big girls ate up the miles at 60 per hour, kept fuel costs down, and put the tonnage through on time. Moreover, it reduced arrears on preferred stock dividends from \$73.50 to \$45 per share, an indication to stockholders that steam was not automatically synonymous with insolvency. As Christmas drew near, Nickel Plate was even shopping in Canada for more new 2-8-4s, the type of old-fashioned reciprocating power that U.S. builders had ceased fabricating.

Three sound reasons for NKP's resistance to road freight dieselization — cheap coal, water-level grades, modern power — also left the tonnage of Illinois Central in steam guardianship. This did not appear to be financially weakening to IC, either — in 1950 the road paid its first dividend since 1931. Yet the coal-carrying, coal-burning IC was under pressure from the diesel wing, so much so that *Chicago Journal of Commerce* railway editor Nancy Ford interviewed its president, Wayne A. Johnston, more than once on the topic. IC's top executive at first outlined the economic background for his road's fleet of rebuilt, high-horsepower Mikes and Mountains and pointed to its contribution (in cash) toward gas-turbine research. Later he relaxed his defense, and said that IC certainly was not anti-diesel and would buy diesel freighters if and when it saw fit. In these comments — and in IC's purchase of several EMD 1,500 h.p. road-switchers — some saw one more steam sellout in the making.

Norfolk & Western damned the diesel in word and deed, of course, and offered no apologies. In 1950 it junked its electrified district in favor of an \$11.9 million line relocation and the power packed in compound 2-8-8-2s. It was also the only railroad to

Although EMD's 1,500 h.p. GP7 of 1949 was not the first road-switcher on the market, it sold like hotcakes. Chicago & Eastern Illinois 208 works south at Grant Park, Ill., 5 miles north of Momence, in August 1964. Frank and Todd Novak collection

order new steam power: 15 heavy-duty 0-8-0s from its own Roanoke Shops. The engines were based upon the 30 almost-new C&O switchers that N&W picked up at a substantial discount two years ago. Also in 1950, Roanoke completed three class J 4-8-4s — the year's only new steam passenger power.

LEADER OF THE PACK

The fact that the attitude of NKP, the pressure upon IC, and N&W's isolationism was rare simply pinned another medal on the chest of General Motors' Electro-Motive Division. For EMD, 1950 was the biggest year for the biggest locomotive builder in the world. Production jumped by 25 percent, to approximately 2,200 units.

Orders for new diesels indicated that the child was doing considerably better, in terms of market share, than its parent. GM's Chevrolet-Pontiac-Olds-Buick-Cadillac chain handles about 40 percent of the automobile business, while Electro-Motive's cut of the



Two of Lehigh Valley's 14 Alco-GE 2,000 h.p. passenger units (later dubbed model PA), bring the eastbound *Maple Leaf* into Newark, N.J., in September 1960. The PA dominated on a few roads, but overall was a distant second to EMD's E units. Richard Steinbrenner

diesel pie last year was 65 percent. Even within the GM empire, EMD was no small potatoes. It grossed \$350.5 million last year, estimating its 3,894,640 horsepower in new orders conservatively at \$90 per horsepower. That was more than triple the trade of EMD's nearest rival, Alco-GE.

Today's 2,250 h.p. E8 and 1,500 h.p. F7 may be traced back to 1937 and 1939, respectively. Neither locomotive is a radical post-war development; both are refined versions of the fundamental ideas that railroaders first saw as a 3,600 h.p. two-unit B&O passenger puller (the EA) and then as a 5,400 h.p. four-unit freight hauler, first ordered by the Santa Fe (the FT). The same La Grange factory, since greatly expanded, handled engineering and construction on automotive-style assembly lines.

The formula has not always been perfect. EMD miscalculated on the railroads' need for a road-switcher. Its makeshift, overgrown 1,000 h.p. switchers were outperformed and outsold by Alco-GE, Baldwin, and Fairbanks-Morse products. In 1948 EMD built the Branch Line, a 1,500 h.p. unit of awkward



Big roads like New York Central tended to buy from all diesel builders. Along with legions of EMD and Alco-GE freight cab units, NYC rostered 25 (17 cab, 8 booster) Baldwin 1,600 h.p. "Sharknoses," three of which rest at Sharonville, Ohio, in 1960. Tom Gildersleeve



Lima, the last builder to give up on steam, launched a diesel line in 1949 after merging with engine-maker Hamilton. Erie 664, a 1,200 h.p. switcher, was built in August 1950, two months before Lima-Hamilton merged with Baldwin. Barney L. Stone, Krambles-Peterson Archive

shape that sold to a few lines in small numbers. What finally did the trick was the GP7, a high-hooded, V-nosed, all-purpose locomotive designed from the ground up. Last year the “Geep” was selling like hotcakes.

With the prospect of 15 percent more of railroading’s ton-miles, passenger-miles, and switching hours going to the diesel in 1951, EMD took a comfortable look ahead. Its current ads (“GM diesels are the best railroad security”) carried the gilt-edged tone of Cadillac promotion. The future looked almost perfect.

Almost, but not quite. A sour note was the pocket-sized booklet entitled *Diesel Engines or Gas Turbines for Locomotives?* published by Electro-Motive. It was the text of a paper presented before the Pan American Railway Congress at Mexico City in October 1950 by N. C. Dezendorf, EMD’s director of sales. It was a logical, factual, competent look at the gas turbine and its chances of success as a locomotive. The history of the gas turbine and its application in aviation, marine, stationary power, and railroad fields was reviewed, and

then the new prime mover was theoretically rolled alongside EMD diesels and checked for comparative output. Dezendorf’s assessment was this: Contrary to extravagant claims, the gas turbine was hardly a “natural” for locomotive use, and there was definitely no cause for believing it could push the diesel around, as the diesel had done to the steam locomotive. Fuel and maintenance

**THE FIRST OF FAIRBANKS-MORSE’S
“CONSOLIDATION LINE” CAB-UNIT
DIESELS CARRIED THE BUILDER’S
HIGH HOPES AROUND THE NATION.**

savings were questionable. There were obvious drawbacks: varying horsepower because of climatic conditions, excessive noise, risk of fire from the stack, poor efficiency.

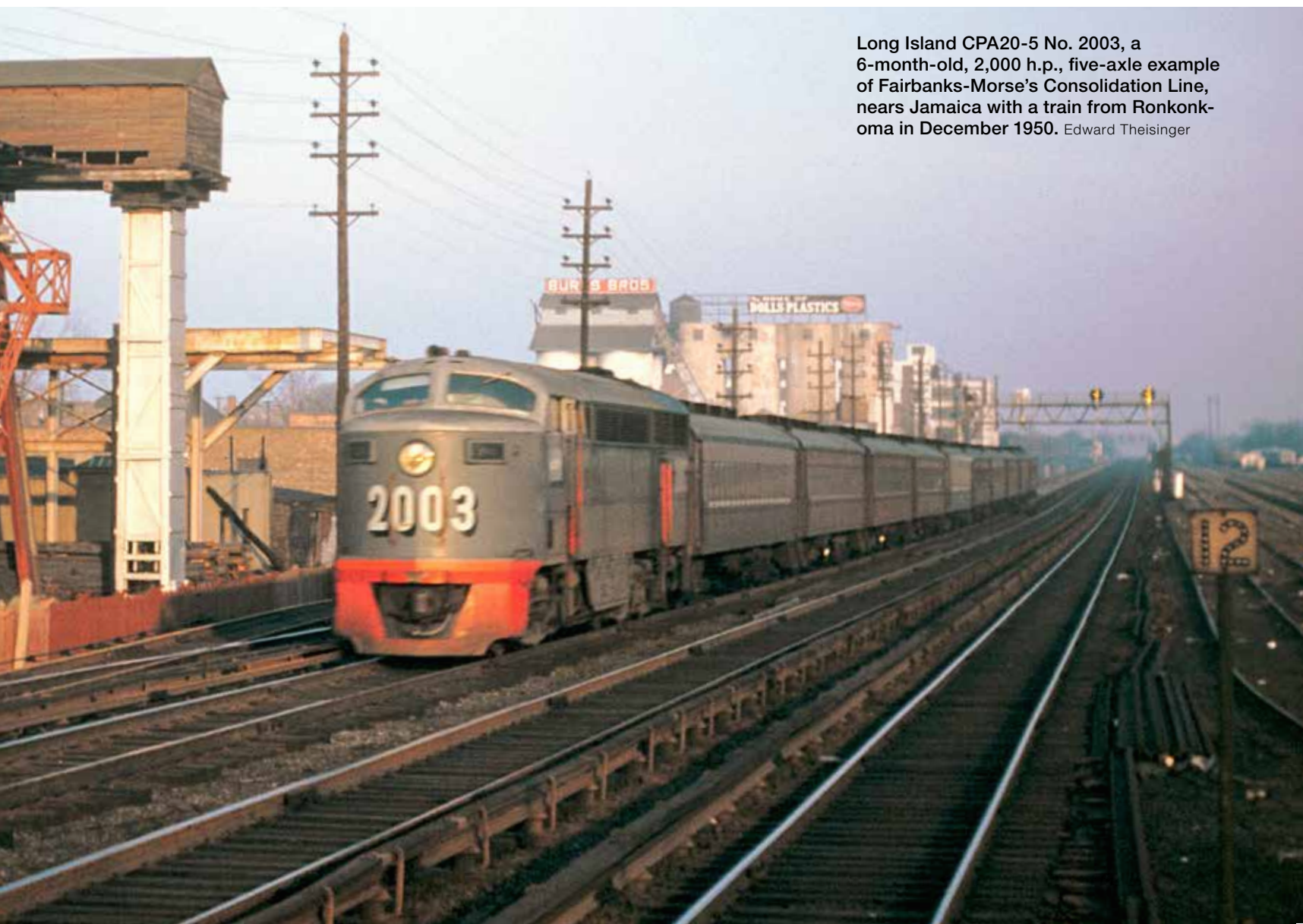
Dezendorf came up with two opinions: (1) let the gas turbine be developed in jet aircraft and other natural areas of application, applying what is learned — if feasible — to the locomotive; (2) protect the cash tied up in

diesels by working toward a gas turbine that will fit diesel engine mounts in existing units.

The tone of the little booklet was familiar. It read like the engineering papers circulated in the 1930s by Alco, Baldwin, and Lima — the arguments that diesels were getting by on false statistics, that diesels should stay in the yard, that steam could undercut in overall cost any road diesel economies. In 1950, was

Electro-Motive talking sense or making the same error of the steam builders? Nobody could intelligently call the cards last year, except to say that Mr. Dezendorf had published only one side of the question.

The opposing view was wrapped up in a surprise Union Pacific order for 10 gas-turbine freight locomotives, filed in December with Alco-GE. The road announced the purchase on the basis of tests with the 4,500 h.p. double-ended experimental gas turbine outshopped by GE’s Erie (Pa.) Works in 1948. Except for brief trials on the Nickel Plate, the unit had been toting tonnage over the UP ever since; it had operated 80,000 revenue miles and chalked up 5,000



Long Island CPA20-5 No. 2003, a 6-month-old, 2,000 h.p., five-axle example of Fairbanks-Morse’s Consolidation Line, nears Jamaica with a train from Ronkonkoma in December 1950. Edward Theisinger



Talk that the Milwaukee might pull the plug on its two electrified districts was silenced when the road bought 12 big motors GE had built for Russia. Two of the “Little Joes” and a Geep hold the siding at Martinsdale, Mont., in 1958. Frank and Todd Novak collection



Experimental Alco-GE gas turbine No. 101 hauls a dynamometer car and a freight at Blasdell, N.Y., during a test run on the Nickel Plate. UP’s order for 10 similar units underscored the gas turbine’s role as the diesel’s biggest challenger in 1950. Franklin E. Gnau

hours on its power plant. Its performance had been extremely fine for an untested (except in Switzerland), still largely theoretical motive-power idea. Unofficial reports from its Los Angeles–Las Vegas shakedown stated that it was handling more tonnage than a 4,500 h.p. diesel, displaying excellent adhesion traits, holding repair costs down, and operating reasonably well at all altitudes and in tunnels.

Skeptics pointed out that UP had experimented before (with the distillate-engined

M-10000 streamliner and two big GE steam-turbine electrics, both since junked). They said the 10 new units would have to be single-ended because fumes leaked into the rear cab of the prototype and prohibited anyone from riding there. The size of the turbine meant no space in the carbody for a steam generator, the critics continued, and that, plus excessive exhaust noise, had dictated the freight assignment of the new machines.

UP’s new gas turbines will weigh 253 tons

each, measure 83 feet 7½ inches long, and ride on a B-B+B-B wheel arrangement. They will be geared for 65 mph and carry interchangeable control equipment and traction motors with Alco-GE diesels. They will be single-ended. Their overall performance on the Overland Route will help to evaluate the text of EMD’s pocket-sized booklet.

Alco-GE made other strides. Its share of the market rose to 17.3 percent, and the horsepower ordered from Alco-GE more than tripled in 1950 — from 369,060 to 1,034,720. The cab units rolling off the line at Schenectady looked like the flat-nosed jobs first built in 1946 for Santa Fe passenger trains and GM&O freights. But horsepower per unit had been increased from 2,000 to 2,250 for passenger units and from 1,500 to 1,600 for freighters. Improved traction motors were responsible; they were cited as ideal because they would slip when overloaded rather than stall and burn out. Also, Alco-GE took a page from EMD’s book and offered a dual-service 1,600 h.p. unit; as 1950 ended, two demonstrator quartets were making the rounds.

BALDWIN + LIMA-HAMILTON

The mass dieselization of 1950 had its most striking corporate effect upon Baldwin



Budd's Rail Diesel Car, introduced in 1949, found several buyers in 1950. An early customer was Pennsylvania-Reading Seashore Lines, whose Camden, N.J.-bound train 314 enters the line from Atlantic City at Winslow Junction in May 1954. Frank Kozempel

and Lima-Hamilton. They became one. Before Electro-Motive had deserted gas-electric doodlebugs for diesel locomotives, both Baldwin and Lima had been great in their own right. Even into the 1940s, the steam talent of each threatened to outmatch the other. While Baldwin turned out daring duplex-drives, Lima amazed even itself with the mighty 2-6-6-6.

It took too long for both firms to realize that steam was no longer in the saddle. hindsight records that in 1946 two choices presented themselves: (1) Lima could have built its super poppet-valve 4-8-4 and Baldwin could have sent duplex-drive demonstrators on a nationwide sales junket. Or (2) both builders could have paid the high cost of being late to the party, as Alco did. Schenectady forsook steam in 1946, blueprinted standard 1,500 and 2,000 h.p. units, then mass-produced diesels behind the battering ram of a powerhouse advertising campaign.

For its part, Baldwin tried to straddle the fence, as Alco had done before World War II. The divided-camp strategy did not catch fire, because the Pennsy T1 duplexes that Baldwin championed in ads were being whipped on the road by Electro-Motive diesels, and because the string of custom diesels Baldwin built were expensive to produce and no match for EMD in dependability. The steam engines Baldwin delivered between VJ Day and Korea were few in number and orthodox in design; its diesels ranged

from 2-D+D-2 single-unit 3,000 h.p. jobs to double-ended commuter units; and a gas turbine ordered by Santa Fe lost more and more time in engineering. Finally, Westinghouse bought a controlling stock interest and shook up Baldwin's high command.

Lima came out of the war beating the drums for steam, but unwilling to do much more about it than solicit orders. Simply saying "steam has its place" did not fill the bill for Lima's onetime major customers like Southern Pacific, NYC, and Erie. Merged in 1947 with Hamilton, maker of diesel engines, Lima swallowed its pride to the extent of a line of switchers. Mass dieselization meant a market, of course: LH supplied 16,000 horse-

THE PERFORMANCE OF ALCO-GE'S GAS TURBINE WAS EXTREMELY FINE FOR AN UNTESTED, LARGELY THEORETICAL MOTIVE-POWER IDEA.

power in 1948, 43,000 in 1949, and 168,700 in 1950. Then it sold out to Baldwin.

Baldwin-Lima-Hamilton had (by 1950's sales) 12 percent of the diesel market, widespread duplication of product in the switcher field, two big plants, and control by Westinghouse. It was hardly a happy wedding for the oldest builder in the U.S. and the firm that built its name on Shays and Super-Power.

A pair of 2,400 h.p. cab units carried the high hopes of Fairbanks-Morse around the

nation in 1950. Both were passenger demonstrators, FM's first Consolidation Line locomotives. Nos. 4801-4802 handled Rock Island's hard, fast Chicago-Tucumcari schedules, Milwaukee Road *Hiawathas*, Pennsylvania Blue Ribbon runs between Chicago and Harrisburg, and even NYC's *20th Century Limited*. They homesteaded a while on the Long Island until LIRR's own C-Line units were delivered, then traveled north for an exhaustive New Haven workout. After that, Nos. 4801-4802 crossed the border as salesmen for Canadian Locomotive Co., FM's newly acquired Dominion affiliate.

The high-powered pair performed admirably; just how much they had impressed railroad men was a question that would be answered in the order books of 1951. Meantime, yard engines and road-switchers were responsible for the bulk of FM's trade. Fresh customers, including Katy, Frisco, New Haven, Southern, and B&O, helped make sales three times better than in 1949.

As a rule, Westinghouse has been a supplier rather than a builder in the locomotive business. Virtually all of the Baldwin, Fairbanks-Morse, and Lima-Hamilton diesels produced in 1950, for example, were equipped with Westinghouse electrical equipment. But Westinghouse made headlines in its own right. It completed a heavy-duty gas turbine and promised that after factory tests, the passenger unit would undergo lengthy road



In 1950, the Nickel Plate had diesels in passenger and yard service, but relied on Berkshires for its bread-and-butter fast freight traffic. One of the 2-8-4s hurries stock, box, and refrigerator cars over the viaduct at Painesville, Ohio, in 1957. Frank and Todd Novak collection

service. Then Westinghouse made public certain facts about the two experimental electric freight locomotives it is building for the Pennsylvania.

In PRR's new electrics, Westinghouse saw a possible forecast of more railroading by pantographed power, thanks to a pencil-sized rectifier tube. The Westinghouse-developed rectifier setup was tested successfully on a Pennsy multiple-unit coach. Theoretically, rectifier locomotives would push diesels of equivalent rated horsepower into the shade and even top the performance of a GG1 by a wide margin. But the biggest promise of rectifier power was not performance but cost; by eliminating the need to reduce commercial 60-cycle juice at substations down to 25-cycle (so that A.C. traction motors would not be burned out), it made an investment in electrification far more attractive to far more railroads.

The national emergency of 1950, with its government controls, afforded a poor climate for mainline electrification talk. But possibly by the time railroaders had digested the road tests of PRR's rectifier units, Westinghouse would be ready to blueprint catenary over the Rockies and the Great Smokies, and maybe around Horseshoe Curve.

Elsewhere in electrification in 1950, the Milwaukee Road threw cold water on predictions that its two juice districts were doomed to diesels. After lengthy tests with one of the streamlined locomotives originally built by GE for the Soviet Union, the Milwaukee bought 12. In August the first of the "Little Joes" (as they were nicknamed by CMStP&P men) showed up at the road's shops in Milwaukee for new paint, and now they're at work in Montana and Idaho.

THE STEAM SHOW OF THE YEAR, OUTSIDE THE POCAHONTAS COAL-FIELDS, WAS ON THE UNION PACIFIC ACROSS NEBRASKA AND WYOMING.

Not unexpected was the fact that atomic power thinking overflowed into railroading. Back in 1945 there was a report circulated about an atomic locomotive. New York Central had donated a 4-6-4, so the story went, and a Rochester, N.Y., factory was converting it into a fission flasher. Indeed, the report is still heard and the Central is still emphatically denying it. More to the point was a recent editorial in *Railway Age*, pointing out the fact that existing atom-smashing equip-

ment is far too large to meet railroad clearances. An answer for the atomic enthusiasts appeared to be the atom power plant to generate juice for electrified lines.

STEAM IN THE SADDLE

The steam show of the year, outside of the Pocahontas coalfields, was on Union Pacific's main line between Council Bluffs and Ogden. UP operated one of the biggest diesel fleets in the nation, but its units had been largely confined to the Los Angeles Division and the line to Oregon.

Only the occasional passage of a diesel streamliner sounded a discordant note in the steam symphony played out by UP's impressive engines. Along its well-ballasted main in Nebraska, light Mikados waited on sidings with wayfreights while long-boilered 2-10-2s bellowed through at 45 mph with transcontinental tonnage. Now and then the motorist on parallel U.S. 30 could see three freight drags waiting in line for a chance to spot their power under a coaling tipple. Farther west, 4-12-2s thundered to a three-cylinder beat as they marched along to Cheyenne. A trace of smoke on the prairie's rim would become a black blob, then the speeding bulk of a twin-stacked, smoke-



N&W class J No. 611, first of the three 4-8-4s Roanoke built in 1950, brings the westbound *Tennessean* down Blue Ridge Grade at Bonsack, Va., in 1956. The Js of 1950 would be America's last 4-8-4s, and 611 would be reactivated for excursion service twice, in 1982 and 2015. Bob Krone

deflectored 4-8-4, running the *Gold Coast* eastward as fast as 80-inch drivers would roll.

UP's heaviest power could be seen on Sherman Hill. It was superheated steam working through the four-cylindere running gear of 4-6-6-4s and 4-8-8-4s. It was steam working freight on the busiest railroad crossing of the Continental Divide. It was splendid.

But it was not typical. American railroads scrapped 400 steam locomotives a month in 1950; rare even was the division that did not mix steam and diesel power to handle its traffic. The 25,415 steam engines that remained on duty last year were giving poor fuel efficiency, too. Certified claims that good coal, properly fired, could save millions annually, had fallen on deaf ears. The fact that in 1950 Chicago & North Western's rebuilt class H-1 4-8-4 No. 3004 completed 360,000 miles without classified repairs (and was good for another year of service before shopping) caused no stir, either. Apparently the problems and discussions of traction motor rewindings and fuel injectors and superchargers left no time for further steam power progress.

It was too early to chalk steam off the roster. For one thing, steam had another war to wage. Across the West, Korea meant more steam action. Western Pacific found it necessary to violate the all-diesel law of its Eastern Division with steam now and then as traffic



UP's Overland Route main line was one of the top steam shows of 1950. In a photo from around that time, a 2-10-2 heads west across Nebraska with reefers. Linn H. Westcott

surged. Union Pacific assigned steam helpers to Cajon Pass. More Santa Fe 2900-class 4-8-4s showed up in the Los Angeles area.

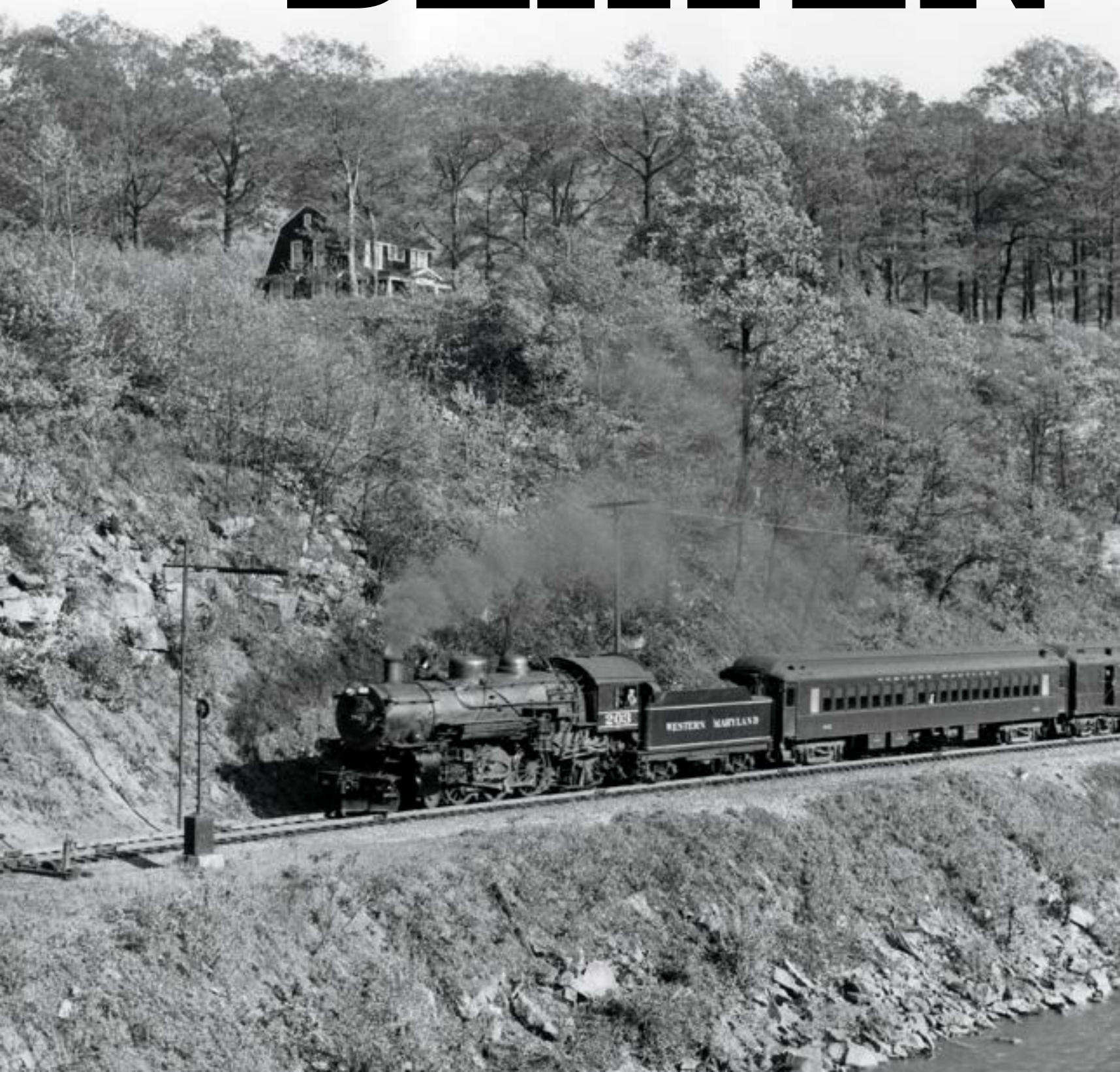
Steam was possibly important to the national emergency in another way. An old drifter standing before the Southern Pacific passenger station at Modesto, Calif., caught the idea as he watched a 2-10-2 lean into the job of moving reefers north. She was just a dirt-caked 3600, but as she exhausted past, he said spontaneously to a bystander, "I bet a lot of boys in Korea would like to see a Baldwin right now." And in a moment, as the 3600 blew for one of the crossings that plague the SP in Modesto, "Bet they'd like to hear that deep whistle, too."

Across an America gearing up for a vague, dark, uncertain tomorrow, there were most likely a lot of people who unconsciously liked the sight and sound of steam. It was a good sight and a confident sound. ■

DAVID P. MORGAN joined the *TRAINS* staff in 1948, became the magazine's editor in 1953, and retired from that position in 1987. During his 33 years at the helm, Morgan authored many hundreds of articles, from brief but evocative essays to 10,000-word studies of contemporary operations to the monthly "News and Editorial Comment" section. This story was his third annual "Motive Power Survey." Morgan died in 1990 at age 62.



Off the **BEATEN**



PATH



Left: Looking as it did the day author Kalmbach rode it in the opposite direction the previous year, WM's Elkins-Cumberland train follows the North Branch of the Potomac near Westernport, Md., in June 1952. Above: About 50 miles down the line, Pacific 208 on the eastbound train rounds a sharp curve in Black Fork Gorge, a few miles west of Thomas. Left, H. F. Houck; above, Wayne Brumbaugh

The Western Maryland southwest of Cumberland, Md., is a wild land of 3.8-percent grades, 22-degree curves, and 10-engine trains

BY A. C. KALMBACH

Now I have seen everything. I feel like the boy who went to the zoo for the first time. His father asked him if he had seen the giraffe and he said, "Yes, I have seen the giraffe, but I still don't believe it."

I have just traveled through virgin, undeveloped country in the midst of a mountain range. I rode to the remote end of a branchline railroad and there transferred to a remote branch of another railroad and went on through to its main line. I traveled along the precipitous rock walls of a gorge that must be 1,500 feet deep over a grade that hit a maximum of 3.8 percent. I saw 100-car freight trains moved by 10 locomotives. I saw a branch line with curves so sharp that two 60-foot cars cannot be coupled together without a 40-foot car in between to ease the angle of the coupling. I

rode on a railroad that meets itself coming back, over a junction layout so weird that if a model railroader built it, his rail-wise friends would say, "It's OK to use your imagination, but at least be plausible." And I traveled on a mixed train that adheres to schedule so faithfully that it makes a 10-minute connection.

All of this was not out in Colorado, nor in the high Sierras, nor was it in New Zealand or Australia, or some place like that. It was only a couple of hours from the biggest cities of the eastern seaboard between Cumberland, Md., and the Chesapeake & Ohio main line at Roncverte, W.Va., using Western Maryland and Chesapeake & Ohio, via the junction at Durbin, W.Va.

We're inclined to think of the Western Maryland as the main line from Cumberland to its immense marine terminal at Port Covington in



Black Fork Gorge, May 16, 1952: In a sequence of three photos, seven 2-8-0s — two up front, three at midtrain, and two ahead of the caboose — urge a 78-car eastbound train up the twisting grade toward Thomas. Three photos, Edward Theisinger

Baltimore, with a branch over to Lurgan, Pa., where it joins the Reading for Philadelphia and New York. West of Cumberland, the line splits two ways — northwest to Connellsville, Pa., where it joins the Pittsburgh & Lake Erie and the Pittsburgh & West Virginia, forming with the latter, part of the “alphabet route” for through merchandise freight; and southwest to Elkins, in the heart of the West Virginia coal country. I knew vaguely that there were a lot of branches down that way.

So I figured it would be fun to ride the WM from Cumberland down into the coal country, and because there’s no rail service out of Elkins over the Baltimore & Ohio, I had looked up bus connections to see if I could get over to B&O’s Grafton–Charleston line and so work my way over to the C&O. However, my eye caught a WM branch out of Elkins down the ridge of the Alleghenies to Durbin, where it connects with the C&O. “It would be too much to hope for passenger service connecting along the route,” I thought, but I checked the *Official Guide* anyway. Eureka! Western Maryland listed a mixed train to Durbin, and the C&O listed a motor car out of Durbin 10 minutes later.

Still unbelieving, I wrote to the Western Maryland to see if the connection would hold, and was informed that it was good. Thus on Friday, February 23, 1951, I was in Cumberland, boarding WM train 1 to Elkins at 7:01 a.m. It’s a two-car train: one combination RPO baggage/express car, and one modern steel coach, pulled by a Pacific. We paralleled the B&O’s original main line along the

north fork of the Potomac River as far as Keyser, where B&O begins its famous Seventeen Mile Grade into the mountains. We continued southwest through relatively undeveloped valleys until we ourselves started to climb.

The engine worked harder and harder, and we rose from a misty, drizzly, warmish day into a sub-freezing landscape flecked with snow. Far up on the opposite side of the valley I could see a track rising in the direction opposite the one we were on. It turned out to be the same track, the first of many long hairpin curves by which we ascended to



the Allegheny Divide. As we passed the wye for turning helpers and the exhaust slacked off to indicate that we were over the summit, we stopped in Thomas, where a mine tippie crowds the tracks practically at the passenger station. I had heard of the Thomas grade on the Western Maryland — this was to be it! In the 10 miles west of Thomas, the track drops more than 1,000 feet with maximum grade of 3.8 percent.

I’d also heard tales of as many as eight engines lifting coal trains up this grade. The prevailing direction of coal movement is eastward, and that means the loaded trains



WM Pacific 207 waits as train 1’s baggage-RPO is loaded at Thomas on April 29, 1951. From here, at an elevation of 3,000 feet, it’s downhill to Black Fork Gorge. K. F. Merlin



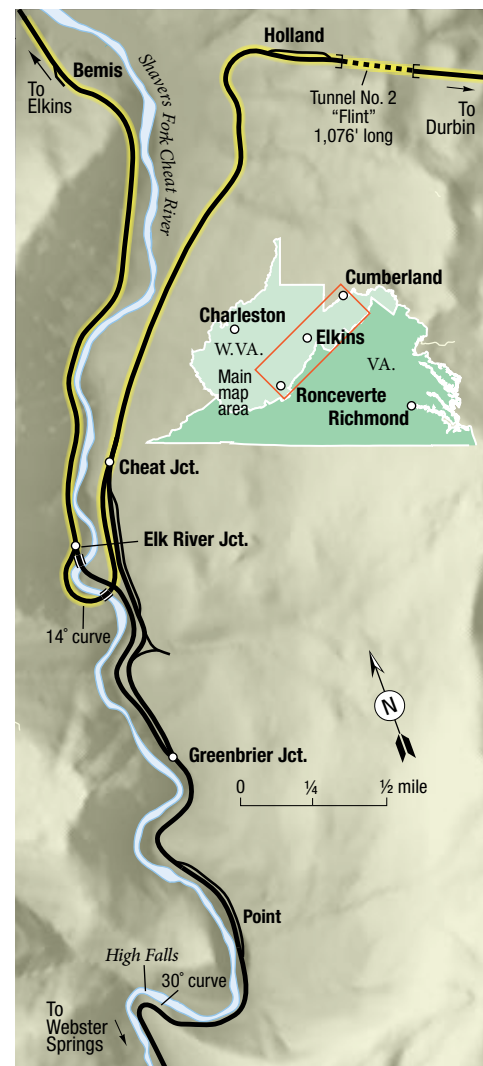
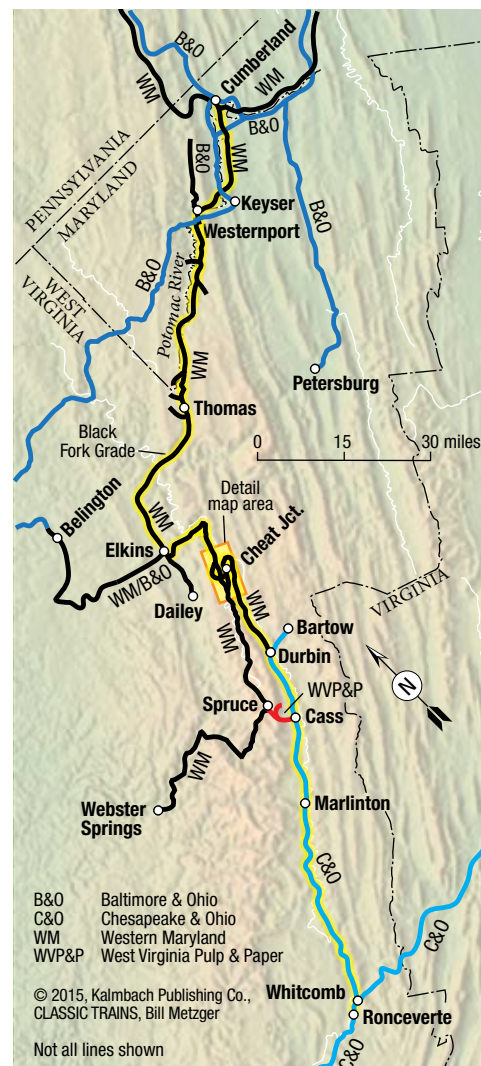
have to climb the 3.8 percent — to say nothing of going around the 22-degree curves. A track supervisor whom I met on the train confirmed the eight engines and said it is often 10, approximately one engine for every 10 loaded cars. Heavy Consolidations are used. Half the engines are put in the middle of the train, and the remainder are divided between the front and the rear, thus distributing the drawbar strain. The engineers use whistle signals and observation of the slack action to coordinate starting and stopping.

I was prepared to see a lot of locomotives moving freight up the grade, but what I wasn't prepared for was the spectacular railroad construction and the spectacular nature of the country. I wasn't prepared for a gorge that must have been 1,500 feet deep. I wasn't prepared for sheer rock walls, for waterfalls, for a completely wild and isolated right of way that can't be reached by road and that showed no signs of civilization except the railroad. It's terrific. People go a couple of thousand miles across the United States to see something like this, and here it is, where Easterners can use it for a Saturday jaunt. (There is no Sunday train service, but weekdays there is a round trip between Cumberland and Elkins in both directions.)

Elkins has a busy engine terminal adjacent to the passenger station. The mixed train for Durbin stands on a stub track right across the platform from the arriving Cumberland train. It leaves as soon as the mail and express is transferred.

The consist of train 153 out of Elkins was a Consolidation, a modern steel combination car, one gondola, and a caboose. Mixeds often start out from the passenger station without much of a train, then stop in the yards to pick up. They also are inclined to pause along the line for heaven-

West Virginia odyssey, AND THREE JUNCTIONS IN ONE





Well-tended WM Pacific 153 stands beside the C&O-WM station at Durbin with train 53 from Elkins, when it was still a passenger train, not a mixed as when Kalmbach rode it in February 1951. Robert F. Collins



Having dropped its freight cars and caboose outside of town, WM 2-8-0 No. 750 has pulled into the Durbin depot with mixed train 153's combine on April 29, 1951. After the WM train moves out, the C&O motor train will take its place at the platform. K. F. Merlin

knows-how-long to handle the local freight work. If I hadn't been assured that this mixed train would positively make the connection with the C&O at Durbin, I would have had my misgivings right then. But I got on and we left town and kept right on going. We pulled that one gondola all the way to Durbin. Not one pick-up or set-off did we make, and I didn't see much of anyplace where we could have added or dropped any

cars. Most of the country is national forest. Some of it has been logged over, but on the whole it is just as barren of man and his works as it was hundreds of years ago.

However, there is one extraordinary work of man along the line. That is Cheat Junction, where the branch line to Webster Springs diverges. That's a coal branch, and if there's any place in the eastern United States where more engines are needed than on the Thom-

as grade, it's around Bergoo on this Webster Springs line, where 10 engines are also common. It is on this particular branch, too, that Western Maryland has 32-degree curves, so severe that two 60-foot cars cannot be coupled together without derailling.

On a map of West Virginia, the Webster Springs line diverges to the right at Cheat Junction. So, as we neared the spot, I was surprised to see a line swinging away from us toward the left. Then we swung counter-clockwise around a horseshoe curve, bridged a fork of the Cheat River, and crossed that diverging line on a 90-degree diamond. A half mile later, we came upon another junction — and I found that this was a track also connected with the Webster Springs line.

This is the railroad that really meets itself coming back! I later found out that the second junction — Cheat Junction — was the original connection between the two lines when they were owned separately. And that when Western Maryland bought the Webster Springs line, it cut through the new junction — Elk River Junction — and crossing down below for a better connection.

In this area it is Nature that is supreme, not the railroad. The trainmen, like many railroad men on country lines, were great lovers of the outdoors. They were full of talk about deer they had seen and fish they had caught. They showed me dams built by beavers, and beaver houses in the little ponds



behind the dams, and they discussed the destructive effects of the beavers upon timber and other wildlife.

The run finished downgrade into a wye that joins the C&O branch at Durbin. As we swung around curve after curve on the well-built, carefully maintained track, I noticed water on the rails and inquired if the locomotives were equipped with a washer to take sand off the rails and, if so, why it was used on the downgrade when sanding the track was obviously unnecessary. "To lubricate the curves," replied the conductor. This was really a new technique to me.

Durbin is an important junction, considering its remoteness. At various times in the recent past, as many as 250 cars of freight a day have moved from Chesapeake & Ohio to Western Maryland via this Durbin route. It is, after all, a connection across the backbone of the Alleghenies from one of the country's major main lines to another. But Durbin itself is certainly unimposing — hardly anything but a railroad

station and the barest of service facilities.

The C&O motor train is a two-car affair: both cars have half passenger space, and the front car also handles mail and baggage while the rear car handles express. It looked like a lot of train for a branch this size. But farther down the line I found the valley more populated, and we passed through towns with county fairgrounds, summer camps, sawmills, and cattle. The train crew told me that often the passenger accommodations are full and sometimes the load in the express car is heavy as well.

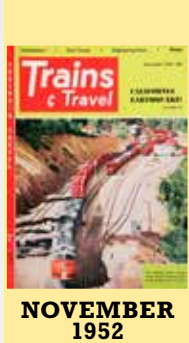
We were now along the Greenbrier River. The valley grew more softly beautiful. The baggage man spotted cardinals in the trees, although by the time I looked they were always gone. Spots of green were beginning to appear here and there in spite of the murky February weather. This was a delightfully pastoral part of the ride, in complete contrast to the rocky aboriginal canyon of Black Fork out of Thomas.

The trip over the Durbin route ended as we swung into the C&O at Whitcomb, a

Shortly before departure from Durbin on February 23, 1951, the crew of C&O train 143 eyes the traveler from Milwaukee as he takes their photograph before riding with them down to Ronceverte. A. C. Kalmbach

couple of miles east of Ronceverte, and pulled briefly down C&O's heavily traveled main line to Ronceverte station. We passed a 10,000-ton coal train climbing in the opposite direction toward the summit of C&O's mainline Allegheny grade. In Ronceverte engine terminal, as a fitting climax to a day of fantastically different railroading, I saw a hefty-looking old 2-6-6-2 Mallet assigned to work-train service! ■

ALBERT C. "AL" KALMBACH, a Milwaukee printer with a passion for railroads of all sizes, launched THE MODEL RAILROADER magazine in 1934, followed by TRAINS in 1940. "A.C.K." was publisher of TRAINS and chairman of the board of Kalmbach Publishing Co. at the time of his death at age 71 in 1981. Today the company he founded publishes 14 print magazines and a variety of digital content.



A day on a **WIRE TRAIN**

The men who maintain the New Haven's 531 miles of catenary are harassed by garlic and blacksnakes!

BY **BRUCE OWEN NETT**
PHOTOS BY THE AUTHOR

Travel the New York, New Haven & Hartford from New York City to New Haven, Stamford, or Danbury, Conn., and you ride under the copper catenary of an 11,000-volt electric propulsion system. Your train glides along, its pantograph drawing down the invisible power that courses through the thin strands strung tight above

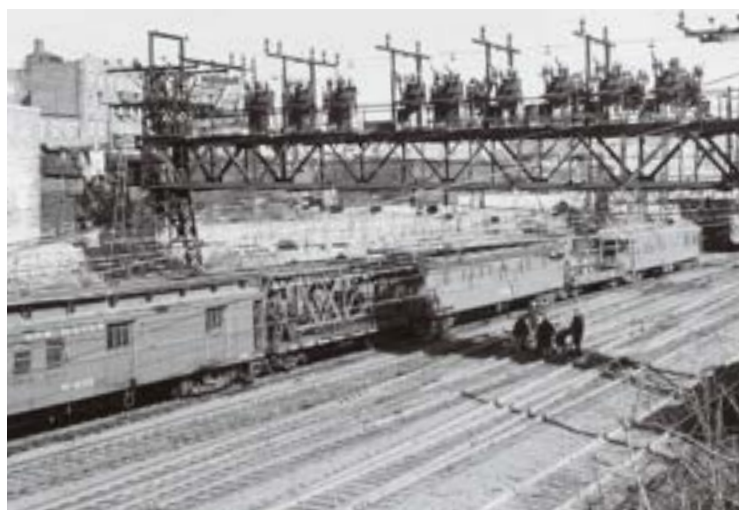
the track. Most likely you and your fellow passengers don't concern yourselves with this web of 531 track-miles of wire. You take it for granted, for it seems to be an integral fixture of the railroad.

But to two unglamorous, businesslike New Haven trains, the catenary is a constant source of employment. These are the wire trains, the guardians of the copper strands

that the road depends upon to run its trains. It is their lot to maintain and repair the catenary that hangs over 356 miles of main line and 175 miles of sidings and yard tracks. (It's a measure of the density of NH's operations that the road's electrified zone totals only 107 route-miles.) And they must oversee another 820 miles of feeder and ground wires, 1,360 catenary bridges above the



An Alco S1 switcher leads the bright red wire train on the New Haven main line at Pelham, N.Y., as a freight approaches in the distance.



The New Rochelle wire train stands near Oak Point Yard in the Bronx, in position to replace a transformer on a catenary bridge.



One of the train's old baggage cars is fitted with a rooftop platform on which crews can stand while working on the catenary.

tracks, 1,000 steel supporting poles, and 457 oil circuit breakers. Working out of New Rochelle, N.Y., and Bridgeport, Conn., these wire trains have their jobs cut out for them. The trains are similar and they keep similar hours — all hours, every day, regardless of the weather.

The New Rochelle train consists of an orange-and-green diesel switcher, a veteran

baggage car used to carry materials, a flatcar on which is mounted a retractable work tower, another old baggage car fitted out as a machine shop, a second flatcar bearing reels of wire, and a coach that is the office for the wire crew and trainmen.

The day crew has just come on duty at 8 a.m. Foreman William Hough explains the first assignment — go down to Oak Point

Yard on the Hell Gate Bridge line and replace a signal transformer. "It should take about four hours if we don't run into trouble," he estimates.

As the train rolls along, the foreman explains the general maintenance procedure for the catenary. Each year the crew makes a minute inspection of every wire and pole in its territory. The list of necessary repairs is



Conductor Frank Wenisch confers with the dispatcher by telephone before the wire train leaves its base at New Rochelle, N.Y.



The wire train contains a full workshop. Here, Steve Bettendorf burns a hole in a metal strap used to hang the new transformer.



Up on the rooftop platform, a crewman works on a messenger wire, from which the contact wire, or trolley, is suspended by a series of hangers. The messenger wire hangs from two points in the form of a catenary curve, giving the whole overhead system its name.

given to the crew's supervisors, who assign a priority to each item. A job labeled "A" merits immediate attention; a "B" job is to be done within the year; a "C" priority is for work to be done if time permits. If the crew doesn't get to a "C" job within the year, the work will automatically have a "B" priority the next year. "A" jobs are further classified: "Axxx" is of emergency nature, and "Axx" and "Ax" jobs are of second and third importance, respectively.

In addition, the wire crews have a host of other duties — lubricating trolley wires, making inspections, installing signals, and such miscellaneous chores as cutting down intruding tree branches or finding something that a passenger dropped from a train.

"And then there are the emergencies!" declares the foreman. "When there's a break or real trouble in the electrified zone, everybody and his brother starts hollering for the wire trains. The dispatchers give us the right of way and we head for the trouble zone."

The causes for emergency runs are countless. Multiple-unit commuter trains have been delayed by short circuits caused when a child's wet toy bear, falling from above the track, grounded a pantograph to a car roof. Wet newspapers, umbrellas, and tin cans thrown down on trains have brought all

Wire train foreman William Hough (right) hands out "log slips" to the men who are about to work near the catenary. The slips signify that the wire has been de-energized.





High up on the catenary bridge (upper left), crewmen begin lowering the old transformer, assisted by others on the ground (lower left). With the old unit down, the replacement transformer is hoisted out of one of the cars (above).



backs into a siding, which used to be the main line of the defunct New York, Westchester & Boston. As the wire crew prepares to replace the transformer, the sequence of events begins that keeps the safety record of the Electrical Transmission Department of the New Haven outstanding in spite of the overhead's 11,000 volts.

Foreman Hough calls the load dispatcher, who de-energizes the particular section of line the crew is working on. As a check against any stray juice, the crew raises a pantograph from the material car until it contacts the trolley wire and grounds it. Then a crewman hooks a "ground stick," a wired pole, around the trolley and fastens it to a rail.

Finally, Hough gives to each person who will work atop the train a "log slip" that tells at what time what wires have been grounded. Before current is returned to the wires, the foreman must personally collect the log slip from each worker. As long as a man has his slip, he knows the area is safe; as soon as it is taken away, he must consider it dangerous.

The foreman assigns two men to check a messenger wire directly above the train, and three to start taking out the old transformer. The men climb onto the platform high on the signal bridge and remove the wires from the weathered metal case. They lower the heavy unit to the ground with a block and tackle, boost the new transformer out of the mate-

traffic to a halt. Short circuits, grounds, and "flashovers" have resulted from icicles, water dripping from a highway overpass, and squirrels and birds venturing where they didn't belong.

"Remember when the two blacksnakes burned the wires at Phipps Lake Bridge in West Haven?" recalls one of the crew.

"That's nothing," replies the foreman. "I remember when someone threw a string of wet garlic over the wires and it burned

through two messenger wires and a trolley!"

One of the wire-train crews' biggest headaches is salt, which is an excellent conductor of electricity. Highway crews use it to melt ice. Sometimes saltwater will drip down through an overpass, hit the wires, and cause a short circuit. Such goings on have forced the wire crews to install metal "umbrellas" under highway bridges to ward off the salty drippings.

The wire train arrives at Oak Point. It



Smooth operation of electric trains — exemplified by EP-3 No. 352 near Bridgeport in 1961 (top) and multiple-unit cars east of Stamford a decade earlier (above) — is the objective of the New Haven's wire trains. Top, John Dziobko; above, H. M. Stange, Krambles-Peterson Archive

rial car and up into place, and connect it back into the signal circuits. The job is finished.

At 3:45 p.m. the wire train pulls into its base at New Rochelle, with just enough time left to unload the scrap transformer, put away the tools, and sweep out before the next crew takes over and the train is under way again.

Maintenance, repair — even emergencies — are routine matters to the wire trains.

“There’s been only one time when the wire train’s been in trouble,” one of the men relates. “Once a bull got out of a stock car, and through no fault of our own we slightly spread him all over the countryside. We reported to the load dispatcher at Cos Cob that we’d hit a bull, and darned if the story didn’t get around that the wire train had run over a policeman!” ■

BRUCE OWEN NETT, a native of northern New Jersey, was a World War II correspondent in the Pacific before launching a freelance photography business. His clients included the Lackawanna Railroad, American Car & Foundry, airlines, newspapers, and magazines, including TRAINS, where his photos and stories appeared in the first half of the 1950s. He died in Maine in 2000 at age 75.



JANUARY
1953

IT'S YOUR



Dispatcher Carl Donald makes an entry on his trainsheet in Deshler tower. Wallace W. Abbey



Both sides of the *Cincinnatian* called at Deshler after Donald's day shift ended. Here, southbound No. 53 brakes to a stop in 1955. Robert Caflisch, Helen Caflisch collection

RAILROAD!

This is your trick as a train dispatcher — sit down at the desk and for eight hours run a busy piece of the Baltimore & Ohio!

BY WALLACE W. ABBEY





The 2-10-2 on the point of northbound time freight 94 passes between the Deshler passenger station and DR Tower, which houses both a local operator and the Lima-Toledo dispatcher, as it bangs across the Chicago Division in 1952. Wallace W. Abbey

Your name is Carl Donald. You are tall and thin, you wear glasses, and you talk with the dry, drawled colloquialisms of the farm belt. By profession you are a train dispatcher for the Baltimore & Ohio Railroad.

You work in Deshler, a bucolic Ohio community whose principal source of activity is the crossing of B&O's Toledo and Chicago divisions. You work the relief job — two days from 7 a.m. to 3 p.m., two evenings from 3 p.m. to 11 p.m., and one night from 11 p.m. to 7 a.m. You dispatch 108 miles of railroad.

You run the Third Subdivision of the Toledo Division, the 71 miles of single and double track between Toledo and Lima that forms part of the busy route connecting Lake Erie with the Ohio River at Cincinnati. You control 58 miles of it by Centralized Traffic Control, the rest by train order. You also handle the 19-mile Bowling Green Subdivision, a cutoff for business moving between Toledo and the East, and the 18-mile Findlay Subdivision, a branch line from Deshler to Findlay.

The trains you move depend to a certain extent on the trick, or shift, that you're working, but in general the Toledo Division transports local and through passengers, many on the streamlined *Cincinnatian*; through gen-

eral freight of a highly competitive nature; local freight; and coal northbound and iron ore southbound. It's all done with steam locomotives, and you are the boss.

The tools you use to plot time, tonnage, and distance are many. You use telephone or telegraph to communicate with station agents, telegraph operators, towermen, and others up and down the line. You use a fountain pen, a lot of paper, a typewriter — and you use your head. You know the physical and operational characteristics of your railroad as you know the bumps in the road between your house and the store. You know your engineers and conductors and operators, their personalities, their abilities to help you in a pinch, their favorite spots to hunt and fish.

You know as a matter of course that your main line slopes gently downward from Lima to Toledo, but that Ottawa sits in a sag. Consequently, you think twice before you head a northbound freight into Ottawa siding, knowing that he might have trouble getting started on the hill. You know that Weston siding will hold 160 cars, that one of your big 2-10-2s will lug 10,000 tons northbound over your territory but only 7,500 tons southbound. You use these and countless other facts to make what you regard as gambles, but which are actually highly accurate

and invariably safe decisions.

You, as a train dispatcher, are charged with tremendous responsibilities. Yours is the job of controlling the transportation of expensive freight and priceless lives in vehicles of great speed and power. Your superior is the chief dispatcher; his boss is the division superintendent. The pressure on you has led a doctor to state that as much is required of you as of a general in battle.

You go to work those two mornings at 7 a.m. — about the time a Chicago Division local passenger train chuffs away from the depot, moving west with a head start on the sun. You climb the steep narrow steps in a tower similar to towers the country over, pass through a swinging gate designed to separate the public from the working railroad, and walk behind the desk of the Chicago Division operator and into the dispatchers' semiprivate glass-walled sanctum.

You greet N. G. Coale, the dispatcher going off duty, and you sign the transfer as Coale stands and stretches. You scan the trainsheet and the CTC machine; you immediately and firmly lodge in your mind the vital statistics of the railroad which for the next eight hours you will run: train orders in effect, trains in your territory, trains to come, cars to move, unusual circumstances — a hundred and



Carl Donald sits before the CTC board from which he directly controls the signals and switches on the line between North Lima and the outskirts of Toledo. Wallace W. Abbey

one items which from long experience and training you have learned to absorb quickly.

Then you sit down at the desk in the shallow “U” formed by the CTC machine. You face the levers and twinkling lights of the electronic marvel that operates the switches and signals from ON Cabin up at Roachton to the end of the yard down at North Lima. Before you is the long yellow trainsheet, ruled with black, red, green, and purple lines not unlike an accountant’s work sheet, on which you will write an account of the train movements in your territory during the day. Beneath the sheet, built into the desktop, is an automatic graph that records on a slowly advancing roll of paper the passing of trains through key track circuits. To your left is the selector you use to ring your agents and operators; before you is the phone mouthpiece. The loudspeaker is close to your ear.

You are ready to begin work. Automatically you gear yourself to the ebb and flow of traffic, the moving of trains that you can actually see only in the few seconds that they pass beneath your windows.

TRAIN ORDERS, TIME CHECKS

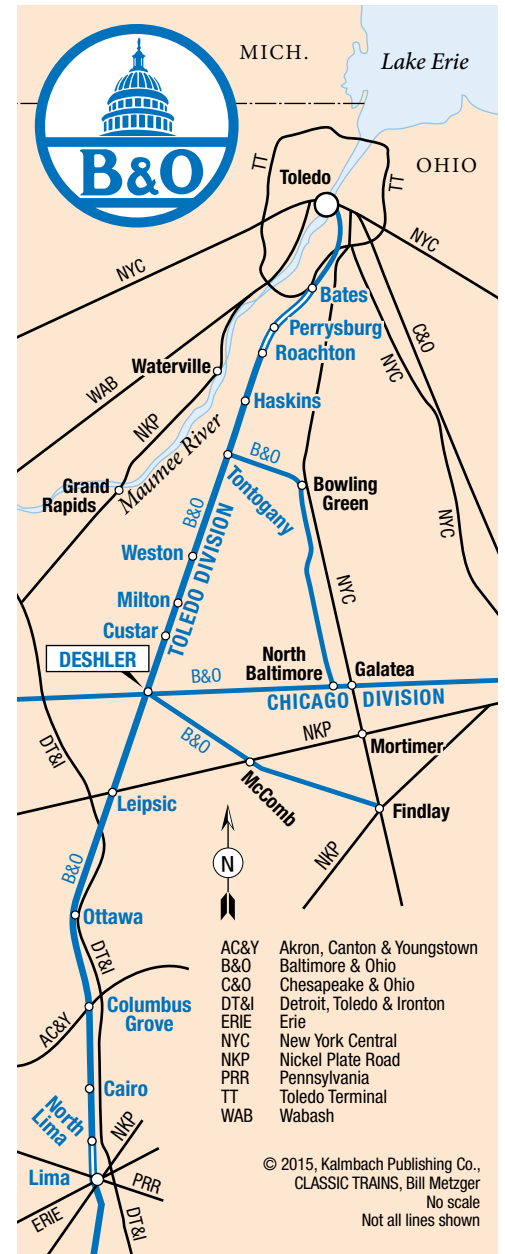
“Tontogany — Extra 5662 South, Tontogany 6:26, North Baltimore 7:05.” That’s the operator in the little cabin up at Tontogany,

the junction of the Bowling Green line, announcing over the phone that freight Extra 5662 South has passed out of your jurisdiction at North Baltimore. Its 28 loads and 34 empties are now in the hands of the Chicago Division. It was an easy move for you — in fact, Coale, the night dispatcher, did all the work. But how do you go about handling a train from its inception?

No. 85, the daily-except-Sunday southbound local freight out of Toledo, is a good example. You get your first word of 85 today when the roundhouse at Rossford Yard, B&O’s Toledo freight terminal, gives you the “board” — No. 85, engine 4618 (a 2-8-2), conductor Kinkle, engineer Mitchell, called for 8 a.m. The yard office tells you that 85 will have 63 loads and 15 empties, totaling 5,242 tons.

With this information you begin a new column on the left — the SOUTHWARD — side of the trainsheet, in the section reserved for freight trains. You know that although the crew goes on duty at 8 a.m. it will be 9 o’clock or later before No. 85 gets out of the yard and begins its halting trek down to Lima, pausing to set out or pick up cars as the day’s business dictates.

You see from the trains tabulated on the sheet that 85 will be able to do its work with-



out having to duck out of the way of through trains. One freight, the *Detroit Steel Special*, will come in off the Bowling Green branch sometime after noon, but you think that 85 probably will be south of Tontogany by the time the “Steel Run” shows up with its train of Pittsburgh products for Detroit’s automobile plants.

You’ll probably have to make an “end run” with passenger train 355 to keep it from being delayed by 85, but that decision you reserve for when 85 actually gets under way. Right now you’ve got a couple of other things connected with the local to do.

“Dispatcher, Columbus Grove!” The towerman at CG Tower, where your line crosses the Akron, Canton & Youngstown, is on the phone. “May I have a track car lineup?” The maintainer or section foreman wants to take his motorized scooter out on the line, and to



Train 355, the Toledo–Cincinnati day local, passes under the home signals protecting the Chicago Division diamonds as it pulls away from its Desher station stop. Ahead, a 2-10-2 backs toward its train after taking water from the standpipe at the station. Wallace W. Abbey

do so he must have information on train movements so he can stay clear of danger. You get down the book in which you record the lineups, and you write as you dictate.

"All right, it'll be lineup No. 2. . . . No. 84, engine 4600, called North Lima 10:30 a.m. . . . No. 85, engine 4618, called Rossford 8 a.m. . . . Extra 5589 South called Garrett 7:40 a.m. . . . No. 355, engine unknown, on time. . . . Line-up expires at 10:40 a.m., signature C.V.D." The man at Columbus Grove repeats it back to you, a check on accuracy.

Then a couple of your operators, the man up at Perrysburg and the fellow down at Leipsic Junction, come on the phone. They

sort of talk around you for a minute about grain boxcars. A shipper at Leipsic needs one, and Perrysburg has one to spare. You arrange for 85 to make the swap.

You're thinking again about No. 355, a four-car local passenger train that makes a daily-except-Sunday daytime run from Toledo down to Cincinnati, when Bates Tower up near the end of Rossford Yard sets up a play with a crisp OS: "Bates — No. 85 got out of the yard at 9:30 and went by the tower at 10 o'clock!"

"All right, OK" You push a combination of buttons on the selector and the mechanism grunts out a code. The bell rings in a

tower at Toledo. "Hello, JN — what's the engine on No. 355, please?" Engine 5207, the towerman says.

You get out the train-order book. You're going to run 355 down the "wrong main" from Bates to ON Cabin, and it means issuing a train order because this isn't CTC territory. You call Bates and Tontogany, and when they answer, you swing into the familiar routine of issuing the order, repeating and spelling station names, times, and numerals.

"Hello, Bates — make four on a 19; Tontogany — three on a 31. . . . Order No. 402. . . . Tontogany, to northward trains and the operator; Bates, to No. 355 and the operator



... No. 355 engine 5207 has right over opposing trains on No. 2 track Bates to ON Cabin. Signature C.V.D.”

You give the order to Bates on what’s known as a Form 19, the kind of order that can be handed up to a train without its having to stop. On the other hand, northward trains out of Tontogany are being restricted in their use of their regular track, so you issue the order to them on a Form 31, which must be signed for upon delivery.

Bates repeats the order, and you underline it in the book as he reads it. Then Tontogany repeats it; you underline your copy again and you complete the order to both stations at 10:13 a.m. You reach out and flip all the CTC signals between ON Cabin and Deshler to



Through the magic of Centralized Traffic Control, dispatcher Donald clears a signal that’s miles away from his office in the second floor of the Deshler tower. Wallace W. Abbey

clear, and the relays take up their clicking cadence as the coded impulses flit out over the wires. Now the passenger train can go right along with nothing in its way, and the local can switch as it desires. It’s a good move: No. 355 leaves Toledo at 10:10, passes 85 near Perrysburg, and is standing at the station in Deshler when the freight “hits the bell” at ON Cabin.

Every day in the three minutes before noon, Western Union sends the correct time over the wire. You get out your watch, check it and the standard clock on the wall with the steady *tick-uh . . . tick-uh . . . tick-uh* as the sounder taps out the seconds. You watch the hands closely as the sounder is silent through the final five seconds of the third minute and then sends the last metallic *tick-uh* right at noon. Then the wire resumes its incessant traffic of dots and dashes, and you compel the wall clock, which is in too much of a hurry, to give up three seconds. Time is one of your valuable allies, and you can’t let it get out of hand.

R AND L = RIVER AND LAKE

Some time ago, back when you first sat down at the CTC machine in Deshler, you learned a little local custom about its operation. The small levers that operate the way-side signals move either to the right or left of their normal vertical position. For instance, lever 26, which controls the signals at the north end of Custar siding, when thrown to

the left, allows a train to move on northward, and when thrown to the right, permits a southbound train to proceed either past or into the siding, depending upon which way the switch is set. You dispatchers think of a signal cleared to “R” as controlling a train bound for the “River” and a signal thrown “L” as permitting a train to go to the “Lake” — the Ohio River and Lake Erie, the extremities of the Toledo Division.

Your “River” and “Lake” signals and remote-controlled switch machines and up-to-the-minute information on the whereabouts of your trains are mighty wonderful things to run a railroad with — wonderful enough, in fact, that the B&O is installing CTC on the Second District of the Toledo Division, the adjoining section between Lima and Dayton. You can sit there in Deshler and “see” your trains move across your railroad, thanks to the lights on the track diagram. You can meet them and pass them; there’s no delay at switches and much less stopping of cumbersome freight trains. CTC can be a swell companion at times when you’ve got four southbound freights to meet one northbound passenger.

And that’s what you’re going to have in something more than an hour. No. 356, the northbound counterpart of southbound No. 355, is plugging along now over the Second District toward Lima — out of your reach, as yet, but playing a part in what you are planning. You have to weave 356’s Pacific and



The northbound *Cincinnatian*, just beginning to move out of Deshler, is missing its usual dressed-up Pacific on this July 1956 day, but engine 5316 is the mechanical equal of streamlined class P-7 sisters 5301–5304. Note the neatly landscaped grounds. Don Wood

four cars past four long freight trains.

Actually, you'll do most of the planning, and John Morris, the second-trick dispatcher, will be at the desk to see the project to conclusion. But now with No. 356 still about an hour away from Lima, you have these southbound freights in the picture:

- Extra 4410 South, a 2-8-2 with 130 empty boxcars moving from Willard, Ohio, over the Chicago Division to Deshler and then south on the Toledo Division. He's "on the bell" at Deshler.

- An interdivisional run from Garrett, Ind., known as 94-C, 4-8-2 No. 5589 with 77 cars, now finishing its switching at Deshler and ready to follow Extra 4410 South out of town.

- Extra 6157 South, 86 cars of iron ore and a 2-10-2, approaching Tontogany, where it will take water.

- No. 85, the local freight, now approaching Weston, where it will be passed by the ore extra.

You know that the local will get only as far as Deshler for 356, and that he'll bring up the rear. Between Deshler and North Lima you have seven sidings — two at Leipsic Junction, two at Ottawa, one at CG Tower, and two at Cairo. The Cairo sidings, you figure, will be too far south to do you any good, and a northbound freight is switching at Ottawa and has one of the sidings there full of his train. That gives you four passing tracks to stow three trains in.

"Dispatcher, Lima! No. 356, engine 5217, four cars, arrived 2:30 and got out at 2:47."

You record his "OS" report on the sheet and inspect the progress of your four freights by the red lights on the CTC track diagram. Your meeting points are chosen, but you

watch the trains' progress to see if they're going along as you thought they would. The train of empty boxcars is rolling through Ottawa; 94-C is coming at Leipsic Junction; the ore train has thundered through Deshler, its cars each chalked with the tonnage of the ore with which it is loaded; 85 has arrived at Deshler and its engine is standing under the signal bridge north of the tower.

Ping! The annunciator bell rings and a red track light comes on at North Lima on the diagram. No. 356 is in CTC territory. You reach for the levers on the machine. It's time to put the CTC to work.

The manipulations required of you to put the freight trains out of the path of the approaching passenger train are quite simple. The turnout at the end of each siding is controlled by a two-position lever that nicely fits between your thumb and index finger. The



For a few minutes while the CTC machine does not need his attention, dispatcher Carl Donald takes a break for a smoke. At his elbow is the long trainsheet, on which he records all movements past his location on the Toledo-Lima line. Wallace W. Abbey

signals operate in response to another lever, identical except that it has a center position to hold all signals red. You throw the switch levers and move the signal levers toward the "River" or the "Lake," and push the buttons under each set of levers that starts the CTC coding apparatus.

There is wild clicking among the relays as they interpret your commands and transmit them to the field stations. The turnouts throw over and the signals clear, and then the relay units in the field report, with more wild clicking, that they have completed their tasks. Yellow lights come on over the switch levers to tell you that they are reversed and locked; green lights tell you that the signals are beckoning your trains on to safe meets.

ALL SET FOR THE NEXT MAN

Now the second-trick man, John Morris, is signing the transfer, and it's time for you to quit. You stand up, take a last look at your trainsheet, and get your hat.

And down between Deshler and Lima, passenger train 356 finds three southbound freights paused momentarily or moving slowly through sidings, waiting for the switch to throw and the signal to turn green in re-



Deshler is a 24-hour, year-round operation. After Donald's day trick ends at 3 p.m., the evening dispatcher comes on, followed by the night man at 11 p.m. Wallace W. Abbey

sponse to invisible impulses, so that they can again take up their march. Engine 4410 and its 130 empty boxcars are standing on the main line at CG Tower as 356 snakes through the siding; 94-C is tucked away at Ottawa; the ore train is in the siding at Leipsic Junction.

John Morris watches the track diagram with its winking red lights, watches the meets you set up, and gets the freights moving again after the impatient passage of 356. It's almost like running a model railroad, this dispatching with CTC.

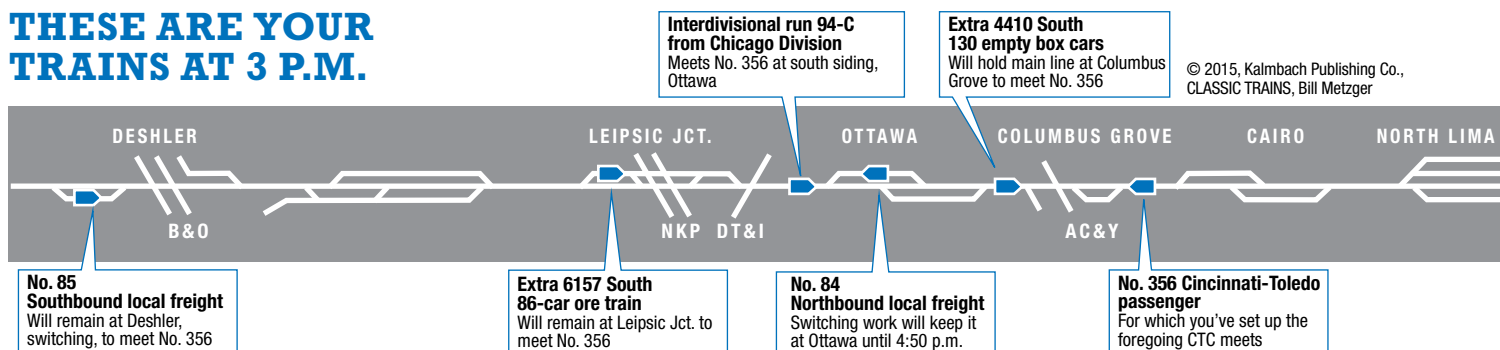
You, Carl Donald, are a train dispatcher. For eight hours you have been running 108 miles of the Baltimore & Ohio Railroad. The

traveling public seldom sees you or even knows of your chair of authority up there in the tower at Deshler. But yours is the job of juggling time, distance and tonnage to move trains — trains you sometimes never see — on schedule.

You do so with great ability. In fact, for instance, today when the chief dispatcher called up from Dayton for the morning report you told him, "Well, 94 should go into Rossford at 8:05." And you were able to accept with complete indifference the subsequent OS from Bates:

"Dispatcher, Bates — OS No. 94 into the yard at 8:05!" ■

THESE ARE YOUR TRAINS AT 3 P.M.



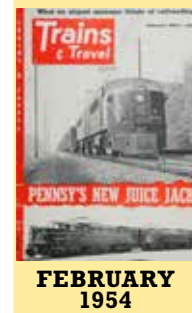
201

OFFICE OF
VICE PRESIDENT
— AND —
GENERAL MANAGER



8:30 A.M. In a typical start to the day, Harry Congdon puffs a big cigar as he mulls over his correspondence at his desk in St. Paul Union Depot.

WALK RIGHT IN...



... and meet Harry Congdon, railroad vice-president. He's Mr. Management to 1,100 St. Paul terminal road employees, and this is how he earns his salary

BY FRANK P. DONOVAN JR. • PHOTOS BY ARTHUR F. HAGER

A tall man, six-feet-one to be exact, walks through the columned entrance of St. Paul's Union Depot, turns to the right, and goes up an inconspicuous stairway to Room 201. Except for the fact that he has no baggage, he could easily be taken for a passenger during the morning rush hour. The time is 8:27 a.m. In another two minutes he's inside the door marked OFFICE OF VICE PRESIDENT AND GENERAL MANAGER, puffing on a newly lit cigar and immersed in a pile of correspondence and reports.

This is a typical day for Vice President and General Manager Harry P. Congdon, top man "on location" of the Saint Paul Union Depot Co. (SPUD) and the Minnesota Transfer Railway. To some 1,100 employees he's "the boss." Measured in route-miles, however, the two railroads Mr. Congdon manages have a combined length of only 15 miles. But the mile-long Depot Company has 21 tracks and accommodates nearly 100 trains a day. It also handles an average of 86,985 sacks and parcels of mail each 24 hours as well as 1,969 pieces of express and baggage. And the Transfer? This facility has 150 miles of *all* tracks, handles around 2,500 cars a day, and serves 400 industries. It acts as a clearinghouse for freight interchange between the nine railroads in the Midway district of the Twin Cities.

Mr. Congdon hardly begins to read the mail when the phone rings. At the other end of the wire is Superintendent Carl L. Lamphere of the Transfer.

"How's the railroad this morning?" queries the vice president. Lamphere gives a quick overall picture, adding a few words about the turnover of men. He also reports on yesterday's car movements. The talk is soon over. From that time on there are nu-



8:45 A.M. While Congdon signs papers and reviews reports, the telephone may ring several times. The vice president/general manager answers it himself — callers never have to go through his secretary if he is in his office.



9:10 A.M. Congdon always goes down to the yard office shortly after arriving at work. The depot is busiest between 7:30 a.m. and 9 a.m. when there are 22 arrivals and 21 departures. Behind Congdon is Train Director Jim Hostrawser.

merous phone calls all day long. Harry Congdon always answers his own phone rather than delegating that task to a secretary. He feels this makes for friendly relations and greater personal interest.

When the big Seth Thomas office clock indicates 9, the boss picks up his hat and heads for the yard office at the east end of the lead tracks to the station. On the way he waves to engineer George Neid, at the throttle of the Depot's 44-ton General Electric diesel. In a matter of seconds Congdon threads the tracks to the yard office and briskly mounts the wooden stairway to the second floor.

CONGDON'S FAVORITE ROOST

"Good morning, Pete," he greets Trainmaster Malvin Peterson with a smile. The salutation is returned, and both men go into a huddle regarding train movements. Having

a mental picture of the day's developments, Congdon then goes upstairs to the top floor for a visual panorama. As he enters, Train Director Jim Hostrawser is shouting into the amplifier.

"Great Western Number 6 down Lead 2."

Congdon plants himself in an old wooden chair — his favorite roost. A practical rail-roader who has come up from office boy to general superintendent on the Chicago, Minneapolis, St. Paul & Omaha, he gets a boyish thrill out of watching trains. Today is normal and the visit is routine. But in times of floods and blizzards he's been up in the tower until after midnight.

There is a conference scheduled with top Post Office officials at 9:30, so he heads back to his office. The meeting concerns reshuffling of the cars on No. 57 — the Milwaukee Road's *Fast Mail*. Suggestions are offered so

that certain cars on the train can be worked more efficiently. While the roundtable meeting is in progress, Congdon calls in his secretary and dictates a letter to Chicago that deals with this very problem. Action is started. The meeting breaks up with all parties satisfied that the mail will be handled better before the Christmas rush.

Fittingly enough, the next item is a routine trip to the mail room in the basement of the large terminal. Handling mail is an important function, since most of the transshipping from train to train is done in St. Paul rather than in Minneapolis. The single union depot in St. Paul makes it advisable to do that work there rather than in Minneapolis' two stations, which are not adjacent.

On the "jackpot" platform, where sacks emerge from conveyers, crews of men are at work sorting the mail for the proper trains.



Superintending the work is General Foreman James Miller, who briefs Congdon on the morning's lineup of cars, degree of work done, and other matters. Nearby is the 2,000-foot conveyor, which goes direct from train platform to the Post Office near the station. Of the 550 employees who work for the depot company, about 80 percent are engaged in the handling of mail and express.

Going back to the office, Congdon stops in to see Station Master Edward P. Brewster concerning extra passenger movements. Brewster is at his roll-top desk just inside the concourse. The discussion is short, for Congdon has a 10:30 appointment with C. M. Clancy, who is local general chairman for the Switchmen's Union of North America.

Arriving at his office, Congdon makes a couple of telephone calls, then clears the desk for Clancy. The talk with the union representative is informal and concerns some minor points regarding hours of work, vacation



12:05 P.M. Just outside the concourse over the tracks, Congdon checks his watch with the station clock, out of sight behind the camera.

time, and several other personnel matters.

When the conference is over Congdon summons his secretary and dictates several letters. After that he signs vouchers for such diverse items as 300 air-brake hangers, two cases of hand cleanser, dolls for the newsstand, meat for the restaurant, supplies for the bowling alley (on the second floor of the station), and a carload of diesel fuel. He then scans the "Statements of Operation of Trans-

fer" and "Receipts of Various Departments of Union Depot." The paperwork is broken up by the appearance of two coal salesmen. When they leave he looks over *Railway Age* and a Washington newsletter. There's an article in *Distribution Age*, too, which he wants to read, but now it's time for lunch.

In leaving the station he pauses on the concourse to observe the people and note the arrival of trains. The time is 12:05 p.m. Gate



2:00 P.M. Frank Rangitsch, secretary and comptroller of the Saint Paul Union Depot Co. and the Minnesota Transfer (left), and Carl Lamphere, the Transfer's superintendent (center), discuss matters affecting the two roads with Congdon at his desk.



3:45 P.M. Congdon swaps tales with Train Director Clem Boos beside a Minnesota Transfer RS3. Together, the men's railroad careers total more than 100 years.

15 is surrounded by people waiting to board the Omaha Road's *North American* for Omaha, with through cars to Los Angeles. Elsewhere other passengers are lining up for the *Twin Star Rocket* for Houston (departing at 12:25) and the *Twin Cities 400* for Chicago (12:30). A half hour later the *Afternoon Hiawatha* will get the highball for the Windy City. Then the midday flurry ends.

Congdon usually eats in a downtown restaurant at a reserved table with a group of friends. The party generally includes a judge, a physician, and several businessmen. They discuss everything from Korea and the United Nations to local civic events. Congdon prefers not to talk shop at the lunch table.

TOURING THE TRANSFER

After lunch follows more dictation and then a 2 o'clock conference with Frank J. Rangitsch, secretary and comptroller, and Superintendent Lamphere, of the Transfer. The meeting is of considerable importance and lasts for nearly an hour.

Unlike most railroad executives, Congdon has a dual capacity in two totally different kinds of railroads: one is concerned with passengers, mail, and express; the other entirely with freight. Actually, he spends most of his time in the Union Depot and delegates much of the detail of running the

Transfer to Carl Lamphere.

Technically, Harry Congdon has nine bosses — the Burlington Route, Great Northern, Chicago Great Western, Milwaukee Road, Minneapolis & St. Louis, Northern Pacific, Omaha Road, Rock Island, and Soo Line being the nine carriers that own the Transfer. Actually, he reports to two men, the president of the Minnesota Transfer Railway and the president of the Saint Paul Union Depot Co. They are currently John W. Devins, executive vice president and general manager of the M&StL, and E. T. Reidy, vice president and general manager of the Great Western, respectively. The presidency is on a two-year basis and rotates among the owning railroads.

It is nearly 3 o'clock when the conference adjourns and Congdon and Lamphere go in the latter's automobile to look over the Transfer, about five miles away. Arriving at the Minnesota Transfer's plain three-story headquarters on University Avenue in the Midway District, they are joined by Chief Engineer John F. Podas. The threesome jounce in the auto, detouring here and there on account of extensive improvements and major track relocations. Podas points to the old frame Top End Yard Office being moved to facilitate the erection of a new concrete structure. The half-mile-long pneumatic tubes, linking the Middle Yard Office with headquarters, he explains, are nearly completed. Finally the party arrives at the north end of the "A" Yard, where alterations for more efficient operation are taking place.

The three officers confer with Assistant Foreman Henry Miller, in charge of the section men toiling under a hot summer sun. The work marks the last lap of a three-year improvement project costing \$2 million. The project includes complete dieselization, extensive yard and lead alterations, changing of two yards — one hump and one flat — to gravity operation, building of three new yard offices, installing of pneumatic communication between HQ and the yard offices, modernizing of engine and car repair facilities, and a variety of other betterments.

On the way to the Lower Yard Office near the Raymond Avenue bridge, Congdon spots Train Director Clem Boos, the oldest man on the Transfer. The two take time to visit. When old railroaders get together they are bound to swap reminiscences and tell stories. That is exactly what happens. Although Harry Congdon, with 48 years of railroad work, cannot match Boos' seniority, which dates back to 1896, he is a master raconteur with endless anecdotes. Indeed, he often illustrates an idea with an example, and frequently drives home a point with a pertinent story.

Before returning to the Depot, Congdon stops off at the superintendent's office to check some reports and operational statistics. By 4 o'clock he's on a city bus bound for Union Station. There are some memos from



5:00 P.M. The day — July 11, 1953 — has been a full one, but now it's over. Harry Congdon leaves St. Paul Union Depot for home, holding his ever-present cigar.

ST. PAUL POWER



Union Depot Co. 0-6-0 No. 6 (left), relegated to standby service by the 1950s, passes track workers in October 1954. SPUD's principal engine was yellow GE 44-ton diesel 441, pictured soon after delivery in 1941. Steam, John Thill; diesel, GE

his secretary to read, several phone calls to make, and the day is about over.

Harry Congdon likes his work and finds the diversity of it stimulating and challenging. He's vice president and general manager, yes; but he's also purchasing agent, public relations representative, personnel manager, industrial agent, land and tax man — well, just about everything.

At 5 o'clock Congdon ends the day as he began it — smoking a big cigar. ■

FRANK P. DONOVAN JR. wrote numerous articles for TRAINS during 1942–59, and was on the magazine's editorial staff 1946–48. He also authored or edited several books, including Mileposts on the Prairie about the M&StL. He died in Minneapolis in 1970 at age 60.



New terminal for **NEW ORLEANS**

Where rail travelers once had to contend with five separate, outmoded depots, a single new station welcomes them now

PHOTOS BY JAMES G. LA VAKE





Upholstered settees, not hard benches, offer modern comfort in the main waiting area.



The stub-end terminal has 12 passenger tracks ending at an open-air concourse.



IC, T&P, and KCS E units plus (barely visible) L&N and SP F units fill the engine terminal.

The clean-lined entrance to the new terminal building features a liberal use of glass, and is brilliantly lighted at night.



Arrival and departure boards flank a clock facing the main entry.



The newsstand is centrally located in the terminal's main room.



An usher carries luggage and whistles for a taxi at the cab stand.



A Santa Fe sleeper concludes MP's *Orleanean*, loading on track 4.



Taxis and private autos wait at the cab stand on the east side of the terminal. A limestone facade visually unifies the main building (left) with the baggage room. Between the two, beyond the three people walking, a heavyweight Pullman is visible.

Time was when changing trains in the Crescent City meant a breathtaking ride across town in a transfer bus, and it was a steel-nerved passenger who wasn't thankful to be back on flanged wheels upon arrival. Moreover, it was a rare customer who could change trains without changing stations. Perhaps you arrived smack on Canal Street at Louisville & Nashville's ancient depot, whose tracks extended right across the famous boulevard; maybe it was up the street at Southern's stately station, or over at the "built-for-the-ages" terminal of MoPac-Texas & Pacific. Or Union Station, built by the Illinois Central and always (or so it seemed) the busiest of the lot. Not to forget the Louisiana & Arkansas' station nearby.

The news in New Orleans is that these stations are silent; some even have been demolished. Today all trains serve the newest downtown railroad terminal in the nation, a handsome plant with a functional-looking facade of limestone. It's a stationmaster's dream, wholly air-conditioned and fitted with all the extras from a cocktail lounge to rubber-tired baggage trucks.

But New Orleans' new Union Passenger Terminal is much more than an interesting architectural specimen, more than even a convenient, comfortable place to change trains. It is tangible proof of the civic good that came about when city and railroads

NEW ORLEANS PASSENGER TRAINS, MID-1954

Railroad	Train Nos.	Name	Type*	To/From
Illinois Central	1-2	<i>City of New Orleans</i>	C	Chicago
	5-6	<i>Panama Limited</i>	P	Chicago
	3-4	<i>Louisiane</i>	C	Chicago
	25	<i>Southern Express</i>	C	Chicago
	8	<i>Creole</i>	CP	Chicago
Louisiana & Arkansas (KCS)	1-2	<i>Southern Belle</i>	CP	Kansas City
	9-10	-	CP	Kansas City
Louisville & Nashville	1-4	-	C	Cincinnati
	5-6	<i>Humming Bird</i>	CP	Cincinnati and Chicago
	9-12	-	C	Ocean Springs, Miss.
	33-34	<i>Piedmont Limited**</i>	CP	Washington
	37-38	<i>Crescent</i>	CP	New York
	98-99	<i>Pan American**</i>	CP	Cincinnati
Missouri Pacific	3-4	<i>Orleanean</i>	C	Houston
	9-10	<i>Houstonian</i>	CP	Houston
	103***	-	CP	Little Rock
	116***	<i>Southerner</i>	CP	Little Rock
Southern	41-42	<i>Pelican</i>	CP	Washington
	43-44	-	C	Birmingham
	47-48	<i>Southerner</i>	C	New York
Southern Pacific (T&NO)	1-2	<i>Sunset Limited</i>	CP	Los Angeles
	3-4	<i>Acadian</i>	CP	Houston
	5-6	<i>Argonaut</i>	CP	Los Angeles
Texas & Pacific	27-28	<i>Louisiana Daylight</i>	C	El Paso
	21-22***	<i>Louisiana Eagle</i>	CP	Fort Worth

* C indicates coach; P indicates Pullman.

** Equipment of *Gulf Wind* (New Orleans-Jacksonville) included in Nos. 34 and 99 west of Flomaton, Ala.

*** MP 103 and 116 combined with T&P 21 and 22 New Orleans to Alexandria, La.



Just inside the front entrance, passengers line up along the marble ticket counter.



Seen from the Claiborne bridge, one of NOUPT's three blue SW8s shoves express cars toward the depot on seashell-ballasted track.



Carts of mail sacks crowd the northeast side of the new terminal.



Inside Clara Street tower, F. C. Jones works the model board.



Just out of the station, KCS E8 No. 28 leads the *Southern Belle* past Clara Street tower.



E7s on IC's *Panama Limited* pass SP PAs, which have backed in with the *Sunset Limited*.



A Southern E8 heads out at 8 a.m. with the *Southerner* for Washington and New York.

set forth years ago to solve headaches common to both. Taking tracks out of downtown was the key issue because 144 grade crossings were not only choking the flow of street traffic but constituted a continuing threat to life, limb, and sometimes locomotive.

Although it's possible to step out of your taxi and walk to your train with barely a glance at the terminal, its main hall is worth

a long look. Just 18½ feet high, it includes the usual facilities — ticket windows, restaurant, newsstand, lounges, luggage lockers — but set in surroundings considerably more modern in design than even the stations of Cincinnati and Los Angeles. It has marble from France and Italy, a mural by Conrad Albrizio, rows of settees done up in chartreuse, and of course, air-conditioning.





Having turned on the wye, L&N's *Humming Bird* passes between the engine terminal and coach yard as it backs toward the station.



A carman couples a red-and-orange Alco PA to SP's *Argonaut*.



Overhead steam lines frame cars and workers in the coach yard.



The South Wye switches (controlled by Clara Street tower) and the coach yard dominate a view south from the Broad Street overpass.



At the engine terminal, a hostler fuels an E unit for IC's *Panama*.



An FP7 and GP7 are readied for L&N's *Piedmont Limited/Gulf Wind*.

More important, convenience is stressed. To reach a train (or leave one) on any of the terminal's 12 main tracks (holding 10 to 20 cars each) there are no long walks, no winding passageways, no stairs. The terminal is airy yet compact, and on one level.

And the trains are displayed as if their owners are proud of them instead of hidden behind grilled gates.

The passenger never steps on the most expensive end of the terminal — its service area, which contains a diesel shop, an interlocking plant, a car washer, a 10-track coach yard, a drop pit, a fuel tank, a crew shed, and

more. The depot itself cost \$2.5 million, but this background of tracks and structures to support it took close to \$14 million more.

Appropriately enough, the new terminal was christened (on May 1, 1954, by Mayor "Chep" Morrison's 6-year-old daughter) with water brought by the railroads from the farthest points they reach: the Mississippi, Missouri, Ohio, and Rio Grande rivers; the Great Lakes; the Gulf of Mexico; and the Atlantic and Pacific oceans.

Speaking before a banquet celebrating the new station, Mayor Morrison said, "The City of New Orleans has not and will not pay one

cent for the construction of the Union Terminal with its tracks and facilities — nor will it contribute to the operation thereof. This cost is borne entirely by the railroads, either from their own capital funds or bond proceeds, backed up by the full faith and credit of the eight railroads using the terminal [IC, Louisiana & Arkansas, L&N, MP-T&P, Southern, SP's Texas & New Orleans, and Gulf, Mobile & Ohio, which discontinued New Orleans service in 1954].

"This is different in the case of the airlines in our metropolitan area. The taxpayers have paid the full cost for the construction of our



The plaza in front of the Union Passenger Terminal, formerly the site of Union Station, is still unfinished in this 1954 view. Leon Trice



In 1952, before NOUPT's enginehouse opened, an IC E7 rides the turntable at the IC roundhouse as SP PAs head for Union Station.



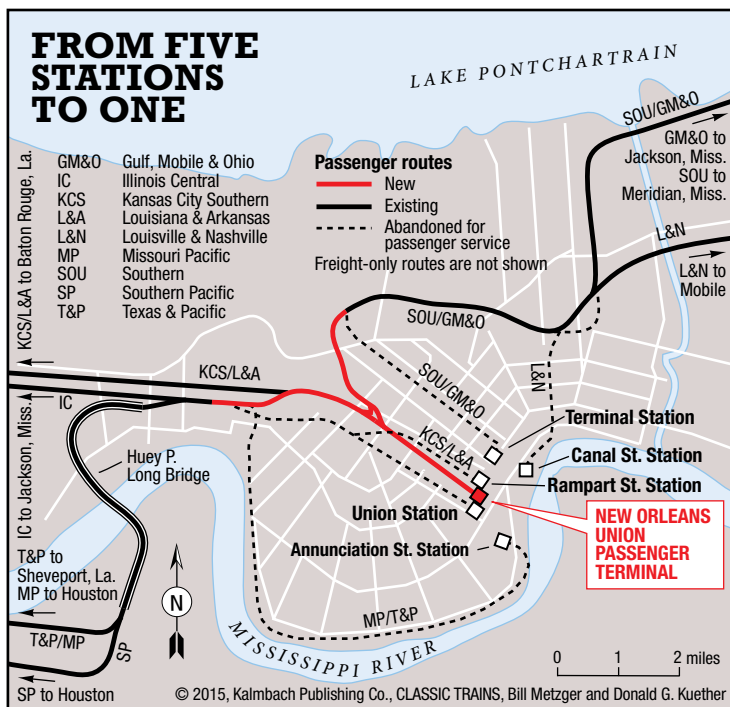
Seen from the front of the new terminal, Union Station, famous architect Louis Sullivan's only depot, succumbs to demolition.



The stately MoPac-T&P station on Annunciation Street, constructed in 1916, served for only 38 years before being torn down.



The 1901 L&N station at the foot of Canal Street was mostly hidden by an elevated walkway that led to a Mississippi River ferry landing.



Daniel Burnham designed the Southern's monumental Terminal Station in 1908, just after his Washington Union Station opened. Terminal faced Canal Street at Basin until it was razed in 1956.

municipal airport and its terminal.

"It is to the credit of the railroad industry that it stands practically alone as the one mode of transportation that pays its way, without subsidy, and without special privilege."

For 60 years, New Orleans had been growing increasingly anxious about its traffic congestion and its lack of a true union railroad terminal. The automobile brought matters to a head, and in 1938 the Louisiana legislature passed a bill permitting the city to get down to brass tacks with the railroads. World War II halted progress, but in 1945 real action was begun. An elaborate master

plan was sketched, argued, redrawn, and then inked and built into permanence.

In dollars and cents, it worked out like this: The city floated a \$15 million bond issue to build the terminal (thus making it municipally owned) with both amortization of, and interest on, the bonds to be paid by the railroads out of station rental charges over a period of 50 years; after that, the railroads will pay a rental equivalent to taxes. In addition, the railroads spent an extra million to complete the terminal, \$4.8 million more for rearrangement of their tracks, and \$3.5 million to help the city eliminate grade cross-

ings. Added up, it's \$25.5 million.

The city is putting \$23.2 million into the plan, mainly for grade-separation, and the state and Federal governments have kicked in \$8.5 million to help on the overpasses. Thus for civic progress, the total is \$56 million, almost half of it railroad money. ■

JAMES G. LA VAKE was doing his own dark-room work at age 10. He learned to fly as a teenager, becoming an airline pilot in 1941. The railroad bug bit him in 1946, and he contributed many photos to TRAINS he'd taken in various cities during layovers. He died in 1991.

Kodachrome **DECADE**

An all-color 1950s photo gallery





Steam stronghold: By February 1953, steam was fading fast, especially in passenger service. But you wouldn't know it from this gathering at the Cincinnati Union Terminal roundhouse of (from left) Chesapeake & Ohio L-2 Hudson 300, Pennsylvania K4 Pacific 5368, Baltimore & Ohio P-5 Pacific 5212, New York Central J-1d Hudson 5395, Norfolk & Western K2a Mountain 135, and what appears to be another B&O P-5. R. R. Malinoski



T&P pastoral: Near Robson, La., southeast of Shreveport, local folk pay little attention to the four Texas & Pacific F7s and one GP7 heading Extra 1575 West in early 1959. T&P used parent Missouri Pacific's blue and gray on cab units, but applied its own orange and black to switchers and road-switchers. A. E. Brown



Diesels on "The Traction": Illinois Terminal, the sprawling interurban system once known as the Illinois Traction Co., began buying diesels for its extensive freight operations in 1948. Seven years later, only ITC's passenger trains were electric, and they quit in 1958. On July 11, 1953, new GP7s 1603 and 1601 work under a web of trolley wire at East Peoria, Ill. W. C. Janssen, Krambles-Peterson Archive



Train Master under wire: Jersey Central 2412, a Fairbanks-Morse H24-66 Train Master, approaches South Amboy, N.J., with a passenger train in August 1957. This is the New York & Long Branch, the joint Pennsylvania-CNJ line up the North Jersey coast; the catenary, which ends at the signal bridge in the distance, is for PRR trains. Curving off to the right is the connection to short line Raritan River Railroad. Jack Raymus, Krambles-Peterson Archive



Copper country motors: Montana's Butte, Anaconda & Pacific, built to move copper ore from mines around Butte to a smelter at Anaconda, electrified 37 of its 69 route-miles with a 2,400-volt D.C. system in 1913. Three of BA&P's 28 General Electric box-cabs haul loads west at Durant, Mont., in June 1956, 11 years before the road stopped using electrics.

George Krambles, Krambles-Peterson Archive

Kodachrome DECADE

Grande finale: The Rio Grande's 20 simple 2-8-8-2s were the world's largest locomotives when Alco built them in 1927 and '30. Their last use occurred in fall 1956, when three of them worked for a month as helpers between Tabernash and Winter Park, Colo. This is No. 3612 departing Tabernash on October 7, 1956; by year's end, D&RGW standard-gauge steam was finished. Jim Ehernberger





3612

Rio Grande

44717

SANDY CREEK BRIDGE
DANGER

65.3



Ontario branchline hub: At Palmerston, Ont., nexus of several Canadian National branch lines, Ten-Wheeler 1532 arrives with a mixed train from Southampton on a wet day in fall 1958. The little town saw 20 daily-except-Sunday CN arrivals and departures in the late 1950s. (For more on Palmerston, see Summer 2014 CLASSIC TRAINS.) Frank Quin, J. David Ingles collection

Almost home: A Canadian National FP9-F9B diesel duo leads train 4, the *Continental*, east at Turcot West, Que., in June 1959. The train is a few minutes away from the end of its 2,900-mile run from Vancouver, B.C., to Montreal. This train, as the *Continental Limited*, was CN's top long-haul service until the launch of the *Super Continental* in 1955. Bob Krone

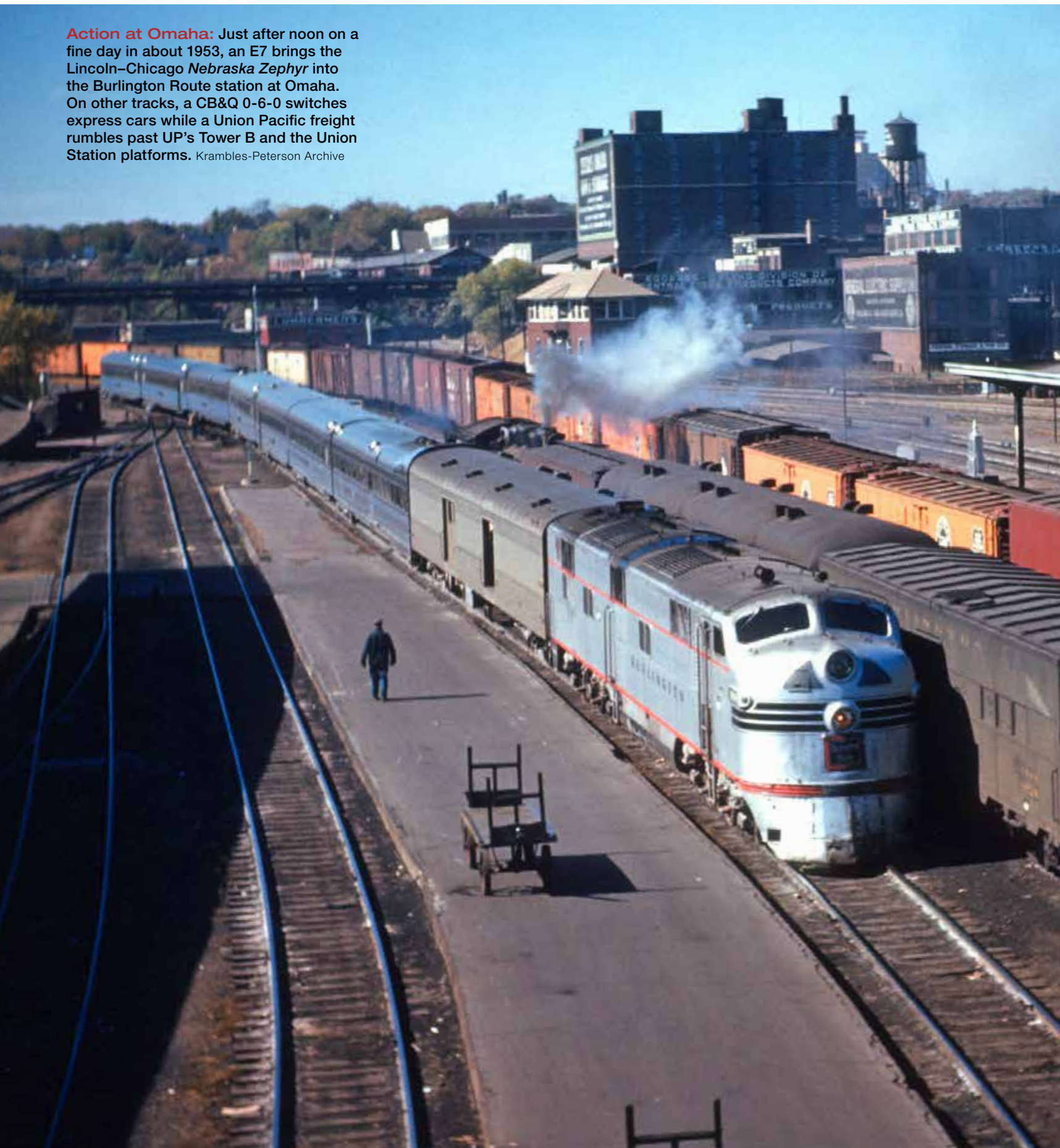


CP mixed: Canadian Pacific 4-6-0 No. 882 trots along beside Beachville Road just west of Woodstock, Ont., with a mixed train, either M655 to St. Thomas or M660 to Port Burwell, on August 2, 1955.
Two photos: H. M. Stange, Krambles-Peterson Archive



Kodachrome DECADE

Action at Omaha: Just after noon on a fine day in about 1953, an E7 brings the Lincoln–Chicago *Nebraska Zephyr* into the Burlington Route station at Omaha. On other tracks, a CB&Q 0-6-0 switches express cars while a Union Pacific freight rumbles past UP's Tower B and the Union Station platforms. Krambles-Peterson Archive





Pre-Loewy NP power: Northern Pacific passenger F3A 6505 and F7A 6512 idle with their companion B units at Seattle in the early 1950s. The color scheme the diesels wear gave way to the two-tone green livery created for NP's passenger trains by designer Raymond Loewy's firm in 1952. Tom Miller, Steven Thompson collection

Cascadian at Everett: Great Northern 4-8-2 No. 2510 stands with the Spokane-Seattle *Cascadian* at Everett, Wash., on September 5, 1950. The green-painted 1923 Baldwin was upgraded after World War II with roller bearings, twin sealed-beam headlight, and other improvements. H. M. Stange, Krambles-Peterson Archive





Miss 2,000,000 Miles

After more than 800 round trips between New York and Miami, Seaboard's favorite blonde still finds trains an adventure

BY JANE CARR
PHOTOS BY FRASER HALE

Patricia Powell is a nurse who loves to travel and meet people. Her office is a streamlined train rolling swiftly between New York and Miami, and her patients could be any one of the millions of passengers who travel on today's railroads. At work she is an official greeter, constantly touring the train to meet passengers. She dispenses handy travel information and confidence with equal ease.

Experienced, well-trained registered nurses are on hand on many of America's passenger trains to assist the conductor and the passenger service agents with passenger problems or any emergency that might arise. But of the women on the five railroads currently providing this service, Miss Powell is the veteran of them all in length of service and miles traveled. Pat, a hazel-eyed blonde with a vivacious, dimpled smile, is Seaboard Air Line's first 2-million-miler.

No other railroad stewardess-nurse in the country can equal her record. In more than 800 round trips between New York and Miami she has traveled the equivalent of four



Seaboard's *Silver Meteor* hurries north at Citrus, Fla., in 1964. The stewardess-nurse's room is in the rear car. David W. Salter

times to the moon, or 80 times around the world. Pat has averaged 160,000 railroad miles annually in her 14 years of service.

Any one of these miles might pose a challenge. Passengers develop fever; a diabetic patient requires insulin; a child is traveling alone; mothers forget baby clothes and formulas; someone recently bereaved needs a sedative and the quiet understanding of

someone experienced in the art of listening.

Her job is the passengers' welfare, and it requires a good mixture of medical knowledge, personality, confidence, and public-relations know-how.

When she first thought of train work, Pat believed it would satisfy her desire to combine nursing with traveling. "I wanted to meet people in all parts of the country and expand my service," she says. "Trains were my first consideration." Pat says she never dreads a day's work. "It's an adventure each trip — constant excitement." And being a traveling woman, she "never gets in a rut."

While the fast silver streamliners are traveling up through Florida's warm countryside to the windy northern cities, or from snow-covered hills to sun-baked beaches, Pat is performing a multitude of duties.

To begin her day's work, Pat arrives at the station 40 minutes before departure time. For 30 minutes before the train leaves, she greets passengers and answers questions. When the train is ready to go, Pat boards it



A smiling Patricia Howell stands beside the *Silver Meteor's* observation car in Miami before another trip to New York.



Stewardess-Nurse Pat Howell confers with the *Silver Meteor's* conductor (left) and a Seaboard passenger representative before passengers begin boarding the train.

and announces over the streamliner's public-address system that she will be present for the rest of the trip.

Once while she was greeting passengers over the microphone, a towheaded 3-year-old raced down the aisle with arms outstretched. He ran into her arms and she gave him a big hug. "You talk so beautiful," he breathed. "Was you talking to me?"

In her pale gray uniform and matching cap, Pat accompanies Seaboard's passenger representative and the train's conductor through the cars on each trip. This is the big part of her job and also her favorite.

"Working with people is interesting," she says, "because they react so differently to the same situation."

Although she insists she doesn't have any problems, co-workers report that they do come up, and she solves them easily. According to Pat, the only difficulty she finds is passenger dissatisfaction with seats. "And we always change them if they complain," she says. Some people prefer aisle seats, some window seats, some want to be with their families, and others wish to be close to certain cars.

While the train is moving, Pat often returns to the microphone to tell passengers where the "feature" cars are located and to invite riders to make themselves at home. She explains that some people think they need reservations for the dining and lounge cars, which they do not.



Dressed for travel, two young men wait while Howell checks their tickets at Miami.

Pat also informs passengers on what railroad they are traveling. The streamliners are Seaboard's, but they use the Pennsylvania Railroad from New York to Washington, D.C., and the Richmond, Fredericksburg & Potomac to Richmond, Va., before entering Seaboard rails. She also describes the locomotives at the head end: electrics between New York and Washington, and a 6,000 h.p. set of diesels south of Washington. She also announces main points of interest.

"But I walk through the train most of the time," Pat says. "There's always someone who likes to talk to you. Car attendants are in each car to contact me in case of emergency, but I find it's mostly a public relations job." Pat feels she dispenses more confidence than aspirin!

The continual passenger changeover at intermediate stations presents a seating problem, and to help the on-board passenger service agent and Pat with this, a passenger agent meets the train at each principal station. He straightens out problems and discusses last-minute seating charts with them before the train rolls on.

Pat is proud of her job and typifies the type of woman who works as a railroad nurse. All Seaboard nurses are graduate nurses and have adaptability to passenger situations. The work calls for a friendly speaking voice and an attractive personality. Pat and her co-workers in the 17-member nurse corps were between the ages of 21 and 27 when they joined the Seaboard. They



Howell uses the p.a. system to welcome passengers, inform them of the train's features, and point out sights along the way.



A medicine cabinet in the stewardess-nurse's room is stocked with aspirin and other items that passengers might require.



Howell arranges magazines, each with its own special, durable cover, in a lounge car.

stand between 5 feet 2 inches and 5 feet 8 and weigh in proportion to their height.

In return, the job gives generous off-time alternatives, calls for riding one of the nation's luxury passenger trains while working, and pays more than \$300 a month, plus giving good sleeping quarters, meals, and a clothing allowance.

Each nurse travels on Seaboard's *Silver Meteor* or *Silver Star* between Miami (or St. Petersburg, Fla.) and New York, or on the *Silver Comet* between Birmingham, Ala., and New York, five times each month — a round trip of approximately 2,600 miles every six days, and 13,000 miles a month. One nurse is assigned regularly to each train.

Nurses work at least 16 hours of the 25-



A key part of Howell's job is helping in the care of small children such as this brother and sister. This scene is aboard the *Silver Star*, as indicated by the patch on Howell's hat.



The Seaboard's stewardess-nurses are provided with an apartment in a hotel at their away-from-home terminals. Here, Pat Howell relaxes in Miami between runs.



As New York shivers through the winter, Howell enjoys a game of shuffleboard outdoors at her hotel in balmy Miami.

hour trip between New York and Miami, with a day and a half layover at each end point. In off-duty hours, they may pass their time as they wish: sightseeing or shopping in New York, golfing in Miami, sunbathing in St. Petersburg, or riding horseback in the hills around Birmingham being examples.

Every newly hired stewardess-nurse spends two or three weeks in actual service under the tutelage of a veteran nurse before being assigned to a train of her own. New nurses are completely outfitted, even during their tutoring period. They receive skirts, blouses, jackets, caps, service shoes, topcoat, and a medical kit and supplies.

Seaboard's nurses are based at New York,

and all are provided their own hotel apartment while staying at their away-from-home terminal. Nurses are provided meals and a private bedroom on their streamliner, and are covered by a provision of the Railroad Retirement Act.

Pat Powell is a native of Vienna, Ga., and studied nursing at the Oglethorpe Private Infirmary in Macon. She did graduate work at Grady Hospital in Atlanta and became affiliated with Emory University Hospital, where she was nursing supervisor for four years. She was one of the first registered nurses employed by the Seaboard and is now its senior nurse.

The Seaboard began using nurses in 1939

when it introduced the *Silver Meteor*, and has since added the *Silver Star* and *Silver Comet*. Over the years, the railroad has employed about 85 nurses whose average length of service is about three years. Of these nurses, romance has stolen away about half, bearing out the statement made by many of them that "you meet so many interesting people on the train."

Pat's blonde good looks and personality invariably draw passenger attention.

She has been on the cover of the *Seaboard Yearbook* and in a scene on a *Modern Railroads* magazine cover; she's also had a bid from noted fashion model agent Harry Conover.

"But I'd rather be a nurse," Pat says.

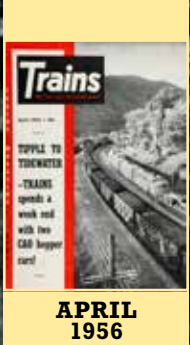
Grateful passengers have written hundreds of letters to her. One of her prized examples relates that "the first word we received from my father after his arrival in Florida was the highest praise for the ability and thoughtfulness shown by you. . . . Perhaps someday I will have the opportunity to repay you for your great service to us, which you probably call routine. . . ."

Pat is aware of the secure feeling her presence on the train gives passengers. "I remember when I took a train trip to California and this protection was not there," she says. "I remember thinking, *What if something should happen to me?*"

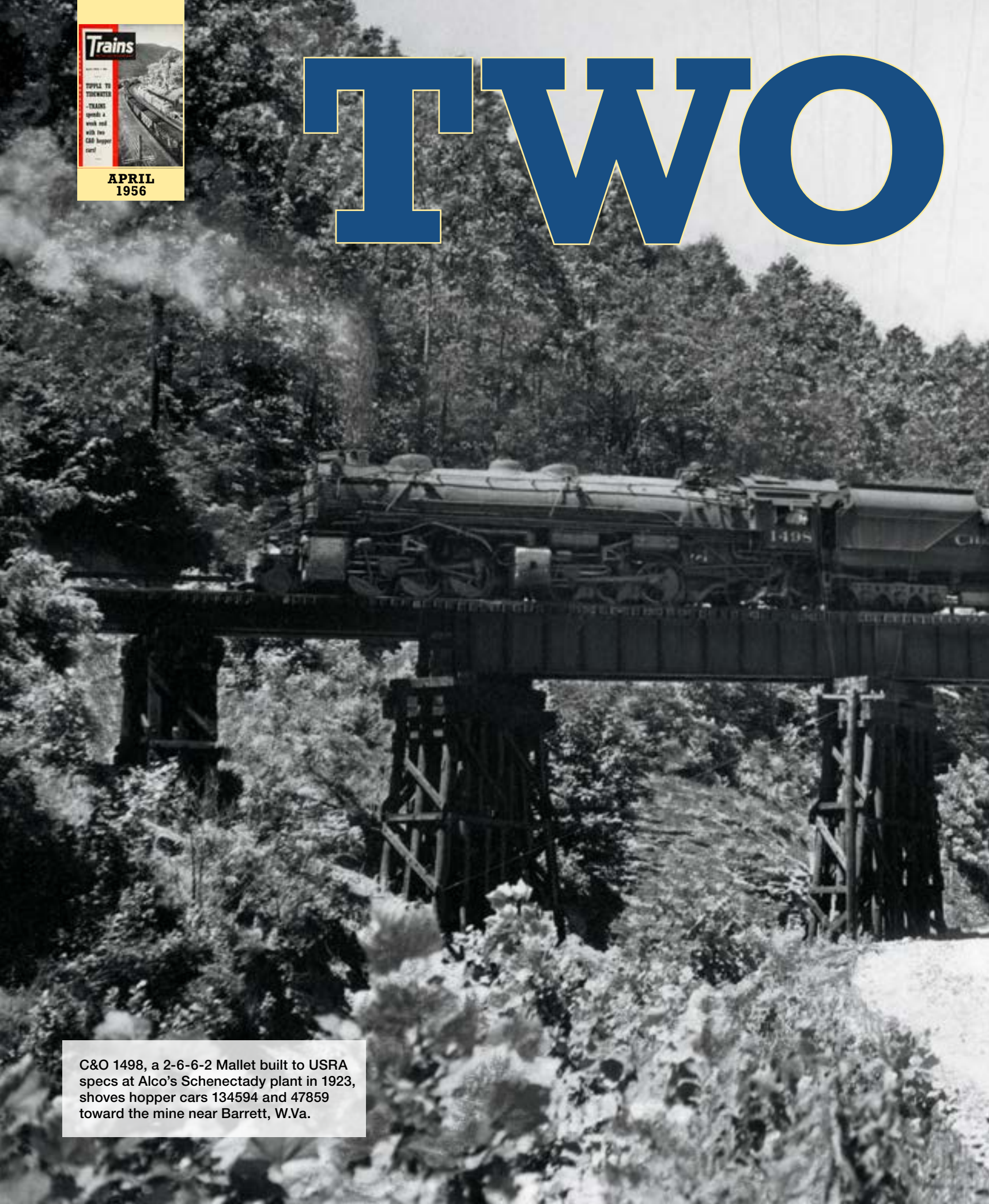
To this 2-million-miler, registered nurses are "something every railroad needs — you might call it the woman's touch in railroad-ing." ■



A stewardess-nurse's duties would not normally take her to the head end, but Howell poses here with an engineer and his E7, ready to depart with the *Silver Meteor*.



TWO



C&O 1498, a 2-6-6-2 Mallet built to USRA specs at Alco's Schenectady plant in 1923, shoves hopper cars 134594 and 47859 toward the mine near Barrett, W.Va.

CARS

to Tidewater



C&O 134594 and 47859 are a pair of hopper cars belonging to the biggest coal carrier in America. This is their life for 512 miles and 96 hours

BY DAVID P. MORGAN • PHOTOS BY W. A. AKIN JR.

In 1955, the greatest coal mover of them all, Chesapeake & Ohio, hauled 61.6 million tons of it away from on-line mines in a fleet of 62,000 company-owned hopper and gondola cars. Awesome figures, these — perhaps not comprehensible even to the statisticians who compile them. To place such an enormous traffic in focus, we selected just 512 miles and 96 hours 10 minutes out of the lives of two of C&O's hoppers as they rolled 121.8 tons of West Virginia bituminous from a tippie on Cow Creek to the dumpers at Tidewater. This is their story.

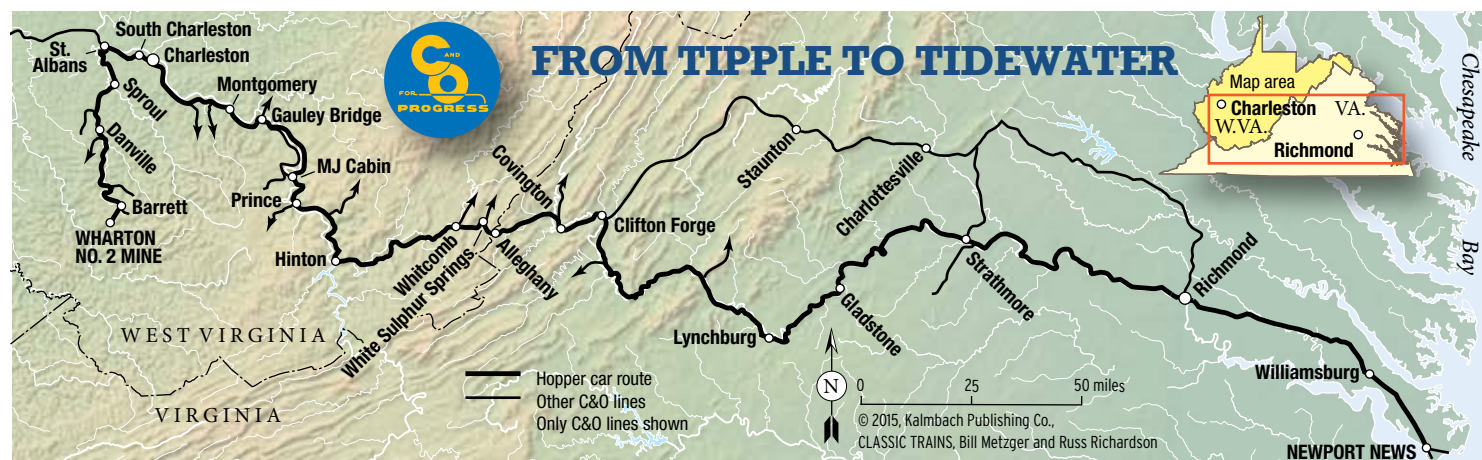


Eastern Gas & Fuel's modern Wharton No. 2 mine southwest of Barrett, W.Va., will load 105 hopper cars — including C&O 134594 and 47859 — with coal on this June 2, 1955.

Danville, W.Va., is one of those places that is duplicated uncountable times in the perpetual mountains of the greatest coal-producing state in the nation. It is simply a yard filled with black C&O hopper cars, half of them loaded with coal and bound for the main line (33 rail miles away down the Little Coal River) and half of them empty and bound for nearby mines. With a population of 544, Danville has a yard office, an engine terminal, Mrs. Ballard's rooming house just across U.S. 119, and an overcast atmosphere blended of mist and locomotive smoke in equal parts. Danville is a working town, no pretensions allowed. It's where C&O's 2-8-4s arrive with empties from the outside world, nod briefly to the chunky Mallets that work the yards and mine spurs, then storm back to civilization with the stuff that heats homes, forges steel, and generates power.

Transients are Danville's stock in trade, and on the morning of June 2, 1955, a couple of them are C&O 50-ton hopper cars carrying numbers 134594 and 47859. The sun has barely crawled over the ridges when these cars and a sizable number of their brethren are trundling out of Danville behind the Vanderbilt tank of a compound 2-6-6-2 as Extra 1498 East, known locally as the Barrett Shifter. The empties coil deeper and deeper into the backwoods on a Pond Fork Subdivision where a boxcar is a rarity and passenger service is nonexistent. Finally, 22½ miles from home base, the articulated cuts off hoppers 134594 and 47859 and clanks back around the leg of a wye at Barrett, across a timber trestle, and up a stiff, curving grade to Wharton No. 2, a modern tippie operated by Eastern Gas & Fuel Associates.

Multi-storied, glass-windowed, metal-sided, smoke-belching Wharton No. 2 is as far removed from the era of pick-and-shovel and blind-mule coal mining as steam is from diesel. Even as the Barrett Shifter came up the valley, the coal for its empties was being mechanically dug and hoisted to the surface. Then, in the preparation plant, the coal was dumped into surge bins, then into the crusher, and via belts to the picking table; from



there it traveled through another crusher, onto sizer screens, and then into washers and dryers. Outside, metal-helmeted men drop the hopper doors on 134594 and 47859 to clean the cars, then lock the doors securely and hook the cars on a cable that lowers them down to the tippie.

Around noon the hoppers are eased into position and the coal comes cascading from above. Not just “coal,” either, for there is no such generality to a miner. This is inch-and-a-quarter-minus Beacon coal (no lump measuring more than 1¼ inches), a coke-oven fuel ordered by EG&FA’s Norfolk, Va., office. As such it becomes to C&O “Tide 470” — a label meaning a specific grade of coal under movement to a certain buyer and destined to cross the piers at Newport News, C&O’s port city among the several constituting “Tidewater, Va.” At 12:20 p.m., hoppers 134594 and 47859 are under load and being coasted down into the mine’s yard — a portion of the 6,200 tons of coal that Wharton No. 2 will load on this June 2 into 105 cars during two work shifts.

The USRA 2-6-6-2 with the majestic 12-wheel Vanderbilt tender goes on about her work, spotting empties and gathering loads until, at 2:15 p.m., she departs from the mine. The conductor gathers up his waybills, climbs onto the steel caboose parked alone, unwinds its handbrake, and lets it drift downgrade in the wake of the receding hoppers. This procedure permits the flagman to hop on and off, lining up the switches and derail devices in the Wharton No. 2 yard without the necessity of continually stopping and starting a tonnage train on a grade. Down at the wye at Barrett, the caboose is coupled to the rear car, the air is cut in, and Extra 1498 West proceeds to Wharton No. 1 for more loads.

RELAXING ON THE CABOOSE

For the men aboard the caboose, the day, which began with a 9 a.m. call, is almost done, and there’s time to relax on the rear platform as the hoppers hold to the 20-mph speed limit along the black waters of Pond Fork. The ties creak like new shoes, tie plates bounce on the bridges, and the flagman beeps the monkey-tail air whistle at the insistence of miners’ children at trackside. At each dusty grade crossing a line of autos driven by men of the mines waits impatiently for the hoppers to clear.

At 4:26 the extra is “dead” at Danville, safely tucked inside yard limits.

Within two hours, the bobbing of electric lanterns and the slamming of journal-box lids announce the approach of the car inspectors to the loaded hoppers. Their examination is brief but thorough. Skilled eyes roam over side bearing bolster, brake beam, brake hangers, brakeshoes, and spring plank. Coupler, knuckle, pin, and safety appliances such as ladders and steps are all checked. Next, the bane of the railroad — a hot box — is



Wharton No. 2’s “inch-and-a-quarter-minus” coke-oven bituminous floods into hopper car 47859, a 1946 product of American Car & Foundry’s Huntington, W.Va., shops.



Tethered at the waist to the car for safety, a mine employee rides a string of hoppers that includes Nos. 134594 and 47859 as it coasts from the tippie down to yard.



Mallet 1498 starts downgrade to Barrett with loads from Wharton No. 2 mine. The train's caboose (vantage point for the photo) will follow, its crew using the hand brake to control speed as a flagman hops off and on, resetting switches and derail devices.

thwarted as an inspector feels the journal, checks brass and wedge, and makes sure, by a tug on his hook, that the oil-soaked waste isn't beginning to "grab." If needed, lubricant is added, then the inspectors proceed on down the dark and narrow canyons between the black, white-lettered cars.

At 9 p.m. the Danville switcher goes to work. At least they call her a "switcher," but she's actually a 2-6-6-2 — shuffling loaded hoppers is no work for an engine that size. All night long she labors to the accompaniment of thudding couplers and rumbling draft gear. As dawn nears, one net result is a column of 135 loads with a caboose on one end and a 2-8-4 (a "Kanawha" on the C&O) called for 5 a.m. on the other. This is Extra 2731 East, and not far behind the tender are hoppers 134594 and 47859, their tanks and pipes inhaling as train-line air pressure builds up to the pace set by cross-compound pumps mounted on the Kanawha's pilot deck.

The mists hang heavy and chilly over Danville, but the calls of bobwhites and crickets herald a new day — Friday, June 3, 1955 — when the 2731 starts to pull at 6:40.

A GOOD YEAR FOR C&O

The loaded hoppers riding along behind the Kanawha are clicking off a splendid year for Chesapeake & Ohio. Coal tonnage is up one-third, and when the books are closed on 1955, the total will almost equal the record-breaking year of 1951. C&O is having its cake and eating it too. Aware of the vulnerability of a one-commodity carrier, even a coal road, Chessie began diversifying its traffic immediately after World War II. The absorption of Michigan regional road Pere Marquette helped, as did more emphasis on PM's carferry operations spanning Lake Michigan. Within 12 years, some 1,200 industries were persuaded to locate on-line,

particularly in the Detroit area and in the chemical-atom empires mushrooming in the Ohio and Kanawha river valleys. Mileage-hungry merchandise trains like *Speedwest* pounded past the familiar coal drags in their urgency to meet first- and second-morning delivery promises.

Coal? On C&O at least, the black giant had just been playing possum. After hitting a peak of \$196 million back in 1951, coal and coke revenues slid to \$185 million in 1952, then \$164 million in 1953, finally lurching down to \$138 million in 1954. All the while, Chessie kept soliciting merchandise with one hand and grooming its vast coal-car fleet with the other. And in 1955 C&O was ready when the mines resumed digging in earnest, when the black giant flexed his muscles, when national coal production climbed 19 percent. No one was less surprised than President Walter J. Tuohy. It takes a ton of coal to make a ton of steel, he says, and notes that the electric power industry — which now burns more than twice the coal mined on C&O — expects to double its capacity by 1965 and triple that by 1975. Western Europe needs coal, the atom industry needs coal, chemical plants need coal. No, Tuohy isn't surprised. And because of that, not a single mine on his railroad is missing a day's production in this booming 1955 because of a car shortage. Score one for faith and foresight.

A train ahead of Extra 2731 making pickups and setouts stabs the coal drag a couple of times, but before the sun reaches its meridian the 2-8-4 brings her hoppers off the Coal River Subdivision and onto the main line at St. Albans, takes on a tank of water, and departs eastward on multiple track up the Kanawha River Valley. By 12:29 p.m. the coal is into Handley, W.Va., the yard next to Montgomery, and a diesel yard engine is cutting off the caboose and rear 20 or so cars



At Danville, a car inspector adjusts the waste inside one of car 134594's journal boxes, possibly preventing a hot box.

to squeeze the train into the yard.

Standing cars earn no money, so Handley operates as a relay station instead of a storage site. A crew is called at 1:15 to move coal that has barely stopped rolling. There is just time to nail a cut of manifest cars on the head end (for the Virginian Railway interchange at Deepwater), then a dusty blue-and-yellow A-B-A trio of F7 diesels takes over for the next lap of 72½ miles to Hinton, W.Va. In that distance the elevation rises from 631 to 1,382 feet, but the grade stays below half a percent all the way as the rails follow first the Kanawha River, then one of its tributaries, the New River. Rumbling along in the echo of chanting V16s, hoppers 134594 and 47859 swing past Gauley Bridge, W.Va., then into New River Gorge — 60 miles of canyon in which the voices of the yelling diesels bounce off walls that rise up more than a thousand feet. Hawk's Nest, Horseshoe Bend, Sandstone Falls . . . the 145 loads go trundling along behind the diesel master as coal goes to market, as Tide 470 is beckoned toward the piers of Newport News. As the sun abdicates its crown and shadows deepen, the coal slips inside yard limits at Hinton, the foot of the climb across the Alleghenies.

There's work to be done in Hinton: tonnage must be adjusted out of regard for the mountain ahead and the helper power available; coal in demand like Tide 470 must be placed on a first-out basis; there are gondolas loaded with Army float bridges tabbed for the first drag east; power and crews must be called; and the dispatcher must find a vacant slot on his trainsheet so the coal doesn't stab a passenger train or a merchandiser as it's hoisted to the summit of the Alleghenies.

The engine crew gets a 10:45 p.m. call, and not long after that, their 4,500 h.p. F7 trio is idling back to lock couplers with 100 cars — more than 8,200 tons of inertia.



The foreman of the 9 p.m. Danville “switcher” — a 2-6-6-2 — carries his list up to the engine crew; they’ll assemble 135 loads.

“Covered tops,” the engineer calls his cab units out of affection for the more popular road-switcher models, but the horsepower of the two types is equal and tonight every pound of tractive effort will be needed because the usual helper locomotive is absent.

CALCULATED RISK

At 11:32 p.m. the five-tone air chime talks up and the throttle comes back on a calculated risk. In less than 90 minutes No. 2, the *George Washington*, will be climbing the mountain. The question is written across the railroaders’ Hamiltons: Can 4,500 horses lift 8,200 tons 50 miles up a 0.57 percent grade and be in the clear at Alleghany for the road’s top passenger train?

The V16s wind up and the generators try for a tenor note, then settle for soprano. The wheel-slip light flashes in the darkened cab, sand coaxes 24 driving wheels, and — with the needle lying hard on 1,400 amperes — Extra 7089 East comes alive. June 4 is born as the diesels go grinding upgrade with the moonlit Greenbrier River down below on one side and a cliff of slide-detector-fenced rock on the other. Little Bend Tunnel . . . Big Bend Tunnel . . . 11 mph and 900 amps . . . 18 mph and 800 amps . . . finally 30 mph as the diesels obey a hogger who believes in putting ‘em on the last notch and leaving ‘em there.

Harts Run at 11 mph and 900 amps as the grade bares its teeth at 0.57 percent uncompensated, and a while later the diesels threaten to disturb the sleep behind the regal white columns of The Greenbrier resort at White Sulphur Springs. Up . . . and up . . . and *on up* — and then, just before 2 a.m., Extra 7089 is leaving the main and taking siding at Alleghany, 2,072 feet above sea level. From the west, a rotating headlight and a snarl of E8s, and No. 2 goes gliding by, on time. A sharp dispatcher and a talented engineer have

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Beside the New River at Hinton, W.Va., cars 134594 and 47859 (above the near pole) pass the station as four F7s lead their train into the yard late in the afternoon of June 3, 1955.



Eighty miles to the east, the two hoppers lead a string of cars over the hump at Clifton Forge, Va., at 8 a.m. on June 4. Two GP7s will take 160 cars on to Newport News.



An aerial photograph of a vast coal storage yard. The yard is filled with hundreds of rows of coal hopper cars, arranged in neat, parallel lines that stretch across the landscape. The cars are dark in color, and the ground between the tracks is light-colored. In the background, there are some trees and buildings, suggesting an industrial or urban setting. The overall scene is one of large-scale industrial operations.

Two Geeps (center left) bring a train into C&O's sprawling coal storage yard at Newport News. When hoppers 134594 and 47859 arrived on the morning of June 4, 1955, there were 7,627 loaded coal cars here. C&O, John B. Corns collection



An unseen “iron mule” between the rails propels a coal car, with a brakeman aboard, toward a dumper at Newport News. C&O

Continued from page 81

pulled off a sample of smart railroading on the mountain — and Tide 470 is that much nearer to the sea.

Retainers are set up, and at 2:17 the coal begins moving down the 1.14 percent of the eastern slope as sand, dynamic braking, air, and hot brakeshoes work in unison to hold 8,200 tons to the timetable limit of 20 mph.

The Hamilton numerals read 4:07 when the coal is “dead” in Clifton Forge.

HUMPING AT CLIFTON FORGE

Once again the coal cars must be sorted, and by 8 a.m. hoppers 134594 and 47859 are coming across the crest of the Clifton Forge hump. Some 18 riders are at work easing the hoppers down into the classification tracks; retarders aren’t practical because to accommodate them, the east end of the yard would have to be raised 16 feet, so great is the difference in elevation, and as yet the econom-

ics just don’t justify that expenditure.

Gradually the Tidewater coal builds into two blocks on tracks 4 and 5, and soon a pair of GP7 road-switchers is nosing forth from the engine terminal to assemble the hoppers into a single 160-car, 14,000-ton train. Actually, 160 cars is not the limit of the Geeps’ capacity down the gently descending James River line to Richmond; it’s just a convenient, flexible limit in view of such considerations as starting and stopping and lengths of passing sidings. The line, which knifes through the Blue Ridge Mountains on a river-grade profile, is one of those natural boons out of which 68.1 percent operating ratios (C&O’s in 1955) are made. Consider the plight of Norfolk & Western, for example, which encounters a 1.2 percent helper grade when lifting its coal across the same mountains.

At 11 a.m. the Geeps dig in (or rather, kick off the air in the descending yard at

Clifton Forge), and within a handful of minutes tide coal is rolling at 40 mph.

Five men and 3,000 h.p. taking 11,200 tons of coal to market at 40 mph — keep that in mind, because it’s a speed-tonnage performance no other medium of transport can match, particularly in cost. Flexible transport, made up of 50-ton and 70-ton units . . . all-weather transport, too . . . and regulated, self-supporting, taxpaying transport as well.

The coal arrives at the division town of Gladstone, Va., at 3:09 p.m., is reshuffled, leaves behind the same Geeps at 7:19, and reaches Fulton Yard in Richmond at 11:30. There’s an urgency now, because a ship set to load it is due at the Newport News piers at Sunday midnight. As of this Saturday night, 24 hours from deadline, the railroad is calling in 470 — 2 hoppers of it in Newport News, 118 more in Richmond (including the 134594 and 47859), 52 in Gladstone, and 50

in Clifton Forge. Enter the art of railroading again. Newport News handles 240 different classifications of coal and 40 to 50 grades of it. Ordering and receiving the correct number of cars of the requested classification, and at the appointed time — that's the ticket.

Tide 470 is hot; the sharp bark of the Alco yard diesel kicking hoppers about outside Fulton's yard office means as much. In the yellow glare of overhead yard lights, another 160-car train is assembled and power is coordinated: the two tireless Geeps that came from Clifton Forge on the head end, plus two more GP7s cut in ahead of the caboose, to boost the 14,000 tons up the 4 miles of 0.63 percent immediately east of Fulton Yard. At 3:17 a.m., 6,000 h.p. worth of Geeps (plus an initial kick by a 1,000 h.p. yard engine) lean into the awful effort of starting big tonnage on a grade. Traction motors warm, sand is gobbled up by fitful drivers . . . and finally, inertia surrenders as 160 cars move out and up from Fulton Yard.

ALMOST TO TIDEWATER

The speedometers of the Geeps show 8 mph and the output goes to 1,000 amps. A slumbering Richmond slips behind as 64 cylinders go yelling through the night to keep an appointment at Tidewater. A pause at the summit to unleash the helpers, then the Geeps ahead have a reasonably easy time of it down the Peninsula Subdivision and into the receiving yard at Newport News. The sun is up as the Geeps come snaking down through the standing lines of loaded hoppers — 7,627 of them in one yard — and coast to a halt at 6:29 a.m.

Tide 470 nears its final destination on railroad property as the Mystic Steamship Co.'s *Arlington* is docked at midnight, and at 12:10 a.m., hoppers 134594 and 47859 roll out of the darkness, across the scales, and into the grip of the iron mule whose steel fist shoves them up into the car dumper. Upside-down now, and inch-and-a-quarter-minus Beacon coal dug in West Virginia on Thursday morning pours onto the belts and is funneled into the *Arlington*'s holds minutes after midnight on Sunday.

To be specific: No. 134594 unloads 121,700 lbs. of coal while the 47859 gives up 122,000 lbs. The charge for these 121 short tons from Wharton No. 2 to Newport News — 512 miles — comes to \$3.66 per ton, or 7.48 cents per ton-mile, plus 4½ cents per ton for dumping.

Nos. 134594 and 47859 race vainly up the kickback, falter, then coast back past the dumper into the blackness of the yard. So much for 243,700 lbs. of the 61.6 million tons of coal originated by C&O in 1955. ■

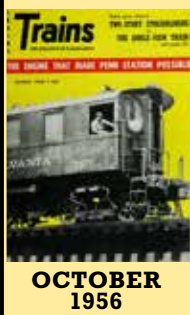
W. A. "BILL" AKIN JR. headed *Kalmbach's* art, printing, and sales departments at various times over 37 years. He provided photos for several of David P. Morgan's stories during the 1950s. Akin died in 1985.



Hopper car 47859 gives up its load in a rotary dumper shortly after midnight on June 5.



Once unloaded, cars roll out of the dumper toward the camera, up a steep kickback track, and reverse direction down to the empties yard. Later they'll head west for another load.



TALES OF TWO TRAINS

In 1956 the Budd Company departed from its successful formula of single-level, 13½-foot-high passenger cars by constructing two very different trains. Pennsy's "Tubular" train stands just 12 feet tall and is engineered for short hauls and a high load factor. Santa Fe's Hi-Levels tower 15½ feet and are designed for transcontinental service.

Herewith, firsthand reports on the high and the low . . .

Two-story STREAMLINERS

Santa Fe's double-deckers come in coach, lounge, and diner configurations. The Hi-Level cars may seem extravagant, but the fleet has earning power built into it

BY DAVID P. MORGAN



Hi-Level cars of Santa Fe's *El Capitan* snake into Dearborn Station, Chicago, in 1971. Within a month, the operation will be transferred to the new Amtrak, which would later adopt the double-deck concept for a new generation of cars, the Superliners. Mike Schafer

Nowadays, with everybody and his brother doing their damndest to squeeze the passenger train into the size of a toothpaste tube, new cars standing 15½ feet tall have a certain shock effect upon the press. A typical victim of a Santa Fe Hi-Level press trip was a wire-service correspondent who turned in this comment to Associated Press:

"The 'hi-level' train is almost the exact opposite of the various lightweight trains. It is high, heavy, expensive, and luxurious; the lightweights are low, light, cheap, and practical."

That estimate, understandable enough from a bewildered layman, is shy of the target. Cold analysis of the 47 two-story cars the Santa Fe has purchased from the Budd Company to re-equip the five trainsets of its all-coach *El Capitan* on the 2,224-mile Chicago-Los Angeles run reveals that the railroad has pinched its pennies, not squandered its dollars. Hi-Level turns out to be synonymous with practicality because at one stroke Santa Fe has (1) reduced the weight per seat, operating costs, and length of its *El Cap*; (2) placed a big gun in the hands of its traffic

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Budd's two new-style trains of 1956 — the low-slung "Tubular" for PRR (foreground) and the Hi-Level for Santa Fe (middle) — stand in the builder's Red Lion (Philadelphia) plant with a standard-sized sleeper for the Burlington's *Denver Zephyr*. Budd Co.

The ANKLE-VIEW train

By discarding the center sill, Budd has made an 8-wheel, 85-foot coach competitive in cost and weight with articulated trains. What's more, it rides like a train should

BY E. JOHN LONG



GG1 4870 leads the Tubular train, operating as the New York–Washington *Keystone*, into the nation's capital in the late 1950s. The train often ran with conventional cars coupled ahead of or, as is the case here, behind the Tubular cars. Frank and Todd Novak collection

When I first saw the new "Tubular train" from a high-level platform in the Pennsylvania Railroad's 30th Street Station in Philadelphia, my instinctive reaction was "Oh-oh, our train has a flat!" For there were the windowsills right *even* with the station platform, and people were sitting down below! I had to bend over to greet some pals already on board for the test run.

My first glance was at the center of one of the coaches. I ran my eye a little farther

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Passengers in the lowered center section are at ankle height with people on high-level platforms outside the windows. PRR

along the stainless-steel flanks and came to a couple of windows at normal level, then to a door at the same floor height as the station platform.

Almost everyone is familiar with the split-level houses popular lately in hilly suburbs. Now we have a split-level train built by the Budd Company; each car has its short flights of steps leading from the “foyer” down to the main “living room.” But this isn’t the only feature that distinguishes the Tubular not only from conventional passenger equipment but also from the other low-slung, lightweight, and less-costly new trains that have recently blossomed forth. It is unique in that its cars lack a center sill, or heavy underframe.

If this shocks old railroaders who feel a heavy underframe is needed to transmit the pull from the engine and to channel forces when brakes are applied suddenly, it should be explained that the Tubular has entirely new ways of taking care of such matters.

STARTING WITH A TUBE

It all began several years ago with the Mechanical Research Committee, established by six railroads to plan new passenger trains. As its name indicates, the Tubular began as a tube, a design that promised to cut construction costs. By adding a few small structural members to the bottom, sides, and top of the car, a steel frame of great strength and low weight was built up, making the usual heavy underframe unnecessary. Thus the car could be built closer to the rails, dropping the floor 21 inches in the center and lowering the center of gravity to only 45 inches above the rails.

With this settled, the next steps were to build a car of the standard 85-foot length to reduce pitching, provide four-wheel trucks for smoother riding, and place couplings at standard height for easy handling — features that set Budd’s Tubular apart from other lightweight trains.

The result is the split-level car with three seating areas accommodating 82 passengers. The lower section seats 56 people and one of the ends 12 more. These are no-smoking areas. The seats recline with individual foot-rests and are reserved in advance. For those who wish to smoke, there is a non-reserved section of lounge chairs and settees at the other end.

The Tubular ran its press-preview trial run on June 13, 1956. This was by no means a speed or endurance test; no records were attempted or achieved. The Tubular is a workhorse, not a sprinter. Since it entered regular service on the New York–Washington run on June 24 as PRR’s *Keystone*, however, it has maintained a schedule that is only 5 to 10 minutes slower than the *Congressional* and other crack trains.

The preview run was scheduled from Philadelphia as an extra to Newark, N.J., with



While conventional cars rely on a center sill and heavy underframe for strength, the Tubular concept incorporates the sides and roof into the overall structure. Budd Co.

stops at North Philadelphia, Trenton, and New Brunswick to pick up other reporters. At Newark we were joined by the New York press, and our locomotive, a standard GG1 electric, moved to the other end of the train. Then we backtracked to Princeton Junction and switched to the 2.7-mile branch to the lower freight yard at Princeton.

We slipped so quietly out of Philadelphia at 8:42 a.m. that one of the reporters remarked, “Old Velvet-Glove at the throttle again!” No one ever seems to know who Old Velvet-Glove really is, but it was another way of paying tribute to the incomparable GG1 and the tight coupling of the new train. At North Philadelphia’s high platform it was strange to look out a window and see ankles instead of the tops of heads. A very pleasant switch — in some cases!

We didn’t really begin to roll until we had passed Holmesburg Junction, a dozen miles out of 30th Street, where I noticed we were drinking in rail joints and open frog switches without a murmur. As we picked up speed in the open country there was no evidence of side-sway, not even at 80 mph or better on curves. I tested this by standing in the aisle without support and easily kept my position. One reporter placed a brimming cup of coffee on a seat, and not a drop spilled.

Perhaps the most outstanding impression of the seven almost-identical passenger coaches of the Tubular is their roominess. Although they are nearly 2 feet lower than the newest conventional cars, the ceiling remains the same height throughout, giving



A page from a PRR booklet shows pre-construction renderings of GM’s Aerotrain (top two panels) and Budd’s Tubular train. The road tested an Aerotrain in New York–Pittsburgh service during 1956–57, but did not buy one. The text here uses the term “Glider” for the Tubular train. PRR

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Among the Hi-Levels' new features is the low boarding door. Passengers can board from a standard platform without climbing vestibule steps or even needing a step box. Santa Fe



The Santa Fe Hi-Levels feature reclining leg-rest seats, air-powered sliding doors, and Southwest Indian imagery. Budd Co.

A quick glance at the table indicates that the Hi-Level consist *saves* cars — yet it also *adds* seating capacity! The conventional *El Capitan* seated 350 revenue riders, and 438 could be accommodated on the 16-car summer and holiday consist; the Hi-Level version accommodates 496. Moreover, the two dining cars of the replaced train had a combined capacity of 74, including lunch-counter seating, whereas a single Hi-Level diner seats 80, all at tables. (The big diner also saves on manpower, as between two and four fewer waiters are required.)

Now, check the weight differential: A 12-car Hi-Level *El Cap* of the consist described in the table weighs 900 tons; the orthodox 14-car train weighs 935 tons and the 16-car summer version some 1,069 tons. Or if you will, calculate this on a per-seat basis: A normal 72-seat Hi-Level chair car (there are 68-seat “step-down” versions with end stairways at each end of the train) weighs 79.5 tons, or 2,207 pounds per seat; a standard 48-seat chair car weighs 67 tons, or 2,792 pounds per seat.

Hi-Level cars are big fellows. All fit into the orthodox length of 85 feet but they stand 15 feet 6½ inches tall and weigh from 79.5 tons for a chair car to 83 tons for the dome-lounge and up to 96.7 tons for the diner. Yet except for the 12-wheel diner, all ride on four-wheel trucks. Outside swing hangers provide roll stability, and disc brakes smooth out the stops.

The chair cars are almost all that the advertising suggests: leg-rest reclining seats on 50-inch centers; carpeted floors; a p.a. system for announcements and recorded music; individual spot reading lights; and an overhead parcel rack for magazines, shaving kits, etc. The divided windows are only 21 inches high, but the view from the upper deck (which is more than 8 feet above the rails) offsets this. A traffic jam is apt to develop downstairs in the morning, however. Each restroom has two toilets and three

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A passenger ascends the central stairway into the upper level of a Hi-Level coach. The low end window beyond the man standing in the aisle shows that this is one of the “step-down” cars with end stairways for access to standard-height equipment. Santa Fe

Hi-Level lounges, enough equipment for five *El Capitans* plus a protection diner and lounge. Santa Fe has kept traditionally mum about individual pricetags, but a fair guess is \$275,000 per coach, \$325,000 per lounge, and \$375,000 per diner — or about \$13 million overall.

That is a lot of money. What did it buy? To answer, let's first compare consists:

Equipment	Hi-Level El Cap	Regular El Cap	
		Normal	Summer
Mail storage	1	1	1
Baggage	1	1	1
Dormitory	1	1	1
Chair	7	8	10
Diner	1	2	2
Lounge	1	1	1
Total	12	14	16

a generous amount of overhead in the lowered sections. The cars display different two-tone color schemes but have identical luggage racks, water coolers, lavatories for both men and women, and large picture windows. Plastics cover ceilings, walls, and ends for easy cleaning.

A SEPARATE CAR FOR POWER

As we sped across rural New Jersey, I strolled back for a closeup of another unique feature: the power car. This eighth unit of the Tubular can ride just behind the locomotive (which incidentally may be electric, diesel, or steam) or at the rear of the train. The energy of the power car is devoted entirely to production of electricity to light and heat the rest of the train, or to operate the cooling system in each car. Two 12-cylinder, 400 h.p. diesel generator sets — each with a capacity of 265 kilowatts — concentrate all electric power production in one car.

The power car has three advantages. It not only cuts power costs and simplifies car maintenance, but reduces car weight and the drag set up by axle-driven generators. It eliminates the need for heavy batteries and other appendages below the cars.

On the minus side, the power car requires that the Tubular train be operated as a unit so as to keep the electrical connections intact. A Tubular car, not being articulated, may be cut out at will, but no alien equipment can be put *between* Tubular coaches. Standard cars will couple with Tubular cars and can be operated behind the locomotive and ahead of Tubular if dependent on the engine for steam — or even behind the Tubular cars if it's summer and steam is no consideration. Either way, the Budd disc brake — which is installed throughout the Tubular — can be operated with equipment having standard air brakes.

About one third of the space in the 53-foot power car is occupied by an air-conditioned, all-electric kitchen compartment. Sandwiches, light meals, and beverages are prepared here for service to passengers in their seats. Since the kitchen is the full width of the car, it is much roomier than the average dining-car galley, and its stainless-steel refrigerators, oven, and storage lockers are a delight to the eye. Seven car-lengths is a long distance to keep coffee hot or ice cream cool — so the fourth car has a food-service cupboard to augment the kitchen.

On the press run, only sandwiches, fruit juices, and coffee were served. I asked one of the waiters how he liked the new train and whether it was any easier to negotiate. "Much comfortable, sir," he replied with a grin.

Which would be a good word to describe the riding qualities of the Tubular for passengers, too. The general noise level is very low and does not interfere with conversation at any speed. To those seated in the central sections of the cars, there is no audible clicking of the rail joints after a speed of 30 or 40



A man reads a book on the main level of a Tubular coach while people relax in the smoking lounge above and behind him. Note the dark-colored ramp up to the end door. PRR



The conductor signals that the gleaming Tubular train is ready to depart 30th Street Station, Philadelphia, on the June 13, 1956, press trip to Newark and Princeton, N.J. PRR

mph is reached. One man inquired if the Pennsy had ribbon rail at that point. The answer was no — standard heavy rail only. Riding over the trucks one could detect rail joints faintly, but even there the sidesway is negligible. Nor is there any bounce or pitch.

The versatility of the Tubular was demonstrated at Newark when the GG1 was uncoupled and then hooked to the other end of the train. While we were in Newark, the

train crew demonstrated how easily the seats may be turned. Each pair revolves on a pivot by pulling the seats toward the center aisle an inch or two. Everything worked perfectly en route to Princeton Junction.

I've ridden the branch from Princeton Junction to Princeton to attend football games, and I was interested to see how the Tubular would travel on the line's less well-maintained roadbed — particularly as it

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washbasins, which is standard for existing long-distance coaches seating 44 to 48 people; a Hi-Level car carries 68 or 72, so the arithmetic is naturally upset.

The dining car is the biggest in seating capacity ever built. An air-conditioned, all-electric kitchen below (also of record size) sends food up on a pair of dumbwaiter "Subveyors." Because of the car's enormous seating capacity and because double-deck dining is new on so large a scale, initial service has tended to be both slow and confused. Minor bugs have to be ironed out and crews ori-

HI-LEVEL LOW-DOWN

My answers to these questions are based upon approximately 3,000 miles of Hi-Level travel, both on Santa Fe itself and on a Pittsburgh-Washington press run on the Baltimore & Ohio. I've slept and eaten aboard the equipment, talked with reporters, railroaders, and revenue riders about it, and taken a long look at everything from disc brakes to the lounge's rooftop glass.

Frankly, I regard Hi-Level as a happy compromise between a good ride and the economic facts of life. Excluding the second-

The tall cars ride well, even above 90 mph. Any tendency to heel on the curves is so remote as to be inconsequential. The high center of gravity (65 inches) loses its terror when you consider that it's comparable to that of a standard diesel passenger unit.

One design point is interesting. As opposed to the new concept of a head-end power supply for the train's electrical needs (air-conditioning, lights, kitchen, etc.), Hi-Level cars are — except for steam heat supplied by the locomotive — self-sufficient. Each chair car packs a 40-kw diesel-alternator set; the lounge takes a 60-kw one (because of the increased demand for cooling); and the diner

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A full-width, 18½-foot kitchen is located in the power car at one end of the train. Light meals and beverages are prepared here and served to passengers at their seats. PRR



Adjacent to the kitchen, two diesel generator sets supply electricity to the train. **PBB**

moved into the little-used trackage of the lower freight yard, where the train was to be parked while we ate lunch. But no “rock and roll” was experienced. The Tubular took the spur and the loading tracks as nicely as the high iron it follows in regular service.

An overcast sky reduced the light from outside, and for the first time I noticed the bright fluorescent tube fixtures in the ceiling. The plastic handrails along the three steps between the car levels were illuminated, too!

COMPARING THE TUBULAR

Most comparisons, they say, are odious. But because the need for new passenger equipment continues to be pressing, examine the Tubular from several points of view. Without a locomotive, the eight-car train is 648 feet long and weighs 382 tons. This figures out to 1,331 pounds per seat (including the smoking lounges) compared with 2,025 pounds per seat for the most modern conventional coach for daytime travel.

The original cost goal the Mechanical Research Committee set for the Tubular was \$1,000 per seat. Because the train cost the Pennsylvania more than \$1 million, the cost per seat comes to about \$2,000. Engineers estimate, however, that in production the Tubular might be turned out for \$1,500 per seat. In any event, this compares well with the present cost of conventional passenger-car equipment, which would be in the neighborhood of \$2,300. Of the three other leading new low-slung, lightweight trains put into service this year, estimates of cost per seat range as follows: *Jet Rocket* (Talgo), \$2,300; *Xplorer*, \$1,650; *Aerotrain*, \$1,000.

When I was asked to cover the preview run of the Tubular for TRAINS, Editor David P. Morgan added, "Don't pull your punches."



Turning the Tubular train's seats at the end of a run is simple, as demonstrated by an employee at Newark, N.J., destination of the June 13 press trip from Philadelphia. PRR

I took this to mean that I was to give the Tubular a critical glance.

Well, I looked hard and often. It was a hot, muggy day on June 13, 1956, but the air-conditioning functioned just right. Washroom and other facilities were adequate, better than on most trains. Several times I did not know the train was under way until I glanced out the window. Stops were smooth. And the ride even at high speed was quiet and swayless. So I had to dig deep to come up with a couple of flaws. One was an unexpected little dip or ramp as I

walked in from the vestibule to the floor areas over the trucks. No sign warns of this, and if the train is picking up speed, the passenger might do likewise — with the steps to the lower level as a takeoff point!

Perhaps this criticism is premature, but the seats seemed a little stiff and had only two positions, in contrast to three or more for some reclining seats. Baggage racks are the right height, but too shallow to prevent coats and wide parcels from overhanging. There is not quite enough space at the end of each car for large valises. A fault in common with the

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A black and white photograph showing the interior of a train car. The view is from one end of the car looking down its length. On the left side, there are rows of dark leather-upholstered seats with armrests. Large, arched windows run along the top of the left wall, providing a view of the outside world. On the right side, there are smaller tables and more seating. The floor is covered with a patterned carpet. The lighting is bright, coming from the windows, creating a sense of depth and perspective.

carries a pair of 40-kw units. These engines make noise, so much so that it's sometimes difficult to hold a conversation at normal tones on the platform outside a Hi-Level car; once you're inside, soundproofing eliminates any nuisance. Theoretically, at least, future cars could incorporate a single source of juice

The point is pertinent because Hi-Level is, in essence, a superb study in space utilization. Airlines and bus operators might well envy the carbuilder's license to construct a

mobile dining room seating 80 at tables in an overall length of 85 feet, or the ability to construct equipment in layers. To the competition, at least, Santa Fe's exciting grasp of this situation may make more sense than simultaneous efforts by others to seat passengers on each other's knees. ■

The Tubular appears to be the most promising of the new passenger equipment in the lightweight, low-cost, low-center-of-gravity category offered this year. Solidly built and

A black and white photograph taken from the side of a train car, looking down the tracks. The train is moving away from the viewer, and the tracks curve to the left. There are trees and utility poles in the background. The image is slightly blurry, suggesting motion.

E. JOHN LONG, a Maryland-based writer, contributed at least a dozen stories to TRAINS between 1951 and '57, plus one, on Sunnyside Yard, that remained unpublished until 2003.

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"I'm a
RAILROAD
FAN"



Lightning-striped E8s lead the streamlined *Empire State Express* west over well-balasted multiple track at Rochester, N.Y. The prosperity suggested here is long gone from the New York Central. Linn H. Westcott

The man who runs New York Central took the job for one reason: to save the railroad from itself. This is Al Perlman's story . . . why he came east, what he found, how he took hold, and why he aims to finish in the money

BY DAVID P. MORGAN

In June 1954 the most self-possessed man in the business showed up at 230 Park Avenue, New York, to run a railroad that (so he was told) was "bankrupt, but just didn't know it." He came on his own terms — at the invitation of a man he had never met — from a vice president's desk on a 2,165-mile road in Colorado and Utah, to the second-largest privately owned and operated railroad in the United States, which is to say in the world. He walked into the angry aftermath of a proxy fight waged by gadfly Robert R. Young for the 10,713-mile, \$2 billion New York Central over the loud lamentations of the incumbent board, a majority of individual stockholders, the Association of American Railroads, *Fortune* magazine, and even a direct descendant of the Vanderbilt family that had built the road in the first place.

He was Alfred Edward Perlman. He arrived in New York with that unblinking calm of a man who knows what he is about, who knows that the size of a problem is subordinate to its solution. He came, he says, not for money. Salary and stock options were not mentioned in his negotiations with Young; he even estimates he'd have more take-home pay if he'd remained with Denver & Rio Grande Western. No, he came because, in his words, "I'm a railroad fan" and "I had one more chance."

One more chance, that is, after a career of extraordinary note. After graduation from MIT in 1923, Perlman went to work in Northern Pacific's engineering department, did a stint of consultant duty for the government during the depression, then caught the eye of the Burlington's Ralph Budd. That, and the Republican River, sent Perlman upstairs. On May 31, 1935, unprecedented rains forced the river out of its banks in southern Nebraska and put 216 mainline miles of the CB&Q out of action. Bridge after bridge was swept away as a wall of water ripped 41 miles of track off its roadbed and left up to 24 inches of dirt and debris over many more miles. By throwing away orthodoxy and implementing his now-famous policy of off-line track equipment, Al Perlman had the line to Denver reopened in 23 days flat.

Which was sufficient for the trustees of the bankrupt, mountain-ridden D&RGW. They "borrowed" Perlman, and he impressed his employers to the extent that he made it from maintenance-of-way engineer to executive vice president in just 16 years. Along the way he established that startling pattern of railroading that was to catch Young's eye in 1954. A disciple of technology, Perlman



Perlman looks on as a veteran train dispatcher points out the features of a new Centralized Traffic Control console. Rebman Photo Service

scrapped the work train in favor of off-track vehicles, laid welded rail, helped urge total dieselization, and became an exponent of research. More than any other man, perhaps, he was responsible for the fact that an operating ratio of more than 90 percent in 1937 was down to 65 in his last full year with the D&RGW.

The Rio Grande and its rebirth had become, in his own word, “routine.” He looked east and found it impossible to avoid the suspicion that the New York Central and the Pennsylvania — cornerstones of the industry

— were rolling downhill, and that if they failed, government ownership would result. So when Young invited, Perlman accepted.

“I’m over here for one reason,” he explains in his soft-voiced, dreadfully direct way. That is, to rescue a big railroad from the sins of an inflexible, change-resistant administration and to restore it to its onetime princely station in life. Hearing him appraise that task, one gathers that it has never occurred to the man that he is not equal to the awesome job or that he will not complete it on time and with spectacular consequence.

PERLMAN ON NYC’S TERRITORY

Perlman is anything but unhappy over the Central’s location, disclaiming envy over traffic growth of roads sharing in the industrial boom in the South and West. “The greatest growth in the United States,” he says, “will be along the rim of Lake Erie.” His proof? A plant per day is abuilding along NYC track.

WHAT PERLMAN FOUND

If Perlman did not spell it out in detail, it would be difficult to credit what he found at 230 Park Avenue and out on the system in mid-1954.

For example . . .

On the outskirts of Cleveland, Perlman noted that NY-8, the road’s fastest Chicago–New York hotshot, was still standing in a yard an hour after its arrival. Told that the timetable allowed 1 hour 20 minutes for changing crews and cabooses and for inspection, he promptly ordered a stop of 15 minutes. Told that such an allowance was impossible, he explained that crews and cabooses could be changed in 8 minutes, leaving 7 minutes “just to fool around.” To the frowns aroused by his suggestion of a rolling or pull-by inspection, Perlman retorted, “This is the Water Level Route, isn’t it? Out on the Rio Grande we make a pull-by inspection and that’s a mountain railroad.”

In Chicago he discovered 240 cars being

moved east in three trains. When he asked why a gradeless railroad couldn't run a pair of 120-car trains and save a crew, he was told that yard switches would permit doubling over to make up a train (pulling a 40-car classification track and coupling the cars to 40 more on a parallel track), but not tripling. A simple trackwork change soon updated the yard to diesel-length trains.

On Central's affiliate Indiana Harbor Belt, Perlman found several diesels being serviced during Blue Island Yard's peak hour and, as they were clearly not needed there, ordered them to other yards to replace steam engines.

Superficial or anecdotal items, maybe, but Perlman diagnosed them as symptoms of a systemwide sickness. Central had not built one modern yard in 30 years . . . the latest available figure on how many people worked for the railroad was two weeks old . . . within 100 miles of Cleveland there were seven diesel repair shops ("The whole Burlington system has three," said Perlman) . . . track maintenance mechanization was woefully retarded . . . responsibility was spread out to the vanishing point by a rigidly departmentalized organization . . . and so on. Perlman reels them off, not so much with malice as with pity, pity for people who neglected the lessons learned by Rio Grande and other railroads during the depression, pity for a holier-than-thou attitude that infected too much of Eastern railroading.

He has an anecdote to prove his point. Not long ago, floodwaters washed out part of the Boston & Albany, so much so that a Central exec — on the strength of an engineer's first-hand report — thought the road might as well forget the whole thing and detour around the disaster area permanently over Boston & Maine. Perlman insisted on looking at the damage himself, flew to the nearest airport, then rode to the scene on a section speeder, clad in his favorite inspection togs: denim pants, hip boots, a storm coat. He found pile drivers set to attack the damage from either end, erecting trestles across the holes as they went, with work trains following to dump in fill. One gap — where rails hung out across thin air — would have cost \$1 million and several weeks to restore that way. Perlman told his engineers to lay box forms in the huge gully for drainage, then have a contractor shove in dirt with dozers and earth-movers until the track grade was rebuilt.

"But where do we get the dirt?" one asked. "What's wrong with that hill?" said Perlman, indicating a nearby bluff.

"That's not our property," was the reply. "Well then get our real estate man out here and buy it!" exclaimed Perlman.

So the track was back in place within a week at a cost of only \$30,000. The hill, incidentally, cost just \$5,000.

"You see," he says, "it just takes common sense and modern equipment," and he implies that the former is considerably more



Installation of CTC enabled Central to reduce its Buffalo–Cleveland main line from four tracks to two, with the outer tracks retained in places as sidings. Rebman Photo Service



In former four-track territory with CTC, MofW trucks can use the areas where the outer tracks had been. Freights can do 60 mph, keeping pace with NKP 2-8-4s. Jim McClellan

PERLMAN ON DETACHMENT

What does a man need to tackle a job like the rebuilding of the New York Central? First, Perlman says, he had to be "completely detached." Prior to Young's offer, Perlman was offered similar opportunities on other railroads but turned them down because they would have meant working with friends and former associates. On the Central he knew nobody. In other words, to save the company, he had to feel free to hire and fire, promote and move his employees in the best interests of the entire enterprise, rather than in terms of personal acquaintance. As for other attributes, Perlman smiles and makes the complex seem simple: "All you need, you see, is just a little common sense and some modern equipment."



Central's Frontier Yard, formally opened on March 14, 1956, replaced eight smaller yards in the Buffalo area, slashing classification time per car from 27 hours to 9. NYC



The Flexi-Van system, unveiled in spring 1956, employs truck trailers with detachable wheels that are loaded on special flatcars, saving time, weight, and height. Jim Shaughnessy

PERLMAN ON PIGGYBACK

Perlman is against hauling trailers of common-carrier truckers because it is "giving away the railroads' natural advantage of cheap transportation to [their] competitors," but he is enthusiastic for a "container system." As unveiled in spring 1956, the system involves backing a trailer up to the side of a flatcar, off its rear tires, and onto a "turntable" mounted on the car itself. This table pivots, and the trailer body is locked into place for rail movement. Mechanical advantages claimed include shorter loading time (4 minutes) than the normal "circus style," as well as the fact that dead weight of highway wheels, with clearance problems, are left behind. New York Central Transport — the road's new highway subsidiary — will do the hauling to and from off-line shippers.

pertinent, for without it, the latter is meaningless. He shakes his head, for instance, over the fact that Toledo's new passenger station was built on a curve, thereby complicating coupling. And as for the efforts of his most recent predecessor to shake the Central out of its lethargy, Perlman sums up the difference in his own approach this way:

"It proves you can't swallow an elephant, but you can chop him up."

CUTTING UP THE ELEPHANT

The elephant was huge, and Perlman went at him with Paul Bunyan's axe. He was dismayed to find that the Central had more than twice as many track-miles — multiple mains, sidings, yards, etc. — as it did route-miles, and he immediately kicked off a systemwide program of Centralized Traffic Control that will give the road \$43 million and 3,800 miles' worth of CTC by 1963.

Consider just the 163 miles between Cleveland and Buffalo, for what took place there typifies the new era of signaling that furnishes speed plus safety — plus pinchpenny use of track space. Formerly, NYC had four tracks here to move 85 or more trains each 24 hours; two were exclusively for freight with speed limits of 30 and 50 mph, and the other pair carried passenger trains and hotshot tonnage at up to 80 and 60 mph, respectively. In other words, 163 route-miles, 652 track-miles.

CTC, operated from a pair of panels by just two dispatchers in Erie, Pa., now accommodates this traffic on only two tracks, each signaled for operation in either direction — thus permitting a fast train to overtake or "run around" another. Formerly, crossovers to move a train from one track to another were located every 20 miles; now they are an average of 7.3 miles apart. At 16 points, sections of old main were left in place as sidings for local freights or for moving through freight off the running tracks in an emergency. Most crossovers are long No. 20 turnouts and may be taken at 45 mph. Finally, all freight can move at 60 while the passenger speed limit remains at 80. To run 150-car freights a mile a minute requires longer blocks to ensure safe stopping distances — which Central achieved by the simple expedient of removing every other signal between junctions.

The cost? \$6,238,460 . . . in theory. In point of practice, the net salvage value of the displaced rails and ties exceeds \$3 million; and Central gets a 52 percent tax credit on the balance of the cost since it's charged to operating expense. Which leaves approximately \$1½ million out-of-pocket cost for the job, and on that amount Perlman figures to get an 87 percent return on investment.

The man who slashed Central's once-prized multiple-track main in half spurns comment that he is bleeding the physical plant by such tactics. Perlman observes that lines in the South and West "have been doing these things for the last 20 years," and says

flatly that his CTC double track is a faster, more efficient property than the four tracks it replaced and has capacity to spare. He looks across at a fast-moving Berkshire on the parallel Nickel Plate Road and recalls how the rival's steam engines making 60 used to wheel past Central diesels limited to 30, and remarks with pride that such ignominy is history in 1957.

Six tracks to three, four-to-two, double-to-single — that's the formula for tomorrow, a birthmark of what Perlman says will be "an entirely new railroad."

BUFFALO: FROM 8 YARDS TO 1

Yards, those stumbling stones of speedy schedules, are being re-examined as well. The program, consisting exclusively of push-button or electronic hump-retarder classification layouts, is immense. The first car came through the retarders of the new Frontier Yard near Buffalo in late 1956; grading has begun on a larger sister at Elkhart, Ind.; and the contracts have been let for a new facility at Youngstown, Ohio, on subsidiary Pittsburgh & Lake Erie. In the blueprint stage are new yards to combine or replace the old humps at DeWitt and Selkirk (Syracuse and Albany, N.Y.) as well as one for the Southern District, probably at Indianapolis.

Perlman sliced up the elephant in Buffalo with breathtaking speed and design. There the need was to classify cars moving in and out of an intensely industrialized area; in other words, the problem was with local rather than overhead or through business. There was the sizable hump facility at Gardenville, N.Y., plus seven smaller yards totaling 208 track-miles.

The new Frontier Yard, with just 75 track-miles, has replaced all eight of the old yards, reduced classification time per car from 27 hours to 9 (Perlman thinks he can cut that to just 6 hours), and will repay its \$10½ million cost out of savings in just over two years. The switch machine permits the hump conductor to punch in routings for up to four separate cuts of cars rolling off the hump as the totally automatic retardation computes a rolling car's speed and weight, mixes it with such factors as wind and route resistance and coupling zone, then sets the retarders so the car will enter its track at a safe coupling speed — all without so much as a human glance. Such techniques enable Frontier to expedite an average 2,750 cars per day, and it can handle a peak of 3,500 cars in 24 hours. Not the least of its benefits is an annual saving of 223,000 car-days, which means, in effect, adding approximately 600 freight cars to the fleet.

Central had to clear 220 acres of old yards on the same site, move more than 800,000 cubic yards of earth, lay 75 miles of track, garnish it with electronics (40 miles of underground communication cable, for example), and erect buildings before Frontier could classify its first car. Yet the job was done in 8



Posing before the real thing, Perlman accepts a model of an RS11 road-switcher from Alco Products Vice President W. A. Callison in June 1957. The building in the background is Alco's new Criticality Facility for atomic research and development work. Alco

months flat — one-third the normal estimate. In weeks, men who had never seen such a facility were running the new gadget so smoothly that Perlman even admitted the deed was superb and that one similar yard he knew of, in the West, had taken a year and a half to break in. Talk is, incidentally, that the new boss can be — and normally is — hell-on-two-feet to his executives, but in public he is quick to blame their past shortcomings on methods and to assess today's achievements in terms of individual merit.

Automatic retardation . . . CTC . . . off-line track maintenance equipment — Perlman makes it clear that all this technology was on the shelf years before he departed Denver, that he just happened to be the doctor who came along, diagnosed the patient's disease, and shot him full of hormones. Electronic car accounting that can locate a shipper's car

in seconds; a lab spectrograph that permits a diesel to run 600,000 miles on the same lube oil; a device that sorts through a 30-day supply of Pullman space and returns a reservation request in 20 seconds — this technology is old hat to Perlman. The miracle is not that he injected the Central with it so quickly but that the road survived so long without it.

Like the man in the library, Perlman's claim is not that he knows technology from T to Y but just where to look. A top brain from the American Management Association came in to help the Central unload its archaic departmentalized organization in favor of a regional system; IBM people were summoned to expedite accounting; in a few instances, executives from other roads — notably Western carriers — were tapped to aid in the rebirth. And the reason the president says Indianapolis "probably" will be where the new

PERLMAN ON FREIGHT RATES

Perlman charges "monopoly-mind" thinking within the industry with bringing the railroads to the brink of crisis. In the 19th century railroads developed the "value-of-service" principle of rate-making. In brief, roads didn't even meet their own costs hauling raw materials such as ore and coal but made up their loss and more by higher rates on finished products made from these materials. Today, Perlman says, this principle has been undone by competition and inflation. Railroading is no longer a monopoly. When railroads boost rates on finished goods, truckers can easily undercut them, yet even after the increases in revenue the railroads do not cover costs on moving raw materials. He demands a drastic revision in the rate-making principle, turning it into a "cost-of-service" yardstick.



Symbolic of the NYC of old, J-3a 5419 scoops water at the Chesterton, Ind., track pans circa 1953. J. R. Williams, Krambles-Peterson Archive



Perlman, in the cab of the *Xplorer* lightweight train on its 1956 visit to New York, shakes hands with the man who brought him to the Central, Chairman Robert R. Young. NYC

PERLMAN ON STREAMLINERS

Central's boss thinks the passenger train of tomorrow will be of "low-cost, lightweight, low-center-of-gravity" design. At the moment, though, it's thumbs down on equipment acquisitions because an industry earning less than 4 percent can't make money buying new passenger cars on the going interest rate of 5 percent.

Southern District yard will be located is because he won't know himself until the researchers at Carnegie Tech — who have taken all the pertinent data and punched it into a big electronic thinkbox — tell him what pops out after the computer's deliberations.

"All it takes," Perlman repeats, "is a little common sense and modern equipment."

Which is a bit off the target, of course. It also takes Al Perlman, or a reasonable facsimile thereof, and it takes a chairman who is willing to sit in the wings of the theater and keep hands off, and NYC Chairman Robert R. Young is that man.

PEOPLE AND P.R.

Perlman acknowledges two "long-range" problems facing his road: personnel and public relations.

He is aware that all of the science he has brought to the Central, all of the techniques "can be scrapped in 15 years if we don't have the people to run them." You just can't hire the obvious talent in sufficient quantity from the outside, he says, because that means a man must give up a pension plan to come, and at today's taxes, the extra salary is not enough inducement. Instead, a railroad must train its own people, locate and promote and higher-educate the go-getters, then so organize things that these men feel "accountable" for something. Accountable — a word Perlman likes — is his term for fixing areas of authority and responsibility, for asking the best in a man and getting it. This emphasis on personnel, which in practice ranges from fat bonuses for good ideas from anyone, to college courses for the brass, will keep the railroad young in what counts.

Public relations is something else. If anything, it is the man's blind spot. This is, in itself, a paradox. Perlman is, once you get to

him, a cordial, informative man to interview or simply chat with. He is far from mediocre at the speaker's rostrum. In all of his contact with the outside, he has something to say worth the hearing, agree or not, and he knows how to say it and when to document it. Yet until late 1956 the Central doggedly short-changed itself in public relations in two distinct ways. Corporate temper flared when shock tactics stirred the ire of press and public in such cases as the proposed abandonment of West Shore commuter service, and the press leak of the request for a 45 percent hike in Pullman fares. Next, rumor instead of positive, elaborate information from 230 Park Avenue muted what may well prove to be *the* railroad story of the decade: Central's reconstruction.

Perlman has answers to charges of p.r. lapses. He argues (from a point of strength) that his job at Central has been restoring the cash position of the railroad and that a president so occupied cannot live out on the road directing its recovery *and* provide the amenities conducive to favorable editorials and lots of ink on page 1. And, he does not believe in selling the press or anybody else anything that does not exist. For example, he is eager to explain Frontier Yard today when cars are being processed through the Buffalo area in 9 hours, but talking about mere blueprints when per-car time was still 27 hours would have been abhorrent to his sense of right and wrong, fact and bluff.

However, he is aware of the basic issue involved — that just because something is so does not automatically make it understood and appreciated by the public at large. Public relations is not an exact science. If Perlman gets a solid grip on outside minds, as he certainly has on inside machines — stand back. By way of footnote, it may be noted that the press owes Perlman a much better shake than he has received to date.

WHAT WOULD PERLMAN DO?

The hour is early to pronounce either a fair or final verdict on the Central's man from Colorado. For instance, 1957 will be the first full year of accounting for such basic revisions in the physical plant as those 163 miles of CTC and Frontier Yard. It is one thing to cite the need for accountability among personnel, but as the president adds, "It's a long, hard road to go along," this undoing the traditions of generations and replacing them with new ideas.

Then there are the Central's passenger trains. They run off half the train-miles on the railroad, turn in a substantial share of the gross, and — in Perlman's opinion — lose a torrent of cash. This includes the whole business, from Railway Express to the last Pullman car, except maybe mainline coach riders. It's an unresolved question, yet some solution is inevitable if the railroad is to produce Perlman's promises, not to mention



The *Rochester* stands at the Weehawken rail-ferry terminal across the Hudson from Manhattan around 1953. Despite its progress on other fronts, NYC stirred public ire in its bid to end the costly West Shore commuter service. B. L. Stone, Krambles-Peterson Archive



The *20th Century* departs Englewood on its last lap into Chicago in August 1956. Losses on such trains prompted Perlman to seek a 45 percent hike in Pullman fares. John Dziobko

Chairman Young's 1954 mention of \$9 and \$10 dividends.

There are other factors of which Perlman says, "We are not the ones who determine..."

But there is one very real and most exact factor in the affairs of this great railroad. He is a man from the West, a man with utter yet quite warranted faith in himself, a man who

asks no quarter and offers none, a man who has accepted complete "accountability" for the future of more than 10,000 miles of very strategic railroad. To a degree, he is becoming a human yardstick for all railroading, for in instance after instance it is increasingly difficult to resist the thought, "What would Perlman do here?" ■

PERLMAN ON PASSENGERS

"We're not defeatists!" snorts Perlman at those who hint he is trying to unload his passenger business. He is unalterably opposed, however, to a "philanthropic approach" to passenger-service losses. Central, he says, loses heavily on mail, express, commuters, and Pullmans, but may "break even" on mainline coach travel if volume holds after the recent 5 percent fare boost. His 45 percent Pullman fare hike — still pending — is urgently needed, he says, and he does not think such a hike would scare off the typical Pullman rider, who is either wealthy or riding on an expense account. Future growth will come on, say, 400-mile coach runs.



*The rare
and wonderful*
**GAINESVILLE
MIDLAND**

It's OK to look at this Georgia short line's 2-10-0s, but please don't put one in a park because, as the V.P. says, "We need all the engines we've got"

BY **DAVID P. MORGAN**
PHOTOS BY **PHILIP R. HASTINGS**

It is indicative of the Gainesville Midland Railroad Co. in 1957 that a difficult if delicate problem facing Vice President A. H. Wilson is how to prevent souvenir hunters from bodily making off with the railroad — spikes, rails, sounds, engines, sights, and all. He is besieged with requests for switch keys, lanterns, even cabooses. The cement and asphalt of U.S. 129, which parallels the light iron of the Midland for most of its 42 miles between Gainesville and Athens, Ga., is dotted with yellow film boxes, and a man with a tape recorder has been on the property. Last year the inevitable occurred when a request came for a steam locomotive to mount in Piedmont Park, Atlanta. Wilson said ruefully, "I have to tell 'em we need all the engines we've got."

For as Mr. Wilson is well aware, this sudden popularity stems from the fact that the Gainesville Midland is an oasis in a desert of dieselization, that it is one of only a handful of U.S. railroads left, of any size, powered exclusively by steam. This circumstance is not handicapped in the slightest by the informal, rural nature of the line . . . by track that wanders up and down red-clay contours on a profile that owes nothing to grading or cuts . . . by men who manage everything from coaling locomotives to replacing ties without resort to mechanization . . . by a narrow-gauge heritage . . . by some of the fanciest footwork and throttle artistry known to switching . . . yes, and by the very fact of survival.

Gainesville Midland, which means 40 miles of main line plus 2 miles of trackage rights and 9.46 miles of sidings and spurs, 7 engines, 9 cars, 86 employees, and a gross of approximately \$500,000 a year, exists today because it is Gainesville's second railroad. The county seat and textile town of 15,000 population is northeast of Atlanta on the main line of the Southern Railway. For the 67 shippers in the area served directly by the Midland, the only other Class 1 railroads available are in Athens, a common junction for Seaboard Air Line, Central of Georgia, and the Georgia Road. Statistics tell the story. The Midland handles about 1,000 revenue tons a day, of which it delivers 80 percent, originates 15 percent, and acts as bridge line for 5 percent. This competition is hardly of such magnitude as to disturb the slumber of Southern's traffic vice president, but it does suffice to operate an independent railroad close to the heart of Gainesville. Says Mr. Wilson, "Whatever success we might have is due not only to the hard work of employees but also the loyalty of Gainesville business people."

Life is seldom easy for any short line, unless it be a captive of industry, and Gainesville Midland is no exception. To steam into 1957 the road has endured bankruptcy, amputation, a change of gauge, truck competition, Class 1 competition, a tornado, and — as a rule — a severe shortage of cash. Indeed, Gainesville Midland makes almost as imposing a figure in economic history as it does in steam, which is saying quite a bit.

Decapod 209 (left) leads a southbound local freight into a curve at Candler; bringing up the rear is one of the Midland's two ex-Lackawanna cabooses. Right, from top: Gainesville Midland Vice President A. H. Wilson sitting at the dispatcher's desk in the Gainesville shops; engineer B. L. Byrd at the throttle of a 2-10-0; and conductor L. C. Birchfield in a caboose cupola.





Little used after turning over in a 1954 derailment, 2-10-0 No. 207 switches tank cars at the bulk plant at Oconee Heights in April 1957.



Decapod 207 churns its ten 56-inch drivers across the Southern Railway's Washington-Atlanta main line at Gainesville.



Consolidation 301 switches at Gainesville. The two-story building above its stack is the Midland's headquarters and former depot.



MIDLAND MOTIVE POWER

No.	Type	History*	Cylinders	Drivers	Boiler pres.	Total wt.	Trac. eff.	Bldr., date**
116	2-8-0	CofG 215	-	-	-	-	-	BLW, 1907
301	2-8-0	CH&N 72, SAL 930	21x28 in.	54 in.	180 lbs.	177,000	35,000	BLW, 1920
203	2-10-0	AT&N 402	24x28 in.	56 in.	200 lbs.	213,000	49,400	BLW, 1923
206	2-10-0	SAL 544	25x28 in.	52 in.	180 lbs.	207,200	51,500	BLW, 1918
207	2-10-0	GF&A 401, SAL 524	24x28 in.	56 in.	190 lbs.	212,000	46,510	BLW, 1924
208	2-10-0	SAL 530	24x28 in.	56 in.	190 lbs.	212,000	46,510	BLW, 1930
209	2-10-0	SAL 533	24x28 in.	56 in.	190 lbs.	212,000	46,510	BLW, 1930

*AT&N: Alabama, Tennessee & Northern; CofG: Central of Georgia; CH&N: Charlotte Harbor & Northern; GF&A: Georgia, Florida & Alabama; SAL: Seaboard Air Line. **BLW: Baldwin Locomotive Works.

Blue Ridge Mountains was the cause of prolonged and fruitless negotiations among its creditor, the Seaboard Air Line, and the Interstate Commerce Commission. In order to realize something on their paper, the bondholders wanted to sell out to Seaboard, and the Midland's biggest connection agreed — provided it could rip up the unprofitable Monroe Branch. The Commission, in turn, approved Seaboard control (even though its examiner noted that the short line would become just a feeder to its parent) but turned down the abandonment proviso. Neither side would budge, so the receivers stayed in office, holding the road together in spite of the body blow of Gainesville & Northwestern's collapse in 1934 and a tornado that devastated Gainesville itself in 1936.

It all began less than a decade after Gen. Sherman's fiery march to the sea. In 1872 was chartered the Gainesville, Jefferson & Southern, a 3-foot-gauge outfit that spiked its slender 30-lb. rails from Gainesville to Social Circle, 52 miles, plus a 13-mile branch off the main line to Jefferson. Once GJ&S was declared complete, the Georgia Railroad (with which it connected at Social Circle) bought in and operated it until 1897 and the first receivership.

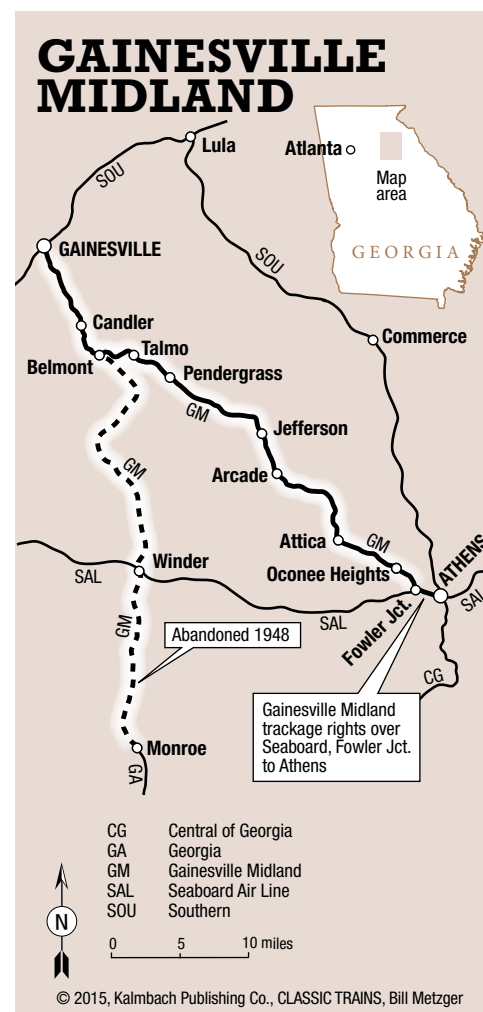
Then in 1904, "Savannah capital" acquired the slim-gauge from the Georgia Road (minus the Monroe–Social Circle leg, which the big road kept), renamed it Gainesville Midland, and within two years extended it beyond Jefferson to Athens, widening the gauge to standard as it went. For a time the reorganized railroad stayed solvent, helped in part by the interchange of pine and other lumber received from Gainesville & Northwestern, a short line that built north into the mountain forests in 1913. Alas, the Midland fell into receivership once more in 1921 and stayed under the thumb of the courts for 17 uneasy years.

For the balance of the 1920s the little road that wandered down from the foothills of the

Which brings the story to one Forest Greene of the Georgia Car & Locomotive Co., dealer in second-hand railroad equipment and purveyor to the South's short lines. It seems that in 1908 he sold an engine to the Greene County Railroad, a short line operating out of Monroe, and when he couldn't collect, he foreclosed and took over the road as a hobby. Gainesville Midland also inhabited Monroe, of course, and one thing led to another until, in 1938, Greene took over the Midland for \$127,000, plus assumption of certain financial obligations. This portfolio of two previously unrelated short lines, plus a Reconstruction Finance Corp. loan (paid up in full by 1942), rendered him sort of a Sam Pinsly of Georgia.

Forest Greene is the reason Gainesville Midland operates today. To restore his patient to some degree of health, he decided on drastic surgery.

Steam passenger service was replaced in 1938 with a small fleet of direct-drive Brill motor cars and a railborne bus. These units provided passenger, mail, express, and baggage service on two daily round trips out of Gainesville to Monroe and Athens until after World War II. Within six months of VJ Day



the Midland found itself merely carrying the crew around, so passenger service was discontinued and the Brills sold to sugar plantations in Cuba.

Greene (who had closed down the Greene County Railroad in 1941) decided the 32-mile Belmont–Monroe line would have to go after the war because of inadequate traffic and high maintenance (13 trestles), a move that led to an Interstate Commerce Commis-



Engine 206, one of 200 light 2-10-0s built for export to Russia during World War I but stranded stateside after the 1917 Soviet revolution, is partially torn down for repairs outside the Gainesville shops. The 52-inch-drivered engine is GM's only Russian Decapod.



Stacks of driving-wheel tires keep company with 2-10-0 No. 209 and half-century-old slide-valve 2-8-0 No. 116 (the Midland's senior engine) at Gainesville.

sion hearing in which those opposed asked that the Athens leg be torn up instead inasmuch as the Southern provided more or less parallel service on its branch from Lula. In 1947 permission arrived for the Monroe abandonment, with a footnote to the effect that the patient, not those at bedside, knows best which leg he wants amputated.

The Midland steamed along from one traffic crisis to another, shifting off a lumber economy when G&N folded, to the textile trade in its hometown. When trucks invaded the textile mills, the railroad turned to oil — until the trucks and pipelines cut much of that off, too. After the war the poultry feed business boomed to the point of 275,000 tons a year (many times the Midland had a million pounds of it in the Gainesville yard alone) and helped underwrite a much-needed modernization. Again, though, the trucks moved in. Today the Midland keeps going on the lading trucks don't want — coal, rock, etc. — and on the tonnage sold by virtue of giving personal service and being a leading local citizen.

The property that enthusiasts come from afar to see is actually quite advanced over what it was after the war. Decapods have largely replaced small 2-8-0s . . . 90 percent of the timber in the road's seven trestles is creosoted, and four of those bridges will eventually be filled in . . . 70 percent of all ties are treated, and the entire line has been surfaced with stone screenings. By 1956 "big rail" (that is, 75-lb.) had been laid as far south as Jefferson, and plans were in hand to replace the remaining 56-lb. steel in the near future. All told, the road figures it's spent more than a million dollars on track since 1945. This is quite a piece down the road from when Mr. Wilson recalls it as just "two little streaks of rust" from Gainesville to Athens.

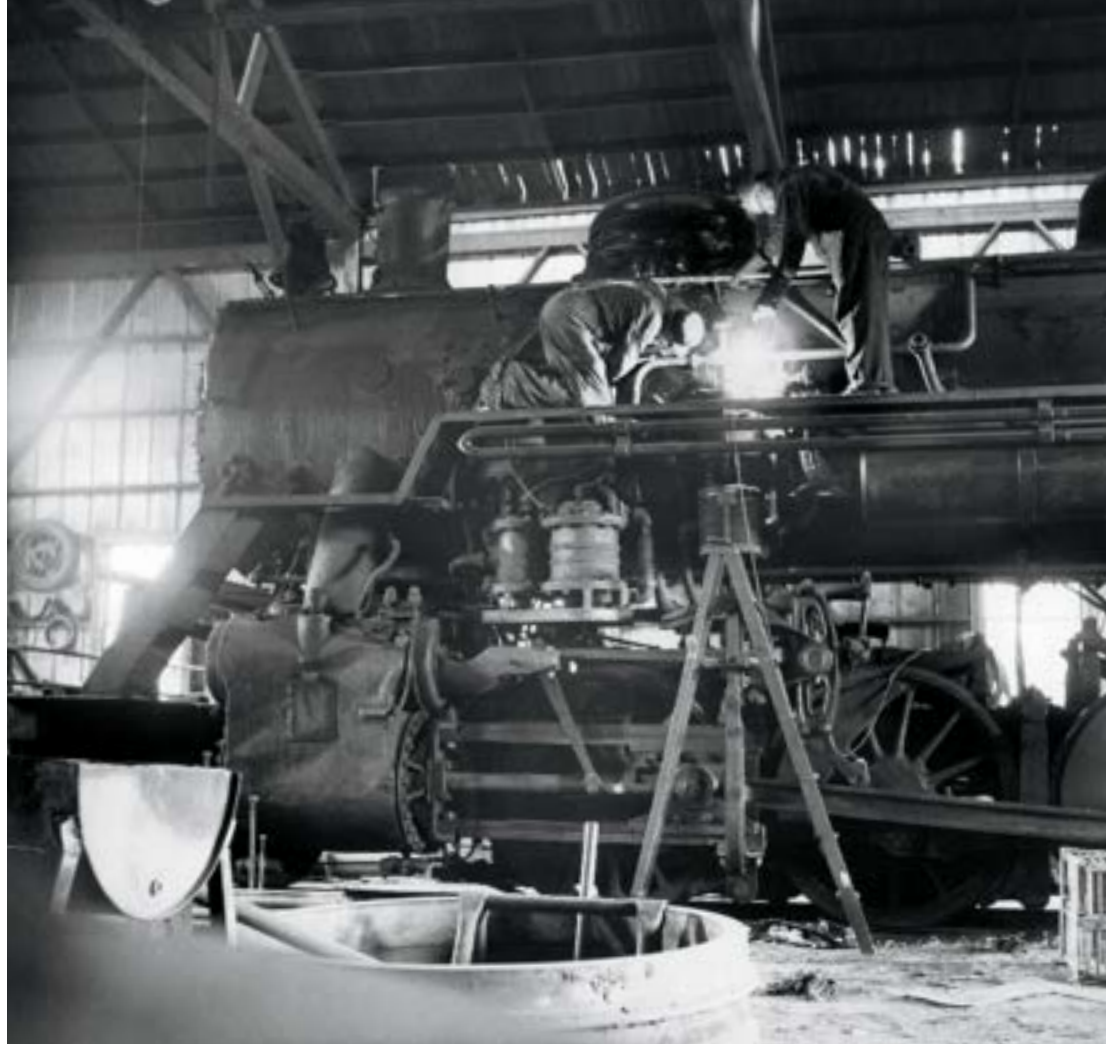
Thus Gainesville Midland became quite unintentionally, and with no shame at all, the heartwarming souvenir in steam that it is. No matter how you look at it, the road is welcome relief from modernism.

Its locomotives, for instance . . . Decapods are favored for obvious cause: five driving axles spread the weight over the trestles and 56-lb. rail, and afford plenty of dig across a sawtooth profile. The Midland owns one genuine Russian 2-10-0, a frustrated czarist that one employee considers "the best engine we got, pulls the most tonnage." The four others are of that high-drivered variety that Baldwin peddled all through the South during the '20s — to roads like Seaboard; Durham & Southern; Alabama, Tennessee & Northern; and Gulf, Mobile & Northern. They're loud-talking, high-mounted jobs, nimble and tough. The Seaboard handles switching in Athens, which leaves the veterans — a pair of 2-8-0s — to alternate doing the Gainesville yard work.

And the shops . . . Gainesville Midland, in



This April 1957 scene of two Midland men annealing the ends of a flue for Decapod 208 would be familiar to shopmen of 100 years earlier. The short line used to send its flues to the Seaboard shops for machining, but now must do the work itself, by hand, after the disestablishment of steam repair facilities on the big road.



The overhaul on No. 208 includes repairs to the steam pipe that feeds one of the 2-10-0's air pumps. Though hardly modern, the Gainesville shop can handle almost any task.

common with Norfolk & Western, finds it very lonely in steam. Dieselized neighbors are no longer able to help out on major overhauls (except for wheel work, which SAL does), parts are hard to come by, and the engines are elderly. Still, the talented shop crew in Gainesville manages to ease the power through ICC boiler inspections. The supply room is outdoors — stacks of boiler flues, driver tires, valves, rods, anything and everything a steam locomotive needs and that can wear out or break. Vice President Wilson eyes those parts and figures he won't be "forced to dieselize" until, say, 1961 or so.

The line, too . . . it descends, around curves and across trestles and up and over 13 summits, from 1,200 feet in Gainesville to 680 feet in Athens, and there's a bit of 2.38 percent plus more 1 percent-plus grades than you can easily count. There are reasons quite rational for such roller-coaster railroading — the Midland was born a narrow-gauge and in an age when cost of construction far outweighed tonnage considerations. Moreover, the country is laid across an apron of granite from Stone Mountain, and in instances heavy grading is more expensive than it appears. Thus, from Jefferson up into Gainesville the 2-10-0s can take only 690 to

700 tons apiece. The standard attack is to build up as much momentum as the track can take in the dips, and go across the ridges at 10 mph with the throttle back, reverse in the corner, stack bellowing.

Operations are, well, no sight to miss. . . . Normally, three crews a day work the Midland. The Gainesville switcher goes on duty at 6 a.m., and at 9 a.m. the local freight leaves on a round trip to Athens. At night, a through freight makes a turn to Athens, departing Gainesville at 7 p.m. Decapods

handle the road trains, and the skipper and the parlor man ride behind in one of two steel-underframe cabooses that began life on the Lackawanna. (These cars, incidentally, have provision for electric lighting powered by windmill-driven generators, also phone sets that can be plugged into lineside wires — and they ride like Pullmans.) The local steams past the back doors of Gainesville, bangs across the Southern's Washington–Atlanta main line (recently cut from double track to single with CTC), and heads for

MIDLAND IN A MINUTE

Mileage: 40 miles, Gainesville–Fowler Junction, Ga., plus 2 miles of trackage rights over Seaboard Air Line into Athens; yard and siding tracks: 9.5 miles

Rail: 56 lb. and 75 lb.

Locomotives: 7 (see page 107)

Cars: 3 boxcars (2 in express service, 1 assigned to a byproducts plant); 1 tank car (assigned to byproducts plant); 3 flats in MofW service; 2 cabooses; 2 wooden coaches for MofW extra gang

Employees: 86

Section gangs: 3

Stockholders: 10

Revenue tons a day: 1,000

Financial performance:

	1956	1955
Operating revenues	\$494,668	\$579,071
Operating expenses	\$412,820	\$463,141
Net operating revenue	\$81,848	\$115,930
Net income	(\$12,734)*	\$9,295
Operating ratio	83.45%	79.98%

*Deficit



All locomotives take coal at Belmont — because that's where the Midland's only coaling station is located. Men tip and shovel a cart of fuel from a platform into No. 207's tender.



Ash disposal, GM-style: cinders are dropped between the rails, shoveled into a wheelbarrow, and dumped on a flatcar.



A perforated pipe is used to ascertain the tender's water level. A valve turns off this device when water is not being checked.

pine-studded open country. At Belmont, once the junction for the Monroe Branch, the 2-10-0 eases up to a remarkable old coaling station. The man on duty there fills wooden wheelbarrows with Kentucky bituminous, then moves them to the edge of a platform level with the tender top. The fireman and head brakeman upend the barrows into the tender. All engines fuel here because it's the only coaling station on the railroad.

The next stop of size is the mill town of Jefferson; the railroad delivers cotton bales, starch, and coal — most of the cloth goes out by truck, though. The Standard Oil pipeline terminal at Oconee Heights is good for considerable switching and revenue, then it's just a step to the Seaboard main at Fowler Junction, where the crew calls in for a clearance from the SAL dispatcher to operate 2 miles into Athens. The local pauses only long enough to drop its cars, turn the engine on nearby trestles of Central of Georgia and Southern, pick up the loads switched out by Seaboard, then chuff out of town. The ride home is the tough one, the 2-10-0 barely getting a chance to catch her breath in the dips before assaulting another grade.

Ingenuity . . . Gainesville Midland, like any self-respecting short line, has that in good supply. For example, on December 12, 1954, Decapod 207 flipped over on the curve at the quarry just south of Gainesville, turning her 10 drivers to the sky and digging her whistle into the earth. The Seaboard's derrick could not be used because of the Midland's light iron. So the railroad drove a stake into an adjacent hill, ran cables from it to the 2-10-0, then tied them to locomotives stationed on either side. These engines moved back, cables tightened, and with the aid of three tractors, No. 207 recovered her equilibrium.

So the city of Gainesville is more fortunate than it knows. Few places of 15,000 enjoy the services of two railroads in spite of such handicaps as the Midland has overcome . . . and far fewer of any size can relax in twilight to the soft sounds of three locomotives in steam.

A 2-8-0 and a 2-10-0, their work in town and on the road completed for another day, sizzle quietly at the shops as ashes are dropped, tanks filled. Meantime, another Decapod clumps through the switches, 200 lbs. on the gauge, injectors on, steam generator whining. Except for movies and drug-stores, Gainesville has locked its doors, but its hometown railroad is very much in business as the Athens hotshot whistles off — without air horns, thank you. ■

PHILIP R. HASTINGS, who made the photos for this story, was among the most gifted and influential rail photographers. Born in Vermont in 1925, he became a psychiatrist. He and David P. Morgan collaborated on numerous articles during the 1950s. Hastings died in 1987.

Properly displaying markers on its former Lackawanna caboose, Extra 207 North, the day's local freight, returns from Athens to Gainesville in the late afternoon sun.





Between the orchards of California and the desert of Nevada stands a mountain wall that keeps F7s in the last notch. Hop the caboose of Extra 6311 East and discover what SP calls simply “The Hill”

BY DAVID P. MORGAN • PHOTOS BY PHILIP R. HASTINGS



How to hoist **5,000 TONS** **6,273 FEET**

It all begins so deceptively. Down in the spacious waiting room with the heroic murals in Southern Pacific's Sacramento station, the people aren't even aware. To them it's just Friday, October 4, 1957; the Milwaukee Braves upset the New York Yankees yesterday in the World Series, and the *Overland* is due within an hour.

The atmosphere is still low-key on the building's second floor, where the drama is actually taking place. Up there in an air-conditioned, soundproofed cubicle adjoining Room 212, a

man glances at the wall clock and depresses a foot treadle beneath his desk.

"Dispatcher, Mountain," he intones, then picks up his pen and begins inking in the numbers on a yellow trainsheet — numbers rolling out of a speaker, numbers in a girl's voice, numbers from Roseville, 17.7 miles to the east. And that's when Extra 6311 East is born.

In the beginning it's just numbers on a sheet denoting diesel units, tonnage, loads, and empties. Incidentally, there's specific space on that trainsheet for EXTRAORDINARY OR UNUSUAL

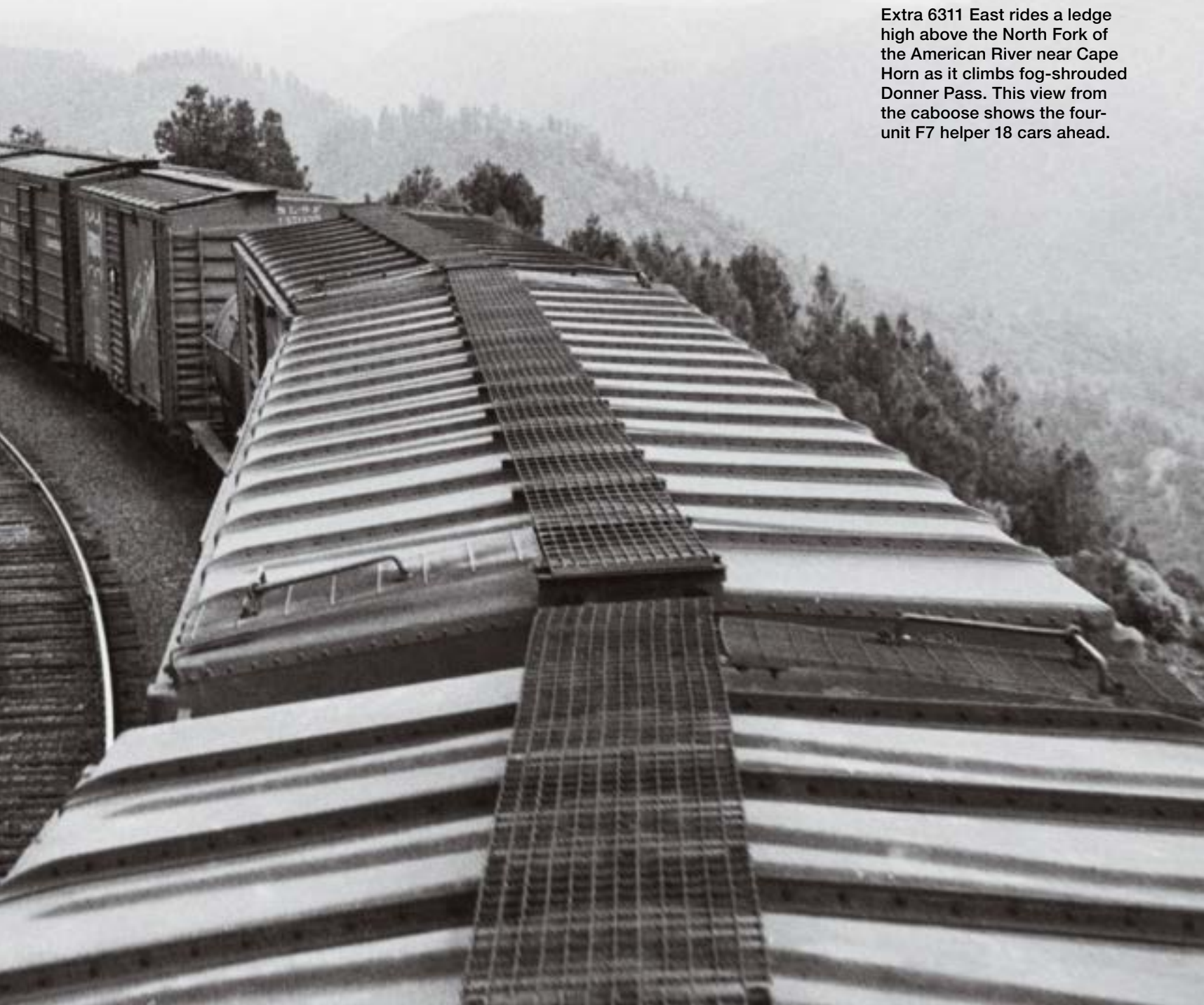
OCCURRENCES. Extra 6311 East isn't noted therein and probably won't be. But in a sense, every train that crosses the Mountain Subdivision of Southern Pacific's Sacramento Division is entitled to such adjectives.

For this is the prototype — America's original big-time mountain railroad in the West, the last link in the first transcontinental, the rails they threw across the Sierra Nevada during 1863–1868 to make the Pacific Ocean our western boundary in fact as well as on the map.

"Mountain Subdivision" is simply today's operating department

appellation for those 137.2 miles of railroad between Roseville, Calif., and Sparks, Nev., that were rammed over the Sierras by four Sacramento shopkeepers — plus 14,000 Chinese, 2,000 whites, 6,000 horses, nobody knows how many wheelbarrows, and the blessing of President A. Lincoln. Known then as Central Pacific, this was the road that crossed the mountains and the desert for a gold spike rendezvous with Union Pacific at Promontory, Utah — CP also being the road that sired the system we know today as purchased and leased by Southern Pacific.

Extra 6311 East rides a ledge high above the North Fork of the American River near Cape Horn as it climbs fog-shrouded Donner Pass. This view from the caboose shows the four-unit F7 helper 18 cars ahead.





Near Rocklin, 254 feet above sea level, a final view of the palm trees and orchards of the sunny, fertile Sacramento Valley can be had from the rear platform of Extra 6311 East's caboose.



Thirteen miles to the east and more than 1,000 feet higher up The Hill, the rear end passes the Placer County courthouse at Auburn. Clear skies have given way to gathering clouds.

Yes, this great American adventure began when four shopkeepers refused surrender to the Sierra range, and it is renewed each time the dispatcher in Room 212 inks in a new entry on his trainsheet.

MOUNTAIN WITH A CAPITAL "M"

Theodore Judah would have a difficult time today recognizing the line he surveyed across the High Sierra, and his broad-hatted Chinese labor would but infrequently spy their handicraft. Not long after the champagne flowed at Promontory, fills covered the huge trestles. Soon, the development of the rotary snowplow reduced snowshed mileage from 40 to less than 6. A grade revision and double-tracking program that was launched in 1906 and eventually wrapped up in 1925 steadied the footing of cab-forward Mallets and made the Mountain Sub what one DS calls "two long sidings."

But it remains mountain railroading with a capital M — even with diesels. Eastbound tonnage out of Roseville, which lies virtually at sea level, must be lifted to a 6,891-foot-elevation summit within less than 100 miles. Most of the way up, the grade varies between 1.5 and 1.9 percent, and about 18 miles ascend at 2.4 percent. Remember, it requires six times as much power to move a train up a 1 percent grade as it does on level track. In terms of the Mountain Sub, a pair of cab-forward 4-8-8-2s could lug 2,500 tons east from Roseville to Norden; today, two 6,000 h.p. four-unit diesel freighters are rated at 5,000 tons.

Then there's weather, from blizzards to floods (one is the parent of the other). It can be a cool but sunny 40 degrees in Roseville and a mean 24 below along the Truckee River at Boca. As for snow, it piled up to a depth of 17 feet on the west slope

as recently as 1952 — up to 800 inches of it for the total season. Occasionally, snow coming that fast and that high explodes into something spectacular, as when the *City of San Francisco* was stalled for a week in January '52. More often a bad winter is simply a dirty, unsung, victorious battle waged by five rotaries, a spreader, six flangers, big men, and experience.

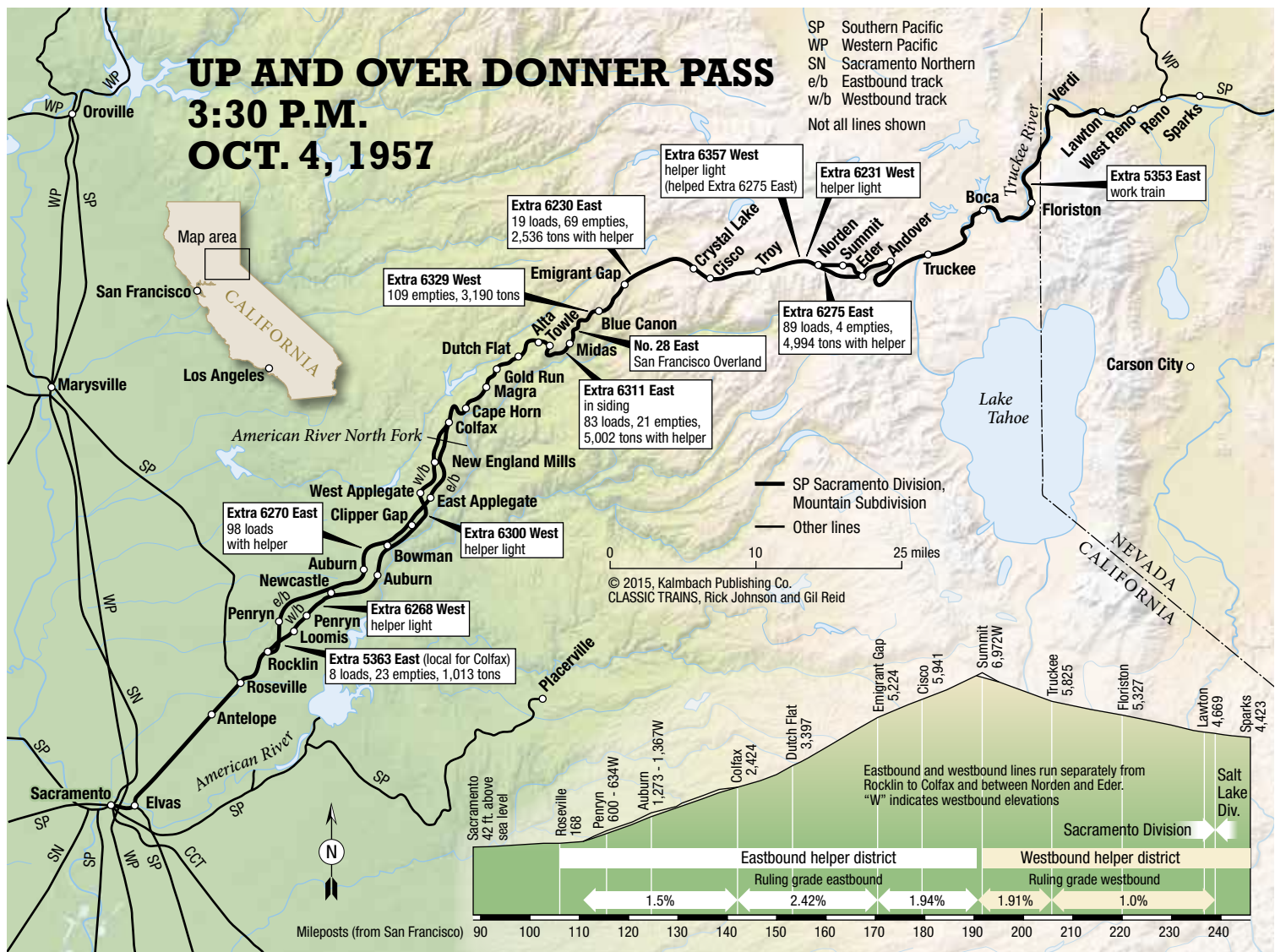
The Mountain Sub dispatcher gets a weather forecast every 3 hours from U.S. bureaus in Sacramento and Reno, but his fellow DSs in Dunsmuir, Calif., and Portland, Ore., are actually of equal or greater aid because many storms build up along the North Pacific Coast, then blow inland.

The DS in Room 212 runs his double-track mountain railroad by timetable and train order — plus. For instance, a push-button code system on his desk will illuminate letters on signal masts at strategic points not manned

by operators (e.g., M for main line, W for wait, and S for take siding). What's more, the DS and his trains keep in vocal touch with each other via a two-channel Bendix VHF radio network with stations in Roseville, Colfax, Norden, Truckee, and Sparks, plus sets on all diesel A units, cabooses, and snowfighting equipment.

Between Emigrant Gap and Andover, both tracks are signaled for running in either direction, which expedites operation in foul weather and aids in the movement of extreme-clearance loads that must use a specific track to squeeze through a tunnel. Automatic Train Stop is operative between Gold Run and Andover.

Added up, all this — plus approximately 87 diesel units, 52 engine crews, 25 train crews (helper engines explain that staffing discrepancy), 132-lb. rail, automatic block signals, remote-controlled propane-burning



SP caboose 1160 follows its train into Tunnel 23 near Clipper Gap. To the right and slightly higher is Tunnel 22, on the original, steeper alignment used by westbound traffic.



Flagman Robert Selanders is down on the ties at Tunnel 24, near East Applegate, to protect the rear of Extra 6311 East, which has been temporarily halted by a crew working up ahead.



With practiced ease, flagman Selanders snags “19” orders as the train passes Colfax. The orders tell the extra not to pass Midas, 19 miles ahead, before train 28, the eastbound *Overland*.



Near Dutch Flat, in a rearward view from a boxcar directly ahead of the caboose, a 6,000 h.p. set of four F7s drifts down The Hill toward Roseville and another helper assignment.



Extra 6311 East's helpers idle in the center siding at Midas, awaiting the passage of the *Overland*.

switch heaters, and a knowledgeable maintenance-of-way force — is enough to lick the High Sierra on its own terms and keep the Mountain Sub on a “business-as-usual” basis.

And its business is moving trains: 6 passenger trains a day, 25 to 36 through freights, and

locals making Roseville–Colfax and Truckee–Sparks turns.

BIG TRAINS FROM A BIG YARD

Jennings Yard, largest freight yard on the Pacific Coast and upgraded from flat to gravity switching in 1951–52 for \$4½

million, sprawls across 125 track-miles at Roseville, looking much like any other modern push-button hump facility. Capable of swallowing up 4,800 cars a day, Jennings produces trains with designations like LSP (Livestock Special) and BCW (Bay Cities West) and CS (Coast Special) . . .

and, on October 4, 1957, Second Advance OVE-4, which means *Overland East* on the fourth day of the month.

Which, in turn, means Extra 6311 East. Its ingredients began arriving after midnight and as late as 9 a.m.; these cars were then blocked for eastern connections at Ogden (Rio Grande and Union Pacific), as well as for Ogden proper, Reno, and Sparks. And when the yardmaster had his 5,000 tons, Extra 6311 East took shape on track 79 in the departure yard — with a 6,000 h.p. F7 quartet on the point and another F7 foursome cut in 18 cars ahead of the caboose.

The helper is not at the rear of the train so its exhaust fumes won't gas the crew in the caboose in tunnels and so the diesel will be pulling as well as pushing, thus reducing the danger of jackknifing the train on the 10-degree curves ahead.

There's a reason, too, for assigning road and helper locomotives of identical A-B-B-A makeup. In the event of an engine failure on the head end, the power can be swapped. At one



A westbound freight, led by yet another F7 quartet, coils past Extra 6311 East near Alta. The eastbound's helpers are just visible up ahead.



Riding the rear of No. 28, General Manager W. D. Lamprect's business car passes Extra 6311 East's helpers at Midas while the freight's conductor walks forward to inspect his train.



Author Morgan watches the head end of 6311's extra pull out of the center siding at Midas. He and photographer Hastings will board the 104-car train's caboose when it reaches them.

time SP substituted a 5-3 setup for the present 4-4 composition; in this way the road power could continue straight through from Roseville to Ogden without change. But to quote a trainmaster on the situation, "We ran out of cab units that way."

Compressed air stiffens the dangling hoses between 104 cars (83 loads and 21 empties) and the needle on the caboose gauge climbs to 85 lbs. . . . and at 12:01 p.m. PST, Extra 6311 East begins to pull. The slack runs out of 5,002 tons; massive mobile powerhouses consisting of 128 cylinders turning 8 generators and feeding direct current to 32 traction motors build up to 12,000 horsepower. The chant of the diesels picks up tempo. The freight rumbles past the Roseville passenger station, where the Alco cab units on the westbound *San Francisco Overland* are braking to a halt. Second Advance OVE-4 crosses over to track 2, the eastbound main, and roars up through the orchard-dotted Sierra foothills. The day is sunny and warm.

Extra 6311 East howls into a tunnel, pops out into sunlight, then noses into another. The speed is just 17 mph, and the railroaders' Hamiltons read 1:05 at Auburn, heart of a fruit-growing district that can generate up to 60 cars of plums, pears, and peaches a day. Then, smack on 1.5 percent, the big train halts on the flag of a crew relining a tunnel with cement. In five minutes the radio speaker crackles, "6311 East to helper. We're ready to go. Start shoving." And 5,002 tons move off and up.

FUEL CELLS AND CANNED FISH

What's the lading? Well, there's a car of rubber-fabric fuel cells being expedited to an Air Force base; also household effects billed to the New Orleans Port of Embarkation. And a boxcar with 1,582 Westinghouse wall and floor electric heaters. Plus olives, preserves, vinegar, canned fish, crude rubber, black-eyed beans, explosives (positioned near the center of the train), liquor, flour, cereal, cane sugar, incense cedar, and wool. Cars are billed for Newton Lower Falls, Mass.; Fort Knox, Ky;

Stevens Point, Wis.; Wickliffe, Ohio; and Atlanta, Ga.

Oh, yes: add a tiny Delaware & Hudson flatcar being returned east empty with the waybill notation, "Too short to load."

Now, less than two hours out of Roseville, all this tonnage has been hoisted more than 2,000 feet in elevation as the freight rolls through Colfax at 1:57 and past red order boards. The "19" tissues that the crew picks up forbid passing Midas ahead of No. 28, the eastbound *Overland*, unless authorized to do so by track indicators.

Suddenly, breathtakingly, surely, the diesels and 5,002 tons of Extra 6311 East coil into a tight curve, rumble out across Long Ravine Bridge, then march up 2.42 percent at 12 mph. Now the freight is climbing high above the American River. No. 1 track is white with the sand laid down to confirm the torque of many traction motors; No. 2 track is black with the stain left by flange oilers. The raw, forbidding, spectacular high country resounds to the roar of two-cycle GM diesels running wide open, hauling across the Sierra exactly twice the tonnage allowed some of the best articulateds ever built and doing it with no more men and in far less time.

Cape Horn.

Gold Run.

Extra 6311 East eases off to avoid catching up to the train ahead. That run, operating with four units unassisted, paused to pick up 12 cars left behind by a preceding freight that had a unit failure. A helper was dispatched down from Norden to Gold Run to get it under way.

All this is a smooth operation as the engineer of Extra 6311 East talks by radio to the train ahead, then to his helper. The olives and incense cedar and canned fish keep rolling up, up, and up.

Helpers drift by downgrade, leaning on their dynamic brakes, then Extra 6329 West bores past with empty Pacific Fruit Express reefers skirted by a thin blue haze of brakeshoe smoke.

It's 3:15 and Extra 6311 East is down to a crawl as the head brakeman drops off, scrambles for the switch, opens it, and beckons the train into the center

siding at Midas. At 3:27 the extra is safely in the clear. A few minutes later Alco cabs come bellying by with No. 28.

The sky is overcast, and a light rain is changing into sleet as Extra 6311 East gets rolling again.

The conductor picks up his radiophone and advises the head end as the markers' end of the train comes out onto the main.

"You lack about three cars, 6311. Make it four cars."

The flagman stands on the rear step, ready to drop off and line 'em up.

"Caboose is coming out."

The flagman unloads, throws the switch, and locks it, then sprints for the hack.

"Highball, 6311!"

PULLING SWITCHES FOR SNOW SEASON

As the train rumbles through Blue Canyon, where the road units are high above the caboose and headed in the opposite direction . . . and as it roars on by Emigrant Gap, the only place on this piece of railroad where one can see 100 cars at once . . . and as it lifts to an ominous sky, there is time and reason to con-

template the Mountain Sub's ancient, ever-new enemy: snow.

The blitz zone is Cisco to Andover, just 19 miles, and the peril is present from September 1 until as late as April. SP takes its snowfighting so seriously that seven spur switches, installed each summer for MofW equipment, are yanked out each autumn lest they foul flangers and the nose plows of rotaries. The same goes for crossovers not considered essential to train operation.

As the temperature sinks and the white stuff falls and sticks,



The caboose roof glistens with moisture as Extra 6311 East climbs through the Donner Pass mist at storied Emigrant Gap, 65 miles out of Roseville and nearly a mile above sea level.



Conductor Bert Elam talks with the train's engineer over the caboose's Bendix radio set, whose speaker is at top right of photo.

the railroad reacts by calling out its snowfighting equipment and systematically reducing tonnage. For example, that rating of 5,000 tons for eight units is based upon "summer, dry rail." In bad weather 200, 300, or more tons are sliced off until, if it's bad enough, only the loads move while the empties are left behind. SP cuts tonnage judiciously, to be sure, but as a trainmaster puts it, "We don't get any medals for getting a train tied up, either."

When those rotaries go to work, experience becomes priceless. You don't ram into drifts, you ease that big fan into them, and you don't go into them at all until a section gang is assured the wall of white doesn't conceal rocks that could strip the blades. Incidentally, radio again becomes all-important. SP normally pushes a plow with three diesel units or cuts four units in be-

tween a rotary on each end. Regardless, the throwback from that funnel of snow quickly piles 2 to 3 feet of it on the diesel's windshield, which renders defroster and wipers useless. Thus the engine crew is running blind, utterly dependent on radio.

Once, the Mountain Sub was a veritable subway of snowsheds from Blue Canyon to Andover. Some of the sheds were even mounted on wheels to be telescoped back during summer. But sheds were a constant fire hazard and maintenance problem. The few that are left are being upgraded from wooden structures to precast concrete forms which can't burn and which stand up better against rockslides.

BEYOND THE 6,000-FOOT LEVEL

Eight units' worth of Electro-Motive brawn keeps hammering

away as Extra 6311 East climbs past the 6,000-foot level over land whitened by snow and into a sultry gray sky. The sunny warmth of Roseville, less than 6 hours in the past, seems years away. From the caboose, the helper, less than 900 feet ahead, is lost in a white-gray curtain of snow. The white stuff erases the scars of nature and man — the rock-strewn slides and the treads of the dozers that cleaned them up.

Troy at 5:40.

Soda Springs, 5:55.

Suddenly the train ducks under cover in the snowsheds of Norden, elevation 6,891 feet, and the battle to the summit is won.

The train comes to a stop. The helper locomotive cuts off, backs the 18 cars and caboose behind it, sets the air, then runs around the rear end, couples on behind the caboose, and puts the train together to the accompaniment of fusee signals from the flagman and the swing brakeman. The whole affair takes just 11 minutes.

Two minutes later the conductor picks up his radiophone.

"Everybody's on, 6311. High-ball!"

Four units and 5,002 tons begin the long descent: the grade is 1.91 percent down to Truckee, the speed limit 25 mph — beyond to Sparks it's 1 percent and 35 mph, respectively.

NO MORE FIRE 4-6-0, NO MORE ACS

The banshee wail of dynamic braking on the descent completes the modernity that has cloaked the Mountain Sub since World War II, and it's almost difficult to recall the not always so good old days.

For instance, the fire engine at Norden — a pump- and nozzle-jacketed 4-6-0 hauling tank cars of water to any lineside blaze in the Sierra. Today it's but a memory. Diesels and dynamic braking have reduced the fire hazard present with steam power. But just in case, SP keeps tank cars with gasoline pumps spotted at Colfax, Norden, and Truckee.

The ACs are gone, too. Many was the moist eye on November 30, 1957, when cab-forward 4-8-8-2 No. 4274 came out of storage and thundered through

Colfax and Emigrant Gap and Norden with a railfan excursion. Southern Pacific turned its early Mallets around and put the cab ahead to avoid smoking the crew out in the long Sierra snowsheds. In later years as many as four of them marched out of Roseville east on reefer blocks of 100 cars and 6,000 tons, and one wonders if the echo of their exhaust doesn't still hang over the Sierra, somehow, somewhere.

But even the newest, mightiest of the ACs, hauling just half the tonnage rating of its diesel replacement, was obliged to take on water at Colfax, Gold Run, Emigrant Gap, and Truckee — and maybe at Blue Canyon, too. And a typical eastbound run from Roseville to Sparks consumed 14 hours in moving 45 cars. Today more than 100 cars go through in 8½ to 9 hours. Perhaps the implication is not so much that steam was weak as it is that it's incredible that anything else could be so much more powerful.

ACs were not the only extraordinary steam power with which Southern Pacific assaulted the Sierra. As early as 1883 the Sacramento Shops forged the mighty *El Gobernador* 4-10-0, a locomotive so large (73 tons) for its day that it broke the world's record . . . and also the ability of contemporary trestlework to hold her upright.

A more realistic approach to the problems of time and tonnage on 2-percent-plus appeared in 1925, when the railroad laid out a brand-new wheel arrangement in defiance of Donner Pass and Cape Horn. The newcomer, a three-cylinder 4-10-2 with 63½-inch drivers, exerted more tractive effort than even the articulateds of her day. Prior to the advent of these 5000s, SP had relied upon doughty 2-10-2s to forward its varnish between Roseville and Sparks, double-heading them with 2-8-2s when the consist exceeded 11 cars. The 4-10-2s took as many as 14 passenger cars — almost 1,000 tons' worth — across the summit unassisted. These locomotives, the world's largest non-articulateds when built, eventually wound up in Oregon and on the desert of Southern California, but many a Sierra railroader



The flagman waits by a column in the Norden snowshed for the helpers to pass. They'll come up against the caboose to shove the train together before heading back to Roseville.



The crew of Extra 6311 East ties up at the Sparks yard office, 2 miles east of Reno. The men have moved 5,002 tons 137 miles — including a vertical climb of 6,723 feet and a descent of 2,459 feet — in 8¼ hours with no “Extraordinary or unusual occurrences.”

finds it hard to forget their memorable off-beat exhaust on the power end of the *Overland*.

The line change that could have made the achievements of the ACs and the diesels unnecessary was never pushed beyond the blueprint stage. In the early years of the century, when E. H. Harriman was lifting SP up by its bootstraps, there was talk of a Colfax–Andover tunnel that, as well as holding the maximum grade to 1.5 percent, would have reduced the present mileage from 56½ miles to about 38. The project’s expense would certainly

have long since been repaid out of engine fuel costs alone, not to mention the yearly savings on snowfighting. Who knows? A railroad that can throw a trestle across Great Salt Lake and later return to parallel it with a solid fill is more than capable of a tunnel 38 miles long from portal to portal.

RESPECT FOR SLACK ACTION

Extra 6311 East is by Truckee at 6:53, through Verdi at 7:35, and across Virginia Street in Reno at 7:56 p.m. That ride down

the mountain, high over Donner Lake, then along the Truckee River, is not one for the timid. The crew in the caboose stays put because the slack action can and does throw a coffee pot off the stove, and it isn’t kind to casual strollers.

The flagman steps to the rear platform and takes down his marker lamps as four units, 104 cars, and a caboose thread into Sparks and down the Pacific Fruit Express ice track. Even as Second Advance OVE-4 eases in, a three-unit F7 of the Salt Lake Division pool is leaving the

ready track to forward canned fish and incense cedar and Air Force fuel cells beyond to Ogden.

At 8:16 p.m. Extra 6311 East is “dead.”

And the great adventure ends as deceptively as it began. In Sacramento in a cubicle adjoining Room 212 a man glances at the wall clock, steps on a treadle, and replies, “Dispatcher, Mountain,” then inks in “8:16” on his yellow trainsheet opposite the space marked “Sparks.”

The space beside EXTRAORDINARY OR UNUSUAL OCCURRENCES is still blank. ■

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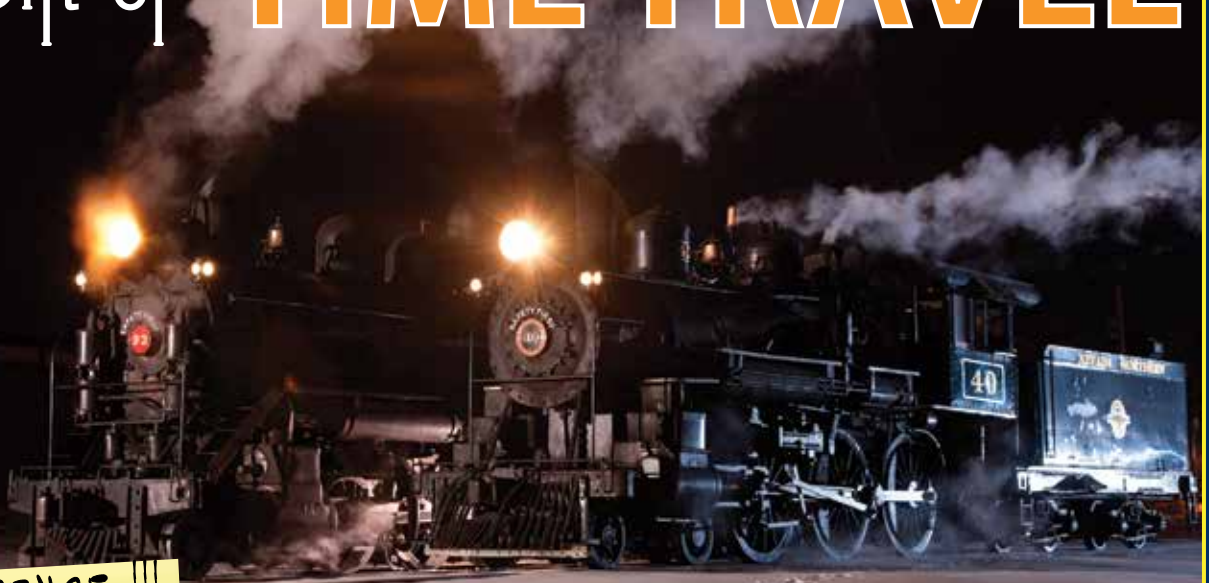


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