

A lone distributed power unit (DPU) brings up the rear of east-bound stack train S-SEFLPC on Sept. 9, 2023, as it crosses BNSF's ex-Northern Pacific bridge over Lake Pend Oreille in the northern Idaho Panhandle.

# FIXING



# THE FUNNEL

BNSF has widened its busy  
traffic lane to the Northwest

Story and photos by Bruce Kelly



▲ Train H-ALTPAS crosses the new bridge over Lake Pend Oreille, Idaho, on April 29, 2023, while the old bridge undergoes extensive renovation.

**T**wo railway bridges standing side by side across a nearly mile-wide expanse of water seems worthy of note in the annals of civil engineering. BNSF Railway bridges 3.9A and 3.9B on northern Idaho's Lake Pend Oreille represent the culmination of more than a half-century of mergers, route consolidations, and capacity improvements. These events made the nearly 68-mile stretch of former Northern

Pacific main line between Sandpoint Junction, Idaho, and Sunset Junction in Spokane, Wash., one of the busiest and most vital pieces of railroad in the nation.

BNSF predecessor Burlington Northern managed reasonably well during the 1970s with its Spokane-Sandpoint route being mostly single-tracked. But things got more congested by the 1980s, when a growing number of unit grain trains were traveling toward export docks in the Pacific Northwest. Then came the 1990s, which saw BN's intermodal business to and from the region increase nearly twofold, to the tune of roughly two dozen trains per day carrying trailers or double-

stacked containers. That was on top of all the manifests, vehicle trains, and coal trains using the same route.

At that time, BN had only one single-tracked bridge in place across Lake Pend Oreille, and it was bearing a burden of traffic NP likely did not foresee when it completed the structure in 1904, replacing the original 1881 timber trestle. In the early 1900s, NP's line through Spokane featured 20 miles of double track, half of which got whittled to single track before BN took over. The past quarter century has seen BNSF investing billions of dollars to restore lost trackage in the Spokane area and beyond.

In 2020, BNSF began grad-

ing the shores of Lake Pend Oreille for one of the final stages in making its Spokane-Sandpoint "Funnel" double tracked from end to end. A half-century after predecessor BN created The Funnel, the long-awaited opening of BNSF's second bridge over Lake Pend Oreille on Nov. 20, 2022, seemed anticlimactic. The first trains crossed the new 4,873-foot-long steel and concrete structure in the dead of night, with no corporate officials, news reporters, or train enthusiasts standing in the bitter cold to witness it.

After the new bridge entered service, BNSF turned its attention to renovating the midsection of the adjacent ex-NP bridge. (Under earlier projects,



the NP bridge received new piers and deck sections at its outer ends during 2008-09.) Previously identified as bridge 3.9, the old bridge is now 3.9A, while the new bridge is 3.9B. With a speed limit of only 25 mph for most trains (35 mph for empty trains and Amtrak), bridge 3.9, along with the 2.2 miles of single track between Sandpoint Junction and East Algoma, had been one of the last chokepoints on The Funnel.

Final work on the old bridge — involving replacement of several deck spans and reinforcement of existing concrete piers — was completed in time for a second main track to enter service at Sandpoint on Aug. 6, 2023. The physical con-



▲ GP39-2 No. 2716 leads Burlington Northern's hot Chicago-Portland train No. 1 down the single-track main at East Ramsey, Idaho, on July 24, 1986, while GP30 No. 2203 waits in the clear with Train 100YA, a Pasco-Chicago manifest that was reclassified at Yardley.

nection between BNSF and Montana Rail Link at Sandpoint Junction is now gone, replaced by new dual crossovers — named CP35 — located northwest (railroad east) of both bridges.

Adding a second main all the way to Sandpoint Junction required construction of two smaller bridges within city limits, as well as rearrangement of the platform and other amenities at the Sandpoint depot. Built in 1916 to replace NP's original 1880s wooden station, Sandpoint's brick-walled depot underwent significant renovation during 2014-15. It is Amtrak's only station in Idaho, with the *Empire Builder* in both directions scheduled to stop during the night.

### FORMING THE FUNNEL

Northern Pacific laid track through the Spokane area and northern Idaho in 1881 for its route connecting St. Paul, Minn., with Tacoma, Wash.

► A hot train at a Funnel hotspot: Z-CHCPTL-9 passes the ex-NP Sandpoint depot on Oct. 17, 2015. The asphalt platform at left, where the photographer is standing, is today occupied by a second main track.



Milwaukee Road passed some 20 miles south of Spokane but added a side route tapping directly into the city. And, the superbly engineered Spokane, Portland & Seattle provided GN and NP with a connection between Spokane and Portland, Ore., while not actually going anywhere close to Seattle.

Great Northern entered the scene in 1892 while building between St. Paul and Seattle. In the years that followed, Union Pacific reached northward from Oregon into Spokane, and eventually to the Canadian border through acquisition of the Spokane International. The

For decades, the NP and GN intertwined their operations and stock holdings in what seemed like one veiled merger after another. Then came 1957, when consulting firm Wyer, Dick & Co. submitted its feasibility study on a true merging



▲ Union Pacific train QETHK uses BNSF's Latah Creek Bridge on its way out of Spokane, Wash., on May 4, 2013, while a BNSF train (left) waits its turn to cross. At far right, a BNSF manifest holds at East Empire.

► Fall rush finds Z-CHCPTL (left) curving into Sandpoint Junction off the Hi Line on Oct. 22, 2016, while B-DENSEA, which is coming off Montana Rail Link with empty containers for Seattle, waits its turn.



of the two railroads, along with the SP&S and the Chicago, Burlington & Quincy. The so-called Wyer Report recommended changes that were considered beneficial to the layout and operation of these railroads, should they become one.

The creation of Burlington Northern in 1970 brought much of the Wyer Report to fruition. It set into motion a chain of events whose impacts resonate to this day: upgrading of select routes; selling, leasing, or abandonment of routes deemed surplus or too costly to operate; downsizing the number of yards

or facilities serving each region.

In 1972, two years after the BN merger, new bridges and new track were placed in service in Spokane and Sandpoint to channel through traffic between those cities onto one route: the former NP. The changes made in Spokane were also part of an extensive removal of GN, SP&S,

MILW, and UP properties from the city's core to create a site for the 1974 World's Fair. Half a century later, virtually all that remains of the vacated rail terminals is the GN clock tower standing in Riverfront Park.

Central to Spokane's rail consolidation was the 3,872-foot long, 212-foot-high Latah

Creek Bridge. From above, it looks like a giant Y, with its top aiming toward the southwest, one prong curving northwest to follow a BN-built connection to the former GN toward Seattle, and one prong curving south to tie in with the former SP&S toward Pasco, Wash., and Portland.

UP trains began using Latah Creek Bridge as well. Having given up its route through downtown Spokane to the World's Fair development, UP obtained 14 miles of trackage rights over BN between Napa Street (east of downtown) and Fish Lake, located southwest of Spokane. There, a new connection was built between BN's former SP&S line and the UP line heading to Hinkle, Ore.

Just east of downtown, BN built a 601-foot-long bridge over the Spokane River and acquired a roughly half-mile segment of UP track to connect the ex-GN main from Sandpoint with the ex-NP. However, this connection angled east toward the ex-NP Yardley terminal rather than west toward Seattle, thus making the ex-GN between Spokane and Sandpoint an unlikely candidate for east-west through traffic.

In Sandpoint, post-merger alterations included a mile-long, S-shaped piece of new main line linking BN's ex-GN and NP routes. This new track crossed UP's Spokane International line at grade and crossed Sand Creek on a 997-foot-long curved bridge. Sandpoint on the former GN became North Sandpoint on BN, more of a local freight office and maintenance base, while the Sandpoint depot on the former NP went on to serve Amtrak's *Empire Builder*.

The importance of the former GN main line between



Montana Rail Link's Kootenai siding ends at Sandpoint Junction. The manifest and grain train (middle and right) are waiting to enter The Funnel while a grain train off BNSF's Hi Line rolls by on July 15, 2018.

Spokane and Sandpoint dwindled during the 1970s. Eventually, 30 miles of track was removed from its midsection. What survived west of the breach was a mix of ex-GN main line and branch segments north of Spokane that carries a respectable amount of lumber, sand, and mineral traffic to this day. West of Sandpoint, BN retained 30 miles of the GN main line to Newport, Wash., as a branch serving timber product industries and providing outside connection for Milwaukee Road's Newport-Metaline Falls Branch. (Short line Pend Oreille Valley Railroad took charge of this MILW branch in 1979, and would ultimately acquire most of the Sandpoint-Newport track from BNSF in 1998.)

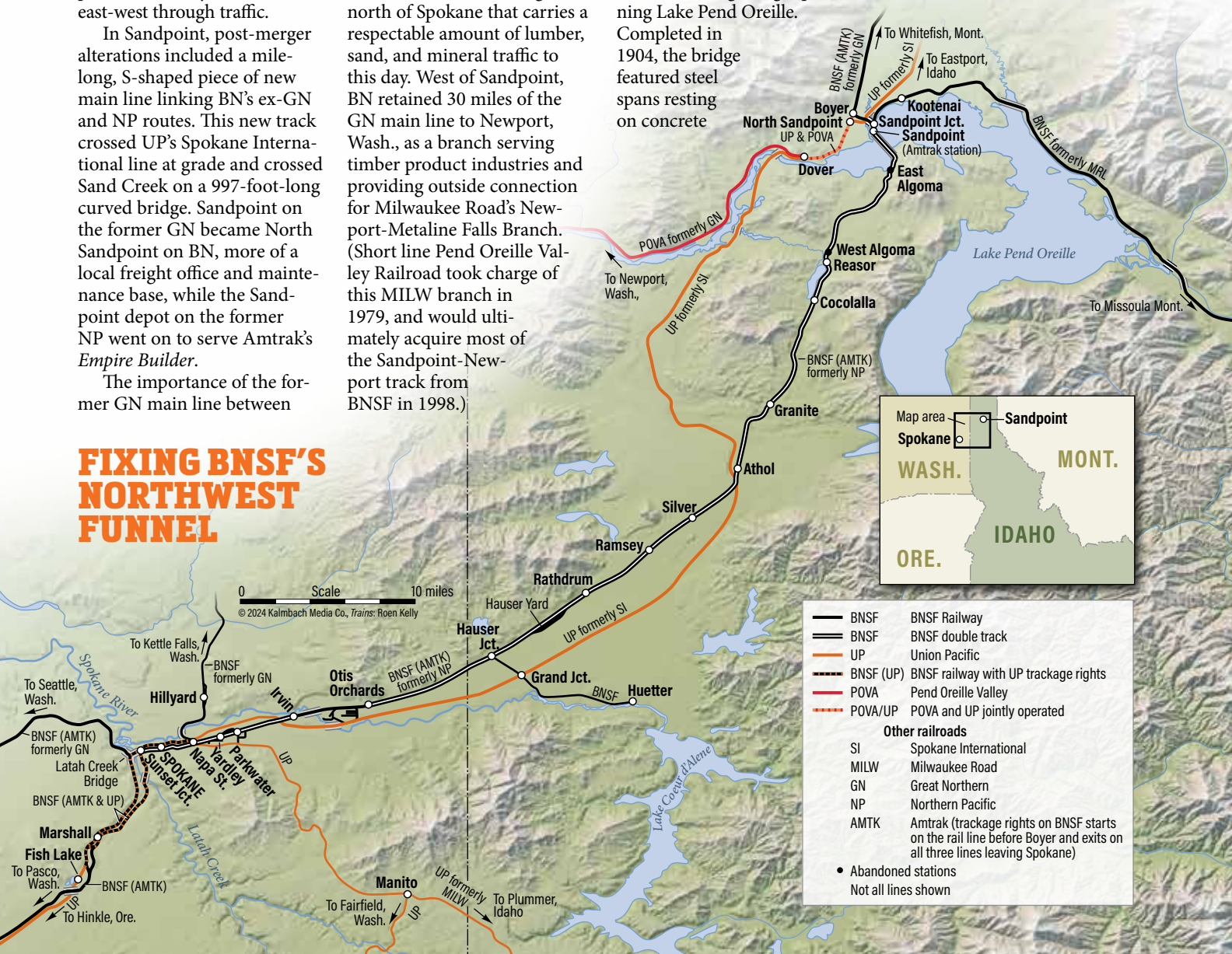
All of this left BN's former NP route between Spokane and Sandpoint carrying the sum of two railroads' worth of business. Nowhere was this more acutely felt than on the 4,769-foot-long bridge spanning Lake Pend Oreille. Completed in 1904, the bridge featured steel spans resting on concrete

and mortar piers. It replaced the original timber/pile trestle that NP had opened there in 1881. Lake Pend Oreille's main body reaches depths of more than 1,100 feet, but NP crossed the lake where the water is typically less than 20 feet deep.

Handling virtually all of Burlington Northern's east-west traffic to and from the Pacific Northwest is why the ex-NP between Spokane and Sandpoint earned its nickname "The Funnel." During most of the BN and BNSF years, it's been said that The Funnel carries an average of 60 trains per day. That figure has gone up or down depending on the season and prevailing economic conditions.

BN's merger with the St. Louis-San Francisco Railway (Frisco) in 1980 spawned further reductions in BN's route

## FIXING BNSF'S NORTHWEST FUNNEL





▲ Z-PTLCHC accelerates east on Main 6 out of BNSF's refueling facility at Hauser, Idaho, on the evening of June 28, 2013.

► An empty coal train pulls east on Main 6 to spot its rear DPU on the Hauser, Idaho, fuel pad on March 10, 2018. Grain and oil trains are being serviced on Mains 4 and 5, and two vehicle trains are among the occupants of Hauser's yard tracks.





structure. Hundreds of main line and branch miles were cast off from the Midwest and Mid-south to the Northwest. In 1987 alone, BN closed its ex-SP&S route from Fish Lake down to the outskirts of Pasco and handed over its NP main line between Sandpoint Junction, Idaho, and Huntley, Mont., to Montana Rail Link. Even though most traffic on MRL had been BN and BNSF trains handled by MRL crews, they faced the brunt of the delays at Sandpoint when it came to pass over the Sandpoint bridge.

### YARDS AND FUEL

Just west of the midway point between Spokane and Sandpoint lies Hauser Yard, a somewhat obscure but logisti-



cally significant facility that's played a pivotal role in shaping operations and capacity expansions on The Funnel. Hauser was an empty patch of land next to the NP, east of the Washington-Idaho border, when pre-BN merger planners were looking for a bigger place to sort railcars moving into and out of the Northwest.

The Wyer Report of 1957 recommended closing GN's yard and shops at Hillyard — on Spokane's north side — and consolidating switching and locomotive servicing to NP's yard at Yardley, Wash., and its adjacent shops at Parkwater, Wash. It was also suggested that Yardley-Parkwater be rebuilt into a larger classification yard. In 1967, blueprints were drawn for a proposed classification yard on the GN at Dean, Wash., 10 miles north of Hillyard. Neither yard was ever built. However, a \$5-million upgrade to NP's existing hump yard in Pasco was begun in 1969.

Meanwhile, GN and NP officials had their eyes on Hauser, figuring that all traffic between Spokane and Sandpoint would likely get "funneled" onto the NP following the BN merger. Hauser became the favored

▲ **Demonstrating the need for a second bridge and main track, V-DILPTS (left) waits to come off MRL at Sandpoint Junction, on July 27, 2019, while Z-PTLCHC rolls through and enters the BN-built connection to the ex-Great Northern Hi Line.**

choice for the region's next new switching yard.

In 1972, BN went public with its plan to build a 76-track, \$30 million classification yard at Hauser. Within months, there were six tracks laid there. But post-merger investments elsewhere began taking priority, and by 1975 the price tag to complete Hauser had nearly doubled.

Hauser entered the 1980s as a nine-track holding yard, complete with a weigh-in-motion scale, where grain trains could be staged for optimal delivery time to Northwest ports, and empty grain trains could be held awaiting their next call east. By the 1990s, trains handling intermodal or automobiles were being reshuffled at Hauser for destinations in either direction.

BN's merger with Santa Fe Railway in 1995 triggered billions of dollars in capital investment across the combined system. The reopening of

Stampede Pass, a pre-BN route in western Washington, in 1996 was a bold first step. Years of steady improvements elsewhere were about to begin, including on The Funnel.

Between Spokane and Sandpoint, several sidings were extended or connected during 1997-98, resulting in three sections of double-tracked main line totaling 38.5 miles: Otis Orchards, Wash., to Rathdrum, Idaho; Athol to Cocolalla, Idaho; and West Algoma to the shore of Lake Pend Oreille at East Algoma. (The Algoma segment was an add-on to 6.6 miles of double track BN had forged in 1982.) Another 11 miles of second main was laid between Rathdrum and Athol in 2017, followed by 2.5 miles between Cocolalla and West Algoma in 2019. At that point, the only single track remaining on The Funnel was just over 4 miles between Irvin and Otis Orchards, Wash., and roughly 2 miles between East Algoma and Sandpoint Junction — the 2 miles that would become doubled in August 2023.

Back at Hauser, three more tracks were added and existing tracks were lengthened during 1997-98. Hauser now has 12



yard tracks. There's also a 3-mile long track that once housed the weigh-in motion scale — Track 0, often referred to as "Scale Track" or "Aught Track" — that can hold two average-sized trains end-to-end.

Hauser never developed into the sprawling classification yard originally intended, but it ultimately took on a role of equal importance. In 2004, Hauser became home to a \$30-million main line refueling facility that revolutionized how

▼ **Montana Rail Link SD40-2s lead H-LAUPAS over the Spokane River near Irvin, Wash., on Aug. 6, 2016. BNSF is building a second bridge on the far side of this one, built by Northern Pacific in 1911.**

BNSF moves most of its trains into and out of the Northwest. Its first two years had only two run-through refueling tracks in service, but Hauser now has four run-through tracks — Mains 3 through 6 — that guide trains to the fueling pad. Roughly half of The Funnel's trains are refueled at Hauser, while others simply change crews or swap cars there. BNSF says that Hauser can fuel 40 or more trains per day during the busy autumn shipping season. The facility will mark its 20th anniversary in September 2024.

### **BRIDGING THE GAP**

The Funnel's last segment of single track to be widened is the 4 miles between Irvin and

► **One year before The Funnel's east end was widened, a west-bound stack train crosses Lake Pend Oreille on Oct. 3, 2021, passing an empty grain train waiting at East Algoma for its turn over the bridge.**

Otis Orchards, Wash., just east of Spokane. Helping to carry a second main track through this gap will be a new bridge over the Spokane River, parallel to BNSF's existing 534-foot-long bridge completed by NP in 1911. Stone piers from an earlier bridge still stand a short distance downriver.

Preliminary grading for BNSF's second main on the east side of the Spokane River was





done in 2020. Full-fledged work on the bridge and its approaches has been underway since April 2023.

BNSF says mid-2025 is the current target for completing this final stage in the decades-long process of doubletracking The Funnel.

Dual main lines from Spokane to Sandpoint will not make things completely fluid on The Funnel at all times. Trains occasionally queue up on one main track on either

▲ **Two years after BNSF laid a second main along Cocolalla Lake, the fall traffic rush is in full swing on Oct. 16, 2021, with a grain train rolling west past the rear DPU of a Seattle to Logistics Park Chicago stack train.**

side of Hauser, waiting their turn for the fuel pad, while other trains scoot by on the adjacent main. At Parkwater's intermodal ramp, a Z or Q train making a pickup or set-out can still tie up one or both mains for more than a few

minutes. And at Sandpoint, westbounds off BNSF's former Montana Rail Link may still wait their turn if other BNSF trains are lined up to pass each other on the bridges.

But as a whole, The Funnel has far greater capacity to move trains today than ever before. If only the folks who built the NP and GN through here in the late 1800s, and those who crafted the BN merger nearly a century later, could see it now. **I**