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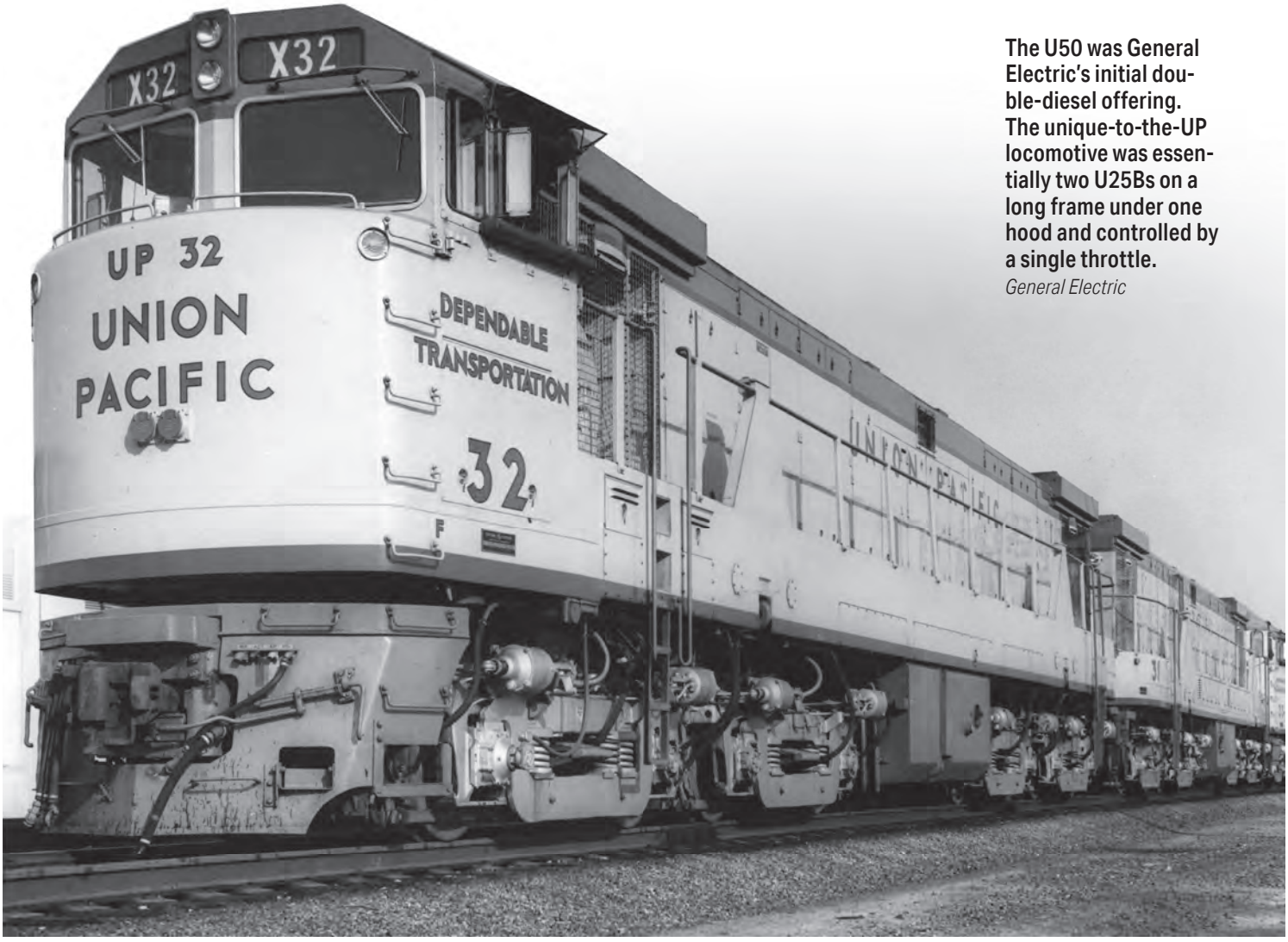
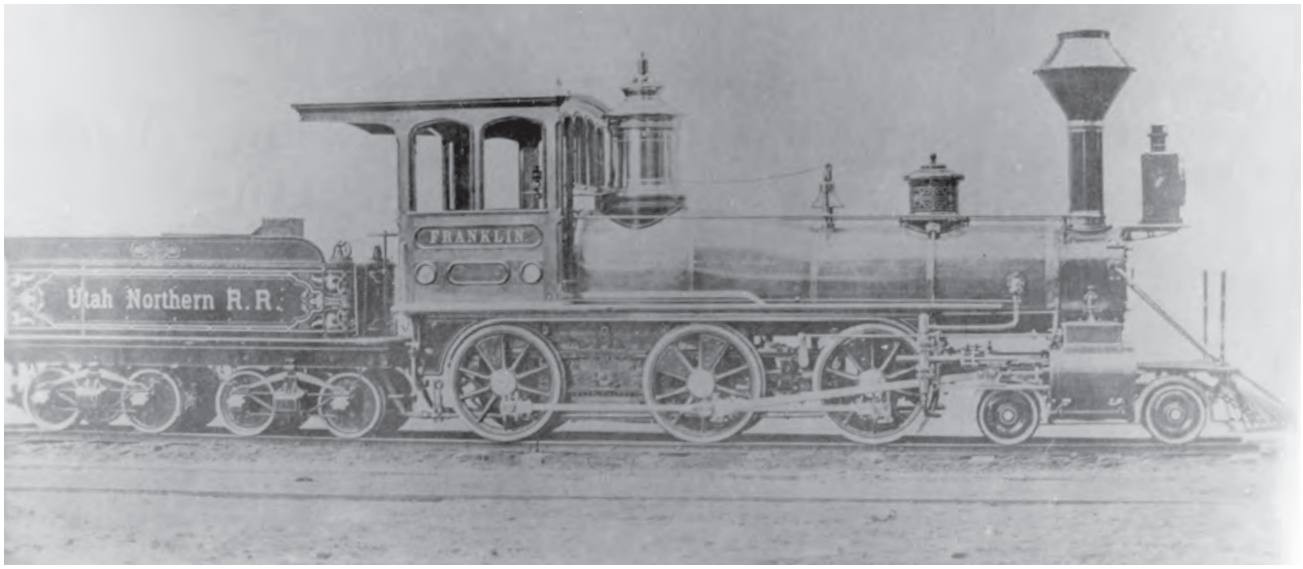


The U50 was General Electric's initial double-diesel offering. The unique-to-the-UP locomotive was essentially two U25Bs on a long frame under one hood and controlled by a single throttle.
General Electric



Utah Northern's 4-6-0 *Franklin* was an ornately decorated three-foot gauge locomotive that served the railroad in its earliest days. The railroad was converted to standard gauge in 1887 and absorbed by UP two years later.
Brian Solomon collection

CRÉDIT MOBILIER

Union Pacific's construction company, Crédit Mobilier of America, took its name from a French company—it was chosen to entice investors. In the 1860s it wasn't unusual for a railroad to pay its own construction firm for building a line, but under Thomas Durant, UP and Crédit Mobilier pushed this beyond the limits of acceptability. Crédit Mobilier earned a handsome return from the government by building UP. Essential to the organization were the brothers Oliver and Oakes Ames, both serving as directors. Oliver succeed John A. Dix as UP president during the crucial years of transcontinental construction, serving as acting president from 1866 to 1868 and as president from 1868 to 1871.

Years later, scandal erupted when the public learned that the company had maximized profits at taxpayer's expense often by grossly inflating cost estimates while too often doing less than an ideal job building the line. Even more egregious was that the owners of the Crédit Mobilier were largely the same people who controlled Union Pacific—several of whom held influential political positions and used gifts of Crédit Mobilier stock for personal and political gain. By 1873, the Crédit Mobilier had become one of the most publicized scandals of the 19th century, with the Ames brothers drawing great public anger. The scandal damaged Union Pacific's reputation for decades to come.

General Dodge surveyed routes to the Northwest. After the Golden Spike ceremony, the Northwest offered UP a direct outlet to the Pacific free from Central Pacific interests, while being able to serve lands rich with minerals, timber, and agricultural products. Portland was viewed as a gateway to Asia and a port that could allow UP to serve cities along the Pacific Coast via steamships. In 1879, UP finally expanded toward Oregon.

On the surface, the Oregon Short Line (OSL) appeared as an independent railroad, but it was effectively a UP line connecting with the mainline at Granger, Wyo. This route reached Shoshone, Idaho, in 1883,


UP Union Pacific
HVR Heber Valley
SLGW Salt Lake, Garfield & Western
UC Utah Central
UTA Utah Transit Authority
UTAH Utah Railway
Other lines
DRGW Denver & Rio Grande Western
SP Southern Pacific
WP Western Pacific
0 10 20 30 40 50 miles
© 2019, Kalmbach Media Co., TRAINS: Roen Kelly
Not all lines shown
N
IDAHO
WYOMING
COLORADO
NEVADA
ARIZONA
Malad City
UP to Pocatello, Idaho
Preston
Cache Jct.
Bear Lake
Golden Spike completes first transcontinental railroad, May 10, 1869
Promontory
Bear River
Logan
Brigham City
Corrine
Lucin
Montello
Hogup
Lakeside
Promontory Point
OGDEN
Wasatch Mts.
Wahsatch
Evanston
UP to Cheyenne, Wyo.
Echo
Uinta Mountains
Park City
SALT LAKE CITY
Garfield
SLGW
Burmester
Rowley
Great Salt Lake Desert
GREAT SALT LAKE
UP to Sacramento, Calif.
Wendover
Knolls
Delle
Bonneville Salt Flats
Cedar Mts.
Stansbury Mts.
Oquirrh Mts.
Midvale
Copperton
Lehi
Heber City
HVR
UTA
Utah Lake
PROVO
Springville
Spanish Fork
Lofgreen
Gold Hill
Deep Creek Mts.
Keigley
Thistle
Soldier Summit
Tintic
Colton
Castle Gate
Utah Rwy. Jct.
Helper
Price
Clear Creek
Wildcat
Mohrland
Nephi
Lynndyl
Sevier River
Delta
Sunnyside
Tavaputs Plateau
Mounds
Cedar
Woodside
Roan Cliffs
Book Cliffs
Grand Valley
Uncompahgre Plateau
Cisco
Thompson
Green River
Solitude
Brendel
Green River Desert
Arches
Bootlegger Canyon
Potash
San Rafael Swell
Castle Valley
Wasatch Plateau
Salina
Fillmore
Pahvant Mountains
Sevier Lake (dry)
Black Rock
Escalante Desert
Milford
Marysvale
Lund
Iron Springs
Cedar City
Crestline
Iron Mountain
UP to Las Vegas, Nev.
Virgin River
Duchesne River
White River
Green River
UP to Grand Junction and Denver, Colo.
Union Pacific in Utah

Union Pacific led the railroad industry in adopting efficient new technologies. In this 1954 publicity photo, UP agent J.L. Chance communicates with operators of mechanical icing machines via radio at a Pacific Fruit Express icing dock.
Union Pacific

and extended a long branch north to the Wood River mining region in Idaho.

Henry Villard, a Portland-based financier, organized the Oregon Railway & Navigation Company (OR&N) in June 1879 to build eastward along the Columbia River toward the Idaho mining districts. Villard had previously served as the receiver for the Denver extension of the Kansas Pacific, and approached Gould to encourage UP to take part interest in the OR&N route, including a line over the Blue Mountains in eastern Oregon. In November 1884, OR&N reached Huntington, Ore., near the Idaho border—404 miles southeast of Portland—where it met the OSL. A last spike ceremony was staged on Nov. 25, 1884, but hardly anyone noticed. Regular passenger service began a week later. In the meantime Villard had taken control of Northern Pacific—one of UP's principal transcontinental rivals—which by 1883 had completed a connection with his OR&N near the confluence of the Columbia and Snake Rivers in eastern Oregon. However, funding NP's construction overextended Villard and he lost control of his empire.

Thus by 1887, UP controlled OR&N, which became an OSL subsidiary, and started extending branch lines across the Pacific Northwest that ultimately became important sources of freight traffic. UP consolidated its Pacific Northwest properties 1896, calling them the Oregon Railroad & Navigation Company, and then in 1910 changed the name to the Oregon-Washington Railway & Navigation Company.

The Harriman Era

UP finances weakened following Gould's death, and the Panic of 1893 sent the railroad into bankruptcy. This temporarily separated UP from its affiliated lines, including Denver Pacific, Kansas Pacific, and Oregon Short Line. By 1897, UP had been effectively pared down to its transcontinental trunk when financier E.H. Harriman, already involved with Illinois Central, saw the UP as an underutilized asset with enormous potential, suffering from mismanagement and poor finances. Harriman secured control in 1898, and thoroughly examined the railroad property. Unlike other financiers who left operations to subordinates, Harriman immersed himself in the details of UP's infrastructure, locomotives, and traffic. He learned about UP by speaking to its employees at length and listening to what they had to say. He then invested in UP to overcome its inadequacies.

A keen judge of men, Harriman worked with his top officers to find the best people to execute his ideas, while funding improvements that ultimately transformed Union Pacific from a weak player into one of the finest American railroads. However, the common myth that before Harriman the bankrupt UP was little more than "two streaks of rust across the plains" had little

SD70ACe No. 8771 leads a westbound freight through downtown St. Louis on March 26, 2016. The venerable Union Station trainshed is visible to the left, just above the Interstate 64 viaduct. The disused Terminal Railroad Association Tower No. 1 can be seen in the distance near an eastbound UP coal train rolling along the TRRA line. *Scott Muskopf*

the 1980s and 1990s, but the poor state of the railway infrastructure limited the port's growth. In the late 1980s, regional authorities, port facilities, and the railroads involved worked to design a largely new intermodal route directly to the ports. The Alameda Corridor is the product of a public-private project including a new 20-mile grade-separated railroad—including a 10-mile-long, 40-foot-deep concrete trench—that connects the ports with the city of Los Angeles. The corridor opened in April 2002 at a cost of $2.4 billion. Served by BNSF and UP, the new line was handling more than 17,300 trains annually by 2005.

In May 2021, UP began work on its new Inland Empire Intermodal Terminal, located in a growing area east of Los Angeles populated by regional distribution centers. This is expected to serve domestic traffic moving to and through Chicago and Texas. Inland opened in late 2021 and is among UP's terminals operating 24 hours a day, seven days a week.

Powder River coal

Burlington Northern had developed the Powder River Basin in the 1970s to tap vast remote reserves of desirable low-sulfur subbituminous coal. In 1980, Chicago & North Western, with UP's help, put the logistical and legal machinery in motion to gain entry into the coal-rich Powder River Basin. The BN initially resisted competition, but in a high-profile ICC case, the regulatory agency reviewed C&NW's demand for access and required BN to relent. In 1983 BN and C&NW worked out a joint ownership agreement involving 93 miles of the newly constructed Orin Cutoff, which provided C&NW access to many of the mines in the region. However, to make use of this trackage, C&NW needed to extend its reach west.

Initially, C&NW had considered rebuilding more than 500 miles of its tired, low-traffic trans-Nebraska "Cowboy Line," which virtually intersected the Orin Line. Ultimately, this lightly built route was deemed inadequate to accommodate heavy unit trains. Since it would have been prohibitively expensive to upgrade the whole line, the C&NW's Western Railroad Properties subsidiary instead surveyed and built an all-new 56-mile line from a connection with UP at Joyce, Neb., to its Cowboy Line at Crandall. It invested in upgrading the portion of the Cowboy Line between Crandall and Shawnee, Wyo., and from there built another six miles of new line to reach shared trackage with BN (known as the Orin Cutoff) to reach Powder River mines.

Eastward from Joyce, C&NW coal trains rolled along Union Pacific rails, reaching the Nebraska main line at O'Fallons, where most coal continued east. Since UP's transcon traffic was already interchanged to C&NW east of the Missouri River Valley, this was the natural routing for coal flowing toward Chicago and beyond.

To service its unit trains and serve as a base of Powder River operations, C&NW built a coal terminal on the Orin Line at Bill, Wyo., and another on the Union Pacific east of Joyce at South Morrill, Neb. The North Western's first Powder River coal train moved eastward in 1984. Traffic mushroomed, and by the end of 1984 C&NW was operating about 11 unit trains daily out of the Basin.

Amendments to the Clean Air Act during the 1990s placed greater restrictions on sulfur dioxide emissions, resulting in a wide-scale switch toward low-sulfur Powder River coal. This contributed to a dramatic increase in traffic. To accommodate the greater volume, the railroads invested in more track capacity on the Orin Cutoff and connecting lines, including a second main track with

bi-directional signaling. To keep pace with continued growth, UP and BNSF added sections of multiple main tracks in the boom years of the early 2000s. By 2007, approximately 39 miles of third main track served the Orin cutoff between Donkey Creek Junction and Shawnee Junction, with 14 miles of fourth main track over Logan Hill on the central portion of the Orin Line. The improvements were designed to enable moving 400 million tons of coal annually. On May 1, 2006, BNSF and Union Pacific together set a record by loading 76 Powder River coal trains in one day; by the end of that year the Orin Cutoff was considered the heaviest-tonnage line in the world.

However, since those boom times, changes in coal-burning policies, combined with a dramatic shift toward alternative energy sources for electrical generation, resulted in steep declines in domestic coal consumption starting in the 2010s. Whereas UP moved 2.16 million carloads of coal in 2011, traffic fell to just 1.23 million loads in 2017 and continued to decline. As late as 2020, UP was still moving almost 800,000 carloads of coal annually, and the Powder River Basin remained the largest domestic coal producer, representing more than 40% of coal mined in the U.S. In late 2021, rising natural gas prices and increasing energy demands saw increased output from Powder River mines, although with the projected closure of many coal-fired generating stations, the overall downward trend in coal traffic was expected to continue.

A livestock extra rolls eastbound behind 4-12-2 No. 9510 along the main line in central Nebraska near the east end of a center siding. In the 1940s, livestock moves were still an important part of UP's freight business, although over the next few decades this business withered.
A.C. Kalmbach

Historic perishable traffic

In Union Pacific's first century, perishable traffic (fresh fruits and vegetables) and livestock moves represented a significant portion of its carload freight. The specialized needs for accommodating perishables included expedited schedules, icing stations to keep cars cool, and facilities for watering animals en route. Complicating the challenge of car supply was the seasonal nature of most of this business.

Pacific Fruit Express was a joint venture between UP and SP that operated and maintained thousands of insulated refrigerator cars known as "reefers" that carried perishable traffic. PFE was formed in 1906 under the Harriman administration, and was one of only a few Harriman-era institutions that survived anti-trust actions. Reefers carried produce from packing houses across the far West to Midwestern and Eastern markets for distribution. Perishable trains known as "fruit blocks" consisted of bright orange PFE reefers that operated on fast schedules second only to passenger trains. Key areas included citrus from southern California groves, vegetables from California's San Joaquin and Salinas valleys, and various products from the lush agricultural regions of UP's territory across Idaho, Oregon, and Washington. In its early years PFE operated and maintained about 6,000 ice-bunker reefers. Its business grew rapidly, as at least some areas in its territory produced harvests year-round; the ability of reefers to deliver products across the country led to increased harvesting and production. By 1943, PFE's fleet had swelled to 40,800 refrigerator cars.

Before the advent of practical mechanical refrigeration, reefers were stocked with ice in bunkers (located at the ends of each car) to keep produce cool (salt was sometimes added when cooler temps were needed). This ice required replenishing on a daily basis in transit, so huge car-icing facilities were strategically located to ice trains as they worked their way east. PFE operated 18 such plants on UP and SP lines, the

An eastbound livestock extra is 3 miles west of Topeka, Kan., on the former Kansas Pacific on Dec. 3, 1949. Leading is 2-10-2 No. 5065, one of the UP's Lima 2-10-2s equipped with Young valve gear. *Don Smith*

A westbound high-priority Z train snakes under Interstate 80 west of Reno, Nev., as it ascends Donner Pass on Nov. 10, 2003. The UP has since improved clearances on the route to allow double-stack trains. *Brian Solomon*

largest of which was at SP's Roseville yard where many fruit blocks heading east were assembled. PFE icing facilities on UP included Ogden, Utah, Laramie, Wyo., Cheyenne, Wyo., and one of the most significant, North Platte, Neb., which iced up to 1,000 cars daily.

Perishable traffic ebbed and flowed depending on harvest seasons, so there were several peak periods during the year. It was crucial at these times to have reefers in place and ready to move, as produce has very limited shelf life once harvested. During one seasonal peak, SP could deliver seven or more solid trains of reefers to UP at Ogden each day. Depending on the weight of trains, UP sometimes combined perishables trains at Ogden for the run eastward.